## Shares of

# Upper Income Groups in Income and Savings 

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## Foreword

The general design of this study was conceived and some calculations initiated in the late 1930's, in the course of work on National Income and Its Composition, 1919-1938 (1941). But while we recognized that distinguishing the shares of upper groups would lend additional interest and value to the other analysis of our national income totals, it soon became evident that the estimates needed would be so difficult as to delay by years the report then under way. It was therefore decided to postpone the present study until after completion of National Income and Its Composition. Work was resumed in 1941, but the pace was slow because attention had to be concentrated on other topics. Indeed, full emphasis on this study became possible only late in 1946, and the major part of the work occupied the next four years. The report was substantially completed in 1950.

Throughout these years I had the invaluable assistance of Elizabeth Jenks and Lillian Epstein. Miss Jenks carried the burden of the work, of the several revisions of estimates and analysis, and of the innumerable details attendant upon seeing the report through its various phases. The study owes much to Miss Jenks' perseverance and patience, and to Miss Epstein whose other duties allowed of only intermittent help.

In the course of work, aid in obtaining unpublished materials was kindly and promptly given by various data collecting agencies, particularly the Bureau of Internal Revenue, the Bureau of the Census, and the Survey Research Center at the University of Michigan. I am indebted to Thomas C. Atkeson and Marius Farioletti of the Bureau of Internal Revenue; A. Ross Eckler of the Bureau of the Census; and George Katona of the Survey Research Center. O. C. Stine of the Bureau of Agricultural Economics, Selma F. Goldsmith and Charles F. Schwartz of the National Income Division of the Department of Commerce, and Duncan McC. Holthausen and Ralph A. Young of the Research Division of the Federal Reserve Board were also helpful. And I am indebted to my friends Hildegarde Kneeland and Clark Warburton for unpublished estimates and data from their files.

The report was reviewed by a committee of the National Bureau staff. It benefited from comments by Ruth P. Mack, Thor Hultgren, and espe-
cially those by Geoffrey H. Moore. A preliminary and brief version was presented for discussion at the spring 1949 meeting of the Conference on Research in Income and Wealth. I profited greatly from the various critical suggestions made at that meeting.

Martha Anderson edited the volume, and contributed much to its readability. H. Irving Forman is responsible for the charts.

My sincere thanks go to one and all.
Simon Kuznets

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## Introduction and Summary

## 1 Aim of the Study

A distribution of income among population groups classified by the size of the income each receives inevitably emphasizes income differences. The reason for studying such size distributions is the presumption that the income differences revealed will contribute toward an understanding and appraisal of economic processes.

This general statement covers a wide variety of aims that may be pursued. The immediate aim of this investigation is to measure the level of and changes in at least one segment of the size distribution of income in this country. Scarcity of data and of testable results of past work in the field limit both the possible scope and depth of description and analysis. But we view income here as one link in the circuit flow of productive resources and final products in the economy, and assume that even a partial record of differences in income will be revealing if approached as consequences of antecedent factors (production) and causes of subsequent results (expenditures and savings).

This statement of our aim suggests points that should facilitate proper understanding of much of what follows.
a) First, many terms we employ to describe differences in income and other aspects of the distribution may, because of use in studies aiming at appraisal rather than analysis, carry connotations foreign to their meaning here. When we say 'income inequality', we mean simply differences in income, without regard to their desirability as a system of reward or undesirability as a scheme running counter to some ideal of equality of economic opportunity. Likewise, when we say 'income equality', we are describing a situation in which each unit's income is equal to the total divided by the number of units - a situation directly opposite to that in which one unit gets all the income and the others none. By a group's 'share' we mean the percentage its income constitutes of total income received by all units, nothing more. We do not mean its net draft upon a given stock or pool, to the detriment of all other groups. For all we know, the given group may contribute more than its 'share' and can do so because of its 'share' - in other words, the latter represents in fact a net contribution.

This caution is important because misunderstandings may arise, and perhaps the author himself has unwittingly fallen victim to some. To avoid such connotations of commonly used terms completely, we could have employed quite unfamiliar, new terms; but it did not seem wise to encumber an already difficult subject with technical abracadabra. It seemed better to use familiar terms, and insist (as is done in the older, experimental, sciences which use such common terms as 'force', 'energy', 'matter', 'heat', and 'light') on their operational significance in measurement as the only proper one.
b) Our estimates are for upper income groups alone because basic data that would permit us to study the complete size distribution of income for an appreciably long period are lacking. Yet it may be asked whether measures of income shares of a relatively small upper sector can contribute sufficiently to the basic aim of the inquiry to warrant the labor and effort expended.

The answer is 'yes', for two, somewhat distinct reasons. First, whatever insight and understanding we may gain concerning the factors that determine the shares of upper income groups, and of the ways in which their size relative to the shares of the rest of the population affects the disposition of income, have a carry-over value, i.e., with some qualifications they suggest the factors influencing the shares of other groups in the income distribution. From the demographic, social, and occupational characteristics of recipients in upper income groups we can infer the characteristics of recipients in lower groups; we can make similar inferences as to the association of income level with income disposition. Second, even a small upper group such as the one covered in this study is important because its savings constitute a large proportion of total savings by individuals, and its expenditures on at least some categories of consumer goods may also account for a high proportion of the total. Thus, despite its smallness, the upper sector studied here directly affects the apportionment of total income between expenditures and savings, an apportionment that has been increasingly stressed by economic analysis in recent decades.
c) The final and most important point is that our aim is not sharply focused enough to provide a set of criteria with which unequivocal choices among definitions of income scope and unit can be made. We do not know in what specific form to cast the size distribution of income so that it will reveal as completely as possible not only the factors that determine the size of income (i.e., show differences in income as a consequence of strategically important factors) but also the effects of its size (i.e., show differences in income as determinants of patterns of expenditure and saving).

To illustrate: do we know enough about how persons determine their consumption expenditures and savings to know whether to include capital gains and losses in income? And if we do not, how are we to decide what items we should include or how we should define the unit in a size distribution?

Since to study different factors or their effects both income and unit may well have to be defined differently, no single definition or variant of the size distribution may suffice. Nor, because the past has not been studied adequately, do we know which variant is best adapted to the problem at hand. As is common in empirical work, we travel in a circle not knowing precisely what measures to make or how to make them until we have already completed and studied them. We break out of the circle in the common way too: we make the best measures we can with the data, following intuition and whatever vague notions we have, and attempt to provide estimates either in several variants or in sufficient detail so that others can construct their own variants. To say that the inquiry is concerned largely with organizing data in such a way that they may be put to various uses would be easy though somewhat misleading: we do select the data and cast them in some form, depending upon how we think differences in income are most usefully measured for our purposes. But because our choice of the form is determined by broad criteria and severely limited by the basic data, this inquiry cannot go very far toward the analytical purposes that are its ultimate goal. In that sense it is an unfinished venture, and must stop far short of the final formulation which cannot be made without complete knowledge. This is one reason, among others, why at the end of this brief summary we come back to questions this study does not answer, and thus to directions of further inquiry which it suggests and for which it constitutes a preparatory step.

## 2 The Basic Procedure

The basic procedure is to compare the number and income of persons represented on federal income tax returns with the total population and its income receipts. Underlying data are available annually back to 1919, and with some limitations, back to 1913 . Since, except for a few recent years. tax returns cover only a small fraction of total population - the fraction at the highest income levels - our estimates of income shares are for only a small upper sector.

From the same source material we can, with certain limitations, carry through the comparison for various types of income (employee compensation, entrepreneurial income, etc.). We have also used other data - primarily sample studies of income - to shed some light on the effect of our
definitions ('income', 'unit', and the like) on the shares of upper income groups, as well as on their demographic and social characteristics. Furthermore, we attempt to explore the implications of the findings concerning changes in the income shares of upper groups for changes in their shares in savings. But since we deal primarily with the comparison of federal tax return data with countrywide estimates of individuals' incomes, and the estimates of annual income shares of upper groups so derived, the difficulties involved in such a comparison are central to the whole inquiry.

They arise from two somewhat distinct sources: (a) likely differences in the size of errors attaching to the two bodies of data compared; (b) explicitly recognized differences between the latter in the concepts of income and income unit.
a) Countrywide estimates of income flows to individuals are derived from censuses and other data on income payments originating in the several industries. The errors in the aggregates are thus a compound of the errors attaching to the components of which the totals are a sum, and little can be said about them in a general way. But as these estimates have been available for a number of years, have been tested by the various uses to which they have been put, and those for recent years have been compared with results derived by other methods, we venture the conclusion that the errors in the aggregates are fairly small - within a 5 percent range in recent years - and that, on the whole, these aggregates are likely to run short, largely because it is impossible to cover all casual and part-time income. However, for countrywide totals of some income types, e.g., entrepreneurial income, the relative error is probably wider.

The errors and biases in the income tax data are probably larger. Some people, of course, evade reporting completely by not filing; others understate their income, or overstate the legally allowed exemptions and deductions. And as the data are a byproduct of the administration of a highly complex and changing tax law, it is not easy to be sure what types of receipt are exempt from tax or even from reporting. Hence, in comparing them with countrywide totals, we juxtapose a set of highly complex administrative data, subject to a downward bias of unknown proportions, to estimates derived essentially from census data, and doubtless subject to less understatement.

Some of the possible biases in the tax data were minimized by: (i) using reported income, unreduced by exemptions or by deductions except in so far as the latter represent true business costs; (ii) so defining the upper group as not to exhaust the tax return population, thereby reducing errors due to nonfiling, since the latter are most prevalent at levels close to those exempt from reporting; (iii) using diverse supplementary data and several
variant estimates. Even so, errors due to understatement of the income reported on the tax returns may well have been large - larger than those in the countrywide income totals. In our opinion, however, they are not so large for the upper income groups we cover as to affect seriously the levels of and changes in their estimated shares. This opinion, supported explicitly in Chapter 11 and implicitly in many places in the report, is confirmed by the results of the recent random audit of 1948 returns. In any case, we cannot adjust for biases due to underreporting and must either use the data or forego the opportunity to learn something, though we may be seeing through a glass, darkly. Our decision to go ahead was purely a matter of judgment, informed as it may have been, and subject to check by other investigators for whose benefit the technical details that follow are provided. b) The federal income tax data are tabulated for most years during the period by broad classes of net income, as defined in the tax law, per return (for a few recent years, the classification is by adjusted gross income). We are interested in a classification of persons by economic income per capita, i.e., income not inflated by capital gains and not reduced by capital losses or allowable deductions that represent consumer expenditures (e.g., interest on mortgages of owner-occupied houses) rather than business costs. With the available detail we can estimate the number of persons represented on tax returns and their economic income but only for the broad groups of returns shown by size of net income, tax definition, per return. Hence in trying to approximate the successive upper groups in a size distribution of population based on economic income per person, the adjustments, which ideally should be made for each tax return separately, are applied only to the large blocks represented by the already formed net income, tax definition, classes; the returns so adjusted are then rearrayed by economic income per capita.

Much of the calculational complexity of the study arises from this need to reshuffle the distributions to make them conform to the desired base of unit and income concept. But because we could not go behind the net income classes to the individual returns, we could not adjust them completely. Consequently, the differences in income revealed by our estimates are less sharp than they would be if we had worked with a size distribution of income in which each unit, properly defined, was classified by the desired concept or even if we had worked with groups classified by the desired concepts of income and receiving unit. In a classification of population by economic income per capita the use of groups formed by classifying returns by net income as defined in the tax law will necessarily blur or damp the true spread of the income size. It is as if one tried to paint a fine picture with thick brushes and large blobs of somewhat mixed colors. For
the same reason, our estimates of income shares of upper groups distinguish few subgroups: shares for many more could be calculated, but the additional detail would be largely spurious because in most years net income classes, the basic units with which we have to work, are too few, or too affected (at the very top levels) by the use of an income base other than the one desired.

## 3 Variants and Definitions

For each net income class in the distribution of tax returns we calculate the number of persons represented including dependents, economic income as defined below, and per capita economic income. Arraying these classes from the highest per capita income down, we derive cumulative totals of population and income, then draw partition lines cutting off the top 1 percent of the population, top 3 , top $5-$ top in the sense that the population above each partition line receives a per capita income higher than that below. But to repeat, the array is of large groups constituted by net income, tax definition, or adjusted gross income, classes - not, unfortunately, of individual returns. The income of the top 1,3 , and 5 percent of population and, by subtraction, that of the 2 nd and 3 rd , and 4 th and 5 th percentage bands from the top, is then expressed as a percentage of individuals' total income receipts.

This general procedure varies as we modify the countrywide income total with which the income of the upper groups is compared, as we make the adjustments in passing to economic income, and as we extend the scope of income. Before describing the several variants, we comment upon the fundamental aspects of the procedure that were a matter partly of choice, partly of necessity: (a) the use of economic income as the main concept; (b) the reduction of returns to a per capita basis; (c) the use of current year income as the basis of classification.
a) Economic income as used here is the sum of employee compensation, entrepreneurial income, rent, interest, and dividends. Employee compensation, in turn, includes wages and salaries net of employee contributions to social security but inclusive of benefits from social insurance and relief payments and of other labor income. For most years, however, it is almost identical with wages and salaries. Economic income, then, comprises payments that are associated with the participation of individuals or of their property in production whose net result is measured in national income. It is not strictly current product evaluated in market prices. In a sense, all income payments are transfers rather than measures of productive contribution: wages paid by a business enterprise do not measure the market value of the productive contribution if the firm sustains a substantial net
profit or loss; interest may be paid even though not 'earned' in the given year. But it is fair to say that economic income thus defined is perhaps closest to the comprehensive total that is part of national income viewed as a measure of current product. As already hinted, for some specific purposes a different definition of income might be more appropriate; and some of the variants described below do employ a different definition. In any case, a statistical inquiry into a size distribution must use some one or a few concepts of income; and the choice in this case is governed largely by tie-in with the national income concept and how widely it can be used.
b) We reduce returns to a per capita basis, i.e., divide income totals for groups of tax returns by the number of persons represented instead of by the number of returns because a tax return as such is a unit of dubious significance in any size-of-income analysis. It does not represent the number of income recipients, since there may be more than one recipient per return (and the number cannot be ascertained from the available data). Besides, a recipient is a unit of limited usefulness because many persons may each receive minor amounts of property income and nothing else; and because, in any given year, some persons who customarily receive sizeable incomes may be unemployed. Excluding them from the total of recipients is hardly justified, yet it is difficult to include them since they are not directly reported. Nor does the income tax return measure, in and of itself, a family or spending unit, however defined, since a family may file more than one return, and more than one spending unit may be covered on one return. It seemed best, therefore, to reduce returns to a per capita basis; treat them as groups of persons characterized by given levels of per capita income; and compare them with the total population as the receiver of aggregate income flowing to individuals.
c) The procedure distinguishes groups that are at the upper levels of economic income per capita in the given year. Since the income reported on tax returns is for a year, not for a longer period, we must work with a distribution by income incidence in a given year, instead of with a distribution by income status for a longer period. This means that an upper income group in any given year, say, the top 1 percent, includes units (i.e., returns) that may be there in that year alone and may exclude units that are in the top 1 percent the next year. We attempt to indicate how much mobility there is, although the information is necessarily limited, and suggest that, by and large, a substantial proportion of the persons in a given upper group tend to remain in it or move to neighboring groups. But while the upper groups thus distinguished have a resident core that enjoys high income status, they have a migrating periphery whose relative income level
for a longer period is appreciably lower. This is an important qualification, which bars interpreting upper income groups as consisting year-in, yearout of the same single persons and families.

The three variants, developed by the general procedure just outlined, are now described.
i) Since the upper income groups segregated by us in the tax data represent overwhelmingly nonfarm units, they and their income can be compared not only with the number and income of the total population but also with those of the nonfarm.

For purposes of measurement upper income groups are defined as the top 5 percent of the total population (subdivided into the top 1,2 nd and 3 rd , and 4 th and 5 th pêrcentage bands); and top 7 percent of the nonfarm population (subdivided into the top 1, 2nd and 3rd, 4th and 5th, and 6th and 7th percentage bands). All groups below are designated 'lower income groups'.
ii) As already indicated, the available tax data can be treated, without loss of detail, so that for each net income class, the economic income and number of persons represented can be approximated. The estimates of upper group shares derived from them are designated the 'basic' variant because they are derived directly and in full detail. It is for the basic variant alone, whether for the total or for the nonfarm population, that we can estimate upper group shares not only in individuals' total income receipts but also in the countrywide totals of the five component types: employee compensation, entrepreneurial income, rent, interest, and dividends. In deriving the shares in these various types, the upper group is classified throughout by its total income, not by its receipts of the given income type.

Further adjustments, made to bring the estimates closer to a true distribution by economic income per capita, allow for the nonreporting of state and local government salaries prior to 1938 , for the omission of imputed rent on owner-occupied houses and, most important, for the effects of classifying the tax data by an inappropriate income base and unit. The resulting estimates, designated the 'economic income' variant, are available for the upper groups of both total and non-farm population, but the adjustments cannot be allocated among the several income types.

Both the basic and the economic income variants employ economic income as their base concept. We can modify economic income by deducting federal income taxes paid (the major part of direct taxes paid by individuals) and by including the net balance of realized gains and losses from sales of assets. The latter is not included in the national income total, nor is it properly a part of the economic income of individuals since it does not
represent the participation of individuals or their property in production. The deduction of taxes and inclusion of gains and losses from sales of assets thus turn the concept away from economic toward disposable income. Hence the estimates so derived (for both total and nonfarm population) are called the 'disposable income' variant. The term is somewhat misleading since a true approximation to disposable income would have to take account of other direct taxes, gifts, gambling gains and losses, and the like.

With the detail available (much of which is given in Part V), it is possible to derive other variants, e.g., economic income after deducting federal income taxes but before including gains and losses from sales of assets, and disposable income adjusted roughly to include undistributed net profits or losses of corporations.

## 4 Major Findings

Of the major findings of the study, we present five here: (a) the average levels and structure of income shares of upper income groups; (b) some characteristics of the latter that may shed some light on the causes and consequences of their relative income position; (c) the recent decline in the income shares of upper income groups; (d) short term changes in these shares associated with business cycles; (e) implications of changes in upper income shares for changes in shares of upper income groups in total savings of individuals.
a) Our estimates are fairly complete for 1919-46; a few go back to 1913, and those in the basic variant extend through 1948. In trying to describe the average level and structure of upper group shares we are confronted by the fact that they have declined drastically since 1939. Hence an average for the entire period would be quite unrepresentative. We therefore confine the averages to the interwar period 1919-38, and qualify them by comparing them with the levels in recent years.

For the two interwar decades the average shares in the economic income variant (i.e., in income excluding gains and losses from sales of assets and before taxes) of upper groups of total population (in this summary, we omit shares of the nonfarm population) were: top 1 percent of population, 15 percent of income; top 5 percent of population, 30 percent of income. In the basic variant, where the true income range is somewhat understated, the average share of the top 1 percent was 13 percent of income; of the top 5 percent of population, 25 percent of income. The degree to which the recent decline modified the income structure of the country can be seen from the basic variant estimates for 1947 and 1948, the latest pair of years for which estimates can be calculated: the top 1 percent of the population
received $81 / 2$ percent of income; the top 5 percent of population, 18 percent of income.

Both during the interwar decades and in recent years, upper group shares were largest in the countrywide totals of property income, particularly dividends. Thus, for 1919-38 the top 1 percent of population received on the average 65 percent of total dividends paid to individuals; the top 5 percent, 77 percent. Their shares were lowest in countrywide employee compensation, averaging about $61 / 2$ percent for the top 1 percent and 17 percent for the top 5 percent group. For recent years the shares of the upper groups in interest and dividends, as well as in employee compensation, declined, but the contrast persisted. In general, the upper groups received an appreciably larger proportion of their income from property than did the lower groups or the population as a whole.

In interpreting these findings we must bear in mind that the top 1 and 5 percent groups reach well down the income scale. Thus the lowest units in the top 1 percent group received incomes which, on a per capita basis (economic income variant), ranged during 1919-38 from somewhat over $\$ 2,100$ in 1933 to $\$ 4,200$ in 1929 , and rose to $\$ 5,600$ in 1946 , the most recent year for which the series is available. This means that a family of 3 would be included in the top 1 percent group in 1933 if it received $\$ 6,300$ or more, in 1929 if it received $\$ 12,600$ or more, and in 1946 if it received $\$ 16,800$ or more. For the lowest units in the top 5 percent group per capita incomes ranged during 1919-38 from about $\$ 1,250$ to about $\$ 2,000$, rising to somewhat over $\$ 2,300$ in 1946.
b) The size of the shares and even their changes depend upon the unit used in the distribution (the recipient, family, consuming unit, etc.), the scope of income distributed (the items included or excluded, e.g., income in kind, and gains and losses from sales of assets), the extent to which several types of income from various sources combine to swell the total income of a given unit, and the length of the period for which income is measured (a year, 2 years, etc.). In interpreting differences in income one must take account not only of these statistical characteristics of the size distribution but also of the demographic and social characteristics of the recipients in the upper groups, i.e., their sex, age, education, size of family, place of residence (rural, urban, cities of different size), occupation, industrial attachment, and the like.

The effects of these characteristics cannot be summarized readily nor, for lack of continuous and adequate data, can our conclusions be expressed in simple estimates that can be applied to modify differences in income as shown above. But, in general, it may be said that: (i) the use of
a single year's income tends to exaggerate perceptibly upper group shares: if upper groups were classified by their income for a longer period their shares would be perceptibly smaller; (ii) upper groups have more recipients at productive ages and with higher formal education and longer experience than lower groups; (iii) upper groups have relatively more consuming units whose place of residence entails high living costs. Hence a size-of-income distribution based on average income for several years, covering only the experienced and highly trained members of the active population, and adjusted for differences among groups in their cost of living, would yield upper group shares materially smaller than those cited above.
c) The decline in upper group shares since 1939 is especially striking in view of the rather narrow range of movement during the preceding twenty years. Thus, in the basic variant (that for which we have the most recent estimates), the share of the top 5 percent ranged during 1919-38 from 22.1 to 26.8 percent of income - only 4.7 percentage points; and no sustained movement was perceptible, the successive quinquennial averages being 23.6, 25.5, 25.7, and 23.9 percent. From 1939 to 1944 it dropped from 23.7 to 16.8 percent - almost 7 percentage points in five years; and in 1947 and 1948 its level was only slightly higher -17.6 and 17.8 percent respectively. During the last decade, then, the share of the top 5 percent declined about a quarter. Similarly, the share of the top 1 percent, again in the basic variant, declined from about 12 percent in 1939 and 1940 to about $81 / 2$ in 1947 and 1948.

The decline in the shares in the economic income variant, and particularly in the disposable income variant, is even more striking. From 1939 to 1946 , the latest year available, the share of the top 5 percent in the economic income variant declined from 28.1 to 20.2 percent; in the disposable income variant, from 27.1 to 17.9 percent, well over three-tenths. Likewise, the share of the top 1 percent in the economic income variant declined from 13.3 in 1939 to 9.7 percent in 1946, and from 12.3 to 7.8 percent in the disposable income variant. Finally, if we adjust the shares in the basic variant by subtracting federal income taxes, the drop is from 22.7 in 1939 to 15.2 percent in 1948 for the share of the top 5 percent, and from 10.9 to 6.4 percent for the share of the top 1 percent. Recent sample data do not indicate any significant rise in upper group shares from 1948 to 1950.

This recent decline in upper group shares, which for its magnitude and persistence is unmatched in the record, obviously has various causes. The most prominent are the reduction of unemployment and the marked in-
crease in total income flowing to lower income groups (particularly farmers and wage earners); shifts in the saving and investment habits of upper income groups which may have curtailed their chances of getting large receipts from successful venture capital and equity investments; lower interest rates; and steeper income taxes. But conjectures alone are possible, and the discussion in the report is limited to a statement of facts. The exploration of causes would entail close study of the complete size distribution of income and transcends the practical limits of this inquiry.
d) During business cycles in the interwar period upper group shares changed, on the whole, within fairly narrow limits. Changes in the share of the top 1 percent were irregularly related to business cycles. Changes in the shares of upper groups below the top 1 percent tended to move counter to business cycles, as did the share of the top 5 percent group as a whole. Thus, in the economic income variant, while the share of the top 5 percent averaged 30 percent of income, there was an average decline per year of 0.4 percentage points during expansions, an average rise per year of 1.5 percentage points during contractions, and an average rise per year of 1.8 percentage points in the rate of change from expansion to contraction. As these movements are of percentage shares, not of the absolute amounts of income received, the decline in upper group shares during expansions means only that while incomes of both the upper 5 percent and the lower 95 percent groups rose, as is usual in that cyclical phase, the relative rise in the former tended to be smaller than that in the latter.

The counter-cyclical movement of upper group shares is partly confirmed by the evidence for recent years. Their recent decline is associated with the war-induced expansion, and both culminate in 1944. However, their recent drop far exceeds that in earlier cyclical expansions, and their recovery is relatively much less.
e) Unless changes in the income shares of upper groups are accompanied by marked changes in the percentage of income saved by those groups or by the lower groups, a rise or decline in their income shares will be accompanied by a rise or decline in their shares in total savings. One can conjecture, for example, that the recent striking drop in the income shares of upper groups was accompanied by a marked decline in their shares in total savings of individuals. This may well have been the case. But the recent period was one of war impact and postwar recovery, when legal and other pressures produced marked fluctuations in the savings habits of individuals, i.e., in the savings-income ratios at lower, and perhaps even at upper income levels. It seems fairly clear that during the war years, when total savings and savings-income ratios were high, the share of upper in-
come groups in total savings must have declined appreciably. However, in the postwar years, when the over-all savings-income ratio dropped sharply, it is quite possible that the share of upper groups in total savings rose again, perhaps to prewar proportions. These must remain conjectures to be corroborated or refuted by further study.

More attention is given to how savings are affected by changes in upper group shares in income during business cycles. Savings-income ratios for upper groups fluctuated during business cycles much less relatively than those for lower groups. This, together with the stability (or mild countermovement) of income shares of upper groups, leads to the inference that their savings constituted a fairly stable proportion of the total income of individuals. Consequently, the extreme variability during business cycles of the savings-income ratio for the total population must have been due largely to violent changes in the savings-income ratios for lower groups; and, another important consequence, the share of upper groups in total savings of individuals must have declined during cyclical expansions when savings were relatively large, and risen during cyclical contractions when savings were relatively small.

Shifts in the proportion of the total savings flow contributed by upper and by lower groups are important in so far as these components differ in their sensitivity to changing economic conditions, and particularly in so far as savings of upper groups seek different investment channels and employ different intermediary financial institutions from those of lower groups. Savings seeking investment must, therefore, be examined in terms of not only the proportion originating within the upper and the lower groups respectively but also of the types of investment opportunity into which, given the legal and other institutional conditions as well as the preferences of the savers, they would easily flow.

## 5 Directions of Further Inquiry

Since the data we used required numerous and necessarily imperfect adjustments, and information for testing our hypotheses and findings was scanty, and since the source material did not permit us to cover any except the upper sector of the income size distribution, future investigations should be directed toward: (a) further testing of the findings for the sector that was covered; (b) extending the analysis to cover other sectors or the entire income size distribution.
a) In compàring federal income tax return data with estimates of individuals' total income receipts, we followed in the footsteps of preceding investigators, and it is hoped that future investigators will, as information accumulates, go on from where we left off. Both sets of data are con-
tinuous. The population coverage of federal income tax returns has widened enormously in recent years, and as far as one can see, is•likely to remain wide for years to come; moreover, a random audit of returns, first made for those filed for 1948, may well become standard practice. Also, the estimates of aggregate income flow to individuals will naturally improve in accuracy and detail. Hence the comparison should, as time passes, yield more reliable estimates of upper group shares and cover a much larger proportion of the total population than the 5 percent that can now be studied continuously since 1919. Continued use of the two sets of data in measuring income shares would not only subject findings for the past to more checks but also provide a basis for even better estimates and analysis for the future.

In these bodies of data, which in the future may have more detail on social characteristics of income recipients, and in the sample studies of income and its disposition, further attention is likely to be paid both to the determinants of income differences and to their consequences upon uses of income for consumer expenditures and savings. Our analysis of such linking of income shares with their antecedents and consequences is necessarily incomplete - partly because data for the earlier years are scarce, partly because there are practical limits to the time and effort that can be spent on a single inquiry. The flow of new sample survey and administrative data in recent years, the accumulation of studies, and rising interest in the problem promise considerable advance in our understanding of how differences in income are related to the characteristics of income recipients and the patterns of income disposition. One of the first tasks in this area is to account for the recent marked decline in upper group shares in income, and to evaluate the likelihood of its persistence.

Tax return data can be compared with independently derived estimates of individuals' aggregate incomes for each state as well as for the country as a whole. Though the results are bound to be subject to a wider margin of error than those for the country as a whole the analysis would be worth while. Similar analyses could be undertaken for other countries, thereby extending the range of our observations in space, and perhaps even over time.
b) No matter how accurately we estimate upper group shares in income and how closely we analyze their determinants and consequences, the study is incomplete unless we take account of all groups in the size distribution. Upper groups are part and parcel of society as a whole; their actions and reactions intertwine with those of other groups; and their income position can be understood only within a completely studied whole.

In fact, we operate throughout this study with general notions concerning the entire size distribution; and at many places actually use data for it, even though they are perforce discontinuous and scanty. But the main direction of further inquiry is obviously to extend the estimates and analysis to cover the entire size distribution of income.

The chief difficulty is lack of detailed data for a sufficiently long period. Even the continuous sample studies for recent years are based upon too few cases to permit close analysis; and as one goes back to earlier years, even such limited data are available for only one or two years. A really thorough analysis of the size distribution of income, on a continuous basis and for a period long enough to permit transitory elements to be differentiated from more persistent elements, may not be possible for years to. come. And if the study must be limited, it should concentrate on low income groups because it is at the extremes that the causes and effects of income size are most conspicuous.

Such a study would be a natural supplementation of this inquiry. Much of what has been found here is directly relevant to an analysis of groups at the bottom of the income scale. Their shares may vary over time much more than those of upper groups, and during the short term of business cycles they would move with the latter and counter to upper group shares. Statistical and social characteristics seem just as relevant for interpreting the low average level of incomes at the bottom of the scale as the high level incomes at the top. Likewise, the temporal stability of savings-income ratios at upper income levels bears with it the complementary consequence of high variability at very low income levels.

In all these respects a study of shares in income and savings of groups at the bottom of the income size distribution would in a sense be a continuation of this investigation, both supplementing and testing our findings. It could not use income tax data effectively; on the other hand, sample field studies are likely to cover these groups more fully. Also, the attention of society, directed at such of these lower groups as need assistance, has yielded and will continue to yield data not forthcoming for either the middle or the upper ranges of the income size distribution.

## Volume One

## Part I

## Level of and Changes in Shares

## Chapter 1

Average Levels of Income Shares, 1919-1938

## 1 Income Shares, Upper Groups of Total Population

The shares of upper income groups in countrywide income receipts of individuals are measured by the percentages amounts reported on federal tax returns are of aggregates derived in estimating national income. Since the income concept, income base, and unit of classification used in tabulating federal returns differ from those underlying the countrywide totals, we must make numerous adjustments based upon tentative assumptions. The technical points of these adjustments are discussed in Part IV. Here, to assure understanding of the estimates and a fair idea of the size of the shares that would be yielded were the tax data strictly comparable with the countrywide totals, we describe briefly the nature of these comparisons as actually made.

In calculating the basic variant the procedure is briefly as follows. For the groups reported annually in Statistics of Income, classified by net income, as defined for tax purposes, per return, we take income as the sum of wages and salaries, business and partnership income, rents and royalties, interest, and dividends. Gains from sales of assets are excluded as well as deductions reported as offsets to income (except business and partnership losses). For the same groups we estimate the population represented on the returns - all persons whose income is reported and those for whom credits are claimed because of dependence upon the income reported. Dividing income as defined above by population yields per capita income for each net income class. We then rank these classes in descending order of income per capita and cumulate downward both the population represented and the income reported. These cumulative totals are converted to percentages of total population and total income receipts, the latter excluding some minor items such as imputed rent and property income of life insurance companies and including transfer payments to labor. Into these percentages of population arrayed in descending order of income per capita we interpolate partition lines at the top $1,3,5$ percent, and so on down, stopping short of exhausting the total tax return population. These interpolations yield the percentage shares of income received by the top 1,3 , and 5 percent of the population; and by subtraction we get the shares of the 2 nd and 3rd, 4th and 5th percentage bands, and so on.

The arithmetic means of the annual shares for 1919-38 are entered in Table 1, line $1 .{ }^{1}$

Table 1
Average Annual Income Shares of Upper Income Groups of Total Population and Average Annual Adjustment for Various Factors, 1919-1938

|  |  | Percentage of Countrywide Income of Individuals Received by Given Percentage Band |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Top 1 <br> (1) | 2nd \& 3rd <br> (2) | 4th \& 5th <br> (3) | Top 5 <br> (4) | $\begin{gathered} \text { Lower } \\ 95 \\ (5) \end{gathered}$ |
| 1 | Basic variant | 13.14 | 6.61 | 4.93 | 24.69 | 75.31 |
| 2 | Adjustment for: Comp. of employees of state \& local governments | 0.00 | +0.18 | +0.18 | +0.36 | -0.36 |
| 3 | Imputed rent | $-0.11$ | -0.02 | 0.00 | $-0.13$ | +0.13 |
| 4 | Family status | +0.58 | +0.80 | +0.74 | +2.12 | -2.12 |
| 5 | Maximum effect of unwarranted inclusions | +0.43 | +0.02 | +0.08 | +0.52 | -0.52 |
| 6 | Maximum effect of unwarranted deductions | +0.96 | +0.70 | +0.57 | +2.23 | -2.23 |
| 7 | Economic income variant $(1+2+3+4+5+6)$ | 15.00 | 8.30 | 6.49 | 29.79 | 70.21 |
| 8 | Adjustment for: <br> Federal income taxes | -0.95 | +0.03 | +0.04 | -0.89 | +0.89 |
| 9 | Excess of gains over losses |  |  |  |  |  |
|  | from sales of assets | +0.70 | +0.06 | -0.02 | +0.75 | -0.75 |
| 10 | Disposable income variaṇt $(1+2+3+4+6+8+9)$ | 14.32 | 8.36 | 6.44 | 29.13 | 70.87 |

This description is too brief to reveal clearly the salient features of the procedure that is basic to the whole inquiry. We therefore list these features so that the reader may keep them in mind in interpreting the findings.

1) We compare tax data - obtained in connection with the administration of a complex tax law, and subject to all the biases common to data involving payments by those reporting - with countrywide totals - based largely on census and similar data on income payments by industries. The two
${ }^{1}$ Similar comparisons, varying in elaborateness, have been made in the past. The first I know of was in Income in the Various States: Its Sources and Distribution, 1919, 1920, and 1921 by Maurice Leven (NBER, 1925), where it was made in order to exclude the top income classes from comparisons among states (see Ch. XI, pp. 284 ff.). The Federal Trade Commission made a similar comparison for the country in National Wealth and Income (Washington, 1926; Table 108, p. 192). The procedure was used by M. A. Copeland in Recent Economic Changes, II, 833-7, and by W. I. King in National lncome and Its Purchasing Power, Ch. VII, pp. 170-80 (NBER, 1929 and 1930 respectively); by A. J. Goldenthal in Concentration and Composition of Individual Incomes, 1918-1937 (Temporary National Economic Committee, Monograph 4, Washington, 1940); and most recently by Mary W. Smelker in Shifts in the Concentration of Income, Review of Economics and Statistics, August 1948, pp. 215-22. Our study extends the estimates over a longer period and develops the analysis in greater detail.
bodies of data, representing respectively the numerator and denominator from which the income shares are derived, are statistically independent, which is all to the good, but they are subject to varying margins of error. In our judgment the biases in the income tax data due to the tax exempt status of certain items and to tax evasion and underreporting are not so flagrant, at least in the upper reaches of the tax return population, as to render the comparison subject to fatal error. The supporting evidence is explicitly discussed in Chapter 11 and is implicit in much of the analysis throughout the study.
2) The income concept governing the items covered in the numerator and denominator includes all income flows associated with participation of the individual or of his property in the production process except as otherwise indicated. For the denominator, we depart from the total ordinarily distinguished as the sector of national income (or 'income produced') flowing to individuals, i.e., 'aggregate payments to individuals', by excluding imputed rent on owner-occupied houses (for the basic variant alone: it is reincluded for the other variants), property income of life insurance companies, and employee contributions for social insurance (in recent years); and by including most transfer payments to labor (benefits from social insurance, relief payments, and the like). We try to approximate incomes received rather than produced during the year: all income payments in a sense involve transfers since they may, in any given year, exceed or fall short of, by appreciable proportions, the market value of the items produced by the services that are being paid for. From that standpoint, it is possible to construct a size distribution only of income received, since a size distribution of income produced would involve imputing net profit or loss of enterprises to the various production factors. Thus economic income, as defined here, is income that is received for productive service rendered currently, in the past, or chargeable against the future.

Economic income of the tax return population is defined correspondingly: gains from sales of assets are therefore excluded and deductions allowed as offsets, except business and partnership losses, are reincluded. Judging by the data for years for which detail is available, this reinclusion of deductions is, on the whole, warranted, since they are dominated by tax payments, interest payments (mostly on mortgages of owned homes) and losses from sales of assets, none of which can be viewed as a proper offset in computing the economic income of individuals. Nevertheless, our reinclusion of all deductions may perhaps slightly overstate economic income of the tax return population.
3) Tax returns, as tabulated by income class, are converted to population equivalents, i.e.; they are adjusted to take account of the population represented on them. In other words, to construct our distributions we array
the population equivalents of the tax returns, not the individual recipients of income.

This procedure was partly a matter of choice, partly of necessity. The necessity lay in the fact that data were not available by which the number of recipients could be established: a tax return may cover more than one income recipient, and no information is published (and often is not available on the face of the return) concerning this point. But even if it were possible to estimate the number of individual income recipients on tax returns, the recipient unit is of limited usefulness in analyzing the size distribution of income. Whom should we include in a total of income recipients? Should we include those with zero or negative as well as those with positive income? If we do, the total is identical with total population; and a comparison of any given group of income recipients with this total would make little sense. And even if we include only those who receive positive income, it means including persons receiving negligible amounts as well as those receiving substantial amounts, and the significance of such a total is doubtful. Besides, excluding all zero income recipients means excluding the unemployed - a varying fraction of the population - with varying cyclical effects on shares of the upper income groups. And it does not seem reasonable to exclude persons who would normally be fully employed but who happen to be fully unemployed during the given year, and include persons who may have worked just a day or week. ${ }^{2}$

With the choice of using tax returns or persons as units, it definitely seemed better to use the latter; and as indicated above, returns were converted to their population equivalents. In consequence, our estimates cover upper income groups of total population, i.e., all persons (of any age, sex, occupation, or property status) as are represented on returns in the income classes with the highest economic income per capita. ${ }^{3}$

[^0]4) The basis of the array of the tax return population and income data in any given year is current year income, and the countrywide totals with which they are compared also cover current year income. The countrywide totals could be cumulated for several years to yield total income of the population for a longer period. But the tax returns call for current year income and fail to show income for longer periods. Thus, perforce, our estimates of shares of upper groups are based on income incidence during a year, not on income status for a longer period. The effects of such a basis are discussed at some length in Chapter 4; here we point out how the composition of upper income groups is affected. The top 1 percent band for a given year obviously includes persons who will not be at the same high relative income level the next year or were never there before as well as persons who may have been or may remain at this high level for a long period. Chapter 4 indicates the extent of the mobility involved: it is substantial, and we should emphasize that the upper income groups include, in addition to a resident core, a large proportion of persons who are at the high relative levels only temporarily and whose income status is definitely much lower.
5) Were it possible to go back to each return, we would have calculated for each the economic income per person represented, arrayed and cumulated the population and income of all returns by the size of these per capitas from the top down, then drawn the partition lines at the top 1,3 , etc. percent of population. But since we have only the published tabulations, not the returns themselves, we must operate with the large groups constituted by the net (or adjusted gross) income classes as defined in the tax law. The conversion of returns to population equivalents and the calculation of economic income per capita are, therefore, carried through only for these large groups of returns, not for each return separately. This is particularly true of the basic variant; for the others an attempt was made to go back of the net income classes, but it was necessarily incomplete.

The important consequence of this limitation is that the income differences in the resulting size distribution of income are obscured - the shares of the upper income groups as estimated by us are, on this particular account, smaller than they should be. Any size distribution in which the unit of classification and income base are other than the person and economic income per capita would show less dispersion, a narrower spread. We are compelled to work with the net income classes, however, and the basic variant, derived from them with no adjustment to take account of this

[^1]limitation, is indispensable since it is the one most directly yielded by the available data and hence the one that permits most detailed analysis of shares of upper income groups. It was designated 'basic' for this reason, not because it approximated most closely the desired distribution of income by size.

The adjustments in lines 2-6 of Table 1 are designed to correct for the weaknesses of the basic variant. They must be based upon assumptions backed by as much ingenuity as one can muster when faced with lack of detailed information. Their main purpose is to suggest the order of magnitude, not to yield precise annual measures, although they naturally differ in the extent to which they do so.

The adjustment for compensation of state and local government employees is needed because until 1939 these employees were not required to report on their federal tax returns payments from nonfederal agencies. Since the countrywide total used in deriving the basic variant includes compensation of nonfederal employees, the shares in the basic variant are slightly understated through 1938. The adjustment, based on the size distribution of nonfederal compensation for 1938 and on assumptions concerning the relation between that distribution and the ratio of nonfederal compensation to total income receipts per capita, is quite minor, raising the shares of the 2 nd and 3 rd, and 4 th and 5 th percentage bands 0.2 percentage points, on the average. It is, however, somewhat more significant in affecting annual movements in the shares of upper percentage bands because of the well known insensitivity of government compensation to cyclical changes.

To adjust for imputed rent we add this item to both individuals' total income receipts and the income reported by the tax return population. The difficulty of distributing imputed rent by income size classes was overcome by using the National Resources Committee distribution for 1935-36, then extrapolating it to other years, assuming the relative distribution to be constant and its absolute effect to be governed by the annual ratio (available from national income estimates) of imputed rent to total income receipts. The adjustment reduces the shares of the upper percentage bands, but only slightly, mainly because the ratio of imputed rent to total income receipts is low and partly because differences among income classes in this ratio are small.

The two adjustments are interesting because they show that modifications of the basic variant produced by changes in income scope are much smaller than one would expect from the mere size of the latter. Imputed rent is not a major item but it does account on the average for about 3 percent of total income receipts. Yet its effect on the shares, even relatively, is far smaller. This suggests that the shares of upper income groups would
similarly 'resist' most modifications in income scope. There are two reasons for this 'resistance': first, the relative magnitude of the item added or subtracted is not in itself as important as the extent to which the relative distribution of the item is different from or is associated with that of the income total underlying the basic variant; second, with every adjustment the array is rechecked and, if necessary, the rank of classes shifted. Hence if the addition to or subtraction from scope is large enough to cause a shift in rank, the effect is reduced by such a shift.

The next three adjustments (lines 4-6) do not affect the scope of income but have to do with the more complex problems of the income base and unit of classification. In the basic variant the unit of classification is the return whereas what we need is the income unit, whether an individual or a family (i.e., a group that pools its incomes) reduced to per capita terms. The adjustment for family or marital status, dividing each net income class into head-of-family and nonhead returns, yields a closer approximation to the unit we seek because it at least separates multi-person from single person returns. And since the approximation to the proper unit is closer we get a 'purer' array and a wider spread than in the variant that does not take account of family status. In consequence, the adjustment increases the shares of the upper income groups. But it is incomplete: a better approximation would yield an even larger increase. Experimental calculations suggest that the complete adjustment for number per return might mean an increase about 1.5 times as large as that in line 4.

The adjustments for 'unwarranted inclusions', i.e., gains from sales of assets, and for 'unwarranted deductions', i.e., losses from sales of assets, interest and tax payments by individuals, contributions, etc., are needed because in the basic variant the grouping is by net income, as defined for tax purposes, not by income as we define it here. Unwarranted inclusions make net income too large, and unwarranted deductions make it too small.

Unlike all other adjustments these two are based almost completely on assumptions and are designed to maximize the effect of differences in the income bases of classification. They therefore suggest the maximum rather than the true effect of the adjustment. In general, they assign unwarranted inclusions and deductions to a small proportion of returns in each net income class; call for recomputing the class means of per capita income, after eliminating or shifting the returns to which unwarranted inclusions and deductions have been assigned, then rearraying the classes. It is the assignment of the inclusions and deductions to a small proportion of returns in each net income class that produces the maximum effects: were these items distributed proportionately among all returns in each class, no change would ensue.

The additions to the shares of upper percentage bands in lines 5 and 6
exceed the adjustment that would have been made had data been available. Comparison with sample studies indicates that the adjustments for maximum effects of the difference between the income base wanted here and net income as defined for tax purposes are about 3 times the correct adjustment. But we preferred to keep the adjustments as they stood because they are the only ones available annually, and their overestimation may compensate for underestimates elsewhere in the calculations.

The five adjustments described so far were designed to modify the basic variant so as to get a better approximation to shares of upper percentage bands in a true distribution of economic income by size of income per capita, i.e., with income defined in accordance with national income estimating and using the proper income base and unit of classification. Adding all these adjustments to the shares in the basic variant we get the shares in what we call the 'economic income' variant (line 7). ${ }^{4}$

Line 7 is the best approximation we can make to the shares of upper percentage bands in a distribution of economic income by size of income per capita. The upward bias in the adjustment for unwarranted inclusions and deductions probably more than cancels the downward bias in the adjustment for the number of persons per return (for which we substitute here the adjustment for family status), even though such cancellation is not as true of the adjustments for the separate percentage bands as it may be of those for the top 5 percent as a whole. But there are still some biases. One is the underreporting of dependents on tax returns because during the period covered legal exemptions were confined to minors or disabled persons. In many families, particularly among the upper income classes, there may have been several dependents neither under 18 nor disabled for whom exemptions could not be claimed. Such underreporting would yield shares of the upper percentage bands higher than their true level.

Evasion and underreporting of income cause a bias in the opposite direction. This bias has been discussed at length but none too fruitfully in many studies using federal tax returns, and is treated in detail in Chapter 11. All one can suggest here is that the effect on line 7 is minimized by the following factors. (a) Stopping at the 5 percent line ineans stopping short in almost all years of the lower ranges of persons filing income tax returns, and well above the limits of the line below which filing is not required by law. Evasion is most flagrant near the filing requirement line. (b) Underreporting often takes the form of exaggerating deductions rather than of

[^2]omitting an income item. By reincluding all deductions we not only repair the damage but to some degree overestimate the income. (c) If there is any underreporting, its effect on the shares is not equal to the relative magnitude of the items omitted, but to the difference between the true income of the culprits and the income of persons who, owing to this difference, are placed too high in the array, i.e., above rather than below the culprits. (d) Any downward bias that is still left in our estimates is at least partly offset by the upward bias noted above in connection with underreporting of dependents.

These considerations, as well as checks with other studies, lead us to believe that the level of the shares of upper percentage bands in the economic income variant is subject to only a minor downward bias, and may be taken as a fair approximation to the true level.

All averages in Table 1 and the other tables in Chapter 1 are arithmetic means of percentages for 1919-38. The recent years are not included because after 1939 the shares of the upper income groups declined sharply, by as much as a quarter to four-tenths, depending upon the variant - a decline unmatched in the record back to 1919. To include the recent years would, therefore, render the averages quite unrepresentative. But, before commenting on the findings, we must emphasize that in view of this decline since 1939, the averages for 1919-38 relate to a past that, at least with respect to the levels indicated, is unlike the recent years.

The top 5 percent of total population, i.e., the 5 percent with the highest income per capita, received on the average, almost 30 percent of total economic income. This means that its per capita income was 6 times that of the total population, i.e., 30 divided by 5 ; and about 8 times the per capita income of the lower 95 percent of the population, i.e., 6.0 divided by 0.74 , the latter figure being derived by dividing 70 by 95 . Its equivalent in absolute dollars can be seen by referring to the detailed tables in Part V. Average per capita income in 1919-38, including imputed rent, was about $\$ 550$. Therefore, the per capita income of the top 5 percent averaged about $\$ 3,300$, or about $\$ 10,000$ for a family of three; that of the lower 95 percent, slightly over $\$ 400$, or somewhat over $\$ 1,200$ for a family of three. Another way of expressing the findings is in terms of the income partition values, i.e., the incomes at the very bottom of a given percentage band, on the boundary line between it and the group below. For the top 5 percent group the lower partition value averaged $\$ 1,670$ per capita, or close to $\$ 5,000$ for a family of three.

Whether this difference in income level between the top 5 and the lower 95 percent of the population is viewed as large or moderate, one must always remember that the composition of the top percentage bands (and,
hence, of the lower) is subject to shifts from year to year so that we are not dealing here with status groups. Furthermore, the contrast will vary as the partition line is shifted. Could we have drawn the partition line at 20 instead of 5 percent, the contrast in income level between the top and the lower groups would have been much less striking. On the other hand, if we draw the line at the top 1 percent, the contrast becomes sharp indeed. The per capita income of the top 1 percent was, on the average, about 15 times that for the total population. This means an average level of per capita income well over $\$ 8,000$, or an income for a family of three well over $\$ 24,000$ as contrasted with a per capita income for the lower 99 percent of slightly under $\$ 500$, or an income for a family of three of somewhat under $\$ 1,500$. Even the lower partition value for the top 1 percent group was quite high: per capita income at the lower limit of this group averaged $\$ 3,200$, or $\$ 9,600$ for a family of three. In short, inequality. between the 'rich' and the 'poor' depends upon where one draws the line.

Within the top 5 percent group itself the income shares decline markedly from the top 1 to the lower percentage bands (line 7). Per capita income of the top 1 percent was 15 times countrywide per capita income in 1919-38; that of the 2nd and 3rd percentage band slightly more than 4 times the countrywide ( 8.3 divided by 2 ); and that of the 4 th and 5th percentage band, 3.25 times it. If one were to plot these per capitas as multiples of the countrywide per capita (on the vertical scale), for the successive percentage bands from the top (on the horizontal scale), the line at the upper percentages would be almost asymptotic to the vertical axis, dropping rapidly and then flattening out. One consequence is that the share of the top 1 percent dominates that of the top 5 percent, accounting for about half of it.

The discussion so far has been in terms of economic income, i.e., shares of population groups in aggregate income received. These shares, associated with the participation of individuals or their property in the production process, may change substantially before an individual can treat them as available for either consumption or savings. These possible shifts are numerous, resulting from speculation, philanthropy, taxation (direct), gambling, gain or loss from bribery or robbery, and the like. We cannot account for all and can only guess at their combined effect in the shift from the distribution of economic income to that of disposable income. But with data from Statistics of Income we can take at least two steps on the path from economic to disposable income since they enable us to calculate the changes that would be produced by deducting federal income taxes and by including the net balance of gains and losses from sales of assets (lines 8 and 9).

While federal income taxes are not the sole.direct tax on individuals, they
account for a substantial proportion, well over two-thirds. ${ }^{5}$ The adjustment consisted of deducting federal income taxes paid, by net income, tax definition, classes; recomputing per capita income for each class; checking the array of the classes and rearraying, if necessary; redrawing the partition lines, if necessary; and calculating the new income shares.

On the whole, the deduction of federal income taxes reduces the share of the top 5 percent only 0.9 percentage points (line 8 ) or about a thirtieth. The narrowness of the effect is not due to rearraying since changes in the array resulting from deduction of the tax are quite rare and of minor size. It is rather a reflection of the moderate impact of the federal income tax for 1919-38, if not for recent years, calculated as a proportion of income gross of deductions allowed under the law, on the large population groups above the 5 percent partition line. The progressivity of the tax during the two decades would be more apparent if calculated for net income, tax definition, and confined to the very peak of the tax returns or total population; and it is of substantially greater impact since 1938 than before.

Moreover, the adjustment for federal income taxes reduces the share of the top 1 percent alone - about a fifteenth. Clearly, the impact of the tax would become more marked the smaller the top group distinguished. For the 2 nd and 3 rd , and 4 th and 5 th percentage bands, the adjustment increases the shares slightly, because the relative reduction of income due to subtracting federal income taxes is smaller than the relative reduction of countrywide income receipts. Relative increases in the shares of percentage bands below the 5 percent partition line due to the adjustment for federal income taxes would obviously be even larger.

The next adjustment (line 9), the addition of the net balance of gains and losses from sales of assets (where it is not a part of transactions in pursuit of a person's regular business, in which case the resulting gains or losses would appear under business profits or losses) is most open to question, on both theoretical and statistical grounds. It is clear that national income, as a measure of the net value of commodities and services produced during the year, cannot include such gains and losses. However, if we wish to take into account all the differences among persons in their means of payment whether obtained during the year from the participation of them or their property in production or from transfer processes (taxes, transactions in assets, etc.), one could argue for including the realized gains and losses on asset transactions; and indeed the argument could be
${ }^{5}$ Goldenthal's estimates for the 1930 's, op. cit., pp. 56-7, show that of a total including state and federal income taxes, nonbusiness personalty taxes, and poll taxes, federal income taxes accounted for 61 to 78 percent (1930, 1934, 1936, and 1938). One would surmise that in the 1920's, when fewer states imposed income taxes, the proportion of federal income taxes was at least as high.
pushed even further - for the inclusion of accrued but unrealized gains and losses on capital assets. ${ }^{6}$ While the latter argument can be rejected as opening the door to the inclusion of a variety of unrealized, and hence intangible, changes in value, there is some basis for including at least realized capital gains and losses.

Statistical difficulties qualify the resulting estimates perhaps more than is true of the other adjustments. Not all capital gains are taxable and reportable (e.g., those representing appreciation before 1913). In some recent years statutory reporting yields only a partial total; and while we used the estimated totals prepared by Mr. Seltzer in connection with the monograph cited in note 6 , they may be incomplete. The major difficulty, however, is that we cannot estimate the balance of capital gains and losses for the population not filing tax returns, and consequently had to assume that the total for the tax return population is the countrywide total. Hence, in years when the nontax return population make capital gains, our shares of this item assigned to upper groups are too large; when the nontax return population incur capital losses, our shares of capital gains assigned to upper income groups are too small. All we can hope is that the rough magnitudes and the short term changes estimated are not far from the actual. The adjustment involves adding the balance of capital gains and losses to the income of each net income, tax definition, class, recalculating income per capita, and, if necessary, rearraying the classes and redrawing the partition lines.

The adjustment increases the share of the top 1 percent, and, slightly, that of the 2nd and 3rd percentage band. But already in the 4th and 5th percentage band the effect is a slight reduction in the share, indicating that the relative net addition on account of this item is less than the relative net addition to the countrywide total.

We can combine the adjustments for federal income taxes and balance of gains and losses from sales of assets, and add them to shares as estimated in the economic income variant. The latter must be modified, however, to exclude the adjustment for unwarranted inclusions: what was an unwarranted inclusion in the distribution of economic income is a warranted inclusion in the distribution that takes account of gains from sales of assets. This yields what may be called the 'disposable income' variant, although the term is valid only in comparison with the economic income variant. The estimates still fail to reflect other shifts intervening between economic and

[^3]disposable income (contributions and gifts, direct taxes other than federal income, and the like).

The shares in the disposable income variant in 1919-38 (line 10) differ from those in the economic income variant for the top 1 percent alone: on the whole its share is somewhat smaller after adjustment for federal income taxes and gains from sales of assets than before. The effect on the shares of the 2 nd and 3 rd , and 4 th and 5th percentage bands is negligible. One could reasonably surmise that a more complete approximation to the disposable income variant would show a somewhat larger reduction in the share of the top 1 percent; and some reduction perhaps in the shares of the 2nd and 3rd, and 4th and 5th percentage bands. But one may doubt that even a complete coverage would reduce the share of the top 1 percent more than 2 percentage points below its level in the economic income variant; or the shares of the 2 nd and 3 rd , and 4th and 5th percentage bands more than 1 percentage point each.

## 2 Income Shares, Upper Groups of Nonfarm Population

The upper income groups filing federal tax returns include, in most years, very few members of the farm population. ${ }^{7}$ Hence, just as in Section 1 we compared population and income on federal tax returns with total population and income, so we can, quite as legitimately, compare the population and income on federal tax returns - entirely nonfarm, to all intents and purposes - with the nonfarm population and its income. The procedure is strictly analogous: the numerators, tax return population and its income, are in fact identical, but the denominators are the nonfarm population and its income. The arithmetic means for 1919-38 of the annual shares in the basic variant and of the various adjustments are shown in Table 2.

Since we are, comparing the same numerators with smaller denominators, we can calculate on a continuous basis not only the share of the top 5 but also that of the top 7 percent of the nonfarm population. For the former the average share is at about the same level as for the top 5 percent of the total population: somewhat over 24 percent in the basic variant, over 29 percent in the economic income variant, and well over 28 percent in the disposable income variant. But it is significant that the share of the top 5 percent of the nonfarm population is consistently smaller than that of the top 5 percent of the total population, even though by small fractions: 0.3 percentage points in the basic variant and 0.6 percentage points in both the economic income and the disposable income variants. That the share would be smaller might have been expected, but it was not inevitable. The farm population generally has a lower per capita income than the nonfarm.
${ }^{7}$ Evidence to support this conclusion is discussed in Chapter 8, Section 2.
Table 2


Hence, the share of any given top income group would be smaller when related to a base excluding the farm population than to a base including it. The reduction of the share was not larger because the top 5 percent of nonfarm population is numerically smaller and hence, with respect to income standing, a more selectively 'upper' group than the top 5 percent of the total population. For example, if the nonfarm population is 80 percent of the total population, the top 5 percent of the former is identical with the top 4 percent of the latter, and the per capita income of the top 4 percent of the total population must be larger than that of the top 5 percent. Clearly, the reduction in the share of the top 5 percent due to excluding the farm population and its income from the denominator was not fully offset by the increase in the per capita income of the numerator due to limiting it to a more selective upper group.

The lower level of shares of the upper income groups of nonfarm population suggests that, in general, narrowing the income population studied may reduce the relative dispersion or inequality in the income distribution. This is plausible since the larger the population the more heterogeneous may be its economic components; the more room, therefore, for income inequality, especially as reflected by measures at the extreme upper or lower end tail.

The conclusions from Table 2 concerning the various adjustments resemble those from Table 1. The most important additional bit of information is the share of the 6 th and 7 th percentage band. About 4 percent in the basic variant, it is increased sharply by the various adjustments so that it is somewhat over 5 percent in both the economic and disposable income variants. The relative magnitude of the adjustments is appreciably larger for this percentage band than for the top 1 , and 2 nd and 3 rd percentage bands.

During 1919-38 the top 7 percent of nonfarm population received, on the average, well over 34 percent of the latter's income. But here, as in the case of the measures for total population, the shares within the top 5 and 7 percent groups were markedly unequal. The top 1 percent of nonfarm population still received as much as 15 percent of that population's economic income, and the shares decrease rapidly as we pass to the lower percentage bands.

## 3 Level of Shares by Type of Income

We have dealt so far with the average level of shares of upper income groups in total income.Do their shares in the various types of income equal those in total income? If, for example, the top 5 percent of total or of nonfarm population receive on the average about 30 percent of the total eco-
nomic income flow, does it receive also 30 percent of employee compensation, entrepreneurial income, dividends, and so on? Or do the upper group shares in the countrywide income of different types differ?

The answer, which can be given for the basic variant alone, is that they differ widely (Tables 3 and 4 ). While the top 5 percent received 24 to 25 percent of the total income, its share of employee compensation was only 17 percent in the case of total population and 15 percent for the nonfarm population; and its share of dividends was as high as 77 and 74 percent for the total and nonfarm population, respectively. The size of its shares in the other types of income ranged between those for employee compensation and those for dividends. Relative differences are even more conspicuous for the top 1 percent which received only 6 to 6.5 percent of employee compensation but 62 to 65 percent of dividends.

Table 3
Average Annual Shares of Upper Income Groups in Countrywide Totals of Various Types of Income: Basic Variant, Total Population, 1919-1938

|  |  | Percentage of Income Received by Given Percentage Band |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Top 1 <br> (1) | Percen <br> 2nd \& 3rd <br> (2) | 4th \& 5 th <br> (3) | $\text { Top } 5$ <br> (4) |
| 1 | Total income | 13.1 | 6.6 | 4.9 | 24.7 |
| 2 | Employee comp. | 6.5 | 5.6 | 4.8 | 16.9 |
| 3 | Entrep. income | 13.7 | 8.1 | 5.2 | 26.9 |
| 4 | Rent | 17.9 | 11.4 | 8.9 | 38.3 |
| 5 | Interest | 27.5 | 8.5 | 5.5 | 41.5 |
| 6 | Dividends | 64.7 | 8.2 | 3.6 | 76.6 |
| 7 | Entrep. income \& rent | 14.2 | 8.5 | 5.6 | 28.3 |
| 8 | Dividends \& interest | 46.1 | 8.4 | 4.5 | 58.9 |
|  | Service incomes | 8.1 | 6.2 | 4.9 | 19.1 |
| 10 | Property incomes ${ }^{\text {. }}$ | 40.1 | 8.8 | 5.3 | 54.2 |

Two other characteristics of the distribution evident in Tables 3 and 4 deserve to be noted. First, upper group shares in the various types of income reveal differences in the inequality of the distribution of these income types themselves. If we consider, for example, how employee compensation is distributed among the population of the country (not among recipients of such compensation alone but among the entire population, including recipients of any kind of income, and their dependents), Tables 3 and 4 tell us that at least 6 to 6.5 percent of employee compensation was received by a top 1 percent; and at least 15 to 17 percent by a top 5 percent. 'At least' is italicized because in these tables, the distribution of income groups is by total income per capita, not by employee compensation per capita; consequently, the dispersion of the true distribution of em-

Table 4
Average Annual Shares of Upper Income Groups in Countrywide Totals of Various Types of Income: Basic Variant, Nonfarm Population, 1919-1938

|  |  | Percentage of Income Received by Given Percentage Band |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Top I (1) | $2 n d \& 3 r$ <br> (2) | $4 t h$ \& $5 t h$ <br> (3) | Top 5 (4) | 6 th \& 7 th <br> (5) | $\underset{(6)}{T o p} 7$ |
| 1 | Total income | 13.3 | 6.6 | 4.5 | 24.4 | 4.0 | 28.4 |
| 2 | Employee comp. | 5.9 | 5.0 | 3.9 | 14.8 | 3.7 | 18.4 |
| 3 | Entrep. income | 20.4 | 12.6 | 7.5 | 40.5 | 6.2 | 46.6 |
| 4 | Rent | 15.6 | 9.8 | 7.2 | 32.7 | 6.5 | 39.2 |
| 5 | Interest | 25.4 | 8.0 | 4.7 | 38.1 | 3.9 | 42.0 |
| 6 | Dividends | 61.9 | 8.8 | 3.6 | 74.4 | 2.5 | 76.9 |
| 7 | Entrep. income \& rent | 19.1 | 11.9 | 7.4 | 38.4 | 6.2 | 44.5 |
| 8 | Dividends \& interest | 43.6 | 8.4 | 4.2 | 56.1 | 3.2 | 59.3 |
| 9 | Service incomes | 8.0 | 6.1 | 4.5 | 18.6 | 4.1 | 22.7 |
| 10 | Property incomes | 37.7 | 8.5 | 4.7 | 50.9 | 3.7 | 54.7 |

ployee compensation is damped by an inappropriate basis of size classification. Thus, the entries in Tables 3 and 4 measure the minimum inequality in the distribution of each type of income by per capita size among the total and nonfarm population. The true inequality is greater. But we may reasonably assume that differences in minimum inequality probably reflect differences in true inequality. ${ }^{8}$

Second, the inequality of the distribution of the shares within the top 5 percent group differs markedly among the various types of income. For employee compensation in Table 3 the spread between the 6.5 percent share of the top 1 percent, the 2.8 percent share (per percentile) of the 2 nd and 3 rd percentage band, and the 2.4 percent share (again per percentile) of the 4 th and 5 th percentage band is much narrower than that for dividends in which the share of the top 1 percent is 65 percent and the shares of the 2 nd and 3 rd , and 4 th and 5 th percentage bands are 4.1 percent and 1.8 percent (per percentile) respectively. In other words, just as the minimum inequality of the distribution among various types of income differs
${ }^{8}$ This assumption is confirmed for the total population by size distributions of various types of income among recipients. E.g., for Wisconsin we have for 1929, 1935, and 1936 concentration ratios calculated for distributions of various types of income (Analysis of Wisconsin Income, NBER, 1948, Table 17, p. 120). The average concentration ratio for the three years is: wages and salaries, 0.345 ; business incomes, 0.484 ; rent, 0.581 ; interest, 0.727 ; dividends, 0.847 . All of these ratios are higher, as they should be, than the ones derived from Table 3 and presented in Table 5; and there are some elements of noncomparability among the income types, let alone the possible noncomparability between measures for one state and for the country. But the rank of the various types of income and even the order of the differences, by the level of the concentration ratio, are fairly similar for Wisconsin and for the countrywide measures in Tables 3 and 5.
between the lower 95 and the top 5 percent groups so also does it within the top 5 percent group itself.

Both types of difference can be seen somewhat more precisely if we envisage the percentages in Tables 3 and 4 as segments of Lorenz curves, then calculate the inequality (departure from perfect equality) represented by these various percentages, and finally, compute the concentration ratio for each type of income. Chart 1 provides a Lorenz curve ${ }^{9}$ constructed on the basis of the entries for dividends in Table 3, line 6. The area ABD measures the absolute inequality produced by differences between the shares of the lower 95 and the top 5 percent, the 'inter-inequality', i.e., between the 'rich' and the 'poor'; the area BEFD measures the absolute inequality produced by differences among the shares of the percentage bands within the top 5 percent, 'intra-top inequality'; the area whose two terminal points are A and B, and which is enclosed by the curved dash line, would measure 'intra-lower inequality' had we the data.

Tables 5 and 6 assemble the measures of 'inter-inequality' for total income as well as for the various types, the measures of 'intra-top inequality', and of total inequality thus derivable from Tables 3 and 4, and the corresponding concentration ratios. Absolute inequality is calculated by measuring the areas illustrated in Chart 1 (see the sample calculation for the entries in col. 1 and 3 of line 6 at the bottom of Table 5). The concentration ratios are fractions in which the absolute inequality is the numerator and the maximum inequality observable with the given partitions in the distribution of income is the denominator. On the assumption that no negative incomes exist, such maximum possible inequality can be easily calculated for each column of Tables 5 and 6 . For example, in the distribution that distinguishes the lower 95 from the top 5 percent group as a whole, maximum inequality would mean that the top 5 percent received 100 percent of all income; and in this case, absolute inequality would be 4,750 , i.e., $(100 \times 100) / 2-(5 \times 100) / 2$. In the distribution within the top 5 percent group, which distinguishes the top $1,2 n d$ and 3 rd , and 4th and 5th percentage bands, maximum inequality would mean that the

[^4]Chart 1
Lorenz Curve, Based on Average Annual Shares of Upper Income Groups of Total Population in Dividends 1919-1938

top 1 percent received 100 percent of all the income of the top 5 percent group. Hence, the maximum inequality would equal the total share of the top 5 percent group, $S$, multiplied by 2 , i.e., $(S \times 5) / 2-(S \times 1) / 2$. Finally, in the distribution that both separates the lower 95 percent from the top 5 percent group and distinguishes within the latter the three percentage bands that we do, maximum inequality would mean that 100 percent of all income was received by the top 1 percent alone; the denominator would then become 4,950 , i.e., $(100 \times 100) / 2-(1 \times 100) / 2$. Thus calculated, the concentration ratio ranges from zero for perfect equality to 1 for maximum inequality. ${ }^{10}$
${ }^{10}$ The procedure for Table 6 where we distinguish more upper income groups is similar. The denominator for calculating the concentration ratio in the distribution between the lower 93 and the top 7 percent group is 4,650 , i.e., $(100 \times 100) / 2-$ $(7 \times 100) / 2$. The denominator for calculating the concentration ratio for the distribution within the top 7 percent group is the total share of the top 7 percent group, $S$, multiplied by 3 , i.e., $(S \times 7) / 2-(S \times 1) / 2$.
Table 5
Absolute Inequality and Concentration Ratios, Based on Average Annual Shares of Upper Income Groups in Various Types of Income: Basic Variant, Total Population, 1919-1938
Inter-lower 95 and
Top 5 Percent Inequality
Concentration Absolute $\quad\left(\mathrm{col} .1 \begin{array}{l}\text { Ratio } \\ \div\end{array}\right.$
(2)
.25
0.125
0.231
0.350
0.350
0.385
0.385
0.753
0.245
Intra-top 5 Percent Inequality
Concentration
Ratio
$[$ col. $3 \div(2 \times$
(4)
0.449
0.256
0.439
0.369
0.614
0.837
0.426
0.759
0.312
0.708

line 6 of Table 3):
Table 6: Absolute Inequality and Concentration Ratios, Based on Average Annual Shares of Upper Income Groups in Various Types of Income: Basic Variant, Nonfarm Population, 1919-1938
A Top 5 Percent and Lower 95 Percent
Intra-top 5 Percent Inequality
Concentration
Ratio
$\begin{array}{cccc}\text { Absolute } & \text { Ratio } \\ \text { (1) } & \text { (col. } 1 \div 4750) & \text { Absolute } & {[\text { col. } 3 \div(2 \times} \\ \text { (2) } & \text { (3) } & \text { (4) }\end{array}$ Inter-lower 95 and
Top 5 Percent Inequality Concentration
Ratio

$\begin{array}{rr}487.6 & 0.103 \\ 1,74.0 & 0.373 \\ 1,385.4 & 0.292 \\ 1,654.4 & 0.348 \\ 3,468.4 & 0.730 \\ 1,669.0 & 0.351 \\ 2,557.0 & 0.538 \\ 679.7 & 0.143 \\ 2,296.4 & 0.483\end{array}$
$\begin{array}{ll}12.4 & 0.333 \\ 72.7 & 0.714\end{array}$


| Total Inequality |  |
| :---: | :---: |
| Absolute | Concentration |
| (col. $1+$ | Ratio |
| col. 3) | (col. $5 \div 4950$ ) |
| (5) | (6) |
| 992.7 | 0.201 |
| 496.0 | 0.100 |
| 1,809.7 | 0.366 |
| 1,410.7 | 0.285 |
| 1,702.0 | 0.344 |
| 3,591.2 | 0.725 |
| 1,702.1 | 0.344 |
| 2,642.1 | 0.534 |
| 692.1 | 0.140 |
| 2,369.1 | 0.479 |

 B Top 7 Percent and Lower 93 Percent
Inter-lower 93 and Intra-top 7 Percent Inequality Concentration
Ratio Absolute share, Table 4)] 0.440
0.250
$\stackrel{+}{+}$
${ }^{\circ}$ 0.828 $\stackrel{\mathrm{Y}}{\mathrm{y}}$ OR O
Intra-top 7

Top 7 Percent Inequalit Concentration (col. $1 \div 4650$ )



In interpreting Tables 5 and 6 it must again be noted that the measures for the various income types, as distinct from those for total income, are those of minimum, not actual inequality. Furthermore, we are interested in relative rather than absolute inequality, since the latter depends upon the absolute size of the proportions of the countrywide total covered and the absolute levels of the shares. Hence, our primary emphasis is on the concentration ratios.

Four conclusions emerge from Tables 5 and 6. The first, concerning differences in the inequality of the distribution of various types of income, was noted also in Tables 3 and 4: the 'inter-inequality' is by far the preponderant proportion of total inequality measured here, and is determined. exclusively by the share of the top 5 percent. The extension of the measures to distinguish the lower 93 and top 7 percent groups and an additional percentage band within the latter (in Table 6) affects the differences in relative concentration among the several income types little.

Second, there is a distinct parallelism between the income types with respect to the 'inter-inequality' and 'intra-top inequality' in their distribution (cf. col. 2 and 4 for lines 2-6 in Tables 5 and 6). An income type for which 'inter-inequality' tends to be low is characterized also by a low inequality of its distribution within the top 5 or 7 percent group. The sole reversal in order is in entrepreneurial income. While for the total population the inequality in its distribution between the lower 95 and top 5 percent groups is small, exceeding that of employee compensation alone, the inequality in its distribution within the top 5 percent group is much greater, exceeding that of both employee compensation and rent. For the nonfarm population the inequality in its distribution between the lower 95 or 93 percent and the top 5 or 7 percent groups is appreciably greater, exceeding that of all other income types except dividends, whereas the inequality in its distribution within the top 5 or 7 percent group is somewhat less, exceeding that of employee compensation and rent alone. The omission of entrepreneurial income from farming thus raises the 'inter-inequality' in the distribution of entrepreneurial income but does not affect its intra-top group inequality.

Third, the concentration ratios for the total and nonfarm population variants differ significantly, even for parallel group divisions, i.e., lower 95 and top 5 percent of both. For the nonfarm population (Part A, Table 6 ), the relative inter-inequality is generally less for each income type, except entrepreneurial income; and there are similar differences in relative total inequality. Obviously, what has happened is that, with the exception of entrepreneurial income, the exclusion of the farm population meant a proportionally much smaller deduction of income; consequently the newly
defined top group ( 5 percent of the nonfarm population but roughly 4 percent of total population) receives a smaller proportion of the countrywide total of each income type. In contrast, the relative inequality within the top 5 percent group increases as we pass from total to nonfarm population for each income type except dividends: presumably as we narrow the absolute limits of the upper group and confine it to a more selective top group of total population the relative dispersion in the distribution of most income types widens.

Fourth, in comparing Parts A and B in Table 6 we find that, generally, the addition of another percentage band (6th and 7th) increases the relative inequality between the lower and the top group, the latter taken as a whole. This is inevitable as long as the 6th and 7th percentage band receives a larger income share (per percentile) than the lower 95 percent. Relative inequality within the top 7 percent is somewhat less than within the top 5 percent for all types except dividends. Extending the top group and distinguishing more groups within it obviously increased the absolute spread of actual shares less than it did the maximum inequality.

## 4 Type-Structure of Upper Group Incomes

If upper group shares in various types of income differ from the shares in total income, the structure of total income by type for upper income groups must differ from that for the population as a whole and for the lower 95 or 93 percent. If, for example, the upper income groups draw $x$ percent of total income and $x+a$ percent of dividends, the proportion of dividends in their total income must be larger than in the total income of the entire population or of the lower income groups.

Tables 7 and 8 show the average structure of total income by type for the upper percentage bands of the population, for the lower 95 or 93 percent, and for the entire population. It follows as a matter of arithmetical necessity from Tables 3 and 4 that the proportion of all types of property income, and even of entrepreneurial income, in the total income of the upper 5 or 7 percent is larger than for the lower 95 or 93 percent or for the entire population. By contrast, the proportion of employee compensation in upper group income is lower than in the income of the entire population or in that of the lower 95 or 93 percent.

The pattern of shifts in the type-structure of income as we descend to the lower income groups is distinct in Tables 7 and 8. The proportion of 'pure' property incomes, interest and dividends, is highest in the income of the top 1 percent, falling off rapidly as we descend to the 2 nd and 3 rd, 4th and 5th, 6th and 7th percentage bands, and finally to the lower 95 or 93 percent. The proportion of entrepreneurial income and rent increases from

Table 7
Average Annual Percentages of Various Types of Income in Total Income Upper Income Groups and Total Population
Basic Variant, Total Population, 1919-1938

|  |  | Total Population (1) | Percent Top 1 (2) | 2nd \& 3rd Percentage Band (3) | 4th \& 5th Percentage Band (4) | Top 5 Percent (5) | Lower 95 Percent (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Employee comp. | 66.0 | 33.0 | 56.3 | 63.8 | 45.4 | 72.8 |
| 2 | Entrep. income | 18.2 | 19.0 | 22.5 | 19.1 | 19.9 | 17.6 |
| 3 | Rent | 3.0 | 3.9 | 5.2 | 5.3 | 4.5 | 2.5 |
| 4 | Interest | 6.5 | 13.2 | 8.2 | 7.1 | 10.6 | 5.1 |
| 5 | Dividends | 6.3 | 30.9 | 7.8 | 4.6 | 19.5 | 2.0 |
| 6 | Total (1-5) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 7 | Entrep. income \& rent | 21.2 | 22.9 | 27.7 | 24.4 | 24.5 | 20.1 |
| 8 | Dividends \& interest | 12.8 | 44.1 | 16.0 | 11.8 | 30.1 | 7.1 |
| 9 | Service incomes | 84.2 | 51.9 | 78.8 | 83.0 | 65.3 | 90.4 |
| 10 | Property incomes | 15.8 | 48.1 | 21.2 | 17.0 | 34.7 | 9.6 |
| 11 | Total (9+10) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

the top 1 percent to the 2nd and 3rd percentage band, then declines. The proportion of employee compensation increases steadily from its low level in the top 1 percent to successively higher levels in the percentage bands below. This pattern could be assumed to continue as we descend to income groups below the top 5 or 7 percent, except that as we reach the very low groups, dominated by retired persons or those living on relatively small returns from investments, the proportion of property incomes in the total may again rise.

As we descend the income scale, total income tends more and more to consist of a single type, employee compensation, and there is less genuine diversity in sources of income. If we consider the most detailed allocation available, that among five income types, and measure the concentration of income sources by a simple index - the sum, signs disregarded, of the deviations of the actual percentages from the 'equal', i.e., 20.0 for each income type - the index rises steadily from 47.8 for the top 1 percent in Table 7 to 87.7 for the 4th and 5th percentage band, and to 105.6 for the lower 95 percent. The corresponding index calculated from Table 8 rises from 48.3 for the top 1 percent to 88.8 for the 6 th and 7 th percentage band, and to 119.6 for the lower 93 percent. If the short term movements of income of various types diverge and hence cancel in part when we total the several income types, the upper income groups are likely to profit more from the resulting short term stability of total income than are the lower groups.

However, the measures in Tables 7 and 8 are for income groups as

Table 8
Average Annual Percentages of Various Types of Income in Total Income Upper Income Groups and Nonfarm Population
Basic Variant, Nonfarm Population, 1919-1938

|  |  | Nonfarm Population (1) | Top 1 Percent (2) | 2nd \& 3rd Percentage Band (3) | 4th \& 5th Percentage Band <br> (4) | Top 5 Percent (5) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Employee comp. | 70.1 | 31.1 | 53.6 | 60.8 | 42.7 |
| 2 | Entrep. income | 12.0 | 18.4 | 23.3 | 20.5 | 20.1 |
| 3 | Rent | 3.4 | 3.8 | 5.0 | 5.4 | 4.4 |
| 4 | Interest | 7.3 | 13.6 | 8.7 | 7.6 | 11.1 |
| 5 | Dividends | 7.1 | 33.0 | 9.5 | 5.7 | 21.7 |
| 6 | Total (1-5) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 7 | Entrep. income \& rent | 15.4 | 22.3 | 28.2 | 25.9 | 24.5 |
| 8 | Dividends \& interest | 14.4 | 46.6 | 18.2 | 13.3 | 32.8 |
| 9 | Service incomes | 82.1 | 49.5 | 76.8 | 81.3 | 62.8 |
| 10 | Property incomes | 17.9 | 50.5 | 23.2 | 18.7 | 37.2 |
| 11 | Total ( $9+10$ ) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |


|  |  | 6th \& 7th <br> Percentage <br> Band <br> $(6)$ | Top 7 <br> Percent <br> $(7)$ | Lower 95 <br> Percent | Lower 93 <br> Percent |
| ---: | :--- | ---: | ---: | ---: | ---: |
|  |  | 64.4 | 45.7 | 79.0 | 79.8 |
| 1 | Employee comp. | 18.8 | 19.9 | 9.4 | 8.9 |
| 2 | Entrey. income | 5.3 | 4.5 | 3.1 | 3.0 |
| 3 | Rent | 7.1 | 10.6 | 6.0 | 6.0 |
| 4 | Interest | 4.4 | 19.3 | 2.4 | 2.3 |
| 5 | Dividends | 100.0 | 100.0 | 100.0 | 100.0 |
| 6 | Total (1-5) | 24.1 | 24.4 | 12.5 | 11.9 |
| 7 | Entrep. income \& rent | 11.5 | 29.8 | 8.5 | 8.3 |
| 8 | Dividends \& interest | 83.2 | 65.6 | 88.4 | 88.7 |
| 9 | Service incomes | 16.8 |  |  |  |
| 10 | Property incomes | 16.8 | 34.4 | 11.6 | 11.3 |
| 11 | Total (9 + 10) | 100.0 | 100.0 | 100.0 | 100.0 |

wholes, not for the individual units within them. There must be many units even within the top 1 percent that depend upon a single or a highly dominant source. Second, the distinction among income types is crude, especially from the standpoint of providing clues to differences in short term variability over time.

## 5 Redistribution by Omitting or Equalizing Property Incomes

Inequality in the distribution of wealth, and hence of property incomes, is often assumed to be the main source of inequality in the distribution of total income. Whether this assumption can be tested depends upon how it is formulated. Inequality in the distribution of wealth and property incomes may affect the distribution of income not only directly - by adding unequal amounts to incomes received for rendering services (labor) - but
also in many other ways - by creating opportunities for training and hence subsequently for income earning; by permitting other uses of wealth for the purpose of gaining an advantageous position in the earned income ladder; by affecting incentives and drives toward earning larger incomes; and so on. Naturally, the assumption as just formulated could not be tested by data of the type used here. But we can calculate the purely arithmetical or direct effect of the inequality in the distribution of property incomes upon the inequality in the distribution of total income - both as reflected in upper group shares. The calculations below are confined to the basic variant for total population; obviously the results for the nonfarm population would be roughly similar.

If we omit property incomes, defined as rent, interest, and dividends, and assume that the distribution of service incomes (employee compensation and entrepreneurial income) is not affected, what would be the average level of upper group shares?

Since we assume that total income consists only of service incomes, we calculate the share of each upper group by multiplying its original share in total income (Table 9, line 1) by the proportion that service incomes are of the latter (line 2). The products measure upper group shares in the new version of total income, whose sum for the country is 84.2 percent (line 3 ). By converting the share of each upper group to a percentage of the latter, we derive its percentage share in the countrywide total confined to service incomes (line 4).

As might have been expected, the omission of property incomes reduces the shares of the upper groups, most markedly that of the top 1 percent. But the reduction is moderate: the share of the top 5 percent group as a whole declines from 24.7 to 19.2 percent. And even this decline is exaggerated: when we omitted property incomes we should have reclassified the units by the level of their income excluding property types. We could not do this even by going back to the tax return tabulations, since their classification is by an income total that includes all sources of income (and a few deductions) and it would have been almost impossible to reclassify them without going back to the individual returns themselves. The failure to reclassify means that the upper group shares (line 4) are distinctly underestimated. One could reasonably guess that a proper reclassification would have raised the share of the top 5 percent group from 19.2 to at least 21 percent: With this adjustment, the removal of property incomes reduces the share of the top 5 percent about a seventh.

The moderateness of this reduction is obviously due to two factors. First, we omitted instead of redistributing property incomes. Omission causes the distribution of total income to be determined exclusively by the

Table 9
Average Annual Shares of Income After Removal or
Equal Distribution of Property Incomes
Basic Variant, Total Population, 1919-1938

| , |  | Total Population (1) | Percentage2nd\& 4 th \& |  |  | Band |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Low |
|  |  | Top 1 (2) | $3 r d$ <br> (3) | 5th <br> (4) | Top 5 (5) | $\begin{gathered} 95 \\ (6) \end{gathered}$ |
| 1 | \% shares in total income |  | 100.0 | 13.1 | 6.6 | 4.9 | 24.7 | 75.3 |
|  | \% service incomes are of total income |  | 84.2 | 51.9 | 78.8 | 83.0 | 65.3 | 90.4 |
| 3 | \% shares limited to service incomes $(1 \times 2)$ | 84.2 | 6.8 | 5.2 | 4.1 | 16.1 | $68.0^{\circ}$ |
|  | emoval of property incomes (rent, interest, and dividends) |  |  |  |  |  |  |
| 4 | \% shares in total income | 100.0 | 8.1 | 6.2 | 4.9 | 19.2 | 80.8 |
|  | qual distribution of property incom (as defined for line 4) |  |  |  |  |  |  |
| 5 | \% shares in property incomes | 15.8 | 0.16 | 0.32 | 0.32 | 0.79 | 15.0 |
| 6 | $\%$ shares in total income ( $3+5$ ) | 100.0 | 7.0 | 5.5 | 4.4 | 16.9 | 83.1 |

distribution of service incomes. If we distribute property incomes equally, we damp further the inequality in the distribution of total income (lines 5 and 6). Property incomes contribute 15.8 percent of individuals' total income receipts, and in an equal distribution of this amount the top 1 percent group would get just 1 percent of it, the 2 nd and 3 rd percentage band just 2 percent, and so on (line 5). Adding these equal shares in property incomes to the shares in service incomes (line 3), we derive the new estimates of upper group shares in total income, on the assumption that property types are equally distributed.

The share of the top 5 percent group is now reduced from 24.7 percent before redistribution to 16.9 percent after redistribution, the major part of the reduction occurring naturally in the share of the top 1 percent (from 13.1 to 7 percent). Here again because of failure to reclassify on the new income base, the shares in line 6 are underestimates. We can reasonably assume that the true share for the top 5 percent group is about 19 percent, and for the top 1 percent probably 8 percent or more. Thus the reduction in the share of the top 5 percent consequent upon an equal distribution of property incomes is probably somewhat over two-tenths (from 24.7 to 19), and that in the share of the top 1 percent, four-tenths (from 13 to 8).

The second factor that narrows the effect of both omission and redistribution of property incomes is the small weight of the latter: they constitute only about a sixth of individuals' total income receipts. One could argue that our estimate of the share of property incomes is on the low side since we do not include the property return element of entrepreneurial income.

The argument is not too impressive as property return is hardly a significant proportion of entrepreneurial income; besides, the inclusion of rent exaggerates property incomes since rent presumably covers compensation for management, i.e., for service, as well as pure property return. But just to see what the effects would be, we assume that entrepreneurial income does include a property income element, and, to provide some basis for illustrative calculations, let us make the extreme assumption that the greater inequality in the distribution of entrepreneurial income than in employee compensation is due to this property income element (Table 10). ${ }^{11}$

Since we know that on this assumption the top 5 percent received 16.9, not 26.9 percent of entrepreneurial income, the difference ( 10 percent) is assigned to the pure property return part. We can now recalculate the type-structure of income, for both total population and each income group (lines 3-5), and proceed in Table 10 as we did in Table 9, first omitting property incomes, which now constitute 17.6 instead of 15.8 percent of individuals' total income receipts, then distributing this larger property income sector equally.

Since property incomes are larger here than in Table 9, the reduction due to either omission or redistribution is necessarily greater. Omission (line 9) reduces the share of the top 5 percent from 24.7 to 17.3 percent; and allowing again for an underestimate due to failure to reclassify on the new base, the decline would be from 24.7 to roughly 19.0 , i.e., somewhat over two-tenths. For the top 1 percent the corresponding figures are 13.1 and 6.7 percent; and with the latter raised to at least 7.5 , the decline would be about four-tenths. The equal distribution of property incomes has even more marked effects: for the top 5 percent the decline, allowing for an underestimate, would be roughly from 24.7 to about 17.0 , or about threetenths; for the top 1 percent, from 13.1 to about 7.0 , or about a half.

Nevertheless, even under the drastic assumption that property incomes - as inclusive as possible in their coverage - are equally distributed, substantial inequality between the shares of the top 5 percent and the lower 95 percent remains. With a rough adjustment for the underestimate, the top 5 percent receives 17 percent of income (line 11), 3.4 times as much per

[^5]Table 10
Average Annual Shares of Income After Removal or Equal Distribution of Property Incomes, Assuming Part of Entrepreneurial Income to be Property Income
Basic Variant, Total Population, 1919-1938


* Slight differences between these entries and those in Table 3, 7, or 9 are due to mathematical differences between the share of total income as estimated directly and as a sum of the types.
capita as the population as a whole, or about 4 times as much per capita as the lower 95 percent. At least two-thirds, and probably somewhat more, of the original inequality still remains when property incomes are distributed equally; and an even wider spread remains if we merely remove property incomes without redistributing them. Clearly, there are elements in the distribution of service incomes that make for substantial inequality of incomes. These elements may in turn be connected with an' unequal distribution of wealth and property; but at present there is no way of tracing such connections or of judging their importance.


## Chapter 2

Changes in Income Shares over Time, Several Variants, 1913-1948

Having considered the average level of the shares of upper income groups for 1919-38, we now examine the changes over time the annual estimates reveal. We deal here with shares in total income as measured in several variants - the basic, the economic income, and the disposable income variants, all described in Chapter 1 (Sec. 1), and two others described below. ${ }^{1}$ In Chapter 3 changes in the shares in the various types of income are discussed, and their effects on the composition of upper group incomes analyzed.

The shares in total income for one and the same percentage band in the basic, economic income, and disposable income variants move more or less similarly, as do those for one and the same percentage band in the same variant for total and for nonfarm population (Charts 2 and 3). As to changes over time, the following movements merit examination: the marked decline in the shares of upper percentage bands since about 1939; their general drift as revealed by decade averages; and their fluctuations during periods associated with cycles in business activity.

## 1 Changes since 1939

The decline since 1939 is the most conspicuous movement revealed by Charts 2 and 3. It began before 1939, in some variants and shares as early as 1929 , in others as late as 1934 , but not until after 1939 when the shares reached previously unrecorded low levels did its long term character become apparent. The shares appear to have reached a trough in 1944 and have recovered only slightly since. Table 11, which assembles measures of this decline for the several variants, records the changes, first from 1939

[^6]
## Chart 2

Income Shares of Upper Income Groups, Total Population
Three Variants, 1913-1948
-_ Basic variant
————Economic income variant
Panel A
Share of Top 1 Percent

Panel B
Share of 2nd and 3rd Percentage Band


Panel C
Share of 4th and 5th Percentage Band


Panel D
Share of Top 5 Percent
\% of total income


Chart 3
Income Shares of Upper Income Groups, Nonfarm Population Three Variants, 1913-1948
———Basic variant
————Economic income variant
...........Disposable income variant

Panel A
Share of Top 1 Percent
\% of income of nonfarm population

Panel C
Share of 4th and 5th Percentage Band

Panel B
Share of 2 nd and 3rd Percentage Band
\% of income of nonfarm population \% of income of nonfarm population

Panel D
Share of Top 5 Percent
rarm population $\%$ of income of nonfarm population

Chart 3 (concT.)


Panel E
Share of 6th and 7th Percentage Band
\% of income of nonfarm population $\%$ of income


Panel F
Share of Top 7 Percent

to 1944 , then from 1939 to 1946 - the latest year for which shares in the economic income and disposable income variants can be calculated.

If we confine attention first to the estimates for the three variants distinguished in our earlier discussion, the following conclusions emerge:
a) The shares of upper percentage bands in all three variants declined from 1939 to 1944 or to 1946 . The decline to 1944 ranged from about a quarter to over four-tenths of the level of the shares in 1939; and while there was a perceptible recovery from 1944 to 1946 , it offset only a minor part of the preceding drop, with the result that the decline from 1939 to 1946 was still appreciable, ranging from a ninth to over a third of the 1939 level for upper percentage bands of both total and nonfarm population. ${ }^{2}$

[^7]Table 11
Changes in Shares of Upper Income Groups, Several Variants, Total and Nonfarm Population, 1939-1946

- Decline

Decline


(2)

Change from 1939

| to | to |
| :---: | :---: |
| 1944 | 1946 |

(3) (4)

A Total Population

| 11.9 | -3.3 | -2.9 | 27 | 24 |
| ---: | ---: | ---: | ---: | ---: |
| 6.8 | -1.8 | -1.0 | 27 | 15 |
| 5.0 | -1.8 | -1.5 | 37 | 29 |
| 23.7 | -6.9 | -5.3 | 29 | 22 |
|  |  |  |  |  |
| 13.3 | -4.2 | -3.6 | 32 | 27 |
| 8.4 | -2.6 | -2.1 | 31 | 26 |
| 6.4 | -2.4 | -2.2 | 38 | 34 |
| 28.1 | -9.2 | -7.9 | 33 | 28 |

Disposable Income

| Top 1 | 14.3 | 12.3 | -5.6 | -4.4 | 45 | 36 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 2nd \& 3rd | 8.4 | 8.4 | -3.0 | -2.5 | 36 | 30 |
| 4th \& 5th | 6.4 | 6.4 | -2.6 | -2.3 | 40 | 35 |
| Top 5 | 29.1 | 27.1 | -11.2 | -9.2 | 41 | 34 |

Disposable Income Incl. Corporate Savings

| Top 1 | 13.6 | 12.8 | -4.6 | -3.0 | 36 | 23 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 2nd \& 3rd | 8.4 | 8.4 | -2.8 | -2.2 | 34 | 26 |
| 4th \& 5th | 6.5 | 6.4 | -2.6 | -2.3 | 40 | 35 |
| Top 5 | 28.6 | 27.7 | -10.0 | -7.5 | 36 | 27 |

Disposable Income Incl. Corporate Savings,
Excl. Individuals' Gains \& Losses from Sales of Assets

| Top 1 | 13.1 | 12.6 | -5.0 | -4.1 | 39 | 32 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2nd \& 3rd | 8.4 | 8.4 | -2.9 | -2.5 | 35 | 30 |
| 4th \& 5th | 6.5 | 6.4 | -2.6 | -2.4 | 41 | 37 |
| Top 5 | 28.0 | 27.4 | -10.5 | -8.9 | 38 | 33 |
| Basic | B Nonfarm Population |  |  |  |  |  |
| Top 1 | 13.3 | 12.1 | -3.1 | -2.7 | 26 | 23 |
| 2nd \& 3rd | 6.6 | 6.9 | -1.6 | -0.8 | 23 | 11 |
| 4th \& 5th | 4.5 | 4.4 | -1.1 | -0.7 | 26 | 15 |
| Top 5 | 24.4 | 23.4 | -5.8 | -4.2 | 25 | 18 |
| 6th \& 7th | 4.0 | 4.3 | -1.6 | -1.3 | 37 | 31 |
| Top 7 | 28.4 | 27.7 | -7.4 | -5.5 | 27 | 20 |
| Economic Income |  |  |  |  |  |  |
| Top 1 | 15.1 | 13.4 | -4.1 | -3.4 | 30 | 25 |
| 2nd \& 3rd | 8.1 | 7.9 | -1.9 | -1.4 | 24 | 18 |
| 4th \& 5th | 6.0 | 5.7 | -1.7 | -1.4 | 29 | 24 |
| Top 5 | 29.2 | 27.1 | -7.7 | -6.2 | 28 | 23 |
| 6th \& 7th | 5.2 | 5.5 | -2.1 | -2.0 | 39 | 36 |
| Top 7 | 34.4 | 32.6 | -9.8 | -8.2 | 30 | 25 |
| Disposable Income |  |  |  |  |  |  |
| Top 1 | 14.3 | 12.4 | -5.5 | -4.3 | 45 | 35 |
| 2nd \& 3rd | 8.2 | 7.9 | -2.4 | -1.9 | 30 | 24 |
| 4th \& 5th | 6.0 | 5.8 | -1.8 | -1.5 | 32 | 26 |
| Top 5 | 28.5 | 26.0 | -9.8 | -7.7 | 37 | 29 |
| 6th \& 7th | 5.2 | 5.5 | -2.3 | -2.1 | 41 | 37 |
| Top 7 | 33.7 | 31.5 | -12.0 | -9.7 | 38 | 31 |

As will be seen below, through most of the period before 1939 changes in the shares of upper income groups were within fairly narrow limits. It is against the background of such relative stability that the decline since 1939 is conspicuous.
b) The largest absolute and relative declines are in the shares in the disposable income variant. For the top 5 percent group of total population the decline in the basic variant to 1944 is about three-tenths of the 1939 level; that in the economic income variant, about a third; that in the disposable income variant, over four-tenths. There are similar differences when we compare the declines in the shares in the three variants to 1946. This is true also of the shares in the three variants for nonfarm population, and of the shares of the percentage bands within the top 5 or 7 percent. Obviously, the deduction of federal income taxes accentuated the decline, since their greater impact upon upper income groups is not offset by the net balance of the latter's gains and losses from sales of assets.
c) The absolute decline is naturally larger in the share of the top 1 percent than in the shares of the lower percentage bands. But when it is related to the 1939 level, the picture is different. The relative decline in the share of the 4th and 5th percentage band of total population is about as large or larger than that in the share of the top 1 percent. Likewise, the relative decline in the share of the 6th and 7th percentage band of nonfarm population is almost as large or larger than that in the share of the top 1 percent. d) As between total and nonfarm population, the shares of upper groups of the latter declined somewhat less, relatively, especially those of the top 5 percent groups as wholes or even that of the top 5 percent of the total population as compared with that of the top 7 percent of the nonfarm. The reason is that the income of the farm population forged ahead very rapidly, and its exclusion from the countrywide total in our estimates of the shares of the upper income groups of the nonfarm population reduces somewhat the loss in their relative position.

Before considering the reasons for this prolonged and sharp reduction in the shares of upper income groups, and whether the decline continued beyond 1946, we must ascertain the extent to which it was offset by the rise in the undistributed net profits of corporations (corporate savings), not taken into account in our estimates. It may be argued that because the upper income groups receive the major portion of dividends they are the chief claimants to corporate savings, and that the current changes in their economic position should reflect changes in corporate savings as well as in the share of personal income flowing to individuals. This argument is of limited validity since it is doubtful that dividend recipients, i.e., individual owners of equities, do or can claim corporate savings except in
personal or family-owned corporations. Moreover, the shares of dividends received by upper income groups are measured against the total flow to individuals, and do not take into account dividends received (and hence equity stock owned) by enterprises.
Nevertheless we measured the effect of including corporate savings. Corporate savings were not adjusted for effects of inventory valuation or of the basis of depreciation accounting; and gains and losses from sales of assets were included since the purpose was to take account of all changes in economic position. Corporate savings, imputed to upper income groups on the basis of their shares in the total flow of dividends to individuals, were added to the income assigned to the top 1, 2nd and 3rd, and 4th and 5th percentage bands in the disposable income variant, yielding a new income numerator; and total corporate savings were added to the countrywide total of income receipts used in the disposable income variant, yielding a new income denominator. Not having imputed corporate savings by detailed income classes, we could not rearray the latter; so that the newly calculated shares are for income groups classified by the level of their income excluding corporate savings. Consequently, the effects of including corporate savings studied below are on the shares of already given upper income groups.

If we add the roughly allocated shares in undistributed corporate profits to shares in the disposable income variant including the net balance of individuals' gains and losses from sales of assets the result involves duplication: some of the undistributed corporate profits, reflecting higher prices of assets, are converted into realized capital gains. It is for this reason that in Table 11, Part A, where we show the effects of including undistributed corporate profits on changes in the shares of upper percentage bands of total population, the shares are given both including and excluding the net balance of individuals' gains and losses from sales of assets (excluded without rearraying the distributions).

In either case the effect on the decline in the shares of upper income groups since 1939 is moderate: the decline is large even after a generous allocation of undistributed corporate profits is made to the upper income groups. For the top 5 percent group as a whole the decline is still well over a third of the 1939 level; and the decline from 1939 to 1946 well over a quarter.

Did the decline continue beyond 1946? The available data permit calculating only the basic variant through 1948; but the results are of sufficient interest to merit examination (Table 12, col. 1-3).

It is apparent at once from columns 1-3 of Table 12 that the shares of upper income groups did not recover between 1946 and 1948: the decline

Table 12
Changes in Shares of Upper Income Groups, Basic Variant Before and After Federal Income Taxes: Total and Nonfarm Population, 1939-1948

| Percentage Band | Basic Variant |  |  | Basic Variant Exclu |  | g Fede | ral Inco | me Taxes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Change from 1939 |  | $\begin{aligned} & \text { Decline } \\ & \text { 1939-48 } \end{aligned}$ | Ava |  | Change from 1939 |  | Decline |
|  |  |  | Average |  | 1939-48 |  |  |
|  | ${ }_{10}^{10}$ | 10 |  | as \% of | Share | Share | to | ${ }^{\text {to }}$ | as \% of |
|  | $1946$ | $1948$ | $1939$ (3) | 1919-38 | $1939$ | $1944$ (6) | $1948$ | $\begin{gathered} 1939 \\ (8) \end{gathered}$ |
| A Total Population |  |  |  |  |  |  |  |  |
| Top 1 | -2.9 | -3.5 | 29 | 12.2 | 10.9 | -5.1 | -4.6 | 42 |
| 2nd \& 3rd | -1.0 | -1.1 | 17 | 6.6 | 6.8 | -2.3 | -1.5 | 23 |
| 4th \& 5th | -1.5 | -1.3 | 26 | 5.0 | 5.1 | -2.0 | -1.5 | 29 |
| Top 5 | -5.3 | -5.9 | 25 | 23.8 | 22.7 | -9.4 | -7.6 | 33 |
| B Nonfarm Population |  |  |  |  |  |  |  |  |
| Top 1 | -2.7 | -3.3 | 27 | 12.3 | 10.9 | -5.0 | -4.4 | 40 |
| 2nd \& 3rd | -0.8 | -0.9 | 14 | 6.6 | 6.9 | -2.1 | -1.4 | 20 |
| 4th \& 5th | -0.7 | -0.5 | 12 | 4.5 | 4.4 | -1.3 | -0.7 | 16 |
| Top 5 | -4.2 | -4.8 | 20 | 23.4 | 22.2 | -8.4 | -6.5 | 29 |
| 6th \& 7th | -1.3 | -1.1 | 27 | 4.0 | 4.3 | -1.7 | -1.3 | 29 |
| Top 7 | -5.5 | -5.9 | 21 | 27.4 | 26.6 | -10.1 | -7.8 | 29 |

in the share of the top 1 percent was accentuated at the same time that it was somewhat reduced for the 4th and 5th percentage band, and for the 6th and 7 th percentage band of nonfarm population. For the top 5 or 7 percent group as a whole, the decline in the share from the 1939 level was larger by 1948 than by 1946. If one may judge by sample data for later years, the shares of upper income groups declined further after 1948: according to the 1951 Survey of Consumer Finances the percentage of total money income received by the upper tenth of spending units was 31 in 1948, 30 in 1949, and 29 in 1950. ${ }^{3}$

As already indicated, we cannot carry the calculations of any except the basic variant beyond 1946. But by adjusting the basic variant to exclude federal income taxes we obtain shares that more nearly approximate shares in disposable income. These shares show the striking magnitude of the decline since 1939 and the absence of any significant recovery by 1948 (col. 4-8). While there was some rise from 1944 to 1948 , the shares of the top 5 and 7 percent groups were still three-tenths or a third below their 1939 levels; and recent sample surveys indicate that by 1950 the shares of the upper groups were back to the trough levels of 1944. What is also significant is that by 1948 the proportionate decline in the share of the top 1 percent - in the basic variant adjusted to exclude federal in-

[^8]come taxes - was substantially larger than that of the upper percentage bands below the top.

The decline in upper group shares from 1939 to 1948, and apparently also to 1950, has no parallel in our record in either magnitude or duration. The shares of the upper income groups declined substantially during World War I also. Unfortunately, only the share of the top 1 percent in the basic variant can be estimated for these earlier years (see Part V for data underlying the continuous series). It declined from a peak of 15.4 percent in 1916 to a low of 12.3 percent in 1920. By 1928 it had recovered, temporarily, to 14.9 percent - close to its peak level; and in 1925, nine years after 1916, was 13.7 percent - about a tenth below its peak. During the years associated with World War II it reached a trough in 1944, 8.7 percent, or over a quarter below its 1939 level, 11.9 percent; after a temporary recovery to 9.1 percent in 1946, it dropped to 8.5 percent in 1948. This comparison is for the share in the basic variant before federal taxes: were we to allow for the latter, the conclusion - that the recent decline in the share of the top 1 percent was much larger relatively than during World War I, and lasted longer - would be more strongly accentuated. ${ }^{4}$

An exhaustive analysis of this recent decline in upper group shares can scarcely be attempted here: it would require as much study of lower group shares as of upper, since the decline in the latter was apparently due not to a drop in absolute income levels but to the much higher rate of rise of

[^9]lower incomes during these years when the countrywide per capita income was rising. We list only a few of the more obvious and direct factors.

One was the decline in unemployment, from 9.5 million in 1939 to 0.7 million in 1944, ${ }^{5}$ to take the year in which upper group shares reached their trough. If we assume that of the employed labor force the top 5 percent were also in our top 5 percent of total population, the decrease in unemployment means adding to the lower 95 percent of employed labor force a sizeable group who formerly received practically no income. If we further assume that the average income of the formerly unemployed is equal to the average income per head of the lower 95 percent of the employed group in 1939, and that no other changes occurred in the typestructure of total income receipts or the distribution of the various types of income, the share of the top 5 percent in 1944 in the economic income variant would be 24.5 percent as against 28.1 percent in 1939. ${ }^{6}$ Thus, of the total decline in this share between 1939 and 1944, which amounted to 9.2 points, 3.6 or almost four-tenths could be assigned to the reduction in unemployment alone, although this may be somewhat of an overestimate since it assigns to formerly unemployed a per capita income equal to that per head of the lower 95 percent of the total working population.

Another factor was the rapid growth in the income of the farm population, already referred to, which greatly exceeded that in total income receipts. Hence, while the decline in the share (economic income variant) of the top 5 percent of total population from 1939 to 1944 was 9.2 points, that of the top 5 percent of nonfarm population was only 7.7 points. Thus about a sixth of the decline in the share of the top 5 percent of the total population may be assigned to the shift in favor of the farm population, whose per capita income averaged and still continues to average less than that of the nonfarm or total population.

[^10]A third factor was the shift toward an increasing proportion of service incomes and a decreasing proportion of property incomes, of importance because of the smaller weight of the former in the type-structure of upper group incomes. The effects of these shifts are calculated directly in Chapter 3. But in the present connection a simple comparison will suffice. From the Department of Commerce series we calculate the percentage change from 1939 in service income per fulltime engaged person (which eliminates effects of reduced unemployment) and in property income per capita of total population (which implies that property incomes are received throughout the period by a constant proportion of the total population). Service income per fulltime engaged person increased 78 percent from 1939 to 1944, and 144 percent from 1939 to 1948; property income per capita, however, increased only 28 and 65 percent respectively. ${ }^{7}$

Fourthly, there is evidence that even within total employee compensation there must have been a shift toward smaller upper group shares, due largely to the smaller rise in the average income of sectors whose per worker income in 1939 was far above the countrywide average; and partly to a reduction in the relative number of worker groups whose average income was either greatly above or greatly below the countrywide average. From the Department of Commerce publication cited in note 7 (Tables 24 and 26), we find that between 1939 and 1944 (or 1948), the percentage increase in employee compensation per fulltime worker in finance, transportation, and communication, in which it was well over a third above the private industry average in 1939, was appreciably smaller than in per employee income for all private industries (we exclude government to avoid the wide swings in the totals and averages that would result from including the armed services). At the same time, the number of employees in these three sectors declined slightly in proportion to total employees in the private sector: from about 13.9 percent in 1939 to 13.1 percent in 1944 and to 13.8 percent in 1948. The proportion of sectors with relatively low per worker income, such as services and agriculture (the former being numerically the more important) also declined: thus fulltime employees in services dropped from 16.4 percent of the total in 1939 to 13.2 in 1944 and to 13.7 in 1948.

Finally, to the factors suggested above as making for the recent decline in upper group shares in the economic income variant, we must add the ${ }^{7}$ Based on the allocation of personal income between property incomes - the sum of rent, interest, and dividends - and service incomes - the residual (see National Income, 1951 ed., Supplement to Survey of Current Business, Tables 1 and 3). The figures on fulltime engaged are from ibid., Tables 24 and 27; those on total population, from the Midyear Economic Report of the President, July 1951, Table B-10, p. 234.
increased differential impact of federal income taxes as contributing to the decline in shares in the disposable income variant. The appreciably larger decline in the latter is a clear indication that the heavier load of taxes was not offset by an increase in the net balance of gains and losses from sales of assets.

Even these brief notes indicate that the recent decline in upper group shares was fed from several sources, and therefore represents the combined effect of far reaching shifts in the industrial structure, employment opportunities, earning power of capital, and the tax system of the country.

## 2 Changes in Decade Averages

Before considering the long term changes in upper group shares revealed by the decade averages, it is useful to emphasize the fairly narrow range of their annual changes before 1939, i.e., before the recent decline (Table 13).

For the basic and economic income variants, the range, i.e., the maximum spread between the annual values during the twenty years is, on the whole, less than a third of the arithmetic mean share. Indeed, for the percentage bands that are of most interest in this connection, the top 1 and 5 or 7 percent, it is from about a sixth to three-tenths of the average share. How small such a variation is may be seen by comparing it with the range in per capita income in current prices (the series underlying the shares) which exceeded half of the average per capita income for the period (lines 6 and 15).

Only when we deduct federal income taxes and add gains and losses from sales of assets, particularly the latter, does the range of temporal variations in the shares of upper income groups become appreciably wider. This is especially true of the top 1 percent's share, where the disposable income variant has a range equal to somewhat over half of its average level for the period; and the effect is carried over to the share of the top 5 or 7 percent, where the disposable income variant has a relative range more than 1.5 times that for the basic and economic income variants.

We already know that the years since 1939 have witnessed a marked decline in the shares of upper income groups. Was there a similar decline before 1939, even though it could not have been as large? In view of the difficulty of determining trends over a period as short as twenty years, only simple measures are warranted. Yet they are needed: a glance at the several panels in Charts 2 and 3 shows that the drift during 1919-38 as a whole in the shares of upper income groups differs significantly from one percentage band to the next. The share of the top 1 percent declines slightly, whereas the shares of the 2 nd and 3 rd , 4th and 5 th, and 6 th and 7th percentage bands rise.

Table 13

Disposable Income Variant
Range
(5) 7.32
2.75
2.46
10.10
10.10
340

Range of Annual Variations in Shares of Upper Income Groups, Three Variants, 1919-1938
Basic Variant Economic Income Variant ncome Variant
Ratio of
col. 3
to $1919-38$
average
$(4)$ Nूल

$\stackrel{7}{\vdots}$
Basic Varian

$\begin{array}{cc}\begin{array}{c}\text { average } \\ \text { (2) }\end{array} & \begin{array}{c}\text { Range } \\ \text { (3) }\end{array} \\ \text { TOTAL POPULATIO N } \\ 0.26 & 4.34 \\ 0.20 & 2.57 \\ 0.41 & 2.33 \\ 0.19 & 6.36 \\ 0.06 & 6.36 \\ 0.56 & 312 \\ \text { NONFARM POPULATIO }\end{array}$
NONFARMPOPULATION



| 1 | Top 1 percent |
| :--- | :--- |
| 2 | 2nd \& 3rd percentage band |
| 3 | 4th \& 5th percentage band |
| 4 | Top 5 percent |
| 5 | Lower 95 percent |
| 6 | Income per capita, current \$ |
|  |  |
| 7 | Top 1 percent |
| 8 | 2nd \& 3rd percentage band |
| 9 | 4th \& 5th percentage band |
| 10 | Top 5 percent |
| 11 | 6th \& 7th percentage band |
| 12 | Top 7 percent |
| 13 | Lower 95 percent |
| 14 | Lower 93 percent |
| 15 | Income per capita, current $\$$ |

To check these impressions and to get some view of the possible long term changes during this twenty-year period as a whole we divided it into decades and calculated averages for each (Table 14). Since 1919-28 covers three of the five business cycles in the period - plus one extra year, these decade averages represent roughly the average level of the first three and the last two cycles respectively. We calculated also the average for the last decade, 1939-48, for the basic variant, and that for the last eight years, 1939-46, for the other two variants, to see whether the recent decline is a continuation or a reversal of earlier long term changes.

The results can be summarized as follows:
a) The share of the top 1 percent showed a downward drift even before 1939. The average share of the top 1 percent of both total and nonfarm population declines from 1919-28 to 1929-38 in all three variants, but most markedly in the disposable income variant. True, the changes are absolutely small, but when related to the base they are not insignificant. Thus, the drop in the share of the top 1 percent in the basic variant for total population is from 13.42 to 12.86 percent, only 0.56 points, but about 4 percent of the level in the first decade. Moreover, variations in its share during 1919-38, as shown by the average deviations, are fairly narrow.

For the basic variant we can take account also of the estimates for the years back to 1913. For the six years 1913-18 the average level of the share was 14.0 percent, 0.6 points higher than that for 1919-28. This only confirms the picture of a long term downward drift of the share of the top 1 percent, of which the recent decline is in a way a continuation and major acceleration.
b) The shares of the upper percentage bands below the top, on the contrary, show an upward drift during 1919-38. The average shares for the 2nd and 3rd, and 4th and 5th percentage bands, and for the 6th and 7th percentage band of nonfarm population, all three variants, are at a somewhat higher average level during 1929-38 than during 1919-28. The rise from the first to the second decade ranges from 0.3 to 22.5 percent of the average level in 1919-28 and gives a strong impression that the recent decline in the shares of these upper percentage bands below the top is a reversal of the drift that prevailed during 1919-38.
c) The combination of a slight downward drift in the share of the top 1 percent, and of a slight upward drift in the shares of the upper percentage bands below the top, made the average share of the top 5 percent of total population as a whole and of the top 7 percent of nonfarm population rise slightly from the first to the second decade. But since the rise constitutes only a small fraction of the base, it is safest to conclude that there was no
Table 14
Three Variants, Total and Nonfarm Population

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significant drift either upward or downward during the period before 1939 in the share of the top 5 or 7 percent of the population. Hence the decline in the averages after 1939 is a sharp break.

The other entries in Table 14 - the average deviation of the annual shares from the arithmetic mean for each decade, and its ratio to the arithmetic mean - confirm the conclusions from Table 13 concerning the narrow limits within which annual shares fluctuated during 1919-38, and the sharp decline following 1939. Most of the average deviations for the first two decades are well below 10 percent of the mean: the only significant exception is for the share of the top 1 percent in the disposable income variant which, as already indicated, is affected by the gyrations in the gains and losses from sales of assets. Hence, for 1919-38, any fluctuations in the shares that were associated with business cycles must have been within a narrow compass relative to the average level of the shares themselves. Most of the average deviations for the decade or eight years beginning with 1939 are, on the contrary, at least 10 percent of the mean, some being well above that fraction and all appreciably higher than for 1919-38.

## 3 Changes during Business Cycles

Study of short term changes in the shares of upper income groups is impeded by the annual character of the data as well as by the crudities and margin of error inherent in our estimates. To try, on the basis of such crude estimates, to date cycles characteristic of the shares would hardly yield reliable results. The most we can do is observe the movement of the shares during phases established by the business cycle chronology marking off cyclical peaks and troughs in the general economic conditions of the country. Even the measures derived from such an analysis can at best be treated as plausible suggestions, not firm findings.

Table 15 presents the changes per year in the shares of upper income groups in the basic variant during successive business cycle phases distinguished in the chronology since 1913. These are the changes per year during expansions and contractions in the shares, i.e., percentages of total income, without conversion to relatives of the average level for each cycle. Omission of this conversion step, usual in National Bureau procedure, is justified by the relative stability of the average level of the shares from one cycle to another. In interpreting the changes we shall have to allow, however, for differences in the average level of shares among the several percentage bands.

Directing our attention first to the averages for 1919-38, a period excluding the war years, we find that, by and large, the shares of upper percentage bands of both total and nonfarm population decline during
expansions and rise during contractions. In consequence, the rate of change rises from expansion to contraction. We are dealing with percentages: the rises and declines are in the percentage shares received by upper income groups, not in their dollar income which changes with, rather than counter to, the movements of the business cycles. The inverted movement of the percentage shares means that as the total income flow increases during expansions, the proportionate increase in the flow to upper income groups is not as large as that to lower income groups; and during contractions the proportionate decline in the flow to upper groups is not as large as that to the rest of the population.

However, averages can be quite misleading, especially when based on a few cases. It is important, therefore, to examine the consistency with which the shares of the upper income groups move with or counter to cycles in the country's general economic condition. The conformity indexes in Table 15 are designed to measure such consistency. ${ }^{8}$ We calculated these indexes not only for 1919-38 but also for the full period covered.

If we regard a conformity index of 50 as barely consistent, and that of 60 or over as significantly consistent, we can easily summarize the evidence in Table 15.

First, the shares of upper income groups below the top 1 percent of total population and below the 2 nd and 3rd percentage band of nonfarm population run counter to business cycles with high consistency.

The indexes for expansion are, on the whole, low, reflecting the upward drift that characterized these shares during most of the period; and for the same reason, the indexes for contraction tend to be higher. But the crucial measures, those for conformity over the cycle as a whole, are quite high
${ }^{8}$ For each business cycle phase the scoring is +100 if the movement is in accord with that in general business conditions (rises during expansion, declines during contraction, declines in the rate of change from expansion to the following contraction, and rises in the rate of change from contraction to the following expansion); and - 100 if the movement is counter to that in general business conditions. The conformity index for expansion and for contraction is the algebraic sum of the scores for all observed expansions or contractions, divided by their number; the index for the cycle is the sum of the scores for all changes from expansion to contraction and from contraction to expansion, divided by their number. An index of +100 indicates fully consistent positive conformity; an index of -100 , fully consistent inverted (counter-cyclical) conformity; and an index close to 0 , absence of consistency in the movement of the series during business cycles. For 1919-38, the indexes of conformity for expansion and for contraction are based on 5 entries each; the indexes for the full cycle, on 9 entries. It should be noted that whereas the indexes for expansion and for contraction are affected by any longer term trend that may exist in the series, the indexes for the cycle are relatively free from it and are, therefore, more reliable in gauging the consistency with which changes in the series follow cycles in general business conditions.

Table 15
Change per Year in Shares of Upper Income Groups during Business Cycles Basic Variant, Total and Nonfarm Population, 1913-1946

| Business Cycle Expansion or Contraction | Top 1 Percent (1) | 2nd \& 3rd Percentage Band (2) | d 4th \& 5th Percentage Band (3) | Top 5 Percent (4) | 6th \& 7th Percentage Band (5) | Top 7 Percent (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total P | Population |  |  |  |
| Con., 1913-14 | -1.89 |  |  |  |  |  |
| Exp., 1914-18 | -0.10 |  |  |  |  |  |
| Con., 1918-19 | +0.27 | +0.24 | -0.07 | +0.44 |  |  |
| Exp., 1919-20 | -0.50 | -0.16 | -0.19 | $-0.84$ |  |  |
| Con., 1920-21 | +1.16 | +1.01 | +1.24 | +3.40 |  |  |
| Exp., 1921-23 | -0.61 | -0.38 | -0.30 | $-1.29$ |  |  |
| Con., 1923-24 | +0.63 | +0.62 | +0.15 | +1.40 |  |  |
| Exp., 1924-26 | +0.51 | +0.02 | -0.06 | +0.48 |  |  |
| Con., 1926-27 | +0.46 | (+) $0.00^{*}$ | +0.26 | +0.72 |  |  |
| Exp., 1927-29 | +0.05 | +0.06 | $\bigcirc 0.05$ | +0.06 |  |  |
| Con., 1929-32 | -0.53 | +0.10 | +0.40 | -0.03 |  |  |
| Exp., 1932-37 | +0.02 | -0.11 | -0.29 | -0.38 |  |  |
| Con., 1937-38 | -1.46 | -0.02 | +0.36 | -1.13 |  |  |
| Exp., 1938-44 | -0.48 | -0.26 | -0.29 | -1.02 |  |  |
| Con., 1944-46 | +0.20 | +0.40 | +0.19 | +0.80 |  |  |
| averages, 1919-38 |  |  |  |  |  |  |
| Expansion | -0.10 | -0.11 | -0.18 | -0.40 |  |  |
| Contraction | +0.05 | +0.34 | +0.48 | +0.87 |  |  |
| Difference | +0.16 | +0.46 | +0.66 | +1.27 |  |  |
| Conformity indexes |  |  |  |  |  |  |
| 1919-38 |  |  |  |  |  |  |
| Expansion | +20 | -20 | -100 | -20 |  |  |
| Contraction | -20 | -60 | -100 | -20 |  |  |
| Cycle | $-11$ | -56 | -100 | -56 |  |  |
| Full Period |  |  |  |  |  |  |
| Expansion | -14 | -33 | -100 | -33 |  |  |
| Contraction | -25 | -71 | -71 | -43 |  |  |
| Cycle | -14 | -67 | -100 | -50 |  |  |

* Less than 0.005 .
for the 2 nd and 3 rd percentage band of total population; and show fully consistent inverted conformity for the 4 th and 5 th percentage band of both total and nonfarm population, and for the 6th and 7th percentage band of nonfarm population.

Second, by contrast, the movement of the share of the top 1 percent of both total and nonfarm population, and of the 2 nd and 3 rd percentage band of nonfarm population fail to show any consistency during business cycles. The indexes of conformity are uniformly low. This lack of consistency explains why the average difference between the change per year during expansion and the following contraction is smaller than that in the shares of the lower percentage bands: declines in some business

Table 15 concluded:

| Business Cycle Expansion or Contraction | $\begin{aligned} & \text { Top } 1 \\ & \text { Per- } \\ & \text { cent } \\ & \text { (1) } \end{aligned}$ | 2nd \& 3rd Percentage Band (2) | 4th \& 5th Percentage Band (3) | Top 5 Percent <br> (4) | 6th \& 7th Percentage Band (5) | Top 7 Percent (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | B | Nonfarm Population |  |  |  |  |
| Con., 1913-14 | -1.99 |  |  |  |  |  |
| Exp., 1914-18 | -0.01 |  |  |  |  |  |
| Con., 1918-19 | -0.02 | +0.49 | +0.07 | +0.54 | -0.17 | +0.37 |
| Exp., 1919-20 | -1.00 | -0.51 | -0.34 | -1.85 | -0.30 | -2.15 |
| Con., 1920-21 | +0.61 | +0.76 | +0.62 | $+2.00$ | +0.84 | +2.84 |
| Exp., 1921-23 | $-0.56$ | -0.39 | -0.19 | $-1.14$ | $-0.19$ | -1.33 |
| Con., 1923-24 | +0.67 | +0.65 | +0.36 | +1.68 | +0.16 | +1.84 |
| Exp., 1924-26 | +0.51 | +0.20 | -0.15 | +0.56 | $+0.06$ | +0.62 |
| Con., 1926-27 | +0.60 | -0.04 | +0.14 | +0.70 | +0.19 | +0.89 |
| Exp., 1927-29 | +0.05 | +0.02 | +0.04 | +0.10 | $-0.04$ | +0.07 |
| Con., 1929-32 | -0.71 | -0.14 | +0.30 | -0.56 | +0.23 | -0.33 |
| Exp., 1932-37 | +0.13 | +0.02 | $-0.21$ | $-0.05$ | $-0.16$ | -0.21 |
| Con., 1937-38 | -1.64 | -0.10 | +0.89 | -0.85 | +0.22 | -0.63 |
| Exp., 1938-44 | -0.44 | -0.21 | $-0.30$ | $-0.96$ | $-0.23$ | -1.19 |
| Con., 1944-46 | +0.19 | +0.42 | +0.23 | +0.83 | +0.12 | +0.95 |
| averages, 1919-38 |  |  |  |  |  |  |
| Expansion | -0.17 | -0.13 | -0.17 | -0.48 | $-0.12$ | -0.60 |
| Contraction | -0.09 | +0.23 | +0.46 | $+0.59$ | +0.33 | +0.92 |
| Difference | +0.08 | +0.36 | +0.63 | +1.07 | +0.45 | +1.52 |


| CONFORMITY INDEXES |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 1919-38 |  |  |  |  |  |  |
| $\quad$ Expansion | +20 | +20 | -60 | -20 | -60 | -20 |
| $\quad$ Contraction | -20 | +20 | -100 | -20 | -100 | -20 |
| $\quad$ Cycle | -33 | +11 | -100 | -33 | -100 | -33 |
| Full Period |  |  |  |  |  |  |
| $\quad$ Expansion | -14 | 0 | -67 | -33 | -67 | -33 |
| $\quad$ Contraction | 0 | -14 | -100 | -43 | -71 | -43 |
| Cycle | -14 | -17 | -100 | -50 | -100 | -50 |

cycles may be averaged with rises in others, thereby reducing the average for all cycles to a low level. Since the average share of the top 1 percent is about twice that of the 2 nd and 3rd percentage band, and more than twice that of the 4 th and 5 th, or 6 th and 7 th percentage band, the greater mildness of its cyclical response would be even more conspicuous if related to its average level.

Inspection of Table 15 and Charts 2 and 3 shows a distinct reversal in the conformity of the share of the top 1 percent of both total and nonfarm population, and of the 2 nd and 3rd percentage band of nonfarm population - from inverted during the cycles of 1919-24 to positive during the cycles of 1927-38. Inverted conformity re-emerges during the cycle 1938-46.

The causes and meaning of this shift are not clear. The cycles in these shares during 1919-38 are appreciably longer than the business cycles. The charts suggest one long swing from a trough in 1920 to a peak in 1928, to a terminal trough in 1932, 1933, or 1934; and another to a peak in 1936 and a trough in 1938. Such longer cycles are much less, if at all, apparent in the shares of the lower percentage bands. The chronology used here is thus a series of short cycles, some of which coincide with the longer cycles in the share of the top 1 percent, and of the 2nd and 3rd percentage band of nonfarm population, and some of which do not. The brief contractions of 1924 and 1927 may not have been sufficiently intense to affect the property incomes and the high level salary receipts that must dominate the total income of these top groups. A thorough explanation would require much more detail concerning the composition of their income than is available.

Third, even when the shares of the several bands are added, the inconsistency in the cyclical changes of the shares of the uppermost bands is still evident: the index of conformity for the top 5 percent of total population tends to be lower than that for the 2 nd and 3rd percentage band and appreciably lower than that for the 4th and 5th percentage band, as is the index for the top 7 percent of nonfarm population compared with that of the 4th and 5 th, or 6 th and 7 th percentage band. But, by and large, the shares of these groups combined, i.e., the share of the top 5 percent of total and the top 7 percent of nonfarm population, move counter to business cycles, though barely consistently.

Were it possible to extend this top group to cover, say, the top 10 percent of total and the top 15 percent of nonfarm population, its share would probably show even more consistent inverted conformity to business cycles - sufficiently consistent to warrant accepting the pattern as strongly suggested, at least for the period under study. ${ }^{9}$

[^11]Analysis of the shares of the upper percentage bands in the economic income variant confirms and somewhat strengthens the conclusions drawn from the analysis of the basic variant (Table 16). In general, the conformity indexes for the former are somewhat higher, suggesting more strongly the inverted pattern of movement during business cycles. Thus, the share of the 2 nd and 3 rd percentage band of nonfarm population in this variant, unlike that in the basic variant, shows significant inverted conformity over the cycle as a whole. Likewise, the share of the top 5 percent of total population and of the top 7 percent of nonfarm population move consistently counter to business cycles, with indexes of conformity that run close to 80 and 60 respectively. This indicates that the adjustments made in passing from the basic to the economic income variant, particularly those allowing for the effect of family status and of unwarranted inclusions and deductions, were, on the whole, counter-cyclical, tending to depress the shares of upper groups during expansions and to raise them during contractions.

Since the economic income variant yields the best approximation to shares of upper income groups in aggregate payments as the latter is defined in national income estimates, it is of some significance that for this analytically preferable variant, the inverted pattern of the shares of upper percentage bands below the top 1 percent, of the top 5 percent of total population, and of the top 7 percent of nonfarm population, is fairly consistent. Only the share of the top 1 percent of both total and nonfarm population displays the lack of consistent movement during business cycles already observed of its share in the basic variant.

Shares in the disposable income variant cause us to modify our conclusions concerning the pattern of change during business cycles only slightly (Table 17). The items that distinguish the disposable income variant from the economic income - the balance of gains and losses from sales of assets, which is added, and federal income taxes, which are subtracted - both conform closely to business cycles. Addition of the former would tend to make upper group shares move with business cycles, thereby reducing any inverted conformity they would otherwise show; subtraction of the latter would tend to make upper group shares move counter to business cycles, thereby strengthening their inverted conformity.

But it must be remembered that these items are important to the share of the top 1 percent alone (and, to some extent, that of the 2 nd and 3rd percentage band of nonfarm population). Consequently, the chief differences between the indexes of the shares in the disposable and the economic income variants are for the top 1 percent. For the latter, failure to show consistent conformity, evident in its share in the economic income variant,

Table 16
Change per Year in Shares of Upper Income Groups during Business Cycles Economic Income Variant, Total and Nonfarm Population, 1919-1946

|  |  |  | 4th \& 5th |  | 6th \& 7t |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Expansion or | Top 1 | centage | centage | Per- | centage | Top 7 |
| Contraction | cent <br> (1) | Band (2) | Band (3) | cent <br> (4) | Band (5) | Percent (6) |


|  |  | A Total | Populatio |  |
| :---: | :---: | :---: | :---: | :---: |
| Exp., 1919-20 | -0.39 | +0.05 | +0.01 | -0.34 |
| Con., 1920-21 | +2.51 | +2.21 | +1.21 | +5.94 |
| Exp., 1921-23 | $-1.07$ | -0.28 | -0.47 | -1.81 |
| Con., 1923-24 | +0.67 | -0.10 | +0.41 | +0.98 |
| Exp., 1924-26 | +0.54 | -0.11 | +0.15 | +0.58 |
| Con., 1926-27 | +0.69 | +0.24 | +0.05 | +0.98 |
| Exp., 1927-29 | +0.35 | +0.04 | -0.05 | +0.34 |
| Con., 1929-32 | -0.63 | +0.29 | +0.42 | +0.08 |
| Exp., 1932-37 | -0.23 | -0.28 | -0.22 | -0.72 |
| Con., 1937-38 | -1.28 | +0.46 | +0.12 | -0.70 |
| Exp., 1938-44 | -0.62 | -0.43 | $-0.43$ | -1.48 |
| Con., 1944-46 | +0.30 | +0.22 | +0.12 | +0.65 |
| averages, 1919-38 |  |  |  |  |
| Expansion | -0.16 | -0.12 | -0.11 | -0.39 |
| Contraction | +0.39 | +0.62 | +0.44 | +1.46 |
| Difference | +0.55 | +0.74 | +0.56 | +1.84 |
| CONFORMITY INDEXES 1919-38 |  |  |  |  |
|  |  |  |  |  |
| Expansion | -20 | -20 | -20 | -20 |
| Contraction | $-20$ | -60 | -100 | -60 |
| Cycle | -33 | -100 | -78 | -78 |
| Full Period |  |  |  |  |
| Expansion | -33 | -33 | -33 | -33 |
| Contraction | -33 | -67 | -100 | -67 |
| Cycle | -27 | -100 | -82 | -82 |

is even more striking in its share in the disposable income variant: half the negative indexes for the top 1 percent group in Table 16 are appreciably nearer zero in Table 17. But there are no important changes in the indexes of conformity for the shares of percentage bands below the top 1 percent. The effect of the share of the top 1 percent is carried over to that of the top 5 or 7 percent group: for both total and nonfarm population the consistency of inverted conformity in the shares of the upper groups as a whole is less in the disposable than in the economic income variant. However, even here the share of the top 5 percent of total population, but not of the top 7 percent of nonfarm population, still shows significant inverted conformity.

The addition of corporate savings materially alters the cyclical movement of the share of the top 1 percent, and of the top 5 percent group as

Table 16 concluded:

| Business Cycle Expansion or Contraction | $\begin{aligned} & \text { Top } 1 \\ & \text { Per- } \\ & \text { cent } \\ & \text { (1) } \end{aligned}$ | 2nd \& 3rd Percentage Band (2) | 4th \& 5th Percentage Band (3) | $\begin{aligned} & \text { Top } 5 \\ & \text { Per- } \\ & \text { cent } \\ & \text { (4) } \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Per- | Top 7 |
|  |  |  |  |  | Band (5) | Percen (6) |
| B Nonfarm Population |  |  |  |  |  |  |
| Exp., 1919-20 | $-1.15$ | -0.29 | +0.07 | -1.37 | -0.16 | -1.54 |
| Con., 1920-21 | +1.96 | +1.54 | +1.52 | +5.02 | +0.41 | +5.43 |
| Exp., 1921-23 | -1.17 | (-)0.00* | -0.45 | -1.63 | $-0.19$ | -1.82 |
| Con., 1923-24 | +0.83 | +0.06 | +0.02 | +0.92 | +0.43 | +1.35 |
| Exp., 1924-26 | +0.66 | -0.07 | +0.30 | +0.90 | +0.03 | +0.93 |
| Con., 1926-27 | +0.80 | +0.14 | +0.10 | +1.03 | +0.04 | +1.07 |
| Exp., 1927-29 | +0.25 | +0.18 | -0.02 | +0.42 | -0.07 | +0.35 |
| Con., 1929-32 | $-0.88$ | +0.08 | +0.27 | -0.52 | +0.37 | -0.16 |
| Exp., 1932-37 | -0.02 | -0.25 | -0.11 | -0.38 | -0.20 | -0.58 |
| Con., 1937-38 | -1.52 | +0.33 | -0.06 | $-1.25$ | +0.60 | -0.64 |
| Exp., 1938-44 | -0.60 | -0.35 | -0.34 | -1.29 | -0.41 | -1.71 |
| Con., 1944-46 | +0.32 | +0.24 | +0.15 | +0.71 | +0.09 | +0.80 |
| averages, 1919-38 |  |  |  |  |  |  |
| Expansion | -0.29 | -0.08 | -0.04 | $-0.41$ | -0.12 | -0.53 |
| Contraction | +0.24 | +0.43 | +0.37 | $+1.04$ | +0.37 | +1.41 |
| Difference | +0.53 | +0.52 | +0.41 | +1.45 | +0.49 | +1.94 |

CONFORMITY INDEXES
1919-38

| Expansion | -20 | -60 | -20 | -20 | -60 | -20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Contraction | -20 | -100 | -60 | -20 | -100 | -20 |
| Cycle | -33 | -56 | -56 | -33 | -100 | -56 |
| ull Period |  |  |  |  |  |  |
| Expansion | -33 | -67 | -33 | -33 | -67 | -33 |
| Contraction | -33 | -100 | -67 | -33 | -100 | -33 |
| Cycle | -27 | -64 | -64 | -45 | -100 | -64 |

* Less than -0.005 .
a whole (Table 18, for total population only). For the first time the cyclical behavior of an upper group share shows significant positive conformity to business cycles - that of the top 1 percent of total population, and most probably also that of the top 1 percent of nonfarm population. With the assignment of corporate savings to dividend recipients, the percentage of income received by the top 1 percent shows, with significant consistency, a decline in the rate of change from expansion to contraction (or a rise from contraction to expansion).

For reasons already indicated, we do not attribute much significance to this variant including corporate savings: the latter cannot be conceived as all accruing to individuals, and their distribution among upper income groups, as we estimated it, must exaggerate the latter's shares in them. Furthermore, since it also includes individuals' gains or losses from sales

Table 17
Change per Year in Shares of Upper Income Groups during Business Cycles Disposable Income Variant, Total and Nonfarm Population, 1919-1946

| Business Cycle Expansion or Contraction | Top 1 Percent (1) | $\begin{aligned} & \text { 2nd \& 3rd } \\ & \text { Per- } \end{aligned}$ | 4th \& 5th Per- | Top 5 | 6th \& 7th Percentage Band (5) | $\begin{aligned} & \text { Top } 7 \\ & \text { Per- } \\ & \text { cent } \\ & \text { (6) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | centage | centage | Per- |  |  |
|  |  | Band | Band | cent |  |  |
|  | A Total Population |  |  |  |  |  |
| Exp., 1919-20 | -0.41 | +0.03 | +0.08 | -0.30 |  |  |  |
| Con., 1920-21 | +2.40 | +1.99 | +0.96 | +5.35 |  |  |
| Exp., 1921-23 | -0.56 | -0.19 | -0.39 | -1.13 |  |  |
| Con., 1923-24 | +1.20 | +0.04 | +0.44 | +1.68 |  |  |
| Exp., 1924-26 | +0.99 | -0.04 | +0.07 | +1.02 |  |  |
| Con., 1926-27 | +0.96 | +0.18 | 0.00 | +1.14 |  |  |
| Exp., 1927-29 | +0.85 | +0.02 | -0.08 | +0.79 |  |  |
| Con., 1929-32 | -2.21 | +0.31 | +0.59 | -1.31 |  |  |
| Exp., 1932-37 | +0.13 | -0.32 | -0.26 | -0.44 |  |  |
| Con., 1937-38 | -0.87 | +0.43 | +0.12 | -0.31 |  |  |
| Exp., 1938-44 | -0.90 | -0.50 | -0.45 | -1.85 |  |  |
| Con., 1944-46 | +0.57 | +0.26 | +0.15 | +0.99 |  |  |
| averages, 1919-38 |  |  |  |  |  |  |
| Expansion | +0.20 | -0.10 | -0.11 | -0.01 |  |  |
| Contraction | +0.30 | +0.59 | $+0.42$ | +1.31 |  |  |
| Difference | +0.10 | +0.69 | +0.54 | +1.32 |  |  |

CONFORMITY INDEXES
1919-38
of assets, there is duplication between the latter and such undistributed profits of corporations as have in fact been cashed in through realized gains. But it is interesting that even in this variant which exaggerates an item that moves with business cycles, the shares of the upper percentage bands below the top 1 percent move consistently counter to business cycles; and it is only the movement of the share of the top 1 percent that makes for positive, though not significant, conformity for the share of the top 5 percent group as a whole.

The shortness of the period covered and the crudeness of the data preclude firm inferences. But, in summary, the following conclusions concerning the behavior of upper group shares during business cycles seem justified. First, the share of the top 1 percent of both total and nonfarm population in all variants except that including corporate savings, and the share of the 2 nd and 3 rd percentage band in the basic variant for nonfarm

Table 17 concluded:

| Business Cycle Expansion or Contraction | Top 1 Percent (1) | 2nd \& 3rd | 4th \& 5th |  | 6th \& 7th |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Per- | Per- |  |  |  |
|  |  | Bage <br> (2) | Band <br> (3) | cent <br> (4) | Band (5) | cent <br> (6) |
|  | B | Nonfarm Population |  |  |  |  |
| Exp., 1919-20 | -1.04 | -0.37 | +0.06 | -1.35 | -0.10 | -1.44 |
| Con., 1920-21 | +1.94 | +1.45 | +1.20 | +4.58 | +0.29 | +4.88 |
| Exp., 1921-23 | -0.62 | +0.01 | -0.32 | -0.93 | -0.16 | -1.09 |
| Con., 1923-24 | +1.32 | +0.24 | +0.09 | +1.65 | +0.45 | +2.10 |
| Exp., 1924-26 | +1.14 | +0.02 | +0.27 | +1.44 | -0.04 | +1.40 |
| Con., 1926-27 | +1.11 | +0.13 | $-0.04$ | +1.20 | +0.01 | +1.21 |
| Exp., 1927-29 | +0.78 | +0.20 | -0.03 | +0.96 | -0.12 | +0.84 |
| Con., 1929-32 | -2.54 | +0.04 | +0.40 | -2.10 | +0.51 | -1.59 |
| Exp., 1932-37 | +0.36 | -0.28 | -0.14 | -0.06 | -0.24 | -0.31 |
| Con., 1937-38 | -1.04 | +0.30 | -0.10 | -0.85 | +0.63 | -0.22 |
| Exp., 1938-44 | -0.89 | -0.42 | -0.37 | -1.68 | -0.43 | -2.11 |
| Con., 1944-46 | +0.60 | +0.26 | +0.18 | +1.04 | +0.11 | +1.15 |
| averages, 1919-38 |  |  |  |  |  |  |
| Expansion | +0.12 | -0.08 | -0.03 | +0.01 | -0.13 | -0.12 |
| Contraction | +0.16 | +0.43 | +0.31 | +0.90 | +0.38 | +1.28 |
| Difference | +0.03 | +0.51 | +0.34 | +0.89 | +0.51 | +1.40 |
| CONFORMITY INDEXES 1919-38 |  |  |  |  |  |  |
| Expansion | +20 | +20 | -20 | -20 | -100 | -20 |
| Contraction | $-20$ | -100 | -20 | -20 | -100 | -20 |
| Cycle | -11 | -56 | -33 | -11 | -100 | -33 |
| Full Period |  |  |  |  |  |  |
| Expansion | 0 | 0 | -33 | -33 | -100 | -33 |
| Contraction | -33 | -100 | -33 | -33 | -100 | -33 |
| Cycle | -9 | -64 | -45 | -27 | -100 | -45 |

population, do not change consistently. Second, the shares of all percentage bands below these, in all variants, except the share of the 4th and 5th percentage band of nonfarm population in the disposable income variant, move consistently counter to cycles in business activity. Third, the inconsistency in cyclical behavior of the top 1 percent's share prevents a significantly consistent pattern in the share of the top 5 or 7 percent in most variants. Even so, the share of the top 5 percent of total population and of the top 7 percent of nonfarm population in the economic income variant move counter to business cycles with significant consistency, and their conformity indexes in the basic and disposable income variants, while somewhat lower, still show fair consistency. Furthermore, there is indication that, could we extend our top group to cover, say, the top 10 or 15 percent, the consistently counter-cyclical pattern of change in the shares below that of the top 1 percent would outweigh the inconsistent movement in the

Table 18
Change per Year in Shares of Upper Income Groups during Business Cycles Disposable Income Variant Including Corporate Savings, Total Population 1919-1946

| Business Cycle <br> Expansion or | Top 1 <br> Percent | 2nd \& 3rd <br> Percentage <br> Band <br> Contraction | 4th \& 5th <br> Percentage <br> Band | Top 5 <br> Percent |
| :--- | :---: | :---: | :---: | :---: |
| (1) | -2.49 | -0.03 | $+3)$ | $(4)$ |

latter. Hence, we can reasonably infer that, for the period covered here, the income shares of upper groups, say, top 10 percent of total population and top 15 percent of nonfarm, would, in all three variants (excluding corporate savings) move fairly consistently counter to business cycles.

## 4 Changes in Inequality within Upper Groups

Rises or declines in the share of the top 5 or 7 percent group as a whole mean corresponding changes in 'inter-inequality', to use the term employed in Chapter 1, i.e., inequality in the distribution of income between the lower 95 or 93 percent and the top 5 or 7 percent of the population. Thus the decline in the share of the top 5 or 7 percent group from 1939 onward means a large drop in inter-equality; and its movement during business cycles means a similar movement in inter-inequality. The measures of total inequality, as they can be calculated here, are so dominated by inter-inequality that its movement would be very similar.

We omit discussion of changes in inter- or in total inequality because
we would simply have to repeat that above, with its three major conclusions: decline since 1939, no change from 1919-28 to 1929-38, and inconsistently inverted conformity to business cycles. To a degree, the same is true of inequality within the top 5 or 7 percent group. In dealing with differences in the behavior of shares among the several upper percentage bands we have in fact discussed implicitly changes in the inequality within the top 5 or 7 percent group. Obviously, the decline in the average share of the top 1 percent from the first decade to the second, and the rise in the average shares of the 2 nd and 3rd, 4th and 5th, and 6th and 7th percentage bands mean that the inequality within the top 5 or 7 percent must have declined from the first to the second decade. Likewise, the differences between the top 1 percent and the lower percentage bands in their response to business cycles mean short term variations in intra-top inequality. But these differences in movement among the several upper percentage bands vary from one part of the period to another; and it may be useful to summarize them by directly measuring changes in the inequality of the distribution within the top 5 or 7 percent.

The measure used here is the concentration ratio for the upper segments calculated in the manner described in Chapter 1. Table 19 and Chart 4 yield several conclusions.

First, while the share of the top 5 or 7 percent group as a whole declined markedly after 1939, which meant a corresponding decline in interinequality, the change in inequality within the top 5 or 7 percent group was quite different (lines 1-4, Parts A and B of Table 19). As measured by the shares in the basic and economic income variants, intra-top inequality increased to a peak in 1943 or 1945, and then declined. By 1948, inequality within the top 5 or 7 percent for the shares in the basic variant was below the 1939 level; by 1946, that for the shares in the economic income variant was still above the 1939 level. As measured by the shares in the disposable income variant intra-top inequality declined to a trough in 1943, then rose again, regaining approximately its 1939 level by 1946. In summarizing these divergent movements one may say that intra-top inequality declined after 1939 only in the shares in the basic variant, particularly if they are adjusted for federal income taxes (see Table 12 above, and comments on it); and the same might perhaps be true of the shares in the disposable income variant could we have carried it to 1948. But by and large, there is no such marked drop in intra-top inequality as in the inequality between the top 5 or 7 and the lower 95 or 93 percent of the population. This is consistent with the evidence discussed earlier to the effect that the relative decline since 1939 in the share of the 4th and 5th percentage band of total population and of the 6th and 7th percentage

Table 19
Changes in Relative Inequality (Concentration Ratio) in Distribution of Total Income within the Top 5 Percent Group of Total and Top 7 Percent Group of Nonfarm Population, Three Variants, 1919-1948

| Basic | Economic | Disposable |
| :---: | :---: | :---: |
| Variant | Income | Variant |
| (1) | Income |  |
| Variant |  |  |

A Totál Population
Changes since 1939

| 1 | Level in 1939 | 0.415 | 0.376 | 0.353 |
| :---: | :---: | :---: | :---: | :---: |
| 2 | Date of next peak (p) |  |  |  |
|  | or trough (t) | 1943-p | 1945-p | 1943-t |
| 3 | Level at date in line 2 | 0.464 | 0.407 | 0.265 |
| 4 | Level in last year <br> (1948 or 1946) | 0.398 | 0.400 | 0.347 |
| average levels |  |  |  |  |
| 5 | 1919-28 | 0.471 | 0.433 | 0.426 |
| 6 | 1929-38 | 0.428 | 0.387 | 0.365 |
| 7 | 1939-48 or 1939-46 | 0.437 | 0.389 | 0.325 |
| Change per year during business cycles averages for all 5 cycles, 1919-38 |  |  |  |  |
|  |  |  |  |  |
| 8 | Expansion | +0.007(5) | +0.002(3) | +0.007(4) |
| 9 | Contraction | -0.026(4) | -0.014(4) | -0.013(2) |
| 10 | Difference | -0.034(5) | -0.016(4) | -0.021(2.5) |

B Nonfarm Population

| 1 | Level in 1939 |
| :--- | :--- |
| 2 | Date of next peak (p) <br> or trough (t) |
|  | or |


| 0.405 | 0.365 | 0.341 |
| :--- | :---: | :---: |
| $1943-\mathrm{p}$ | $1945-\mathrm{p}$ | $1943-\mathrm{t}$ |
| 0.455 | 0.395 | 0.259 |
| 0.390 | 0.394 | 0.342 |
| AVERAGE LEVELS |  |  |
| 0.464 | 0.436 | 0.428 |
| 0.416 | 0.368 | 0.346 |
| 0.429 | 0.381 | 0.319 |

CHANGE PER YEAR DURING BUSINESS CYCLES averages for all 5 cycles, 1919-38

| 8 | Expansion | $+0.006(5)$ | $-0.003(3)$ | $+0.003(4)$ |
| ---: | :--- | :--- | :--- | :--- |
| 9 | Contraction | ${ }_{-0.027(4.5)}$ | $-0.016(4)$ | $-0.016(2)$ |
| 10 | Difference | $-0.033(5)$ | $-0.014(2)$ | $-0.019(2)$ |

Figures in parentheses, lines $8-10$, show number of cycles with same sign as entry in the column proper.
band of the nonfarm was as great or greater in some variants than that in the share of the top 1 percent.

Second, while there was no significant change in the share of the top 5 or 7 percent from 1919-28 to 1929-38, and hence no significant change

Chart 4
Relative Inequality in Distribution of Total Income within the Top Group (Concentration Ratio), Total and Nonfarm Population
Three Variants, 1919-1948
Basic variant
Economic income variant
Disposable income variant

Panel A
Within Top 5 Percent of Total Population


Panel 8 Within Top 7 Percent of Nonfarm Population

in inter-inequality, the inequality of the income distribution within the top 5 or 7 percent declined markedly in all variants, for both total and nonfarm population (lines 5 and 6 ). The reason is obviously the difference between the downward drift in the share of the top 1 percent and the upward drift in the shares of the lower percentage bands noted in Section 2. The average for the decade or eight years beginning with 1939 (line 7) rises over that for the 1929-38 average for the shares in the basic and economic income variants; but even so the rise is small compared with the drop from the first to the second decade, and the general impression conveyed by the full
period is that of a significant downward movement of inequality within the top 5 or 7 percent. This conclusion is even more marked for the shares in the disposable income variant where the averages for the period after 1938 are lower than those for 1929-38, resulting in a decline which cuts the measure of intra-top inequality by about one-quarter of its level in 1919-28.

Third, while the share of the top 5 or 7 percent group, and hence interinequality, move counter to business cycles, although not consistently, inequality within the top 5 or 7 percent moves with cycles in business activity (lines $8-10$ ). ${ }^{10}$ In other words, the relative spread within the top 5 or 7 percent becomes wider during expansions and smaller during contractions. This finding is observed consistently for the shares in the basic variant, as evidenced by the number of cycles in which it is found. Consistently, inequality within the top 5 or 7 percent group rises during expansions and declines during contractions. The cyclical behavior of the shares in the economic and disposable income variants is much less consistent. But even here, the average difference between the change per year during expansion and the following contraction is negative in all variants, i.e., represents a decline.

In conclusion we emphasize the differences in the pattern of movement between inter- and intra-top inequality just brought out. In the changes during the years following 1938, in the drift from 1919-28 to 1929-38, and in the periods marked off by the business cycle chronology, changes in inequality within the top 5 or 7 percent group, by and large, run counter to those in inequality between the lower 95 or 93 and the top 5 or 7 percent groups. Any analysis and interpretation of changes in inequality in the total income distribution must recognize that the inequality within and among the separate segments may move differently. ${ }^{11}$

[^12]
## Chapter 3

Changes in Income Shares by Type, 1919-1948

Were the drastic decline since 1939, the changes in the decade averages, and the fluctuations associated with business cycles in shares of upper income groups in total income receipts by individuals characteristic of their shares in the various types of income too?

Since inequality in the distribution of the various types of income differs markedly, any shift in the proportions of the several types in total income receipts must affect shares of upper income groups. To illustrate: other conditions remaining the same, an increase in the proportion of dividends should raise, and an increase in the proportion of employee compensation lower the shares of upper income groups. To what extent are the changes in the shares of upper income groups in Chapter 2 due merely to shifts in the countrywide composition of income by type, 'inter-type' shifts? If they are not accounted for fully by inter-type shifts they must be due partly to changes in the shares of upper groups in each type, 'intra-type' shifts. What is the nature of these intra-type shifts? Does a decline or a rise in the shares of upper groups in total income receipts usually mean a corresponding change in their shares in each type? If the intra-type changes are not all similar in direction and identical in amplitude, changes in the composition of total income by type for upper groups must differ from those for the entire population and for lower groups. What is the nature of these differences?

For reasons indicated in Chapter 1, the analysis is in terms of the basic variant alone. But the results would be more or less valid for the economic income variant too, since the type-structure of income in it would not differ significantly from that in the basic variant. Only for the disposable income variant would some modifications have to be introduced because of the effects of federal income taxes and the balance of gains and losses from sales of assets, highly variable items.

One major qualification of the analysis must be noted in advance. We are perforce restricted to the types of income that can be distinguished in the estimates of countrywide flows to individuals and in the tabulations of federal income tax data. Even the classification into employee compensation, entrepreneurial income, rent, interest, and dividends stretches the limits of reliability, since the errors that may characterize the estimates for
some types, particularly entrepreneurial income and rent, are probably far larger relatively than those characterizing the estimates of total income receipts; and altogether too large for comfort. Yet even this five-fold division is too crude for effective analysis. Employee compensation includes flows that range from the low pay of farm and unskilled labor to the high salaries of corporation executives. In total entrepreneurial income are the low incomes of small farmers and shopkeepers as well as the large emoluments of individual entrepreneurs at high professional or business levels. Total rent must combine driblets to casual landlords who own just one house with large chunks received by individuals for whom the ownership and management of rental properties is a fulltime and often highly lucrative occupation. Could income types be further subdivided, the weight attached to inter-type shifts would probably be greater than that shown below, and that attached to intra-type shifts correspondingly smaller. Consequently, our findings are circumscribed by the crude classification of income by type.

Since the analysis in this chapter relates to the changes in the shares of upper groups in total income receipts observed in Chapter 2, the discussion follows the order in that chapter: (1) changes since 1939; (2) changes in the decade averages; (3) changes during business cycles. Each section deals with: (a) the relative importance of inter- and intra-type shifts; (b) changes in shares in countrywide totals of each type (employee compensation, entrepreneurial income, etc.); (c) changes in the type-structure of total income at the upper and the lower income levels.

## 1 Changes since 1939

a) One way to study the effects of changes in the proportions of various types of income in total income receipts on the shares of upper income groups in that total is to compare changes in the former with those in the latter. Similarity would reveal the effects of the former, viz., changes in the countrywide composition of income receipts by type. An even more effective way is to assume that the shares of upper income groups in each income type are constant and that the sole changes over time are in the proportions of the various types of income in total income receipts; then calculate the shares of upper income groups in total income receipts thus derived. Since changes in these shares can be due to inter-type shifts alone, they reveal the latter's effects. Conversely, if we assume that the composition of total income receipts by type is constant and that, therefore, the sole changes over time are in the shares of upper income groups in each type, changes in the shares of upper income groups in total income receipts thus derived reflect changes due to shifts of shares within each type of
income alone, intra-type shifts. They are completely free from any effects of shifts in the countrywide composition of income by type. The change due to inter-type shifts plus that due to intra-type shifts would equal the total change in the shares of the upper income groups in total income receipts if the two types of shift were not correlated. The correlation introduces merely a minor discrepancy, however, and generally the sum of the changes due to these two types of shift does approximate roughly the total change in the shares as measured directly in Chapter $2 .{ }^{1}$

We calculated the changes due to the inter- and intra-type shifts in the manner just described for each upper percentage band of both total and nonfarm population. For constant proportions of various types in total income receipts and constant shares of upper percentage bands in the aggregate of each type, we used the arithmetic mean levels for 1919-38 in Tables 7 and 3 (or 8 and 4) respectively. It seemed best to use averages for a long period that were relatively free from year to year fluctuations, and to exclude the very recent years with their marked changes.

The relative importance of inter- and intra-type shifts in contributing to the decline from 1939 to 1948 in the shares of upper income groups in total income receipts is indicated in Table 20, Parts A-I and B-I. We know that during this recent decade, the proportions of employee compensation and entrepreneurial income in the countrywide total of income receipts rose, and those of property incomes declined (Table 20, Part A, col. 6, lines 15-24; Part B, col. 9, lines 15-24). But only for the top 1 percent did the shift in the countrywide composition of income by type contribute materially to the recent decline: here alone did the rise in the countrywide proportion of service incomes in total receipts and the decline in the proportion of property incomes contribute heavily to the marked drop in its share in total receipts. Inter-type shifts contributed also to the decline in the share of the 2nd and 3rd percentage band but were of much narrower amplitude than the intra-type shifts; and for the 4th and 5th, and 6th and 7 th percentage bands of nonfarm population they raised the shares in total income receipts, although not significantly. However, since the top 1 percent dominates the total 5 or 7 percent group, inter-type shifts are important for it too. Of the decline from 1939 to 1948 in the share of the top 5 percent of the total population and of the top 7 percent of the nonfarm population about a quarter is due to inter-type and three-quarters to intratype shifts.

The explanation of the different impact of the shift in the countrywide

[^13]
## Table 20

of Changes in Shares of Upper Income Groups by Type

| 花家 | 0000 | $\stackrel{0}{8}$ | $\stackrel{0}{80}$ | $0$ | $8$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & 60 \\ & i=1 \\ & i+1 \end{aligned}$ | $\begin{aligned} & N \infty \\ & \infty \\ & \underset{\sim}{\circ}+1 \end{aligned}$ | $\begin{aligned} & \underset{\sim}{n} \\ & \stackrel{n}{n} \end{aligned}$ | $\begin{aligned} & \text { qo } \\ & \text { vio } \\ & \text { of } \end{aligned}$ |



Table 20, Part B (Nonfarm Population), concluded:

|  | 옹 | $8$ | 응 | 응 |  | $\begin{aligned} & 80 \\ & \text { in } \\ & +1 \end{aligned}$ | $\stackrel{\infty}{\circ} \underset{\dagger}{\top}$ | $\pm \infty$ $\stackrel{1}{4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


|  | $\underset{\sim}{n} \underset{\sim}{\sim}$ | $\begin{aligned} & H \underset{N}{N} \\ & \dot{\sim} \\ & \text { in } \end{aligned}$ | $\begin{aligned} & \text { Ni } \\ & \underset{\sim}{\sim} \\ & \dot{+} \end{aligned}$ | $\begin{aligned} & \infty \\ & n \\ & \infty \\ & \\ & \hline \end{aligned}$ |  | $\stackrel{-\infty}{\top}$ | $\begin{aligned} & 80 \infty \\ & 0 \\ & \end{aligned}$ | $\begin{aligned} & \text { NO } \\ & \text { Nị } \\ & \text { nín } \end{aligned}$ | $\begin{aligned} & \text { 웅 } \\ & \text { No } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { m } \\ & \underset{\sim}{\mathcal{T}} \underset{\sim}{i} \end{aligned}$ | $\begin{aligned} & \text { non } \\ & \underset{\sim}{1}+ \end{aligned}$ | $\begin{aligned} & \text { 긍 } \\ & \hat{\sigma}_{+}^{\infty} \end{aligned}$ | $\begin{aligned} & 6.7 \\ & \stackrel{y}{m} \\ & \end{aligned}$ |  | シin | $\begin{aligned} & 09 \\ & \text { on } \\ & \end{aligned}$ | $\begin{gathered} \wedge \\ \underset{\sim}{n} \\ \stackrel{n}{n} \end{gathered}$ | $\begin{aligned} & \text { No } \\ & \text { NO } \\ & \text { NO } \end{aligned}$ |


号



composition of income by type on the several upper percentage bands lies in the differences in their average shares in each income type. For 1919-38 the top 1 percent of the total population received on the average 65 percent of dividends, 27.5 percent of interest, 18 percent of rent, 14 percent of entrepreneurial income, and 6.5 percent of employee compensation (Table 3). The spread between 65 and 6.5 percent is so wide that even small shifts in the countrywide composition of income by type can affect perceptibly the share of the top 1 percent in total income receipts. But for the 2 nd and 3rd percentage band of total population the average shares in the several types of income have a much narrower range - from 11.4 percent for rent and somewhat over 8 percent each for dividends, interest, and entrepreneurial income to 5.6 percent for employee compensation; and for the 4th and 5th percentage band in total population the range is narrower still. Indeed, the range for these two upper percentage bands is so narrow that only very large shifts in the countrywide composition of income by type can produce large absolute changes in their shares in total income receipts. There are similar differences between the top 1 percent (and to some extent the 2nd and 3rd percentage band) and the lower percentage bands of the nonfarm population in their average shares in the several income types (Table 4).

This comment serves to explain why the absolute change in income shares of upper percentage bands below the top due to inter-type shifts was small despite the marked shift in the countrywide composition of income by type during the decade - the rise in the proportion of service incomes and the decline in that of property incomes. Since the absolute change due to inter-type shifts was small for all except the top 1 percent and those due to intra-type shifts were fairly marked, the relative importance of the former was necessarily limited.
b) As inter-type shifts account for only part of the recent decline in upper group shares, it becomes all the more important to examine the changes due to intra-type shifts.

Changes due to intra-type shifts as measured in Table 20, Parts A-I and B-I, are the changes in upper group shares in total income receipts that would have occurred if the countrywide composition of income by type had been constant, and if, therefore, the sole changes had been in the upper group shares in the several income types. But they reflect the combined effect of changes in the shares of a given percentage band in the countrywide totals of various income types; i.e., a rise in the share of a given percentage band in countrywide dividends may be offset (or exceeded) by a decline in its share in countrywide employee compensation. Hence, if the intra-type series shows, say, a decline in the share of a given top
percentage band, we know that its share in total income receipts has fallen, but not necessarily its share in employee compensation, entrepreneurial income, or other income types. The main question is therefore: are there differences in the changes over time in the shares of upper income groups in the various types of income?

This question can be answered only by studying the shares of each upper percentage band in each income type separately. The annual series are given in the detailed tables in Part V; changes in them from 1939 to 1948 are shown in Table 20, Parts A-II and B-II. ${ }^{2}$

The decline in the shares of upper income groups in total income receipts from 1939 to 1948 was accompanied by a decline in their shares in employee compensation - for each percentage band, of both total and nonfarm population; in interest - again consistently; and in rent - with the single exception of a rise in the share of the top 1 percent of the nonfarm population. The shares of upper income groups in the countrywide total of entrepreneurial income, on the contrary, rose (the single exception is a very slight decline in the share of the 6th and 7th percentage band of nonfarm population). Finally, the shares in the countrywide total of dividends changed differently for the several upper percentage bands: the share of the top 1 percent declined quite drastically; the share of the 2nd and 3 rd percentage band, of total and nonfarm population, and of the 4th and 5th percentage band of nonfarm population rose; the share of the top 5 or 7 percent group as a whole declined.

Two general observations are relevant. First, it is particularly important here to remember that the personal composition of upper percentage groups is not identical from year to year, and therefore not in 1939 and 1948. Thus, when we find that the share of the top 5 percent group in employee compensation declined, this does not necessarily mean that the compensation received by Mr. Jones and Mr. Smith who were in that group in both 1939 and 1948 did not rise as much as that of Mr. Brown and Mr. White who in both years were in the lower income groups. It may well have done so. But it is quite as likely that Mr. Smith, who re-

[^14]ceived a large salary and was in the top 5 percent group in 1939, was no longer at the upper level in 1948 and his position in the top 5 percent group in that year was occupied by a Mr. Merchant who derived his income from his own firm. This shift would cause a decline in the share of the upper group in employee compensation and a rise in its share in entrepreneurial income. In other words, changes from 1939 to 1948 in the shares of an upper group in countrywide totals of various types may be due partly to changes in the shares of identical persons who were in that group in both years and partly to changes in the personal composition of the upper group resulting from the upward shift of persons with entrepreneurial income who replace persons dropping below the upper levels whose incomes were more dominated by employee compensation or by interest and dividends.

Second, it is not clear whether, were we to hold the personal composition of the upper income groups constant, a decline in their shares in total income of the magnitude observed from 1939 to 1948 would be accompanied by a decline in their shares in the countrywide total of each of the five income types distinguished. Even then there might be no complete uniformity of decline. Be that as it may, for the upper income groups of the kind we can distinguish here, i.e., of shifting composition, we find during the period a consistent rise in the shares of at least one income type, entrepreneurial income, and some rise in the shares of dividends. Clearly, the rises in these shares served to reduce the decline in the shares in total income, and as far as this divergence of movement in the shares of countrywide totals of various types is associated with shifts in and out of the upper groups, the latter served to damp the decline. If we were to hold the personal composition of each upper group constant, distinguishing them by their income in 1939, the decline in their shares in total income from 1939 to 1948 would exceed that observed in Chapter 2 and the decline in their shares in countrywide totals of various types would probably be more consistently observed than in Table 20; the same might be true of upper income groups of constant composition determined on the basis of average income status (rather than on the basis of their income in the single year 1939), provided the average represented the situation centering about 1939.
c) It is clear from Table 20, Parts A-II and B-II, that the movement from 1939 to 1948 in the shares of the several upper percentage bands, the top 5 or 7 percent as a whole, and the lower 95 or 93 percent group in various types of income differed. Consequently, whatever the shifts in the countrywide composition of income by type, the shifts in the income structure of the top 5 or 7 percent group and of the lower 95 or 93 percent cannot have been the same; likewise, changes in the composition of income
by type must have differed as among the several upper percentage bands (Table 20, Parts A-III and B-III).
During 1939-48 the proportion of employee compensation in individuals' total income receipts rose, markedly for the nonfarm population, less so for the total population; that of entrepreneurial income also rose, markedly for the total population and somewhat less for the nonfarm population; the proportion accounted for by rent fell off; and the proportions of interest and dividends declined quite markedly (Parts A-III and B-III, col. 6 and 9 respectively). But the shifts in the structure of income by type for the upper income groups were substantially different. The proportion of employee compensation in the total income of these upper groups declined instead of rising; the proportion of entrepreneurial income rose but much more markedly, both absolutely and relatively, than did its proportion in countrywide income receipts; for the top 1 percent, the proportion of rent in its total income rose, but for the upper groups below the top 1 percent it declined; the proportion of interest in the total income of upper income groups declined about as much relatively as did the countrywide proportion. Finally, while the proportion of dividends declined quite markedly for the top 1 percent, it declined only slightly for the 2nd and 3rd percentage band of nonfarm population, rose somewhat for the 2nd and 3rd percentage band of total population and the 4th and 5th percentage band of nonfarm population, and only for the 6th and 7th percentage band of nonfarm population declined as much relatively as the countrywide proportion.

The decline in the proportion of employee compensation in upper group income, not observed in the income of the entire population, was more than compensated for by the much bigger rise in the proportion of entrepreneurial income which offset also the larger absolute decrease in the proportions of interest and dividends. In the income of the lower 95 and 93 percent of the population the marked rise in the proportion of employee compensation (and a very mild one in that of entrepreneurial income for the lower 95 percent of the total population) was offset by declines in the proportions of rent, interest, and dividends (and of entrepreneurial income for the lower groups of nonfarm population).

Thus, while over the period aggregate income for the entire population was becoming more dominated by employee compensation and entrepreneurial income and much less by property incomes, upper group income was becoming more dominated by entrepreneurial income, and employee compensation and property incomes were declining in importance. As compared with that of the lower income groups, income of the upper groups was still characterized by a much higher proportion of property
incomes, but the most significant change was the very marked increase in the proportion of entrepreneurial income.

In concluding this discussion of the components of the decline in upper group shares from 1939 to 1948 one may note that the evidence sulnmarized in Table 20 suggests emphasis not only on the factors already mentioned in Chapter 2 - the closer approach to full employment, the shifts from property to service incomes, the shifts between incomes of farmers and of the urban population, the changes within the distribution of employee compensation, and the increased burden of progressive taxation - but also on the large and sustained rise in prices, with its differential impact on various groups in society, especially unfavorable to certain fixed types of property income and relatively favorable to entrepreneurial incomes. It is this price trend, together with such government policy as tended to keep down the return on long term securities (in connection with the placing of war-necessitated public loans) and urban rent, that partly explains the sharp drop in the proportion of property incomes in the countrywide total of individuals' income receipts - as well as the rise in the proportion of entrepreneurial income (for total population). It explains also the rise in the share of upper income groups in the countrywide total of entrepreneurial income, and thus also the increase in the proportion of the latter type in their total income. Moreover, the impacts of the price rises and of other conditions accompanying World War II and its aftermath were probably different for the various groups of nonfarm entrepreneurs, accentuating the inequality in the distribution of entrepreneurial incomes.

## 2 Changes in Decade Averages

As noted in Chapter 2, while the shares of all upper groups in total income declined from 1929-38 to 1939-48, no such marked and consistent changes were observed from the first to the second interwar decade. From 1919-28 to 1929-38 the share of the top 1 percent declined; those of the upper percentage bands below the top 1 percent rose; and for the top 5 or 7 percent group as a whole, there was no significant change. We now study the components of these changes in the decade averages - the changes due to shifts in the countrywide composition of income by type (inter-type shifts) and those due to changes in upper group shares in the various income types (intra-type shifts).
a) In the change from 1929-38 to 1939-48 both inter- and intra-type shifts served to depress the shares of upper income groups, with the exception of the slight rises due to inter-type shifts in the shares of the 4th and 5th, and 6th and 7th percentage bands of the nonfarm population (Table 21:

Table 21
Changes in Decade Averages of Shares of Upper Income Groups by Type Basic Variant, Total and Nonfarm Population, 1919-1948
a total population
 $-0.10$
$\infty$
+
+
+



~n


oigon
ipivis






|  | $\begin{aligned} & \text { Q̀ } \\ & 0 \end{aligned}$ |  | $\cdots$ |  | $m$ $\cdots$ + | 응ㅇ <br> Nㅡㄴ | $\begin{aligned} & \underset{\sim}{n} \\ & + \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Non } \\ & \text { Non } \\ & \text { Nit } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |





| $0^{n}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ ¢ ¢ | ㅇN๙ | $\stackrel{m}{0}$ | Non | $\hat{0}$ | NOiN | N |  |
| ${ }_{4}$ | Nin | $\stackrel{+}{+}$ |  | $\stackrel{N}{i}$ | ©iv | $i$ | 9ioi |
| 円 |  |  |  |  |  |  |  |


Table 21, Part A (Total Population) continued:
$\stackrel{-1}{\circ} \stackrel{\sim}{2}$
21.96
-5.98
+19.84
+13.86

$\stackrel{+}{+}$ Dividends
49 Average, $1919-28$
50 Change, $1919-28$ to $1929-38$
51 Change, $1929-38$ to $1939-48$
52 Change, 1919-28 to 1939-48
$\quad(50+51)$ Entrepreneurial Income
37
38
Average, 1919-28
39
Change, $1919-28$ to 1929-38
40
Change, 1929-38 to 1939-48

$\quad(38+39)$ $\begin{array}{ll}\text { Rent } \\ 41 & \text { Average, } 1919-28 \\ 42 & \text { Change, } 1919-28 \text { to } 1929-38 \\ 43 & \text { Change, } 1929-38 \text { to } 1939-48 \\ 44 & \text { Change, } 1919-28 \text { to } 1939-48 \\ & (42+43)\end{array}$ Interest
45
46
Average, 1919-28
47
Change, $1919-28$ to $1929-38$
48
$\begin{aligned} & \text { Change, } \\ & \\ & \\ & \text { ( } 46+47 \text { ) }\end{aligned}$

Table 21，Part B（Nonfarm Population），concluded：

| ENTIRE |
| :---: |
| POPULATION |
| $(9)$ |

100.0
0
0
0

100.0
0
0
0

100.0
0
0
0

69.15
+1.98
+5.46
+7.44


| NE |  | $\underset{n}{n}$ |  | $\begin{aligned} & \text { N} \\ & \stackrel{y}{n} \\ & + \end{aligned}$ |  | $\begin{aligned} & \infty \\ & \stackrel{\infty}{0} \\ & \underset{+}{2} \end{aligned}$ | $\begin{gathered} \text { Fon } \\ \text { 天ió } \\ \text { rio } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\frac{0}{n}$ |  | $\stackrel{8}{6}$ |  | $\begin{aligned} & \text { à } \\ & \stackrel{\circ}{1} \end{aligned}$ |  |

M



COMPONENTS OF CHANGE

|  | Rent |
| :---: | :---: |
| 21 | Average，1919－28 |
| 22 | Change，1919－28 to 1929－38 |
| 23 | Change，1929－38 to 1939－48 |
| 24 | $\begin{aligned} & \text { Change, } 1919-28 \text { to 1939-48 } \\ & (22+23) \end{aligned}$ |
|  | Interest |
| 25 | Average，1919－28 |
| 26 | Change，1919－28 to 1929－38 |
| 27 | Change，1929－38 to 1939－48 |
| 28 | $\begin{aligned} & \text { Change, 1919-28 to 1939-48 } \\ & (26+27) \end{aligned}$ |
|  | Dividends |
| 29 | Average，1919－28 |
| 30 | Change，1919－28 to 1929－38 |
| 31 | Change，1929－38 to 1939－48 |
| 32 | Change，1919－28 to 1939－48 $(30+31)$ |

Employee Compensation

 $(34+35)$


| 37 | Average, 1919-28 | 21.29 | 28.08 | 25.31 | 23.82 | 22.99 | 23.72 | 9.61 | 8.90 | 13.09 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | Change, 1919-28 to 1929-38 | -5.74 | -9.62 | $-9.56$ | -7.45 | -8.48 | -7.63 | -0.45 | -0.07 | -2.17 |
| 39 | Change, 1929-38 to 1939-48 | +20.01 | +16.07 | +7.35 | +16.59 | +2.61 | +14.74 | -0.66 | $-0.77$ | $+2.31$ |
| 40 | Change, 1919-28 to 1939-48 $(38+39)$ | $+14.27$ | +6.45 | -2.21 | +9.14 | $-5.86$ | +7.11 | -1.11 | $-0.84$ | +0.14 |
|  | Rent |  |  |  |  |  |  |  |  |  |
| 41 | Average, 1919-28 | 4.56 | 6.23 | 6.82 | 5.40 | 6.54 | 5.56 | 4.31 | 4.19 | 4.58 |
| 42 | Change, 1919-28 to 1929-38 | -1.45 | -2.53 | -2.88 | -1.98 | -2.47 | -2.03 | $-2.36$ | -2.36 | -2.27 |
| 43 | Change, 1929-38 to 1939-48 | -0.04 | -0.46 | -1.47 | -0.43 | $-2.10$ | -0.66 | -0.47 | $-0.41$ | -0.46 |
| 44 | $\begin{aligned} & \text { Change, } 1919-28 \text { to 1939-48 } \\ & (42+43) \end{aligned}$ | $-1.50$ | -2.99 | -4.35 | -2.40 | -4.56 | $-2.70$ | $-2.83$ | $-2.77$ | - -2.73 |
|  | Interest |  |  |  |  |  |  |  |  |  |
| 45 | Average, 1919-28 | 13.54 | 9.08 | 8.21 | 11.42 | 7.46 | 10.90 | 4.93 | 4.80 | 6.52 |
| 46 | Change, 1919-28 to 1929-38 | +0.11 | $-0.79$ | $-1.26$ | $-0.56$ | $-0.81$ | -0.67 | +2.16 | +2.32 | +1.49 |
| 47 | Change, 1929-38 to 1939-48 | -7.15 | -3.89 | -3.77 | -5.62 | -4.10 | -5.35 | -4.00 | -4.00 | -4.48 |
| 48 | $\begin{aligned} & \text { Change, } 1919-28 \text { to 1939-48 } \\ & (46+47) \end{aligned}$ | -7.04 | -4.68 | $-5.03$ | -6.17 | -4.91 | -6.02 | $-1.84$ | $-1.68$ | -2.99 |
|  | Dividends |  |  |  |  |  |  |  |  |  |
| 49 | Average, 1919-28 | 32.50 | 9.63 | 6.07 | 21.79 | 4.37 | 19.48 | 1.73 | 1.59 | 6.66 |
| 50 | Change, 1919-28 to 1929-38 | +1.06 | $-0.23$ | $-0.66$ | -0.23 | +0.14 | -0.45 | +1.43 | +1.49 | +0.97 |
| 51 | Change, 1929-38 to 1939-48 | -10.45 | -0.80 | -0.75 | -6.31 | $-1.22$ | -5.41 | -0.91 | -0.85 | -2.83 |
| 52 | Change, 1919-28 to 1939-48 ( $50+51$ ) | -9.39 | -1.03 | $-1.42$ | -6.54 | $-1.08$ | -5.86 | +0.52 | +0.64 | -1.86 |

Parts A-I and B-I). This finding was suggested also by the corresponding analysis of inter- and intra-type shifts in the decline of upper group shares from 1939 to 1948 (Table 20, Parts A-I and B-I). But it is significant that here the relative contribution of inter-type shifts is somewhat larger: whereas in the decline from 1939 to 1948 they accounted for about a quarter of the total drop in the share of the top 5 or 7 percent, they account for almost four-tenths of the decline in its share from 1929-38 to 1939-48 (Table 21, Parts A-I and B-I, lines 5 and 6). Apparently, the longer span involved and the fact that the initial period in the present comparison is the depressed decade of the 1930's makes for a greater change in the countrywide composition of total income by type, and hence for the greater weight of inter-type shifts.

The picture of the change from the first to the second interwar decade is quite different. Shifts in the countrywide composition of income by type tended to raise rather than depress the share of the top 1 percent in the drift from the first to the second decade: obviously the rise in the proportions of interest and dividends during the 1930's bolstered the share of the top 1 percent in total income receipts, despite a concurrent rise in the countrywide proportion of employee compensation. The downward drift in that share is due exclusively to a decline in its share within the income types.

Change from the first to the second decade associated with inter-type shifts in the shares of percentage bands below the top 1 is, in contrast, downward. Shifts in the countrywide composition of income that tend to raise the shares of some percentage bands would at the same time necessarily depress the shares of others, since the sum of all changes associated with inter-type shifts must be zero. This reversal in the effect of inter-type shifts is already observable in the 2 nd and 3rd percentage band, and continues through the 4th and 5th, and 6th and 7th. But being smaller than the upward drift of their shares within the income types, they merely diminish instead of cancel the latter; consequently, as already observed, the total change from 1919-28 to 1929-38 in the shares of these percentage bands below the top 1 is upward.

For each upper percentage band the sign of the change from 1919-28 to 1929-38 due to inter-type shifts is opposite to that of the change due to intra-type shifts. Only when the effects of the given shift are totaled for the top 5 percent of the total or of the nonfarm population (but not the top 7 percent of the latter) do the signs of inter- and intra-type shifts become identical. The drift from the first to the second decade in the shares of the upper percentage groups is thus significantly reduced by the partial cancellation of the effects of inter- and intra-type shifts.

When we combine the two intervals and thus measure the change from the first to the last decade, the declines that characterize the latter are so large that they dominate the changes from 1919-28 to 1939-48. Both interand intra-type shifts are consistently downward, i.e., cause a decline in the share of each upper income group of total and of nonfarm population. The relative contribution of inter-type shifts to this decline is substantial somewhat less than four-tenths for the top 5 percent of total population, and slightly more than four-tenths for the top 7 percent of nonfarm population.
b) In discussing Table 20 we noted that the decline from 1939 to 1948 in the shares of upper income groups in total income was accompanied by a decline in their shares in employee compensation, rent, interest, and dividends (not consistently in the latter), and a rise in their shares in entrepreneurial income. Similar conclusions emerge when we study changes from 1929-38 to 1939-48 (Table 21, Parts A-II and B-II).

But the picture revealed by the comparison of the first and second interwar decades is quite different. For each upper percentage band the share in employee compensation rose. Obviously, during the depressed 1930's the upper groups resisted the contraction of earnings more strongly than the lower groups although we must remember that, as always, part of the change may have been due to shifts of units into and out of upper groups. For each upper percentage band the share in rent also increased from 1919-28 to 1929-38. The shares of the upper income groups in entrepreneurial income, interest, and dividends, on the contrary, declined, except the share of dividends received by the 6th and 7th percentage band of nonfarm population, which rose slightly.

For employee compensation, entrepreneurial income, and rent the changes in upper group shares during 1939-48 represent a reversal of the drift from 1919-28 to 1929-38. But the decline from 1939 to 1948 in the shares of interest and of dividends may be viewed as a continuation of their downward drift from the first to the second decade. Consequently over the full period, 1919-48, the shares of interest and of dividends received by the upper groups of both total and nonfarm population declined markedly. And even for the shares in the other types of payment, the movement during the recent decade tends to outweigh that from the first to the second. Hence when we add the changes, and thus compare 1919-28 with 1939-48, the shares of upper groups in employee compensation show a decline for all percentage bands, and their shares in entrepreneurial income show a rise for the top 5 and 7 percent groups as wholes.

As indicated repeatedly, since the upper groups are selected on the basis of income levels current during the year, their composition is not neces-
sarily identical from year to year. This caveat is especially important when the comparisons extend over as long a period as Table 21 covers. The changes in the shares of a given group in various income types do not, therefore, mean that one and the same group of high income recipients got a smaller or larger share of the countrywide total of employee compensation, or of dividends, etc., in one period than in another. The changes may be due partly to shifts into the given income group of units whose shares in a given income type are larger or smaller than those of units that shifted out of the group; and partly to changes in shares received by units that were in the given upper group in both periods of the comparison. With the data at hand, it is impossible to estimate the relative weight of these two elements.
c) Changes in the type-structure of the total income of upper groups reflect partly differences in the changes in their shares in the countrywide totals of various types. From 1929-38 to 1939-48 the proportions of employee compensation, rent, interest, and dividends in the total income of upper groups declined, and the proportions of entrepreneurial income rose (Table 21, Parts A-III and B-III). These movements in type-structure are similar to those from 1939 to 1948 observed in Table 20, Parts A-III and B-III, but with two interesting differences. First, in the comparison of decade averages, the decline in the proportions of rent and of dividends in total income is observed for each upper percentage band of both total and nonfarm population, and fails to show the rise observed for some bands from 1939 to 1948. Second, and by contrast, the decline in the proportion of employee compensation in total income stops at the 2nd and 3rd percentage band of total and the 4th and 5th percentage band of nonfarm population - these bands already showing a rise in that proportion. But by and large, the changes in the type-structure of income for the upper groups from 1929-38 to 1939-48 are roughly the same as those from 1939 to 1948; and differences between them and those for the entire population are also roughly similar.

From 1919-28 to 1929-38 the proportions of employee compensation, interest, and dividends in the income of the total and nonfarm population increased; those of entrepreneurial income and rent declined. The movement in the composition of income by type of the upper groups again differed from that for total and for nonfarm population. The proportion of upper group income accounted for by employee compensation rose, as it did for the entire population, but much more markedly. Likewise, the decline in the proportion of upper group income accounted for by entrepreneurial income was much larger, both absolutely and relatively. The decline in the proportion of rent was somewhat smaller relatively in the
total income of the upper groups than in that of the entire population. Finally, whereas the proportions of interest and of dividends in the income of the entire population increased, their proportions in the income of the top 5 or 7 percent group of both total and nonfarm population declined.

When we combine changes for the two intervals, we find that, unlike the comparison in Parts A-II and B-II where we deal with shares in the countrywide totals of the several types, the shift in the type composition from 1919-28 to 1929-38 outweighs that from 1929-38 to 1939-48 in the case of employee compensation and rent. But for entrepreneurial income, interest, and dividends the movement during 1939-48 dominates that for the entire period. The results for the full period indicate a fairly consistent shift in the type composition of total income of upper groups toward a larger proportion of employee compensation, and, somewhat less consistently, of entrepreneurial income; and a consistent shift toward smaller proportions of rent, interest, and dividends. The type-structure of the income of the lower 95 or 93 percent is characterized by a rise in the proportion of employee compensation, a decline in the proportions of entrepreneurial income, rent, and interest, and, surprisingly, a rise in the proportion of dividends. Thus, the decade averages suggest, as do the changes from 1939 to 1948, that the type-structure of the income of the upper groups as compared with that of the lower, is becoming more heavily dominated by entrepreneurial income; moreover, the inequality in the distribution of dividends seems to be less, in the sense that their importance among the groups below the top has increased whereas at the top income levels it has declined. To some extent this is true also of the distribution of interest, since the relative reduction of the proportion of the latter in the total income of the top 5 or 7 percent exceeds that in the total income of the lower 95 or 93 percent (Table 21, Parts A and B, line 48).

## 3 Changes during Business Cycles

Since the margin of error in the estimates of shares in the various income types is wider than in those in total income, the analysis here of changes during business cycles must necessarily be even more tentative than that in Chapter 2. We should, therefore, emphasize only findings that reveal differences of major magnitude and, more importantly, are highly consistent.

The averages in Tables 22 and 23 are confined to changes during the five business cycles in 1919-38. The basic estimates cover also the last business cycle, with a peak in 1944 and a trough in 1946. But the changes in the shares during this last cycle are so large, compared with those before 1938, that their inclusion in the averages would completely dominate them. We therefore omit that cycle from the averages, but take account of the sign of the change during it, to see whether it reenforces or weakens the

Table 22
Change per Year during Business Cycles in Shares of Upper Income Groups in Total Income Due to Inter-type and to Intra-type Shifts
Basic Variant, Total and Nonfarm Population, 1919-1946

|  | Inter-type |
| :---: | :---: | :---: | :---: | :---: |
| Percentage Band |  |
| Shifts |  |
| (1) |  |$\quad$| Intra-type |
| :---: |
| Shifts |
| (2) | | Total |
| :---: |
| Change |
| $(1+2)$ |$\quad$| Total |
| :---: |
| Change |

A Total Population
Differential Change per Year, Averages for 5 Cycles, 1919-1938

| Top 1 | $-0.06(3)(3)$ | $+0.23(2)(3)$ | +0.18 | $+0.16(2)(3)$ |
| :--- | :--- | :--- | :--- | :--- |
| 2nd \& 3rd | $+0.03(3)(4)$ | $+0.42(4)(5)$ | +0.45 | $+0.46(4)(5)$ |
| 4th \& 5th | $+0.02(5)(6)$ | $+0.66(5)(6)$ | +0.68 | $+0.66(5)(6)$ |
| Top 5 | $(-) 0.00^{*}(3)(3)$ | $+1.32(5)(6)$ | +1.31 | $+127(3)(4)$ |

Top $5 \quad(-) 0.00 *(3)(3)+1.32(5)(6)+1.31 \quad+1.27(3)(4)$

| Top 1 | +0.32 | +0.66 | +0.99 | +0.95 |
| :--- | :---: | :---: | :---: | :---: |
| 2nd \& 3rd | +0.07 | +0.64 | +0.71 | +0.72 |
| 4th \& 5th | +0.03 | +0.72 | +0.75 | +0.73 |
| Top 5 | +0.42 | +2.03 | +2.45 | +2.39 |
|  | Averages for Last 3 Cycles, |  | 1924-1938 |  |
|  | -0.39 | -0.32 | -0.71 | -0.71 |
| Top 1 | -0.02 | +0.06 | +0.04 | +0.04 |
| 2nd \& 3rd | +0.02 | +0.47 | +0.49 | +0.47 |
| 4th \& 5th | -0.39 | +0.21 | -0.18 | -0.20 |

B Nonfarm Population
Differential Change per Year, Averages for 5 Cycles, 1919-1938

| Top 1 | $-0.06(3)(3)$ | $+0.14(3)(3)$ | +0.08 | $+0.08(3)(4)$ |
| :--- | :--- | :--- | :--- | :--- |
| 2nd \& 3rd | $+0.04(2)(3)$ | $+0.29(2)(3)$ | +0.33 | $+0.36(2)(3)$ |
| 4th \& 5th | $+0.03(2)(3)$ | $+0.59(5)(6)$ | +0.62 | $+0.63(5)(6)$ |
| Top 5 | $+0.01(1)(2)$ | $+1.02(3)(4)$ | +1.02 | $+1.07(3)(4)$ |
| 6th \& 7th | $+0.02(2)(3)$ | $+0.47(5)(6)$ | +0.49 | $+0.45(5)(6)$ |
| Top 7 | $+0.03(1)(2)$ | $+1.48(5)(6)$ | +1.51 | $+1.52(3)(4)$ |


|  | +0.34 | irst 3 | +0.98 | +0.98 |
| :---: | :---: | :---: | :---: | :---: |
| Top 1 |  | +0.64 |  |  |
| 2nd \& 3rd | +0.09 | +0.58 | +0.67 | +0.69 |
| 4th \& 5th | +0.04 | +0.56 | +0.60 | +0.60 |
| Top 5 | +0.47 | +1.78 | +2.25 | +2.27 |
| 6th \& 7th | +0.02 | +0.54 | +0.57 | +0.54 |
| Top 7 | +0.50 | +2.32 | +2.82 | +2.81 |
|  | Averages for Last 3 Cycles, 1924-1938 |  |  |  |
| Top 1 | -0.44 | -0.37 | -0.81 | -0.81 |
| 2nd \& 3rd | $-0.03$ | $-0.17$ | -0.20 | $-0.17$ |
| 4th \& 5th | (-)0.00* | +0.52 | +0.52 | +0.55 |
| Top 5 | $-0.47$ | -0.02 | -0.49 | -0.44 |
| 6th \& 7th | +0.01 | +0.28 | +0.29 | +0.26 |
| Top 7 | -0.46 | +0.26 | -0.20 | -0.18 |

Figures in the first parentheses show the number of cycles during 1919-38 with the same sign as the entry in the column proper, those in the second parentheses, the number of cycles during 1919-46 with the same sign as the entry in the column proper.

[^15]impression of consistency (or lack of it) derived from the record for 1919-38.
a) Shifts in the countrywide composition of income by type seem to contribute little to the average change in the shares of upper income groups during business cycles (Table 22). ${ }^{3}$ That this should be the case for the shares of the percentage bands below the top 1 percent is not surprising. But the contribution of inter-type shifts to changes in the share of the top 1 percent is somewhat smaller than we expected.

The reason is the lack of consistency of the effects of inter-type shifts on the behavior of shares during business cycles. Of the entries in parentheses, indicating the number of cycles for which the direction of change is the same as that of the average change, only one was larger than 3 , and most of those for nonfarm population were below 3. This inconsistency would naturally make the average change due to inter-type shifts small, even in the share of the top 1 percent.

The picture is different when averages are calculated for the first three and the last three business cycles in the 1919-38 period (with the middle cycle, 1924-27, included in both groups). It then appears that shifts in the countrywide composition of income by type contribute to the inverted conformity of the share of the top 1 percent during the first three cycles and to its positive conformity during the last three; and the effects for the two groups of cycles almost cancel. Intra-type shifts also contribute to the reversal in conformity, but their average change for the first group of three cycles is much larger than that for the second group. The reversal in the cyclical pattern of the share of the top 1 percent is thus traceable both to shifts in the countrywide composition of income by type and to changes in the shares within the income types.

Once the two groups of business cycles have been set off, inter-type shifts are seen to contribute heavily to the total cyclical change in the share of the top 1 percent, accounting for about a third to over a half; but their contribution to cyclical changes in the shares of the lower percentage bands remains negligible. For the change in the share of the top group as a whole, however, inter-type shifts remain quite important, weighed against the sum of all shifts added regardless of sign.

[^16]If we now ask what consistent responses to business cycles may be found in the effects of inter- and intra-type shifts on shares of upper income groups, and set 4 as the minimum measure of consistency for 1919-38 (i.e., 4 of the 5 business cycles in that period), and 5 for 1919-46 (i.e., 5 of the 6 business cycles in that period), the answer is simple. These measures (shown for 1919-38 in the first parentheses following the entry proper, and for 1919-46 in the second) tell us that the effects of intra-type shifts alone show consistent response to business cycles - and solely for the percentage bands below the top 1 of total population, and below the 2nd and 3rd of nonfarm population. Because in this case the percentage bands below the top dominate the top 5 or 7 percent group, the inverted conformity of their intra-type shifts causes a consistently inverted conformity in the share of the top 5 percent of total and of the top 7 percent of the nonfarm population. Thus, the inverted conformity of the shares in the total income of the upper percentage bands below the top observed in Chapter 2 is due almost exclusively to the effects of intra-type shifts. The sole exception is the consistently inverted conformity of the effects of inter-type shifts on the share of the 4th and 5th percentage band of total population.
b) Changes during business cycles in upper group shares in the several income types must, for reasons already indicated, be interpreted with caution especially since the diversity of the patterns of their short term movements may make a standard scale of business cycles inappropriate. Nevertheless, it still seems safest to study their changes against that scale, for we can then at least explain the findings in Chapter 2, and tell whether the movements in these shares have a consistent relation to cycles in general. economic conditions.

The results, though merely suggestive, are of interest (Table 23, Parts A-I and B-I). In general, shares of upper income groups in employee compensation move counter to business cycles: they decline, although not consistently, during expansions; rise quite consistently during contractions; and show, quite consistently, a rise in the rate of change from expansion to contraction. This is true of the share of each percentage band, including the top 1 percent, the high consistency being clearly indicated by the frequency of entries in parentheses showing the maximum number of cycles with the same sign as that of the average change.

Less uniform but still substantial consistency characterizes the cyclical behavior of upper group shares in the countrywide total of rent: on the whole they decline during expansions, rise during contractions, and show a rise in the rate of change from expansion to contraction. This behavior is quite similar to that of the shares in employee compensation. The share
of the top 1 percent of both total and nonfarm population, and of the 2nd and 3rd percentage band of the nonfarm, however, did not participate in the decline during expansions; and inverted conformity is somewhat less consistent than for the shares in employee compensation.

The patterns of cyclical changes in upper group shares in entrepreneurial income, interest, and dividends are highly diverse and none too consistent. It is consequently difficult to summarize them in broad terms without oversimplifying and overstating.

On the whole, the differential change in the shares in entrepreneurial income suggests a pattern counter to business cycles for all upper percentage bands of total population except the 2nd and 3rd. But for the nonfarm population, the pattern is, on the whole, one of positive conformity to business cycles for all upper percentage bands except the 6th and 7th. This suggests that in some business cycles net entrepreneurial income from agriculture responded markedly and positively. Its inclusion heightens the sensitivity of the countrywide total of entrepreneurial income to business cycles so that, in comparison with it, the cyclical movement of entrepreneurial income received by upper groups of total population is narrower hence the inverted conformity of their shares. The exclusion of entrepreneurial income from agriculture removes the cyclically variable component from the countrywide total of entrepreneurial income and damps the cyclical swings in the latter; and since the income from that type received by upper groups remains unaffected, their shares in the new total of entrepreneurial income may move with business cycles. However, the differences in the cyclical movement of shares in entrepreneurial income between upper groups of total population and those of nonfarm population, and the explanation suggested above, are limited in significance because neither the patterns nor the differences are consistent.

In the distribution of the countrywide total of interest, the share of the top 1 percent of both total and nonfarm population, and of the 2 nd and 3rd percentage band of nonfarm, move with business cycles at least as far as the differential change is concerned. On the whole, the shares of the lower percentage bands (below the top 1 of total population, and the 2nd and 3rd percentage band of nonfarm) move counter to business cycles. And since the top 1 percent dominates the top 5 or 7 percent group, it imposes its pattern upon the latter.

Changes in upper group shares in dividends do not trace a consistent pattern. On the whole, the shares of the uppermost groups - the top 1 percent of total and nonfarm population, and the 2nd and 3rd percentage band of nonfarm population - move with business cycles, showing a decline in the rate of change from expansion to contraction. But for the
Table 23
Change per Year during Business Cycles in Shares of Upper Income Groups in Countrywide Totals of Various Income Types
Basic Variant, Total and Nonfarm Population, 1919-1946
Table 23
Change per Year during Business Cycles in Shares of Upper Income Groups in
Percentage Band and $\begin{array}{ll}\text { Top } 1 \\ 1 & \text { Expansion } \\ 2 & \text { Contraction } \\ 3 & \text { Difference }\end{array}$ $\begin{array}{ll}4 & \text { Expansion } \\ 5 & \text { Contraction } \\ 6 & \text { Difference }\end{array}$ 4th \& Sth
$7 \quad$ Expansion
8 Contraction 9 Difference $\begin{array}{ll}10 & \text { Expansion } \\ 11 & \text { Contraction }\end{array}$ 12 Contraction
Emb

$$
\begin{gathered}
\begin{array}{c}
\text { Dividends } \\
(5)
\end{array} \\
\\
-0.40(3)(4) \\
-2.75(4)(5) \\
-2.36(3)(3)
\end{gathered}
$$

$$
\begin{aligned}
& -0.18(2)(2) \\
& +0.38(2)(3) \\
& +0.55(2)(3)
\end{aligned}
$$






Table 23, Part B (Nonfarm Population), concluded:

| entage Band and Employee Averages for Five Cycles, 1919-1938 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | iness Cycle Phase | compensation <br> (1) | income (2) | Rent (3) | Interest <br> (4) | Dividends (5) |
| 6th \& 7th |  |  |  |  |  |  |
| 31 | Expansion | -0.10 (3) (4) | -0.24 (4)(5) | -0.02(2)(3) | +0.01 (2) (2) | -0.17(4)(5) |
| 32 | Contraction | +0.34(5)(5) | +0.49(3)(4) | +0.46(4)(5) | +0.17(4)(5) | +0.44(4)(5) |
| 33 | Difference | +0.44(4)(5) | +0.74(4)(5) | +0.49(4)(5) | +0.16(3)(4) | +0.61(41/2)( $5^{1 / 2}$ ) |
| Top 7 |  |  |  |  |  |  |
| 34 | Expansion | -0.52(3)(4) | +0.21(2)(3) | -0.09(3)(4) | -0.94(3) (4) | -0.78(3)(4) |
| 35 | Contraction | $+1.57(5)$ (6) | -0.01(2)(3) | +3.02(4)(5) | -0.96(2)(3) | -1.60 (4)(4) |
| 36 | Difference | +2.09(5)(6) | -0.22(2)(3) | +3.10(4)(5) | -0.02(4)(4) | -0.82(3)(3) |
| II Changes in Proportions in Total Income Accounted for by Various Types differential change alone |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 37 | Top 1 | $+2.44(4)(5)$ | -0.12(1) (2) | +0.24(3)(4) | +1.14(4)(5) | -3.71 (5)(5) |
| 38 | 2nd \& 3rd | +3.63(5)(5) | $-1.84(4)(5)$ | +0.17(4)(5) | $\bigcirc+0.29$ (4)(5) | -2.26 (5)(5) |
| 39 | 4th \& 5th | -0.80 (2) (3) | -3.14(4)(4) | +1.35(3)(4) | +1.73(5)(6) | +0.86(2)(3) |
| 40 | Top 5 | +2.79(4)(4) | -1.12(4)(5) | +0.44(3)(4) | +0.89(4) (5) | -3.00 (5) (5) |
| 41 | 6th \& 7th | -0.95 (3) (4) | +0.26(2)(3) | +0.10(3)(4) | +0.41(4) (5) | +0.19(3)(4) |
| 42 | Top 7 | +2.54(4)(4) | -0.98(4) (5) | +0.39(3)(4) | +0.78(4) (5) | -2.73 (5)(5) |
| 43 | Lower 95 | $-1.57(4)(5)$ | +0.45(3)(4) | +0.25(3)(3) | +0.94(5) (6) | -0.06 (3) (3) |
| 44 | Lower 93 | $-1.50(4)(5)$ | +0.39(3)(4) | +0.25 (3) (3) | +0.96(5) (6) | -0.10 (3)(3) |
| 45 | Entire population | -0.97(1)(2) | +0.23(2)(3) | +0.30(3)(3) | +1.01(5) (6) | -0.57(3)(3) |
| Figures in first parentheses show the number of cycles during those in the second parentheses, the nu 1919-38 with the same sign as the entry in the column proper, 1919-46 with the same sign as the entry in |  |  |  |  |  |  |

lower percentage bands -2 nd and 3 rd of total population, 4th and 5th of both total and nonfarm population, and 6th and 7th of nonfarm - the general pattern of response, as reflected in the differential change, is counter-cyclical. And since, as in the case of interest, the top 1 percent group dominates the top 5 and 7 percent groups, their shares in dividends tend to show positive conformity, but with a low consistency.

In broad terms, as far as the inverted conformity of upper group shares in total income receipts is due to changes in shares within income types, it is to be attributed largely to the inverted conformity of upper group shares in employee compensation and in rent, particularly the former. For the upper groups of total population, it is reenforced by the inverted conformity of their shares in entrepreneurial income. In the case of lower percentage bands (below the top 1 percent of total population and the 2nd and 3rd percentage band of nonfarm) it is reenforced also by the inverted conformity of their shares in interest and in dividends. By contrast, the inverted conformity of the shares in total income receipts of the uppermost income groups (top 1 percent of both total and nonfarm population, and the 2nd and 3rd percentage band of nonfarm) is weakened by the positive conformity of their shares in interest and in dividends.
c) When we glance at the shifts during business cycles in the type-structure of income, the first impression is that of lack of consistent response (Table 23, Parts A-II and B-II). For total population, the proportions of employee compensation, entrepreneurial income, and dividends in total income tend to move with business cycles, and those of rent and interest counter to them, judging by the sign of the average differential change. But the only consistent response is the inverted conformity of the proportion accounted for by interest. For the nonfarm population, the proportions of employee compensation and dividends in total income move with business cycles, but not the proportions of entrepreneurial income which, with rent and interest, move counter to business cycles. Yet here again, the counter-cyclical movement of the proportion of interest is the only consistent response.

It is not surprising, therefore, that when we study changes in the typestructure of the total income of upper groups, we find few cases of consistent response to business cycles. By and large, the proportions of the total income of the upper groups of the total population accounted for by employee compensation, rent, and interest, move counter to business cycles; and those of entrepreneurial income and dividends move with business cycles. But for the top 5 percent group as a whole, only the differential changes for entrepreneurial income, interest, and dividends meet our criterion of consistency. The broad picture suggests that the
income of the upper groups tends during expansions to be dominated more by entrepreneurial income and less by employee compensation than is the income of the lower groups; the opposite happens during contractions.

For the nonfarm population also, on the whole, the proportions of employee compensation, rent, and interest in the total income of the upper groups move counter to business cycles, and those of entrepreneurial income and dividends with business cycles. In the type-structure of the income of the lower 93 percent, the proportions of employee compensation change with business cycles, as do the proportions of dividends; and those of entrepreneurial income, rent, and interest move counter to them. Here again, therefore, the chief difference in cyclical response between the upper and the lower groups lies in the movement of the proportions of total income accounted for by employee compensation and entrepreneurial income.

## Part II

Characteristics of Upper Income Groups

## Chapter 4

Statistical Determinants of Upper Income Shares

Upper group shares of income depend upon the income unit selected; the scope of the income underlying the classification of units and the countrywide total; the number of sources of income and the relative amount the unit receives from each; and the length of the period for which we consider the relative income position of the unit. Some effects of income scope and the choice of unit were described in Part I. But it may be well to treat these and other statistical determinants more explicitly.

This chapter deals, as far as country- or statewide data permit, with the effects on upper group shares of the choice of income unit; the scope of income; the combination of income of various types; and the length of the period for which income is measured, i.e., the effects of short term mobility of income.

## 1 Income Unit

In Part I the shares of upper groups were calculated in a distribution of income by size in which tax returns, representing largely families and single persons, were reduced to a per capita basis, then treated as groups in the total or nonfarm population. The estimates measure approximately the shares of upper groups in a distribution in which the income units are persons or, in the case of families, bundles of persons. ${ }^{1}$

What is the effect of the choice of the income receiving unit upon our estimates? What would be the shares of upper percentage groups in a distribution among individual recipients classified by size of income? What would their shares be in a distribution among spending units if we did not reduce the income of each family unit to a per capita basis but classified families and single persons by income per spending unit? What would be the effect of classifying units not by per unit income or per capita income per unit but by income per some synthetic unit that would reflect differences among persons in their income needs?

[^17]These questions are answered by comparing three pairs of distributions: by income per recipient and per spending unit; by income per spending unit and by income per spending unit reduced to a per capita basis; and by income per spending unit and by income per spending unit reduced to a per 'equivalent adult' basis.

If the effects of the choice of the income unit alone are to be observed, the universe (i.e., the income, and the population) and the period covered must be identical in each pair of distributions. Thus each comparison involves a double classification of an identical amount of income received by an identical population. And the purpose is not, as it is in our technical analysis of income tax and other data, to adjust a distribution employing a given income unit so as to approximate that employing a different income unit, but rather, to keep the distributions based on different income units, and by studying the differences in the resulting shares, ascertain the effects of the income unit used.

## a) From recipient to spending unit

The first relevant comparison is for Minnesota, 1938-39. ${ }^{2}$ True, the data are for a single state; and, a more serious limitation, we can compare the distributions of recipients and spending units by earnings alone, not by total income. But earnings account for 87 percent of total income as defined by the Minnesota study, or about 92 percent of economic income; the data are based on a fairly complete statewide survey; and the published material permits analysis that is not feasible with more recent countrywide samples. ${ }^{3}$
'In Minnesota Analyses an economic unit is defined as "one or more persons dependent upon a common or pooled income for the principal items of expense and usually living in the same residence" (p. 84). It

[^18]therefore corresponds to what we call a spending unit. The economic units numbered 872,500 (ibid., p. 15) but of these only 797,900, the combined number of principal earners in families and among single persons, had earnings (Minnesota Incomes, II, Table 1). As the total number of earners (including supplementary) was 947,500 , the number of earners per economic unit averaged 1.19 (Table 24, line 3, col. 3).

The top 5 and 10 percent of economic units have somewhat smaller shares in earnings than the top 5 and 10 percent of earners. But while upper group shares become smaller as we shift from the recipient to the spending unit, the reduction, at least as far as earnings and population in Minnesota, 1938-39, are concerned, is fairly small.

The average number of earners per economic unit is significantly larger among the top 5 and 10 percent groups of economic units than among the population as a whole (Table 24, line 3). If earnings per capita in these top groups equaled the statewide, the share of the top 5 percent of economic units would be 6.26 percent ( 5 percent multiplied by $1.49 / 1.19$ ) and that of the top 10 percent, 12.52 percent. That the shares in line 2 are appreciably larger indicates that the proportion of top earners in the top economic units is higher than in all economic units. On the other hand, if all earners in the top economic units were top earners, the shares of the top groups of economic units would be much larger than in line 2. The top 5 percent of economic units would, on this assumption, include the top 7.5 percent of earners ( 5 percent multiplied by 1.49); and the share of the latter would be about 23 percent or somewhat higher, as compared with 17.1 percent in line 2 , column 1 . The size of the share of the top group of economic units is thus accounted for partly by the higher than average proportion of top earners, partly by the larger number of earners per unit. The closeness of the shares in lines 1 and 2 is explained by the offsetting effects of the higher than average number of earners per unit in the top groups of economic units, which tends to make the shares in line 2 larger than those in line 1 , and the inclusion in the top groups of economic units of earners with earnings well below the top levels, which tends to make the shares in line 2 lower than those in line 1.

Better data for our analysis are the Census samples which include returns for about 12,000 households in 1947, 25,000 in 1948, and 15,000 in 1949; exclude members of the armed services and civilian personnel on military reservations, and institutional inmates, but otherwise attempt full coverage; limit reporting to money income; define a 'family' as "a group of two or more persons related by blood, marriage or adoption and residing together", and an 'individual not in family' as "a person who is not living with relatives"; and record receipts of income per person for all
Table 24
Shares of Top Groups in Arrays of Different Units，and Average Number per Unit or per Family，Various Samples

ํㅜㅇ
$m$
-

$\Sigma$
$\underset{\substack{\text { Top } \\ \text { percent } \\(4)}}{ }$
A From Recipient to Spending Unit
$\underset{\substack{\text { Top } \\ \text { percent } \\ \text {（1）}}}{ }$
$\underset{\text { percent }}{\text { Top }} \quad \underset{\text { percent }}{\text { Top }}$ （3）
Total
．
100
100
1.19
29.5
26.3
2.05

ヘั่ ฝั
$\underset{\sim}{\infty} \underset{\sim}{\infty}$ సे

으ํ ヨั
1.95
18.6
15.0
$\stackrel{\rightharpoonup}{\infty}$ $\stackrel{\square}{\square}$
윽 8
88
$1.40[1.51]$
8
$\therefore$ 응

$\begin{array}{cc}17.7 & 27.9 \\ 17.1 & 27.2 \\ 1.49 & 1.49\end{array}$
30.2
28.6

N
i
ヘั่ ペ へ
ํㅜ N
19.6
16.4
1.93
18.7
16.2
18.2
16.5
SAMPLE AND UNIT
Share of income in distribution of： Earners，by earnings per earner
Economic units，by earnings per
3 No．of earners per economic unit， in distribution in line 2 II Census Sample
Share of income in distribution of：
Recipients，by money income
－u！Kəuou Kq＇sluun su！puads
6 No．of recipients per spending
1948
hare of income in distribution of：
Recipients，by money income
－u！Kəuow Kq st！un zu！puads
宫
Share of income in distribution of：
Recipients，by money income

come per unit
98


$\Sigma$


SAMPLE AND UNIT

No. of years in which line 26 an-
exceeds that underlying col. 3; or
col. $4 \& 5$ compared with col. 6
No. of years in which line 27 an-
nual entry underlying col. 1 and 2
is less than that underlying col. 3 ,
or col. $4 \& 5$ compared with col. 6
N
Share of income in distribution of: 30 Spending units, by money in-

## Notes to Table 24

## Line

1 Calculated from Minnesota Analyses, Table 4, p. 38. Fractional earners are not included. "Adding in the fractional earners has only a negligible effect on the form of the distribution. No single level is changed by more than 0.1 percent" (ibid., p. 37).

2

Calculated from the distribution of all income recipients (Census
7, Report, 1947, Table 14, p. 23; 1948, Table 11, p. 22; and 1949,
9 Table 15, p. 29), the distribution of income recipients in families (ibid., Table 16, p. 24, Table 13, p. 24, and Table 18, p. 31, respectively), and the average income for each income class (see text).
5, Calculated from the distribution of spending units and their income, 8, for which see Appendix 6, Section E. Basic data for 1949 are from Census Report, 1949, Table 3, p. 21.
Calculated from the distribution underlying line 5 and the distribution of recipients classified by total income per spending unit estimated by the method described in the text, note 6. See notes to line 3 for procedure by which the ratios are calculated. As indicated in note 6, procedure by which the ratios are calculated As indicated in note 6 , the complete sample (see bracketed entries in col. 3 and 6, computed from the totals underlying lines 4 and 5).
11 Columns 1 and 2 calculated from Minnesota Analyses, Table 29, p. 89; columns 4 and 5, from Minnesota Incomes, I, Table 9, p. 26.
Calculated from ibid., Table XVI, ppt 114-5.
Ratio of individual earners, including fractional, to economic units, calculated from the distributions in Minnesota Incomes, II, Table 14, pp . 104-5. The line setting off the top 5 or 10 percent of units in their distribution by total income per unit is drawn through the distribution of earners classified by total income per unit, both distributions being cut at the same point in the income scale. The ratio of the number of earners to the number of units above the given partition line is then computed.

Columns 1 and 2 calculated from ibid., II, Table 55, p. 341; columns 4 and 5, from ibid., II, Table 57, p. 348.
13 Columns 1-3 calculated from the distributions in ibid., I, Table 6, p. 13; columns 4-6, from the distributions in ibid., I, Table 9, p. 26. For the procedure see the notes to line 3 .
Columns 1-3 calculated from the distributions in ibid., II, Table 55, p. 341; columns 4-6, from the distributions in ibid., II, Table 57, p. 348. The procedure parallels that outlined in the notes to line 3.
Calculated from the distribution of spending units and their income derived from Appendix 6, Section A.
Calculated from the distribution of persons and their income by the procedure outlined in Appendix 6, Section A.
Calculated from the distribution underlying line 15 and the distribution of persons classified by income per unit derived from Appendix 6, Section A. For the procedure see notes to line 3.
18 Calculated from the distribution underlying line 16 and the distribution of spending units classified by per capita income per unit derived from Appendix 6, Section A. The procedure parallels that outlined in the notes to line 3.
Calculated from the distribution of spending units and their income derived from Appendix 6, Section D.
Calculated from the distribution of persons and their income by the procedure outlined in Appendix 6, Section D.

Notes to Table 24 concluded:

## Line

21 Calculated from the distribution underlying line 19 and the distribution of persons classified by income per unit derived from Appendix 6, Section D. For the procedure see notes to line 3.
22 Calculated from the distribution underlying line 20 and the distribution of spending units classified by per capita income per unit derived from Appendix 6, Section D. The procedure parallels that outlined in the notes to line 3 .
23 Averages of annual percentages calculated from the distribution of spending units and their income, for which see Appendix 6, Section E. Basic data for 1949 are from Census Report, 1949, Table 3, p. 21.
24 Averages of annual percentages calculated from the distribution of persons and their income by the procedure outlined in Appendix 6, Section E. For source of 1949 basic data, see notes to line 23.
26 Calculated annually from the distributions underlying line 23 and the distribution of persons classified by income per unit, for which see Appendix 6, Section E. For source of 1949 basic data, see notes to line 23 . For the procedure see notes to line 3.
27 Calculated annually from the distributions underlying line 24 and the distribution of spending units classified by per capita income per unit, for which see Appendix 6, Section E. For source of 1949 basic data see notes to line 23. The procedure parallels that outlined in the notes to line 3.
30 Averages of annual percentages calculated from the distribution of spending units and their income, for which see Appendix 6, Section $F$. Basic data for 1949 and 1950 are from the 1950 and 1951 Surveys of Consumer Finances, Part III (Federal Reserve Bulletin, Aug. 1950 and 1951, respectively) with supplementary data from George Katona of the Survey Research Center, University of Michigan.
31 Averages of annual percentages calculated from the distribution of persons and their income by the procedure outlined in Appendix 6, Section F. For source of 1949 and 1950 basic data, see notes to line 30.
33 Calculated annually from the distributions underlying line 30 and the distribution of persons classified by income per unit, for which see Appendix 6, Section F. For source of 1949 and 1950 basic data, see notes to line 30 . For the procedure see notes to line 3.
34 Calculated annually from the distributions underlying line 31 and the distribution of spending units classified by per capita income per unit, for which see Appendix 6, Section F. For source of 1949 and 1950 basic data, see notes to line 30 . The procedure parallels that outlined in the notes to line 3.
37,38, Calculated from William Vickrey (Studies in Income and Wealth, nonbracketed Volume Ten, NBER, 1947), Table 7, p. 282, and Table 6, p. 281, entries respectively.
37, bracketed Calculated from the distribution of nonfarm units and their income entries derived from Appendix 6, Section D.
38, bracketed Calculated from the distribution of persons in nonfarm units and their entries income derived from Appendix 6, Section D.

39 Calculated from the distributions of schedules and of equivalent adults, both classified by money income per family group, Studies in Income and Wealth, Volume Ten, Table 3, p. 278. For the procedure see notes to line 3.
Calculated from the distributions of equivalent adults and of schedules, both classified by income per equivalent adult, ibid., Table 1, p. 276. The procedure parallels that outlined in the notes to line 3.
persons 14 and older. ${ }^{4}$ The number of recipients and of families and single persons are distributed by money income classes. Distributions of receipts including property incomes are shown for 68.3 million persons in 1947, 70.1 million in 1948, and 71.8 million in 1949 , corresponding to distributions for $45.3,46.7$, and 48.0 million spending units (families and single persons) respectively, or an average of 1.5 income recipients per spending unit each year.

Before these data can be used, one important step must be taken: average income must be assigned to each income class, no such averages being given in the published data. In the analysis that follows we assign to each income class in the Census tabulations the arithmetic mean of its lower and upper value, e.g., to the $\$ 500-1,000$ class, a value of $\$ 750$; to the bottom open-end class (less than $\$ 500$ ), an average income of $\$ 200$; and to the top open-end class ( $\$ 10,000$ and over), an average income of $\$ 12,500$. The average values assigned to the classes in the distributions of recipients and of families and single persons were the same. ${ }^{5}$

The top 5 and 10 percent of spending units, arrayed by money income per unit, have appreciably smaller shares than the top 5 and 10 percent of income recipients, arrayed by money income per recipient (col. 1 and 2 , lines 4 and 5, 7 and 8, 9 and 10). This difference, observed in each of the three years, is even greater when we confine the comparison to families (col. 4 and 5, lines 4 and 5, 7 and 8, 9 and 10). And since the Census samples are better for the purpose of this analysis than the Minnesota data, it is legitimate to infer that, in general, the top groups in a distribution of recipients are likely to have significantly larger shares than the top groups in a distribution of spending units.
${ }^{4}$ This information and all subsequent tabular material relating to the Census samples for these years are from Income of Families and Persons in the United States: 1947, 1948, and 1949, Bureau of the Census, Current Population Reports, Series P-60, No. 5, February 7, 1949, No. 6, February 14, 1950, and No. 7, February 18, 1951, respectively (referred to subsequently as Census Report, 1947, 1948, and 1949). The family as thus defined may be larger than the genuine spending unit, since it may include two couples who reside together, whose husbands or wives may be related but who may not be pooling their incomes and expenses. According to estimates made in connection with the 1948 Survey of Consumer Finances, there were, at the beginning of $1948,42.0$ million families and single persons, and 48.4 million spending units (Federal Reserve Bulletin, June 1948, p. 655). One may view the Census number for 1947, 45.3 million families and individuals, as a fairly close approximation to spending units.
${ }^{8}$ An alternative set of assigned average incomes - the same for the bottom open-end class, the geometric mean of class limits for all closed class intervals, and $\$ 25,000$ for the top open-end class - produces somewhat different shares. But as the general results of the comparisons for the different income units are not significantly affected, we refrain from complicating the discussion by presenting these alternative estimates.

This reduction in the shares of the top groups as we shift from the recipient to the spending unit may be due to one or both of two factors: (i) there may be fewer recipients per spending unit in the top groups than the average; (ii) in forming spending units, recipients of large and small incomes may combine, and such departure from positive association among incomes narrows the range of the distribution among spending units and hence reduces the share of its top groups. Of these two factors it is the second that operates. There are more recipients per spending unit in the top groups than the average for all groups. Evidence to this effect relating to the average number of earners per top economic unit in Minnesota has already been noted. Likewise, the 1947 Census data, which permit only a rough approximation, yield an average of 1.93 recipients per unit in the top 5 percent of spending units, 2.02 in the top 10 percent, and only 1.40 per spending unit for the total population. Similarly, the average number of recipients per top family spending unit is larger than that for all families (Table 24, line 6). ${ }^{6}$ Clearly, the association between large and small incomes in the combination of recipients into spending units must be of sufficient weight to overcome the effects of more recipients per unit in the top groups of spending units. Indeed, such nonpositive association (it need not be strictly negative) is implicit in the very distinction we usually make between primary or principal, and secondary or supplementary income recipients. This distinction could not be made if there were a widespread tendency for a small (large) income to combine with an equally small (large) income, i.e., if recipients within a spending unit tended to have equal incomes.

## b) From spending unit to person

Since spending units may range from a single person to a large family, inequality in the distribution of income among them may be due in part to differences in their size and hence in the number of potential earners

[^19]or other income recipients per unit. Furthermore, the adequacy of income is to be judged, in part, in terms of the number who depend on it. We therefore adjust the distribution of spending units to allow for the number of persons, i.e., reduce it to a per capita basis, and compare the adjusted distribution with the unadjusted.

As in other comparisons, we need data for the same population and income, distributed, on the one hand, by total income per spending unit and, on the other, by per capita income per spending unit. Ideally, such a comparison requires that the original data for each spending unit be classified twice. But only the Minnesota data have been; for all other sample studies we had to approximate the classification of spending units by per capita income by converting and rearraying (see App. 6). However, the approximations are sufficiently good to qualify the comparisons in Table 24 in only minor ways.

The comparisons in lines 11-36 that bear upon income shares are all of a type that is only one of four possible with different combinations of the population unit used in the array and the income on which the array is based. These four types of comparison, possible for either total population or family population alone, are given in the outline on page 106. In analyzing upper group shares in Part I our interest was in the second term of these comparisons, and we used lines A2 and D2 whenever possible, substituting lines B2 and C2 elsewhere as approximations. Our interest here is in the comparison itself, and for this purpose that under $A$ in the tabular outline is the one given in Table 24, since it reveals most clearly the effects of shifting the unit of classification from a spending unit to a person inasmuch as neither underlying distribution involves any damping.

Neither the sign nor the size of the difference in income shares in lines 11-36 is arithmetically predetermined. True, in the conversion to a per capita basis, some spending units that ranked high in the scale of total income per unit move down because the number of persons in them is larger than the average; and some spending units that ranked low move up because the number in them is smaller than the average. But such reshuffling of spending units may produce a distribution of income among persons that is either less unequal, yielding a smaller share for the upper groups, or more unequal, yielding a larger share for the upper groups.

The comparisons tend to show, with some though not complete unanimity, that the upper percentage bands in a distribution of persons classified by per capita income per spending unit have shares larger than those of the corresponding bands of spending units classified by total income per spending unit. This is true of the comparison for Minnesota for 1938-39, statistically the most adequate since it does not involve any

approximations; of that for 1935-36; and of those for each of the five years covered by the Census data. For the 1941 sample data, and for four out of the six years covered in the Surveys of Consumer Finances, the share of the top 5 percent of persons classified by per capita income per spending unit is slightly smaller than that of spending units classified by income per unit. But when the comparison is extended to the top 10 percent, the result is reversed, becoming fully consistent with the evidence for other years and other samples.

Why should the share of the top group increase as we shift from a distribution of spending units classified by income per unit to a distribution of persons classified by per capita income per spending unit? It must be that many spending units at high levels of income per unit have a small number of persons each. In the conversion to a per capita basis, these spending units ascend to a range higher in the relative scale than when classified by income per unit. Conversely, there must be many spending units at low levels of income per unit, with a large number of persons each; and in the conversion to a per capita basis, they descend even lower,
extending the range of the distribution. In other words, because of the nonpositive association between size of income and number of persons per unit, the conversion to a per capita basis makes the range of the income distribution among persons wider than that among spending units.

The increase in upper group shares resulting from the conversion of a distribution by total income per spending unit to a distribution by per capita income per unit is minor, however, compared with the extent of the reshuffling process entailed. The magnitude of the latter is clearly indicated by the large difference in the average size of the top groups of each distribution compared (lines 13 and 14, 17 and 18, 21 and 22, 26 and 27, 33 and 34). In each comparison, whether for all spending units or for families alone, the number of persons per unit in the upper groups is much smaller in the distribution based on per capita income per unit than in that based on income per unit. As may be seen in the tables in Appendix 6, conversion to the basis of income per capita causes a large proportion of single persons and small families to move from the lower levels they occupy when classified by total income per spending unit to much higher levels on the scale of per capita income. There is necessarily an offsetting downward movement of large spending units with large total income whose per capita income is small. Since size of spending unit, judged by the number of persons in it, is associated with other economic and social characteristics, the difference in the composition of the top groups in the two distributions is of considerable analytical significance.

## c) From spending unit to 'equivalent adult'

If the adjustment for the number of persons in a spending unit is designed to yield a better approximation to the real economic status of the persons in the unit, one could argue that a still better approximation might be obtained by taking into account the age and sex of the persons in the unit, if not other characteristics. The conversion should therefore be to some synthetic unit that represents equivalent magnitudes in terms of need, productive performance, or some other criterion.

Desirable as such an approach may be, we cannot pursue it, first, because of lack of agreement concerning what is in fact an equivalent unit independent of income status itself; second, because of lack of data and difficulty in carrying through such refined conversions with the available data. Yet by way of illustration we describe one experiment, that by William Vickrey, using the original returns of the Survey of Spending and Saving in Wartime for $1941 .{ }^{7}$

[^20]Mr. Vickrey used 925 original schedules for rural nonfarm units and 1,222 for urban units, weighting them respectively 1 and 2 in the combined distributions. While the urban and nonfarm samples were thereby covered quite completely, farm units were excluded, and the weighting of urban and rural nonfarm groups differed from that followed in the Survey. It is the latter factor that perhaps explains why the shares of the top 5 and 10 percent groups based on the published distribution of spending units differ from the shares in Mr. Vickrey's distribution by total income per unit (cf. bracketed and nonbracketed entries in Table 24, col. 1 and 2, line 37).

The conversion to equivalent adults was as follows (pp. 274-5).
"Persons over 20 years of age were counted as 'equivalent adults' if they worked more than 34 weeks during the year; as 0.9 of an equivalent adult if they worked 12 to 34 weeks, and 0.8 if they worked less than 12 weeks. Persons between 16 and 20 were counted as 1 if they worked more than 34 weeks, 0.8 if they worked 12 to 34 weeks, and 0.7 if they worked less than 12 weeks. Children aged 11 to 15 were counted as 0.5 ; children aged 6 to 10 , as 0.4 ; and children under 6 years old, as 0.3 . In addition, for the first child under 15 , 0.2 was added to the total as an allowance for the initial expenses involved in setting up a household with accommodations for a child, expenses that in general are not duplicated for additional children . . . The number of 'equivalent adults' in each family was computed according to the above scheme, and the income . . . divided by this figure, to obtain the income . . . per equivalent adult."

It is from the distribution based upon the conversion to a per equivalent adult basis that we got for line 38 of Table 24 , nonbracketed figures, the shares of the top 5 and 10 percent in the population of equivalent adults, arrayed by income per equivalent adult calculated for each spending unit. The nonbracketed figures in line 37 are those derived from the distributions of spending units by income per unit as used by Mr. Vickrey. The bracketed figures (lines 37 and 38 ) are the shares of the top percentage bands of spending units and of persons arrayed by total and per capita income per spending unit respectively, for the nonfarm sector of the 1941 sample as shown in the originally published data.

In Mr. Vickrey's procedure the difference between the number of persons and of equivalent adults was influenced chiefly by the relative proportion of young children, and less importantly, by the extent of nonparticipation in income earning activity by adults. The shares of both the top 5 and 10 percent of equivalent adults are distinctly smaller than those of spending units (lines 37 and 38 , col. 1 and 2 , nonbracketed entries). Hence, in the conversion, certain units that were high in the array by total income per unit must have dropped substantially because the number of equivalent adults in them was well above the average; and the compensa-
tory upward movement of units with fewer than the average number of equivalent adults was not sufficient to restore the relative advantage of the top 5 or 10 percent. The extent of reshuffling of units involved in the conversion from the distribution by income per unit to that by income per equivalent adult is indicated by the sharp reduction in the number of equivalent adults per unit in the top groups (cf. lines 39 and 40): whereas in the distribution by total income per unit the number of equivalent adults per unit at the top levels is significantly larger than the average, in the distribution by income per equivalent adult it is significantly smaller than the average.

The results of the conversion to income per equivalent adult, as far as changes in upper group shares are concerned, are not dissimilar to those yielded by the conversion to income per person (lines 37 and 38, bracketed entries): the latter also reduces the shares of the top 5 and 10 percent groups. ${ }^{8}$ Yet there may be a significant difference in the reshuffling process due to such conversions. In other words, the personal composition of the top group of spending units arrayed by per capita income per unit may well differ from that of the top group of equivalent adults arrayed by per equivalent adult income per spending unit. Any further analysis of the 'equivalent unit' problem will have to await additional exploration, and more important, analysis of the entire distribution.

## d) Concluding comments

In conclusion, it may be useful to attempt a brief summary of the major points touched upon.
i The choice of the proper unit is beset with difficulties if we deal with a distribution of total income rather than some narrowly defined category of earned income; and if, as is inevitable in dealing with total income, we are concerned largely with the bearing of income shares upon the uses of income. The recipient unit does not meet our needs, for the reasons indicated in Chapter 1, the major being that there may be a wide difference between it and a spending or consuming unit. The spending or consuming unit gives rise to other difficulties: the pooling of incomes may vary in scope with respect to different types of use (e.g., as between expenditures on food and extraordinary outlays such as the purchase of a house or the expenses of a prolonged sickness); and spending units differ rather widely with respect to their size and needs. Reduction to a per capita basis is obviously a rough adjustment, but the only practicable one. A truly satis-

[^21]factory solution could perhaps be attained with richer data, and particularly by dint of analysis directed at some specific use for which the income distribution is intended.
ii As far as upper group shares are concerned, the sample data indicate that, generally, they are larger in the distribution by income per recipient than by total income per spending unit; and larger in the distribution among persons (by per capita income per spending unit) than among spending units (by total income per unit). Yet the differences in upper group shares thus revealed are, on the whole, small - at least for the top 5 or 10 percent group in the years covered by the sample data.
iii Much more significant are the differences in the personal composition of the upper income groups in the distributions that employ different units. As we shift from recipient to spending unit, or from spending unit to person, substantial reshuffling occurs: units at the top of one distribution may be considerably below the top of another, and vice versa. Study of the factors that determine differences in income shares among different groups is thus vitally affected by the choice of the unit, since it governs in some degree the social and other characteristics of the groups at various levels of the distribution.

## 2 Income Scope

As mentioned above, upper group shares are affected by what is included in the income used as the basis for arraying by size. The inclusion of imputed rent reduces them because its weight in the income of the upper groups is much smaller than in the income of the lower groups; and the inclusion of the excess of gains over losses from sales of assets has the opposite effect because it is relatively so much more important in the income of the upper groups. One could generalize that the addition of any item to the income base will increase or diminish the shares of upper groups as the item is of greater or smaller relative weight in their incomes than in the incomes of lower groups. This proposition must be true unless the item added is so large compared with items already included as to cause a significant rearraying of units.

The analysis that follows is purely illustrative, and is not intended to add much to the observation just made. Rather, it attempts to indicate the effects of alternative definitions of income scope that are common and do not materially modify the income totals.

## a) Total and money income

The distinction between total and money income due to the inclusion of income in kind in the former has become of special practical interest in recent years because in the current sample studies (Census Bureau and

Surveys of Consumer Finances) coverage is confined to money income. It is thus important to observe the effects on upper group shares of excluding income in kind. These effects can be studied for nonfarm groups in the Minnesota data, and for all groups in the Survey of Spending and Saving in Wartime for 1941 (Table 25, lines 1-15). In neither case did it seem advisable to observe groups below the top 5 percent. ${ }^{9}$

While the comparisons in Table 25, Part A, are of total and money income, the classification for each pair of distributions is by one income base, not, as it should be, by two. Thus in Section I shares in total and money income are calculated from distributions by total income; and in Section II, from distributions by money income. The use of total income as a base does not affect the shares of upper groups in total income but may reduce the range and shares in money income. The use of money income as a base does not affect the shares of upper groups in money income but may reduce the range and shares in total income.

It is therefore significant that in both Sections I and II, upper group shares in total income are smaller than in money income. Thus, omission of nonmoney income consistently increases the percentage share of the top 5 percent - a clear indication that income in kind is of much less relative weight for upper than for lower income groups. Were income in kind a constant proportion of money income at all levels, the shares in lines $2,5,8,11$, and 14 would be identical with those in lines $1,4,7,10$, and 13. If all income in kind were received by the lower 95 percent, the share of the top 5 percent group in lines $2,5,8,11$, and 14 would be 18.9 , $17.8,23.5,18.4$, and 25.8 percent respectively. The actual shares tend to be nearer those resulting from the second than from the first assumption.

That the weight of income in kind in total income is much less for the top 5 percent than for the total population is shown by the ratios in lines $3,6,9,12$, and 15 calculated from the data underlying the shares. The relative increase in the top group's share resulting from the exclusion of income in kind equals the relative excess of the ratio in column 4 over that in column 1.

Contrasting the changes in upper group shares in Table 25, Part A, with those in Table 24 we see that while the conversion from spending units

[^22]Table 25
Percentage Shares of Upper Groups in Different Concepts of Income Various Samples or Tax Data

| Share of |  |  |
| :---: | :---: | :---: |
| Given Percentage Band |  |  |
| Top 5 | 2nd-5th | Top 1 |
| (1) | (2) | (3) |

## A Total and Money Income

I Minnesota, 1938-39: Economic Units Classified by Total Income

| 1 | Share in total income | 17.8 | 100 |
| :---: | :---: | :---: | :---: |
| 2 | Share in money income | 18.4 | 100 |
| 3 | Ratio: total to money income | 1.03 | 1.06 |
| RURAL NONFARM UNXTS |  |  |  |
| 4 | Share in total income | 16.0 | 100 |
| 5 | Share in money income | 17.3 | 100 |
| 6 | Ratio: total to money income | 1.02 | 1.11 |

II Survey of Spending and Saving in Wartime, 1941: Spending Units Classified by Money Income URBAN UNTTS
7 Share in total income $\quad 22.0 \quad 100$
8 Share in money income 22.7 100
9 Ratio: total to money income $1.04 \quad 1.07$
RURAL NONFARM UNITS
10 Share in total income $15.7 \quad 100$
11 Share in money income $17.3 \quad 100$
12 Ratio: total to money income 1.06 . 1.17

|  | F AR M | U N I T S |  |
| :--- | :--- | :--- | :--- |
| 13 | Share in total income | 17.8 | 100 |
| 14 | Share in money income | 23.3 | 100 |
| 15 | Ratio: total to money income | 1.11 | 1.45 |

## B Total and Economic Income

Minnesota, 1938-39: Economic Units Classified by Total Income

| 16 | Share in total income | 17.8 | 10.8 | 7.0 | 100 |
| :--- | :--- | :---: | :---: | :---: | :---: |
| 17 | Share in economic income | 18.0 | 11.4 | 6.6 | 100 |
| 18 | Ratio: total to economic income | 1.05 | 1.01 | 1.13 | 1.06 |

C Total Income and Net Income, Tax Definition
Delaware State Tax Returns
1936
19 Share in total income, returns by total income

| 48.0 | 12.2 | 35.8 | 100 |
| :---: | :---: | :---: | :---: |
| 45.7 | 13.0 | 32.7 | 100 |
| 1.19 | 1.06 | 1.24 | 1.13 | 1937

22 Share in total income, returns by total income

| 44.4 | 12.4 | 32.0 | 100 |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| 37.0 | 13.3 | 23.7 | 100 |
| 1.44 | 1.12 | 1.62 | 1.20 |


| Share of <br> Given Percentage Band |  |  | Total <br> (4) |
| :---: | :---: | :---: | :---: |
| Top 5 <br> (1) | 2nd-5th <br> (2) | Top 1 (3) |  |
| 39.6 | 13.2 | 26.4 | 100 |
| 34.6 | 13.5 | 21.1 | 100 |
| 1.31 | 1.12 | 1.43 | 1.14 |

1938
25 Share in total income, returns by total income 39.6
26 Share in net income, returns by net income
27 Ratio: total to net income
1.31
1.12

Total 100 100 1.14

Line
1, 4
Col. 1 Calculated from Minnesota Incomes, I, Table 2, p. 2, and Table 6, p. 14. For urban, data for communities of 100,000 and over and 2,500-24,999 are combined.
2, 5
Col. 1 Calculated from ibid., II, Table 19, p. 160. 3, 6
Col. 1 \& 4 Ratio of total income underlying line 1 or 4 to money income underlying line 2 or 5 .
7,10,13
Col. 1 Calculated from the distribution of units and their income (see App. 6, Sec. D). Units are arrayed by per unit income.
8,11, 14
Col. 1 Calculated from the distribution of units and the per unit money income (see App. 6, Sec. D). For classes for which there is no entry in the source, estimates paralleling those for line 7,10 , or 13 are used.
9, 12, 15
Col. 1 \& 4 Ratio of total income underlying line 7,10 , or 13 to money income underlying line 8,11 , or 14.

## 16

Col. 1-3 See notes to Table 24, line 11. 17
Col. 1-3 From the distribution of economic units and their total income as shown in Minnesota Analyses, Table 29, p. 89, are subtracted, respectively, the economic units receiving noneconomic income alone (Minnesota Incomes, II, Table 28, p. 213) and the amounts of noneconomic income comprising refunds from cooperatives, unemployment compensation, benefits, pensions, annuities, regular contributions for support, other gifts, lump sum payments, other income (ibid., II, Table 27, pp. 204-7) and direct relief (ibid., II, Table 32, p. 234). Units having no economic income are re-entered at the zero income level. From the resulting distribution of units and income the shares for the upper groups are calculated.

## 18

Col. 1-4 Ratio of total income underlying line 16 to economic income underlying line 17.
19, 20, 22,
23, 25, 26
Col. 1-3 To the full year returns by total and by net income classes as shown in Delaware Income Statistics (University of Delaware, Bureau of Economic and Business Research, 1941, litho.), I, Table 5, pp. 101-9, is assigned the average income for the given class. For the classes $\$ 1,000$ and under, and $\$ 25,000$ and over, the actual total income per return is computed from ibid., Table 1. For the other classes the arithmetic mean of the upper and lower levels is used. Returns with zero income are excluded. From the resulting distribution of returns and income the shares for the upper groups are calculated.
21, 24, 27
Col. 1-4 Calculated from the absolute amounts underlying the shares.
to persons or equivalent adults affects the shares of upper groups only moderately, reshuffling is widespread and the change in the personal composition of these groups is quite substantial. In the change in income scope, however, relatively minor additions or exclusions seem to have fairly full effect on upper group shares; but in Table 25 there is no reshuffling and it would have been quite small even if we had used two income bases. Indeed, this negative association between the change in the shares and reshuffling is to be expected: reshuffling may have a compensating effect on the shares, since an adjustment that sends a unit down the array brings up another unit which partly cancels the effect of the reduction, and an adjustment that does not send a unit down will have full effect in reducing the share of the given ordinal class, i.e., corresponding percentage band.
b) Total and economic income

It is not uncommon in sample studies, particularly those undertaken in connection with family expenditures, to include in income various items that do not flow from the unit's economic activity: direct relief, gifts, benefits, other contributions for support, lump sum payments, etc. The Minnesota data for 1938-39 are sufficiently detailed for us to compare at least approximately a distribution by income including all these noneconomic receipts and by income confined to receipts from economic activity proper. Economic income includes wages and salaries, entrepreneurial income, interest, dividends, net rents and royalties, imputed rent, and net profit or loss from nonowner operated business. These payments or receipts account for $\$ 1.11$ billion in a $\$ 1.18$ billion total. The remainder includes direct relief (work relief is classified under wages and salaries), refunds from cooperatives, unemployment compensation, benefits, pensions, annuities, regular contributions for support, lump sum payments (inheritances, insurance settlements, and the like), other gifts, and other income. Of the $\$ 70$ million of noneconomic income, direct relief amounts to $\$ 25$ million; unemployment compensation, benefits, pensions, and annuities to about $\$ 20$ million; contributions and gifts to about $\$ 11$ million; and lump sum payments to somewhat over $\$ 13$ million (Minnesota Analyses, p. 86).

In lines 16 and 17 we study the comparison for the top 1 as well as for the top 5 percent. But again both total and economic income are classified by one base - total income (except for the few returns having noneconomic income alone, entered at the zero level in the distribution of economic income). We would expect this income base to make the share of the top group in economic income smaller than in total income. Yet while the share of the top 1 percent is smaller in economic than in total income, that of the top 5 percent - and particularly that of the 2nd-5th percentage band - is larger.

This finding is confirmed by line 18 which shows that the noneconomic receipts that distinguish total from economic income are a larger proportion of total income for the top 1 percent than for all units, and a much smaller proportion for the $2 n d-5$ th percentage band. The puzzle is resolved when we observe that of the noneconomic receipts, excluded when we pass from line 16 to line 17 , some are to be associated largely with a high income position, at least in the given year (e.g., lump sum payments), ${ }^{10}$ and some with a low income position (e.g., direct relief, gifts, contributions for support). Hence, omission of noneconomic items may reduce the share of the top 1 percent by excluding large lump sum payments, and the shares of groups at the bottom of the distribution, by excluding transfer payments. This reduction of shares at the upper and lower ranges naturally raises the shares of groups in the intermediate ranges.

The findings for Minnesota suggest that, in general; noneconomic income is of two rather distinct categories: one, usually associated with very low levels of economic income, consists of relief, retirement, and gift or support types; the other is either customary only at very high income levels or comes in such large chunks as to raise automatically the recipient units to a high current income position. The effect of these two categories on upper group shares is naturally different, and not necessarily of the same sign for the several upper percentage bands.

## c) Total income and net income, tax definition

This comparison requires a body of tax returns that accounts for all or almost all of the population of an area, classified by bases comparable with our economic income, on the one hand, and with net income, tax definition, on the other. Only the Delaware state tax returns for 1936-38 permit such a comparison. All other tax return data are for a small fraction of total population, fail to classify returns by two income bases, or are unsatisfactory in both respects.

The Delaware tax data account for somewhat over 80 percent of the state's population 21 years and older (this estimate includes returns with no income but does not allow for possible dependents over 21 years). ${ }^{11}$ One may assume that the tax returns cover almost 80 percent of total income originating in the state, an assumption roughly confirmed by comparing the total income reported on them (source cited in note 11, Table F, p. xxxiii) with Department of Commerce estimates of the state's income

[^23]payments (Survey of Current Business, July 1942, p. 24).
Total income excludes capital gains and includes all types we classify under economic income. Net income includes capital gains and allows for deductions of interest and taxes paid, capital losses, and contributions. For the three years the net excess of total over net income is approximately 16 percent of the latter. But the gross difference - more relevant for judging the comparison - is bigger, averaging over 26 percent of the smaller total. From tax returns covering the full year and published in a double classification - by total and by net income classes - we estimated the shares of the upper percentage bands, after assigning to each income class its mid-value (Table 25, lines 19 and 20, 22 and 23, 25 and 26).

The share of the top 1 percent is distinctly smaller in the classification by net income, obviously because of the differential impact of tax and contribution deductions which are heavier on the top income classes and outweigh the opposite effect of the inclusion of capital gains. This difference persists for the share of the top 5 percent only because the top 1 percent dominates it. For the 2nd-5th percentage band the share in the distribution by net income is slightly larger than in that by total income. These findings are confirmed by lines 21,24 , and 27 which show that the items excluded in passing from total to net income are a larger proportion of the total income for the top 1 and 5 percent than for the total tax return population, and a smaller proportion for the 2nd-5th percentage band.

Temporal changes in the share of the top 1 percent are more conspicuous and prompt in the distribution of net income. For example, the share in column 3 declines from 32.7 percent in 1936 to 21.1 in 1938 - more than a third - most of the decline occurring between 1936 and 1937; its share in total income declines from 35.8 to 26.4 percent - or only about a quarter - and considerably more than half this decline occurs between 1937 and 1938. Because the top 1 percent dominates the top 5 percent, the differences in the behavior of the former's share in total and in net income characterize also the latter's share. They do not hold for the 2nd5th percentage band whose share increases from 1936 to 1938, that in total income exceeding that in net income.

Total income per return rose slightly, from $\$ 2,160$ in 1936 to $\$ 2,232$ in 1937, then declined to $\$ 1,919$ in 1938 ; net income was $\$ 1,907, \$ 1,863$, and $\$ 1,677$ respectively. The over-all decline in net income per return from 1936 to 1938 is not much different from that in total income per return: about 12 and 11 percent respectively. The differences between changes in upper group shares in the distributions by total and net income can be attributed only in small part to differences in the movement of total and net income per return for the whole tax return population: they must
be due chiefly to differences in the extent and timing of the impact of the combination of capital gains with the loss, tax, and contribution deductions on the several upper income groups as compared with their impact on the total tax return population.

While the Delaware distributions show unusually high shares for the top 1 and 5 percent and cover only a brief period, one conclusion seems justified: for the top brackets, where capital gains and losses, taxes, and contributions may be large, the level of shares in net income is likely to be lower than in total income, and short term fluctuations associated with business cycles are likely to be more prominent and prompt.

## 3 Combination of Income Types

Is combination of incomes of several types more prevalent among upper income groups than among the total population? If it is, is it important in accounting for the excess of upper group per capita income over per capita income for the country as a whole? We cannot answer either question prec̣isely with the existing data, but we can draw inferences from several bodies of evidence.

## a) Extent of combination: top group and all tax returns

Federal tax returns for 1936, Wisconsin state tax returns for 1929, 1935, and 1936, and Delaware state tax returns for 1936-38 are classified by source and by number of sources as well as by total income in one or another variant of that total. We can, therefore, compare the relative frequency of single and multi-type income returns in the upper brackets and in the tax return population at large.
The data published for the three sets of returns do not distinguish the same number of types of income or even the same types: e.g., Wisconsin, but neither the federal government nor Delaware, reports withdrawals from inventories for own use. Moreover, some types of income reported, such as capital gains, are not considered economic income by us. We attempted to adjust the federal sample by combining related types that were reported separately, e.g., business with partnership income, and interest, from whatever source, with fiduciary income; by omitting gains and losses from sales of assets; and by reclassifying returns whose sources we had combined or omitted. The published data for Wisconsin and Delaware did not admit of such detailed adjustment.
'While, consequently, the three sets of data in Table 26 are not fully comparable, they unmistakably agree concerning some aspects of combination. First, the proportion of multi-type returns is much larger among upper brackets than among all returns. In all three samples the proportion of returns with three or more income types is over a half at the upper

Table 26
Extent of Combination of Income Types, Top Group of Returns and All Returns, Various Tax Data


## A Percentage Distribution of Returns by Number of Income Types Reported

| 1 | Single type | 15.0 | 57.0 | 18.5 | 60.8 | 8.9 | 74.3 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | Two type | 28.5 | 24.2 | 24.5 | 23.5 | 30.7 | 16.2 |
| 3 | Three or more type | 56.5 | 18.8 | 57.0 | 15.8 | 60.4 | 9.5 |

## B Percentage Distribution of Returns between Pure and Mixed by Type of Income Reported ${ }^{\text {b }}$

Wages \& salaries

| 4 | Pure | 11.1 | 59.8 | 22.4 | 70.1 | 9.7 | 79.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | Mixed | 88.9 | 40.2 | 77.6 | 29.9 | 90.3 | 21.0 |
| Business \& partnership income |  |  |  |  |  |  |  |
| 6 | Pure | 16.0 | 45.5 | 20.4 | 38.0 | 19.6 | 62.6 |
| 7 | Mixed | 84.0 | 54.5 | 79.6 | 62.0 | 80.4 | 37.4 |
| Rent |  |  |  |  |  |  |  |
|  | Pure Mixed | 1.9 98.1 | 4.7 95.3 | 1.7 98.3 | 8.6 91.4 | 0.1 99.9 | 15.7 84.3 |

Interest

| 10 | Pure | 4.5 | 4.7 | 0.4 | 6.8 | 0.1 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 11 | Mixed | 95.5 | 95.3 | 99.6 | 93.2 | 99.9 |
| Dividends |  |  |  |  |  | 92.0 |
| 12 | Pure | 2.5 | 3.1 | 0.7 | 3.8 | 2.0 |
| 13 | Mixed | 97.5 | 96.9 | 99.3 | 96.2 | 98.0 |

C Percentage Distribution of Pure Returns by Type of Income Reported

| 14 | Wages \& salaries | 42.5 | 80.6 | 69.3 | 88.2 | 56.1 | 84.1 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 15 | Business \& partnership | 29.3 | 15.1 | 26.6 | 8.6 | 24.4 | 10.9 |
|  | income | 1.9 | 0.9 | 1.1 | 1.0 | 0.2 | 1.5 |
| 16 | Rent |  |  |  |  |  |  |
| 17 | Interest (incl. | 13.6 | 1.9 | 1.5 | 1.4 | 6.0 | 1.7 |
|  | fiduciary income) | 11.4 | 1.3 | 0.9 | 0.5 | 13.0 | 0.9 |
| 18 | Dividends | 1.3 | 0.3 | 0.6 | 0.3 | 0.2 | 0.9 |
| 19 | Other |  |  |  |  |  |  |


| 20 | Wages \& salaries | 25.8 | 32.0 | 38.5 | 39.7 | 28.2 | 32.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21 | Business \& partnership |  |  |  |  |  |  |
|  | income | 11.7 | 10.7 | 15.4 | 17.1 | 4.4 | 8.6 |
| 22 | Rent | 7.3 | 10.3 | 5.6 | 11.9 | 9.6 | 11.9 |
| 23 | Interest (incl. fiduciary income) | 21.6 | 23.2 | 13.6 | 15.9 | 24.0 | 26.0 |
| 24 | Dividends | 33.6 | 23.8 | 27.0 | 15.5 | 33.9 | 21.3 |

levels (the levels having been drawn at different percentage lines to allow for area-to-area differences in the proportion of the population covered by tax returns and to approximate the top 1 to 2 percent of the given area's total population); it is much less than a quarter for the total tax return population. The federal and Wisconsin returns represent only small proportions of the total population of the country and state respectively; consequently, even columns 2 and 4 are for income levels higher than for the total population of the areas. Had we data on the latter, the proportion of single type returns would be higher than it is in columns 2 and 4 ; and that of double or multi-type returns lower. It is significant that the Delaware data, the most inclusive of the three in respect of population coverage, have the highest proportion of single type returns (col. 6). ${ }^{12}$

Second, as we distinguish between pure, i.e., single type, and mixed, i.e., two or more type, returns by the type reported, we find that the proportion of mixed returns is invariably higher in the upper brackets than

[^24]
## Notes to Table 26

${ }^{\text {a }}$ Excluding no-source returns.
${ }^{\text {b }}$ Wisconsin entries in Parts B and D are based upon 1936 data alone.
The classification in Parts B and D for Wisconsin and Delaware is affected by lack of a complete classification of multi-source returns by type of income reported on them. Only the two major sources for Wisconsin and the major combinations for Delaware are fully distinguished. Hence the percentages of 'pure' returns (lines 4, $6,8,10$, and 12) are somewhat overstated, and those of 'mixed' understated. However, the error is too small to affect the general conclusions.

## Column

1, 2 Calculated from Statistics of Income Supplement Compiled from Income Tax Returns for 1936: Individual Incomes, Section III, Tables 1-3. Returns are shown by size of total income and by single source and by combined sources. For greater conformity with our classifications, the number of sources was adjusted: income from business and from partnerships was treated as one source instead of two; interest, taxable government interest, and fiduciary income, one instead of three; and income from capital gains, zero instead of one. A return was included in each type of payment indicated as a source.
3,4 Calculated from Wisconsin Individual Income Tax Statistics (Wisconsin Tax Commission, 1939, litho.), Patterns of Income, 1929 and 1935, pp. A1-4, A18-21, and 1936 Income, Vol. IV A, pp. 28-30. For Parts C and D value of merchandise was combined with business and partnership income. For Part C fiduciary income was combined with interest, and royalties and capital gains with 'other'.
5,6 Calculated from Delaware Income Statistics, I, Table 7.1. As the combination of partnership income with other types was not indicated, business income, Parts B and D, excludes partnership income.
among all returns. For example, if all returns on which wages and salaries appear are classified into pure and mixed, the proportion of the mixed is higher in the upper brackets than among all returns - which means a wider extent of combination of income types.

Third, the proportions of pure and mixed returns within each type category reveal also the differences among the several types of income in the extent to which some tend to be combined. Of all federal returns for 1936 on which wages and salaries appeared, they were the sole source of income on almost 60 percent, and were combined with other types on the other 40 percent; of all those on which dividends appeared, on the contrary, they were the sole source on only 3 percent (col. 2 , lines 4,5 , and 10 ). In general, wages and salaries, and business and partnership income tend to be single source types, constituting the sole type in a large proportion of the returns on which they appear; each of the three property income types, however, is the sole source on only a small proportion of the returns on which it appears. The chief reason is that many persons receive mere driblets of property income, which are auxiliary to their main income; and the number of such persons is large relative to those who receive a given type of property income alone. Another reason is that investors tend to own both stocks and bonds, and those who own real estate tend to possess other interest- or dividend-yielding investments; hence, combinations of one property income type with another are frequent.

Fourth, the differences in the composition of income by type between the upper income groups and the total population observed in Part I are reflected also in the percentage distribution of returns by the types of income reported on them, whether the returns are pure or mixed (lines 14-24). The differences in the percentage distribution of returns are not as large as in the percentage distribution of income, and especially in the case of mixed returns they tend to be rather small. Nevertheless, they occur very consistently. The only significant divergence between the distributions of pure and mixed returns is that the proportion of interest and rent returns is smaller among mixed returns for upper return groups than among those for all return groups - an obvious reflection of the greater relative frequency of these income types as auxiliary sources among the masses of lower income recipients than among those in the upper brackets. The divergence would have been more marked had the comparison been between upper and lower return groups instead of between upper return groups and all return groups.
b) Effect of combination on share of top group

Are the large incomes at the upper levels of the distribution due, at least
in part, to a combination of amounts, each possibly small, representing several types? Does combination contribute significantly to the large receipts at upper income levels? As the answer can be found most directly in the Wisconsin and Delaware state income tax data, we consider them before turning to the federal data.

For all Wisconsin income tax returns for 1929, 1935, and 1936 we have distributions of several types of income by the amount received by each of the many units who received the given type. We can, therefore, determine for each type what proportion of the total reported on all returns was received by the top classes, i.e., the recipients of the largest amounts of each type, the number being always set at roughly 5 percent of the total number of Wisconsin returns. Thus, from the size distribution of wages and salaries for 1929 , we ascertained the total wages and salaries reported by the top 23,948 returns, being roughly 5 percent of all returns filed in Wisconsin in that year, not 5 percent of those that reported wages and salaries; then calculated the percentage this amount constituted of total wages and salaries reported on all Wisconsin returns, 20.8. It is an average of this percentage for 1929, and the corresponding percentages for 1935 and 1936 that is entered in Table 27, column 2, line 1. The percentage of all business and partnership income reported on all Wisconsin returns that was received by the top 23,948 returns in the size distribution of partnership and business income for 1929 is 62.4 percent, which, averaged with the corresponding figures for 1935 and 1936, yields column 2, line 2 , and so on, through line 6.

Let us now assume the combination most favorable to raising the income received by the top group: each return in the top group would report income of all types and maximum amounts of each, i.e., each of the 23,948 top returns for 1929 would report all six types of income (lines $1-6$ ) and the amounts for each would be the 23,948 largest reported for each type. To calculate the share of the top 23,948 returns in total income, defined as the sum of the six types, we weighted their shares in the given types (those for 1929 underlying lines 1-6, col. 2) by the percentage of total income accounted for by the given type (calculated from all Wisconsin income tax returns for 1929), and added. The resulting figure for 1929 is 38.3 percent, which, averaged with the corresponding figures for 1935 and 1936, yields line 7 of column $2 .{ }^{13}$

Under exactly the opposite assumption, no combination at upper income levels, i.e., that the top 23,948 returns for 1929 are all single type, we set

[^25]Table 27.
Effect of Combination of Income Types and of Inequality of Size Distribution within Each Type on Share of Top Group of Returns in Total Income, Wisconsin and Delaware State Tax Returns

|  | \% Share in Total of Each Type Received |
| :---: | :---: | :---: | :---: |
| by Top Group |  |


| A | Wisconsin, Approximately |  | Averages for 1929, 1935, 1936 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wages \& salaries | 70.6 | 20.6 | 15.6 | 16.0 |
| 2 | Business \& partnership income | 14.0 | 65.2 | 29.1 | 31.4 |
| 3 | Rent | 2.4 | 84.7 | 12.4 | 21.3 |
| 4 | Interest | 4.5 | 84.0 | 26.8 | 43.8 |
| 5 | Dividends | 5.9 | 93.7 | 61.3 | 76.1 |
| 6 | Other | 2.6 | 76.0 | 18.1 | 26.2 |
| 7 | Total | 100.0 | 36.7 | 20.8 | 23.5 |

B Delaware, Top 2-3 Percent, Averages for 1936-38
8 Wages \& salaries
58.8
21.4
16.1
17.5

9 Business \& partnership income 9.6 $57.5 \quad 23.4$ 26.6

10 Rent |  | 2.0 | 74.1 | 8.4 | $21: 2$ |
| :--- | :--- | :--- | :--- | :--- |

11 Interest (incl. fiduciary income)

10

| 92.4 | 74.2 | 81.6 |
| ---: | ---: | ---: |
| 95.4 | 83.9 | 89.8 |
| 99.6 | 5.8 | 24.6 |
| 47.7 | 35.7 | 39.0 |

## Column

## Lines $1-7$

1 Averages of percentages for 1929,1935 , and 1936 derived from the distribution of total income in Wisconsin Individual Income Tax Statistics, 1929 Income, 1935 Income, and 1936 Income, I, Table 2. Business and partnership income were combined; fiduciary income, royalties, and value of merchandise were included with 'all other income'; capital gains were omitted.
2,3 Averages of percentages for 1929, 1935, and 1936. Those for 1929 and 1935 were calculated from Wisconsin Individual Income Tax Statistics, Patterns of Income, 1929 and 1935, Table 2 for each year; those for 1936 from ibid., 1936 Income, IV A, pp. 17-8. For comparability with 1936, fiduciary income, value of merchandise, and royalties were combined with 'all other income' in 1929 and 1935. Business and professional profits were combined with partnership profits. The procedures are described in the text.
4 From the source indicated for column 1, by the procedures described in the text.

## Lines 8-14

1 Averages of percentages for each year, 1936-38, derived from the distribution of the sum of the types of payment, excluding loss items, available by size classifications in Delaware Income Statistics, I, Table 6.
2,3 Averages of percentages for each year, 1936-38, derived from the source indicated for column 1, by methods described in the text.
4 Averages of percentages for each year, 1936-38, derived from ibid., Table 1, by methods described in the text.
off in each of the six income type distributions all returns in the highest bracket, all in the next to the highest, and so on, until, counting each return separately, we reached the desired total, 23,948. We know how many of these returns were taken from the upper levels of the size distribution of wages and salaries; how many from the upper levels of the distribution of dividends, and so on. We then determined the absolute amounts of each type reported on these top 23,948 returns; and hence the percentages these amounts constituted of all income of that type reported by the total tax return population. The averages of these percentages for the three years are entered in column 3, lines 1-6. Weighting the annual percentages by the proportion of each type in total income reported on all Wisconsin returns for each year and adding, we get for each year the share of the top 5 percent group of returns in total income. The average for the three years is entered in column 3 , line 7.

On the assumption that its entire income is of a single type, the share of the top 5 percent group of returns is only 20.8 percent; on the assumption of maximum combination, it is 36.7 percent. The difference represents the maximum contribution that combination can make to the share of the top 5 percent of returns in total income. From columns 2 and 3, lines 1-6, we can see in which income types the shift in the assumption produces -the most marked change. The relative drop in the shares of wages and salaries and of dividends from column 2 to column 3 is only a quarter and a third respectively; the drop in the shares of rent and of interest is, on the contrary, quite large. In other words, the assumption of maximum combination adds to the income of upper groups amounts of wages and salaries and of dividends that are only moderate fractions of the amounts already included, even without assuming any combination; in the case of rent and interest it adds amounts that are very large compared with the amounts assigned on the assumption that the entire income is of one type.

But what was the actual effect of combination at the upper levels of the Wisconsin tax returns? In the distributions for 1929, 1935, and 1936 where returns are classified by 'income bracket' income, the nearest approximation to total income that can be found in the published data, we set off the top 23,948 returns, then determined what proportions they received of wages and salaries, dividends, etc. reported on all Wisconsin returns. Their share in total income was then calculated, either directly or by weighting the shares in the given types; the averages of the calculations for the three years are entered in column 4, lines 1-7.

The averages in Part B of Table 27 for Delaware state tax data are calculated upon the same assumptions.

Both Parts A and B show that the contribution of combination to the
percentage share of the top income group in total income is consistently quite moderate, indeed minor. Had all income been of a single type, the share of the top group in Wisconsin in 1929, 1935, and 1936 would have been 20.8 percent of total income; actually it was 23.5 percent; with maximum combination it would have been 36.7 percent. Thus, of the maximum possible contribution of combination, 15.9 percentage points, there was, in fact, only 2.7 percentage points. In Delaware the effect of combination is only slightly greater, amounting to an addition of $3.3^{\prime}$ percentage points of total income - to raise the share of the top group of returns from 35.7 to 39 percent.

Thus, even though combination is much more widespread among upper income brackets than among lower - as evidenced by Table 26 for exactly the same Wisconsin and Delaware data as underlie Table 27 - upper bracket shares are not increased much. There are three possible reasons. First, though multi-type incomes are more common at upper income levels, maximum combination is limited even for the top returns. This can be seen from the more detailed data for Delaware underlying Table 26 which classify returns by the number of types up to seven (the total number of types distinguished is eight). Of the top group of returns, less than a twelfth reported five or more types. Second, the combination of several types on a single return may lift it to the upper levels, even though the amount of * each type is moderate; on the other hand, income of one type, though in a fairly large amount, may place a return below the line that divides upper incomes from lower. Combination may thus affect the personal composition of the top group of returns; but it does not necessarily increase its share in total income. And we may surmise that even its effect on the composition of upper groups is fairly limited, certainly as far as the combination of service with property incomes is concerned: relatively few returns reporting moderate amounts of wages or salaries or of businesspartnership income are raised into upper brackets by the addition of moderate amounts of property incomes. However, the combination of several types of property income is more likely. The third, and probably most important, reason is that most returns with multi-type income usually report large amounts of only one type, so that an increase in the number of types means only a relatively moderate increase in their total income. According to lines 1-6 and 8-13, the basic types are wages and salaries, business and partnership income, and dividends; the auxiliary types, rent, interest, and 'other' income. Combination raises the share of the top group of returns primarily in rent and interest; and fails to do so, to any great extent, in the income types that weigh heavily in the total - wages and salaries, business and partnership income, and dividends - particularly
the first two. Being thus limited largely to auxiliary types of income, combination can affect the total income of the upper brackets only moderately. The data are consistent with all three reasons cited; only by conjecture can we assign more weight to the first and third.

A somewhat less direct treatment of federal tax returns yields results resembling those of Table 27, though less conclusive. In view of the importance of federal data in our study, it seemed worth while to present their analysis here.

For 1927-34 Statistics of Income reports wages and salaries, business profits, dividends, and rents and royalties by size classes for all returns with net income, tax definition, of $\$ 5,000$ and over. We cannot use the data on business profits since they exclude loss items and cover income from business alone, not the combined income from business and partnership used in our analysis. But for each of the other three types we can observe how many returns report receipts of $\$ 5,000$ or more, which would place the recipient in the over $\$ 5,000$ class even if he did not receive income of any other type; and we can also establish what proportion of countrywide wages and salaries, rent, and dividends is distributed in these relatively large chunks (Table 28).

On the average, returns with net income of $\$ 5,000$ or more account for the top 1.5 percent of the population. In toto, they receive on the average 8.3 percent of countrywide wages and salaries. Over a third do not receive any wages or salaries; a sixth receive less than $\$ 5,000$ in wages and salaries; but almost half, and hence about half of the population represented on them (about 0.7 percent of total population), receive wages and salaries of $\$ 5,000$ or more. If we can assume that all who receive wages and salaries in these amounts are represented on returns with net income of $\$ 5,000$ or more, we can infer that of countrywide wages and salaries about 7.5 percent is distributed in amounts large enough to lift the recipient and his dependents to upper income brackets. ${ }^{14}$

The share of the top income group in countrywide wages and salaries is almost all accounted for by inequality in the size distribution of that type, i.e., by the fact that of total wages and salaries about 8 percent is distributed in amounts large enough to lift the recipient and his dependents to upper income levels. The picture for dividends is similar. While the 1.5 percent of the population represented on returns with net income of $\$ 5,000$ or more receives 65.8 percent of countrywide dividends, the group of
${ }^{14}$ Actually, some recipients of $\$ 5,000$ or more in wages and salaries may not be represented on returns with net income of $\$ 5,000$ or more, because allowable deductions would reduce the net income, tax definition, below $\$ 5,000$. The proportion of such omissions may, however, be assumed to be relatively small.

Table 28
Distribution of Shares of Top Income Group in Various Income Types among Shares of Large, Small, and No Receipts
Based on Returns with Net Income, Tax Definition, of $\$ 5,000$ and Over; Averages for 1927-1934

| Total <br> Income <br> $(1)$ <br> (percentages of countrywide totals) |  <br> Salaries | Rent <br> $(3)$ | Dividends <br> $(4)$ |
| :---: | :---: | :---: | :---: |
| 1.53 | 1.53 | 1.53 | 1.53 |
| 15.51 | 8.26 | 21.71 | 65.84 |
| 0 | 0.58 | 1.19 | 0.62 |
| 0 | 0 | 0 | 0 |
| 0 | 0.24 | 0.29 | 0.67 |
| 0 | 0.64 | 7.43 | 9.03 |
| 1.53 | 0.71 | 0.05 | 0.24 |
| 15.51 | 7.61 | 14.28 | 56.81 |

## Line

1 Average of the annual percentages, 1927-34, of the total population (Table 69 , col. 5) constituted by the population on all returns with net income of $\$ 5,000$ and over, estimated by multiplying the number of returns (Statistics of Income, 1934, Part I, pp. 29-31) by the average number of persons per return for all returns (Table 69, col. 4).
2 Averages of the annual percentages, 1927-34, of the countrywide total of the given type (Table 114, Part A) constituted by the amount of that type reported on returns with net income of $\$ 5,000$ and over (Statistics of Income, 1934, Part 1, pp. 29-31).
3 Annual percentages, 1927-34, of the total population constituted by the population on returns with net income of $\$ 5,000$ and over receiving the given type, were estimated by the procedure indicated for line 1 , using the number of returns in Statistics of Income (1927, p. 10; 1928, p. 11; 1929, p. 11; 1930, p. 13; 1931, pp. 13-4; 1932, p. 14; 1933, pp. 13-4; 1934, p. 13). The difference between line 1 and the average of these percentages is the proportion not receiving the given type.
$5 \quad$ Line 1 minus lines 3 and 7.
6 Line 2 minus lines 4 and 8 .
7 Averages of the annual percentages, 1927-34, of the total population constituted by the population on returns receiving $\$ 5,000$ and over of the given type. The procedure is that indicated for line 1 , the source, that for line 3.
8 Averages of the annual percentages, 1927-34, of the countrywide total of the given type (Table 114, Part A) constituted by the amount of that type reported on returns underlying line 7.
returns reporting $\$ 5,000$ or more of dividends receives 57 percent. Here again, the share of the top income group in dividends is in large degree attributable to an unequal distribution of dividends, i.e., to the fact that a large proportion is paid out in a few big chunks.

The picture for rents and royalties is different. Here, as much as a third of the total reported on returns with net income of $\$ 5,000$ or more is received in amounts of less than $\$ 5,000$, and only two-thirds in amounts of $\$ 5,000$ or more. A sizeable proportion of the countrywide total is thus distributed in small amounts to upper income groups who receive also other types of income - amounts that in themselves are too small to lift the recipient and his dependents to upper income levels.

The evidence of Table 28, with respect to the degree to which the share of wages and salaries and of dividends received by the top income group is attributable primarily to the inequality of the size distribution within each of these two income types and only secondarily to combination of types, and the somewhat different showing for rent are in complete accord with the more direct analysis in Table 27. The three types of income in Table 28 do not add to total income, and no measures corresponding to line 7 or 14 of Table 27 are possible. But even without such direct calculation, it is evident that here also the effect of combination on the share of the top group in total income is quite limited.
c) Effect of combination on shares of groups below the top

Is the limited effect of combination on the total income of the top group true also of the groups below the top? One might think at first that the answer is predetermined, since multi-type incomes are more common among the very top brackets than among those just below. In view of the small contribution of combination to the relative income advantage of the former, could not one infer that its contribution to the relative income advantage of groups below the top would be even more negligible?

This question is, however, not so easily answered. First, while combination is less prevalent among the groups below the top than among the top group, it does occur. Second, in these groups multi-type incomes may not be as dominated by any one type. Hence, if the several types tend to be equal, the contribution of combination to the relative income advantage of groups below the top might well be greater than that observed in Table 27. At any rate, it seemed worth while to extend the analysis to two groups just below the top (Table 29).

Only the Wisconsin and Delaware data were used since the federal data are not suitable. The groups were chosen in such a way that the first group below the top contained about twice as many returns as the top group; and
Effect of Combination of Income Types and of Inequality of Size Distribution within
Each Type on Shares of Upper Groups of Returns in Total Income, Wisconsin and Delaware State Tax Returns

|  |  | \% Distribution of Income on All Returns by Type (1) | Assu |  | hare in | of Ea 1sT Assum | Type UP FR tion | eceived <br> TOP | iven 2ND Ass |  | M TOP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} 1 \\ (2) \end{gathered}$ | $\begin{gathered} 2 \\ (3) \end{gathered}$ | Actual <br> (4) | $\begin{gathered} 1 \\ (5) \end{gathered}$ | $\begin{gathered} 2 \\ (6) \end{gathered}$ | Actual (7) | $\begin{gathered} 1 \\ (8) \end{gathered}$ | $\begin{gathered} 2 \\ (9) \end{gathered}$ | Actual (10) |
| A Wisconsin, Averages for 1929, 1935, 1936 |  |  |  |  |  |  |  |  |  |  |  |
| 1 | Wages \& salaries | 70.6 | 20.6 | 15.6 | 16.0 | 19.4 | 17.1 | 16.9 | 26.4 | 24.9 | 25.1 |
| 2 | Business \& partnership income | 14.0 | 65.2 | 29.1 | 31.4 | 33.8 | 19.0 | 20.3 | 1.0 | 17.2 | 17.9 |
| 3 | Rent | 2.4 | 84.7 | 12.4 | 21.3 | 15.3 | 7.5 | 15.0 | 0.0 | 7.3 | 17.2 |
| 4 | Interest | 4.5 | 84.0 | 26.8 | 43.8 | 14.3 | 9.9 | 14.6 | 1.7 | 8.5 | 12.0 |
| 5 | Dividends | 5.9 | 93.7 | 61.3 | 76.1 | 5.7 | 7.1 | 8.8 | 0.7 | 4.5 | 5.3 |
| 6 | Other | 2.6 | 76.0 | 18.1 | 26.2 | 24.0 | 4.9 | 13.3 | 0.0 | 4.0 | 17.1 |
| 7 | Total | 100.0 | 36.7 | 20.8 | 23.5 | 20.5 | 15.9 | 16.6 | 19.0 | 21.0 | 21.9 |
| B Delaware, Averages for 1936-38 |  |  |  |  |  |  |  |  |  |  |  |
| 8 | Wages \& salaries | 58.8 | 21.4 | 16.1 | 17.5 | 13.8 | 12.7 | 12.5 | 18.9 | 17.7 | 17.6 |
| 9 | Business \& partnership income | 9.6 | 57.5 | 23.4 | 26.6 | 32.6 | 15.1 | 16.1 | 9.9 | 15.6 | 16.3 |
| 10 | Rent | 2.0 | 74.1 | 8.4 | 21.2 | 25.4 | 9.2 | 16.3 | 0.4 | 7.8 | 17.7 |
| 11 | Interest (incl. fiduciary income) | 10.1 | 92.4 | 74.2 | 81.6 | 6.4 | 5.8 | 6.0 | 1.2 | 2.8 | 3.7 |
| 12 | Dividends | 19.1 | 95.4 | 83.9 | 89.8 | 4.2 | 4.5 | 4.5 | 0.4 | 2.5 | 2.3 |
| 13 | Other | 0.5 | 99.6 | 5.8 | 24.6 | 0.4 | -5.9 | 18.2 | 0.0 | 4.3 | 14.4 |
| 14 | Total | 100.0 | 47.7 | 35.7 | 39.0 | 13.1 | 10.5 | 10.7 | 12.3 | 12.7 | 13.0 |

Derived from the sources and by the methods indicated for the top group in Table 27. Number of returns in each group in each year:


 $86,224-84,226$ 1,910
4,163
8,488 84,296

49,985
91,489
$\{441,341$ (for Assumptions $1 \& 2$ ) 443,350 (actual) 1929 23,948
50,828
104,730
476,173
Top group
1st group from top
2nd group from top
All returns
the second from the top, about twice as many as the group just above it, i.e., about four times as many as the top group. Thus, about 5 percent of Wisconsin returns were included in the top group; about 10 in the next to the top; and about 20 in the second from the top. The corresponding percentages for Delaware were about 2.5, 5, and 10 respectively. The second from the top group thus carries us well below the upper groups distinguished in the federal data. Since the groups covered in Table 27 represent the top 1-2 percent of the total population, those in Table 29 represent roughly the 2 nd -5 th and the 6 th- 10 th percentage band respectively.

The results indicate that combination contributes even less to the relative income advantage of groups just below the top than to the top. In both Wisconsin and Delaware the difference between the share based on Assumption 2, no combination, and the share actually received is less than 1 percent of total income. And were we to extend the analysis downward, the contribution of combination would obviously become even smaller, finally disappearing except possibly at the very low income brackets associated with retirement or unemployment where total receipts may be made up of small payments from several sources.

As we extend the analysis downward, the estimates assuming maximum combination soon run into a condition where all of a given income type is absorbed by a small top group and none remains for the next group. This is true of practically all types except wages and salaries. In other words, under Assumption 1 all the receipts from these types are already accounted for in the three upper groups and none remains for the groups below them (the sum of columns 2,5 , and 8 in each of lines $2-6$ and $9-13$ is 100 percent or close to it). Hence, below a certain fairly high income level, Assumption 1 yields smaller shares in these types than either Assumption 2 or actual combination. Consequently, for these groups below the top even the share in total income is smaller under the assumption of maximum combination than under Assumption 2 or actual combination (see, e.g., lines 7 and 14 , col. 8-10).

The inequality of distribution within upper groups is magnified by assuming maximum combination, so that there is substantially more inequality under Assumption 1 than under 2 or in actual combination. In the Wisconsin data the range of the share in total income from the top group to the second from the top is, allowing for the fact that the latter has four times as many returns as the former, from 36.7 to 4.8 percent on Assumption 1 - almost eightfold; 20.8 to 5.2 percent on Assumption 2; and 23.5 to 5.5 percent in actuality. The corresponding figures for Delaware range from 47.7 to $3.1,35.7$ to 3.2 , and 39.0 to 3.25 percent respectively. The assumption of maximum combination, if realized, would thus
markedly accentuate the inequality of distribution among the upper income groups themselves. In actual combination the accentuation of inequality due to differences in combination is limited (cf. the shares based on Assumption 2 with those actually received).

## d) Implications

While combination of income of various types, so common among the upper groups, is of limited effect on their income level, it does contribute, at least in small part, to the excess of their per capita income over that of the rest of the population, i.e., to inter-inequality. Likewise, as far as there are gradations within the upper groups themselves with respect to the prevalence of combination and consequently in its effects on their income levels, it does contribute, if in small part, to intra-top inequality.
As remarked in Chapter 1, receipt of income of several types may have the advantage of stabilizing the total income flow over time inasmuch as a decline in the yield from one source may be compensated at least in part, if not fully offset, by an increase (or stability, or a smaller decline) in the yield from other sources. In other words, units at upper levels may not suffer as much from the reduction or complete cessation of one type as units that depend upon a single type. And what is obviously even more important, the receipt of property incomes of diverse types in addition to service incomes betokens the possession of tradeable assets, i.e., reserves, that persons heavily or exclusively dependent upon service incomes may not have.

The fact that within the upper brackets the few units that derive their high incomes from property sources alone receive the bulk of all property income bespeaks an even greater concentration in ownership of property than was revealed by the type of income structure in Chapter 1. As was seen in Table 3, the top 1 percent of the population received during 1919-38 as much as two-thirds of all dividends paid to individuals. We can therefore infer that it may have owned a corresponding proportion of all dividend-yielding securities in the hands of individuals. And the preceding sections have shown that a large proportion of all dividends received by the top 1 percent went to a small fraction of its units, the fraction that derived all or an overwhelming share of its total income from dividends alone. Hence a small fraction of the top 1 percent group may well have received as much as half of all dividends going to individuals. A similar inference is suggested for interest and rent, although no such marked concentration is indicated. Furthermore, recipients of large dividends appeared to be distinct from large holders of interest-yielding assets; and those that held most interest-yielding assets, from those holding rent-
yielding assets. There was thus a distinctive class structure among the small fraction of the top group that depended upon property incomes alone and that therefore formed the dominant ownership group for the country as a whole. ${ }^{15}$

This last inference must, however, be severely qualified in two respects. First, in the underlying data, units are classified by their current year income, and a unit classified at a high income level in a given year because it received a large chunk of dividends in that year may not be at the same relative level a few years later. Hence, the grouping of the units is not by fixed status. Second, all the data just analyzed relate to years prior to 1939, before the recent decline in the proportion of property incomes in total income receipts and in upper group shares. Data are not available to indicate the extent to which these recent shifts in the type structure and size distribution of income modify our inferences with respect to the effects of combination or to the structuring of upper groups by dependence upon various types of income.

## 4 Mobility into and out of Upper Income Groups

a) Evidence

In the procedure by which upper group shares are estimated in Part I, a unit's place in the distribution is determined by its current year income. But since receipts during any one year may be appreciably increased or diminished by transitory factors, classification by its current year income may significantly over- or understate the unit's income status. If the unit's receipts are chiefly from business, an unusually prosperous year may raise it to a notch on the income scale it may not enjoy for scores of years to come; or an unusually poor year may place it at a level far below that to which it is accustomed. Dividends, rents and royalties, even wages and salaries are sensitive to short term fluctuations in economic conditions at large and to the fortunes of specific individuals or families.

This means that in a size distribution of income in which units are classified by income for the current year rather than for a longer period, each income class may contain units that are likely to move out of it immediately, and may exclude units that are likely to move into it shortly and

[^26]perhaps stay in it for years to come. Such mobility into and out of an income class is probably relatively most important at the ends of the distribution. The top income classes may have a large proportion of units that rose to a height unusual for them thanks to some exceptionally favorable turn of fortune; and the lowest income classes may include a large proportion of units that fell to a level unusual for them owing to some exceptionally ill turn of fortune. As has been repeatedly observed, in consequence of this influence of transitory factors on the size distribution of income in any given year, tracing the distribution for earlier or later years by size classes of the given year invariably reveals that the shares of upper groups tend to decline and those of lower groups to rise - a regression of the extremes to the mean of the total distribution. ${ }^{16}$

We are less interested in the existence of such regression, which has been established over and over again, than in its extent and duration. There are several samples for which the published data permit us to observe the degree to which it affects the position of upper income classes; how long it lasts counting from a given initial or terminal year; the dispersion of the units in an upper income class in a given year among income classes in following or preceding years; and the effects of each income type on the regression of class means.

That the income advantage of an upper group of a given year sharply diminishes, judged by its relative position in following or earlier years, is evident in Table 30. Tracing a group that is at the top of the distribution in a given year, we find that the ratio of its average income to the average income of the entire distribution declines as we pass from that year to succeeding or preceding years. In other words, the relative advantage of an upper group selected on the basis of its income in a given year is enhanced by purely transitory factors.

The notable aspects of Table 30, however, lie in the apparently definite limits of the size and duration of the regression. Disregarding the 1914-19 federal sample because of the peculiarities of its selection, ${ }^{17}$ we find that the other samples segregate the top group on one and the same principle: its income position, judged by its income in a base year either at the beginning or end of the period. For all these samples the regression of the top group's mean, i.e., the decline in its ratio to the mean of the entire sample,

[^27]Regression of Top Income Group Mean Expressed as Relative of Mean for Entire Distribution, Various Samples

Appendix B. The ratio of the arithmetic mean income of top 5 percent of families to that of all families is computed for each city, then the results for the 33 cities
averaged.
Calculated from Wisconsin Individual Income Tax Statistics: Changes in Income of Identical Taxpayers, 1929 taxable income of returns of $\$ 5,000$ and over to that of all returns.

7 Calculated from ibid., Tables 3.07-3.12; ratio of the arithmetic mean net taxable income of returns of $\$ 4,000$ and over to that of all returns. $\begin{array}{cc}\begin{array}{c}\text { \% of } \\ \text { Units in } \\ \text { Top Income } \\ \text { Group }\end{array} & \begin{array}{c}\text { Initial or } \\ \text { Terminal }\end{array} \\ \text { Date } & \text { Year } \\ \text { Ratio }\end{array}$

Federal sample of 1,240 returns, 1914-19,

## әdures

## Federal sample of 4,063 returns, 1916-24,

 $\begin{array}{lllll}\text { initial year base } & 3.0 & 1916 & 8.6\end{array}$ initial year baseFinancial Survey
initial year base
L0't 6て6!
4.62
4.96
Line
6 $\begin{array}{cl}\text { Line } & \begin{array}{l}\text { Calculated from Statistics of Income, 1919, pp. } 30-2 \text {; ratio } \\ \text { of the arithmetic mean net income of top } 57 \text { returns to } \\ \text { that of all returns. }\end{array} \\ 2 & \begin{array}{l}\text { Calculated from ibid.; ratio of the arithmetic mean net } \\ \text { income of top } 56 \text { returns to that of all returns. }\end{array} \\ 3 & \begin{array}{l}\text { Calculated from Special lnvestigation of the Bureau of of } \\ \text { Internal Revenue, Senate Document, } 69 \text { th Congress, 1st }\end{array} \\ & \begin{array}{l}\text { Session (submitted Feb. 1926), Report 27, Part 2, pp. } \\ \text { 11-16; ratio of the arithmetic mean economic income of } \\ \text { top 121 returns to that of all returns. }\end{array} \\ 4,5 & \begin{array}{l}\text { Calculated from Mendershausen, Changes in Income Dis- } \\ \text { tribution During the Great Depression (NBER, 1946), }\end{array}\end{array}$
is surprisingly similar, ranging from a fifth to a third, falling little below the former and exceeding the latter only negligibly. While such similarity may be purely accidental, one may legitimately attribute significance to the fact that the regression still leaves the top group of a given year at a great relative advantage over the rest of the distribution. A loss of income advantage there is, but the top group of a given year tends to keep its sizeable relative advantage for quite a number of years.

Limited in its quantitative effects, the process of regression appears to be limited in duration also. In the three samples that cover a long period (from 5 to 8 years, counting from the first year after the base year), it ceases well before the end of the period. Indeed, in none of the three samples does it continue beyond the fourth year following or preceding the base year. The association between the regression and the cyclical fluctuations in average income and in the relative importance of the various types may be at least a partial explanation. If it is, the fact that no cyclical contraction or expansion during the period covered exceeded five years may well explain why the regression does not last longer.

Regression of group means is accompanied by dispersion of the units belonging to an upper income group in a given year among several groups in the following or preceding years. As the transitory factors contributing to their relative income advantage vanish, some units that profited greatly from them in a given year descend in the income scale and other units take their places. The extent of such dispersion is shown in Table 31, the evidence being confined to the movement from or into an upper income group of a given base year.

Here again the data not only confirm the dispersion but also indicate that it is narrow. In the two samples that cover a long period (the federal sample of 537 returns and the Wisconsin sample of identical returns) the dispersion continues only through the second and fourth year respectively, and is then succeeded by a return of concentration. Again only a limited proportion of the top units of a given year are substantially lower in the income scale in other years. In the federal sample the proportion of the units in the top group (Group I) in 1922 that had previously been in the upper half of the distribution (Groups I and II) was not much below 60 percent in any of the preceding six years. In the Wisconsin sample the proportion of units in the top group that remained in the upper quarter of the distribution was never less than 67 percent, or two-thirds. ${ }^{18}$ For the

[^28](concluded on page 136)

Table 31
Dispersion of Units in Top Income Group of a Given Year among Groups of Following or Preceding Years, Various Samples


## Line

1-4 Calculated from Statistics of Income, 1922, pp. 14-5. Group I covers the top 67 returns; Group II, the next 161 returns; Group III, the next 104 returns; and Group IV, the lowest 205 returns. For each year from 1922 back to 1916 the lower limit of net income for each group is determined by the position of the lowest return in the given group in relation to its position within the published net income class, it being assumed that the proportion of income shifted from the published income class into the given income group is the same as the proportion of returns shifted. The returns in Group I of 1922 are then traced to their position in other years with respect to the limits just determined.
5, 6 Calculated from Mendershausen, op. cit., Appendix B and Table 28: the proportion of the top 5 or 50 percent of families in 1929 remaining in either the top 5 percent or the class above the median in 1933.
7-9 Calculated from Wisconsin Individual Income Tax Statistics: Changes in Income of Identical Taxpayers, 1929-1935, Tables 3.01-3.06; Group I covers the top 647 returns; Group II, the next 2,595 returns; and Group III, the lowest 9,942 returns. For each year the net income limits of each group are determined by the procedure outlined in the notes to lines 1-4. The returns in Group I of 1929 are then traced to their position in other years with respect to these net income limits.
10-15 Calculated from Delaware Income Statistics, I, 137-9 (equivalent marital status data). Group I covers the top 3,734 returns; Group II, the next 4,039; Group III, the next 15,777; Group IV, the next 17,197; Group V, the next 14,957; and Group VI, the lowest 17,637.
city distributions during a period marked by an extremely severe contraction, over half of the families that were in the top 5 percent were still there four years later. And in the Delaware sample, for which a very detailed group distribution is feasible but that unfortunately covers only two years, well over eight-tenths of the units that were in the top 5 percent (Group I) in 1937 were still there in 1938. In short, study of the relative income level of its units in earlier or later years reveals mobility out of the top group of a given year; but at least during the periods covered by the samples, such mobility is limited in the sense that quite a large proportion of the units are still at the top a few years later, and a large proportion of those that move remain fairly high in the scale. ${ }^{19}$

The last, and perhaps most interesting, aspect of mobility is the effect of each income type on the regression of top group means (Table 32). Of the three samples for which it can be studied, the 1914-19 federal sample is disregarded because it rather exaggerates the effect, owing to the peculiar principle of its selection. But in character the effect is quite similar to that revealed by the larger federal sample used.

We omit each income type in turn from total income or whatever variant of that total is used in the sample distribution, then observe the regression of the top group mean. Comparison of the latter with the regression of the mean when the given type is included reveals the effect of excluding the type.

The omission of wages and salaries raises the ratio of the top group mean to that of the total distribution in the base year - for the obvious

[^29]| Effect of the Several Income Types upon Regression of Top Income Group Mean, Two Samples |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\%$ of To Om <br> Top <br> Income | Income ted All | Init <br> Ter <br> Y | or <br> inal <br> r | Ratio in |  | Year | m | inni | or | of | riod |
|  | Income | Group (1) | Returns <br> (2) | Date (3) | Ratio (4) | $\begin{aligned} & 1 s t \\ & (5) \end{aligned}$ | $\begin{aligned} & \text { 2nd } \\ & \text { (6) } \end{aligned}$ | $\begin{aligned} & 3 r d \\ & \text { (7) } \end{aligned}$ | $\begin{aligned} & 4 t h \\ & (8) \end{aligned}$ | $\begin{aligned} & 5 t h \\ & (9) \end{aligned}$ | $\begin{aligned} & 6 \text { th } \\ & (10) \end{aligned}$ | $\begin{gathered} 7 t h \\ (11) \end{gathered}$ | $\begin{gathered} 8 t h \\ (12) \end{gathered}$ |
| A Federal Sample of 4,063 Returns, 1916-24, Initial Year Base |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | Total income | 0.0 | 0.0 | 1916 | 8.6 | 7.5 | 6.7 | 6.4 | 5.9 | 6.2 | 6.0 | 6.3 | 6.4 |
| 2 | Excl. salaries, wages, etc. | 2.0 | 6.4 | 1916 | 9.0 | 8.1 | 7.3 | 7.0 | 6.5 | 7.0 | 6.6 | 6.9 | 7.0 |
| 3 | Excl. business \& partnership profits | 29.5 | 32.9 | 1916 | 9.0 | 8.2 | 7.8 | 7.4 | 6.6 | 6.7 | 6.5 | 6.8 | 6.6 |
| 4 | Excl. service incomes | 31.5 | 39.4 | 1916 | 9.7 | 9.1 | 8.7 | 8.4 | 7.5 | 7.7 | 7.3 | 7.6 | 7.4 |
| 5 | Excl. rents \& royalties | 2.3 | 2.8 | 1916 | 8.6 | 7.5 | 6.7 | 6.4 | 5.8 | 6.1 | 6.0 | 6.2 | 6.3 |
| 6 | Excl. interest (taxable) | 8.4 | 9.1 | 1916 | 8.7 | 7.4 | 6.6 | 6.5 | 6.0 | 6.3 | 6.1 | 6.4 | 6.5 |
| 7 | Excl. dividends | 36.8 | 47.9 | 1916 | 7.1 | 4.7 | 4.3 | 3.8 | 3.2 | 3.7 | 3.8 | 3.4 | 4.1 |
| 8 | Excl. property incomes | 67.6 | 59.8 | 1916 | 6.9 | 3.2 | 2.4 | 2.5 | 1.5 | 1.6 | 2.6 | 1.9 | 3.2 |
| B Wisconsin Sample of 13,184 Returns, 1929-35 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Initial Year BaseTotal income, net taxable |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Income excl. wages \& salaries | 44.9 | 74.6 | 1929 | 10.03 | 7.76 | 6.97 | 6.18 | 4.75 | 6.65 | 6.38 |  |  |
| Terminal Year Base |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Income excl. wages \& salaries | 58.5 | 79.8 | 1935 | 10.17 | 8.42 | 3.93 5.88 | 3.915 | 7.42 | 7.92 | 7.79 |  |  |

[^30]reason that wages and salaries are more equally distributed than all other income types together. The effect is small in the case of the federal sample because of the small weight of wages and salaries in the total income of the whole sample; large in the case of the Wisconsin data because the item accounts for such a large proportion of the total income of that sample.

The regression of the top group mean for the highly selective federal sample and for the more comprehensive Wisconsin sample is affected differently by the omission of the wage-salary item. In the federal sample the ratio for total income including the wage-salary item declines from 8.6 in 1916 to 5.9 in 1920, more than 30 percent; when the wage-salary item is excluded, from 9.0 to 6.5 , somewhat less than 30 percent. The reduction in the regression indicates that for the federal sample as a whole the wagesalary item is somewhat more variable than all other income types together. Since we deal here with exceedingly large incomes, where the salary item is mostly managerial compensation and where the sum total of other receipts is dominated by the relatively stable property incomes (interest and dividends ), this is not surprising. In the Wisconsin sample the effect is opposite whether regression is measured forward from 1929 or backward from 1935: the percentage drop in the ratio is increased by excluding wages and salaries - from 39 to 53 percent in the former case; from 21 to 42 in the latter. Here the wage-salary item is definitely less variable because the top group is of wider coverage than the entire federal sample, and because in the residual of other income types, i.e., other than wages and salaries, the highly variable business and partnership profits are important.

For tracing the effects of other income types we have the federal sample alone, but although it consists of rather large incomes the findings may well be typical of other distributions. Business and partnership profits are more equally distributed than the sum total of other incomes; and their removal raises the relative advantage of the top group in the base year from 8.6 to 9.0. The effect on regression is somewhat similar to that of the wage-salary item: exclusion reduces regression - as was to be expected for this volatile item. The exclusion of dividends reduces markedly the income advantage of the top group in 1916, and increases the regression markedly. This means that dividends, being unequally distributed, contribute greatly to the relative income advantage of the top group, and are a relatively more stable source than other income types. Interest (only taxable is included here) and rents appear to be distributed about as equally (or unequally) as all other income types taken together; and their receipts by the top group appear to regress in about the same proportion as do its receipts of all other types combined. Hence the exclusion of either
of these two income types has little effect upon the ratios for 1916 or their relative decline due to regression.

Combining the showing for wages and salaries from the Wisconsin sample with that for other types of income from the federal sample would probably give a reliable picture of the direction if not the size of the effects of the several types upon the regression of upper income group means. Exclusion of wages and salaries or of dividends would tend to accentuate their regression; exclusion of business and partnership income, to reduce it. In other words, salaries and dividends constitute a less variable part of the income of upper groups than of the distribution as a whole; business and partnership profits are more variable for the upper groups of a given year than for the rest of the distribution - more subject to inflation by transitory factors. Interest and rent do not seem to have as severe an effect, i.e., the variable and transitory elements are about the same as characterize the sum total of the other three major income types.
b) Mobility and share of top income group

Clearly the measures of inequality in the distribution of income between the upper and lower groups used in Part I are exaggerated by classifying units by their current year income. The relative income advantage of an upper group in a given year is enhanced by transitory factors which may vanish in the following year or did not exist in the preceding year. By how much does the relative income advantage of an upper group in a given year have to be reduced to be interpreted as that of an upper group selected on the basis of income status characterizing a longer period?

The data permit only a crude guess, and even that is limited to the consideration of a period not much longer than five to seven years. By and large, in any sizeable sample the regression of means for a group corresponding to the top 1 percent involves a maximum reduction of not more than half of the relative income excess in the base year; and for a group that corresponds to the top 5 percent it would range from a quarter to a third. This means that if the top 1 percent in a given year receives about 15 percent of total income, its share 5 or 7 years earlier or later would be not less than 8 percent and presumably average about 12 percent for the period. The corresponding figures for the top 5 percent, assuming that it receives 30 percent of total income in the base year, would be a minimum of 20 percent and probably average about 25 percent for the period.

These average shares for a long period for a group that happens to constitute the top 1 or 5 percent of the population in a given year are not the same as the shares that would be derived from a distribution of units classified by their income status in which each unit is arrayed by its
average income for a long period, say, a decade. The income of the top group in a distribution of units by their given year income is too large in that it includes the transitory gains of units that are also in the top group on the basis of their income status; and too small in that it includes units whose income status is below that of units in the top group but who are raised to the top levels by transitory factors. By holding the composition of a given year's top group constant, as we do when we study the regression of means, we correct the distribution for the excesses over the income status distribution; we do not correct it for the deficiencies. Hence, in a true distribution by income status, upper group shares may be larger than those suggested in the preceding paragraph. In that sense the level of the share of an upper group for a given year compared with that for a preceding or following year may be a minimum estimate of the share of the corresponding group in a true distribution by income status.

A check on this conclusion may be found in Hanna's Analysis of Wisconsin Income (Tables 11 and 12). The top 5 percent of families in the distribution classified by the single year income $(1929,1930)$ receives 23.3 percent of total income (p. 206); the top 5 percent of families in the distribution classified by the two-year income ( 1929 plus 1930), about 21 percent; and the top 5 percent of families in the distribution classified by the three-year income ( 1929 plus 1930 plus 1931), about 20 percent (p. 210). As expected, distribution by income for a three-year period yields a smaller share for the top 5 percent than that for a single year. Is the decline appreciably different from that in the regression of the mean of the top group for a given year? In Table 30, line 6, the ratio of the per return income for the top group (corresponding roughly to the top 5 percent of returns) to the per return income for the entire sample drops from 4.62 in 1929 to 3.31 in 1931, over a quarter. But the average ratio for 1929-31 is 3.90 , about 15 percent less than the ratio for 1929. Thus the effects of conversion to income status and of regression of means for a given base year are about the same. In the light of the sample data, one may suggest that in passing from a distribution by size of income in a given year to a distribution by income status for five years to a decade, the share of the top 1 percent of the former should be cut about a fifth; and that of the top 5 percent, about a seventh.

## Chapter 5

Social Characteristics of Upper Income Groups

The sex, age, education, occupation, industrial affiliation, place of residence (region and size of community), and other such characteristics of recipients in upper income groups should at least furnish clues to the factors that, on the production side, explain why relatively small groups of persons at the top levels get such a large proportion of total income; and the conditions that, on the expenditure side, help to translate inequality in the distribution of money receipts into inequality in shares of real income.

Lack of data - the perennial bane of the empirically minded student takes on, in the present case, two forms. First, while we define upper income groups in terms of single persons and families classified by per capita income, almost all published size distributions of income are of spending units classified by income per unit; and rarely can the latter be adjusted to show the characteristics of a distribution of persons classified by income per capita. When such an adjustment is possible, we make it; otherwise we have to assume that the characteristics of the top group of units classified by income per unit are roughly true of the top group of persons classified by per capita income.

The second difficulty is even more circumscribing. All the characteristics are interrelated. Age, which is significant largely as an approximation to years of experience in an occupation and perhaps also to the period of accumulation of savings, is closely related to occupation; occupation in turn is closely related to education on the one hand, and place of residence, on the other; and size of family is related to place of residence. Hence, to observe the effect of any single factor separately we need a multiple classification in which one base is income, appropriately measured (for our purposes, per capita) and the other bases are all the interrelated characteristics. Such a multiple classification is unavailable, and in view of the smallness of the samples underlying the recent size distributions of income, perhaps it could not be made because the cell totals would be for too few cases. Consequently, we have to deal with each characteristic in a gross rather than in a net way - in only a few cases can we isolate one characteristic from the related ones.

## 1 Sex and Age

Data on sex and age in relation to income level are available in the distribution of Minnesota earners for 1938-39 and in the Census distributions of income recipients for 1947, 1948, and 1949 (Table 33). ${ }^{1}$ In both, the top group is heavily dominated by males, much more so than the total. Though the top group of earners or recipients is not identical with the top group in a distribution of single persons and families by income per capita, they are similar enough to justify the inference that even in the top group as defined by us most recipients (not sharers) are males. That females do not constitute a sizeable proportion of earners or recipients at upper income levels is to be expected, since our economy and society limit opportunities or inducements to women to try for important positions on the upper rungs of the income ladder.

An even more telling characteristic is age. In the top group of Minnesota earners and of income recipients in the Census samples there are many fewer young persons relatively than in the total. Minnesota earners under 25 years account for 13 percent of all earners but for less than 1 percent of the top group; those under 35 , for 35 and 11 percent respectively. In the Census samples persons under 25 account, on the average, for over 18 percent of all income recipients but for only 1.3 percent of the top group. Perhaps more relevant to our analysis are columns 5 and 6 where the age of all family heads and single persons combined is compared with that of the top group (heads of families with incomes of $\$ 10,000$ and over and single persons with incomes of $\$ 2,500$ and over - a rough approximation to a classification by income per capita). Here the higher incomes of older persons tend to be reduced by the rough adjustment to a per capita basis since older persons (except the very old) usually have more dependents. Nevertheless, even in column 6 there is a comparative shortage of young persons in the top group: persons under 35 constitute only 19 percent of the latter but over 26 percent of all family heads and single persons.

A somewhat less conspicuous but equally interesting feature of Table 33 is the showing for persons 65 and over. In the Minnesota distribution, which covers earners and their aggregate earnings including income in kind (especially important because many are farmers), the percentage of this age bracket in the top group slightly exceeds that among all earners.

[^31]Table 33
Percentage Distribution of Earners and Income Recipients by Sex and by Age Classes, Top Group and Total: Minnesota, 1938-1939, and Census Samples, 1947-1949


## Column

1, 2 Calculated from Minnesota Incomes, III, Table 5, p. 13: column 2 is for levels of $\$ 2,500$ and over.
3,4 Averages of annual percentages calculated from Census Report, 1947, Table 15, p. 23, 1948, Table 12, p. 23, 1949, Table 17, p. 30: column 4 is for levels of \$5,000 and over.
5,6 Averages of annual percentages calculated from ibid., 1947 and 1948, Table 5, p. 18,1949 , Table 5, p. 22: column 6 is for families at levels of $\$ 10,000$ and over and single persons at levels of $\$ 2,500$ and over.

In the Census distributions, covering all recipients but only their money income, the proportion of this age bracket in the top group is, on the contrary, distinctly smaller than among all recipients; and this is true also of the distribution of family heads and single persons. The Census data strongly suggest that the proportion of the young and of the very old is lower in the top income group than in the total.

Consequently, persons from 35 through 64, in the prime of experience and active life, predominate in the top income group - a fact often overlooked in discussions of the inequality of income. The incomes of those at the two age extremes, the young and the very old, are distinctly smaller than those they either expect to earn in their prime or did earn before passing it. In the case of the young, an important reason is that the early years
of active participation in the economy are years of apprenticeship and training - and recognized as such, with consequent effect on income. The very old may be physically incapable of fulltime work, lack incentive for full scale activity, and particularly may live on small service and property incomes, supplemented by savings. ${ }^{2}$ In other words, higher incomes in the prime and experienced ages are, in a sense, compensation for low incomes in the young and apprenticeship ages, and preparation, through the accumulation of savings, for low incomes in the very old ages. The effect of this age factor on the relatively high income share of the top group is not fully demonstrated by Table 33, and it is impossible, within the scope of our discussion, to measure it. But its importance seems beyond doubt, and must be borne in mind in any interpretation of the social and economic significance of an unequal distribution of income.

Not only is age related to occupation, but differences in age may in fact reflect concealed occupational differences; for example, a relatively larger proportion of persons 35-44 may be in high income occupations than, say, persons 25-34 years old. Does age, together with training, growth, maturity, and retirement affect the top income group whatever the occupation? Only the Minnesota data provide even a tentative answer.

For each of eight occupational classes we can derive the age distribution of all earners as well as of the top 5 percent (Table 34). The occupational classes are rather broad, and some are heterogeneous. For example, the professional class includes a wide variety ranging from highly skilled independent practitioners to semiprofessional salaried workers such as chorus girls, chiropractors, and laboratory assistants; proprietors and officials range from high executives of large corporations to small retail shopkeepers. Nevertheless, since there are wide differences among these classes with respect to occupation, inter-class comparisons of the difference in age structure between the top 5 percent and all earners within a given class are significant.
${ }^{2}$ Of the 6.4 million men in the armed forces or not employed but receiving income in April 1948, the 1947 incomes of almost 60 percent were less than $\$ 1,000$; and of the 7.4 million women in the same category, about 75 percent (Census Report, 1947, Table 17). Of the 7.2 million men in this category in April 1949, 54 percent received incomes under $\$ 1,000$ in 1948; and of the 8.8 million women, 76 percent (ibid., 1948, Table 14). In March 1950 there were 8.3 million men and 9.1 million women in this category; and of them 55 and 79 percent respectively received 1949 incomes under $\$ 1,000$ (ibid., 1949, Table 19). This combined group of some 14 to 17 million recipients must be dominated by the retired and semi-retired groups who draw on capital to supplement their incomes. Unfortunately, the Census publications do not provide a cross-classification of this group by age that would test its assumed overlapping with the very old.
Table 34

| Percentage Distribution of Earners in Each of Eight Occupational Classes by Age Brackets, Top Group and Total: Minnesota,1938-1939 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Occupational | Under |  |  |  |  |  |  |  |  |  | 65 \& | All |
| Class | 20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | Older | Ages |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Professional Workers |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 0.9 | 11.4 | 15.4 | 14.5 | 15.4 | 12.4 | 9.6 | 6.9 | 6.0 | 2.5 | 5.0 | 100.0 |
| Top 5 percent | 0.0 | 0.0 | 0.0 | 8.0 | 18.5 | 25.8 | 11.6 | 12.1 | 14.8 | 9.2 | 0.0 | 100.0 |
| Proprietors, Managers, \& Officials |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 0.6 | 3.7 | 6.0 | 8.7 | 11.7 | 14.2 | 14.0 | 13.8 | 9.4 | 7.1 | 10.8 | 100.0 |
| Top 5 percent | 0.0 | * | 2.6 | 7.1 | 12.4 | 17.4 | 25.9 | 19.0 | 7.7 | 6.0 | 1.9 | 100.0 |
| Clerical Workers |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5.1 | 18.4 | 15.5 | 13.1 | 11.8 | 12.1 | 8.2 | 6.6 | 4.7 | 2.6 | 2.0 | 100.0 |
| Top 5 percent | 0.0 | 0.2 | 4.0 | 9.4 | 15.1 | 21.1 | 18.5 | 16.0 | 7.9 | 4.8 | 3.1 | 100.0 |
| Craftsmen |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 0.5 | 5.1 | 8.8 | 9.6 | 11.3 | 15.6 | 16.2 | 12.3 | 9.3 | 5.8 | 5.4 | 100.0 |
| Top 5 percent | 0.0 | 0.0 | 1.0 | 8.9 | 8.7 | 17.9 | 26.7 | 14.4 | 8.7 | 5.5 | 8.3 | 100.0 |
| Operatives |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2.4 | 14.3 | 16.2 | 14.8 | 14.8 | 10.9 | 8.3 | 8.6 | 5.1 | 2.4 | 2.0 | 100.0 |
| Top 5 percent | 0.0 | 1.8 | 7.5 | 14.1 | 26.2 | 14.9 | 14.0 | 10.7 | 5.4 | 4.4 | 1.1 | 100.0 |
| Service Workers 8.714 .8 |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8.7 | 14.8 | 11.9 | 7.3 | 8.6 | 10.0 | 9.0 | 8.9 | 8.2 | 6.1 | 6.6 | 100.0 |
| Top 5 percent | 0.0 | * | 18.6 | 4.4 | 8.2 | 25.9 | 15.3 | 16.5 | 4.1 | 6.3 | 0.5 | 100.0 |
| Laborers |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 7.3 | 17.3 | 14.8 | 11.5 | 9.7 | 7.1 | 7.1 | 7.9 | 7.3 | 5.5 | 4.4 | 100.0 |
| Top 5 percent | 0.4 | 2.4 | 9.2 | 19.2 | 14.8 | 12.0 | 16.7 | 7.4 | 8.9 | 5.8 | 3.2 | 100.0 |
| Farmers |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 0.0 | 0.7 | 4.8 | 8.4 | 11.5 | 12.9 | 12.3 | 13.2 | 10.0 | 9.7 | 16.6 | 100.0 |
| Top 5 percent | 0.0 | 1.6 | 5.6 | 2.3 | 14.2 | 8.3 | 13.0 | 13.2 | 12.9 | 15.2 | 13.7 | 100.0 |
| *Less than 0.05 . |  |  |  |  |  |  |  |  |  |  |  |  |
| Calculated from Minnesota Incomes, III, Table 7, pp. 25-8. Having determined the point in the cumulative distribution of the given occupational class at which the top 5 percent line lies, we draw the partition line in each age bracket distribution for that class. <br> The number above this line in each age brac total distributed percentagewise. For the pational class, see ibid., I, 186-9. |  |  |  |  |  |  |  |  |  |  |  |  |

Naturally, the eight occupational classes differ with respect to the age distribution of all earners. Among proprietors, managers, and officials, both urban and rural (i.e., including farmers), older persons constitute a much larger proportion than among wage earners (operatives, service workers, laborers). But within each occupational class the top 5 percent group has either no young members or fewer relatively than the total body of earners. Even in the top 5 percent of clerical workers, operatives, service workers, and laborers - classes with the youngest age structure on the whole - persons under 25 are conspicuously absent or are represented by small percentages. The major difference among occupations in this underrepresentation of younger persons in the top earner group is in the age bracket at which it ceases: 35-39 in the case of professional, proprietor, clerical, and operative classes; 40-44 among craftsmen; but as early as 30-34 for laborers; and, while the pattern is irregular, perhaps as early as 25-29 for service workers, and even earlier, 20-24, for farmers.

In most occupations persons 65 and older constitute a smaller proportion of the top group than of all earners. But there are some significant exceptions: in the clerical class, which includes sales clerks, and in the craftsman class, which includes highly skilled workers and foremen, the proportion is higher than among all earners; and that in the top 5 percent of farmers, while somewhat smaller than among all farmers, is quite high. Obviously, several occupations can be actively pursued beyond the age of 65 without an appreciable loss in earnings. ${ }^{3}$

## 2 Education, Occupation, and Industry

The only recent countrywide sample that relates formal education to income is the Census Bureau's for 1946. The nonfarm population alone is covered, and income is shown for all earners (money income of all types) but not for persons who receive income solely from property or are in the armed forces. The distribution is therefore for a significantly smaller universe than the 1947,1948 , and 1949 Census samples cover.

Nevertheless, the comparison in Table 35 is revealing. As might be expected, persons who have an education well above the average are overrepresented among the top 5 percent of earners (civilians). The 'college' class (i.e., earners with 1 year or more of college) constitutes well over four-tenths of the top 5 percent of earners 25 and older, but only about a seventh of all such earners. A similar excess of the proportion of the col-

[^32]Table 35
Percentage Distribution of Civilian Earners by Years of School Completed, Top Group and Total: Census Sample (nonfarm), 1946

| Civilian Earners by Age Classes | Elementary School |  | High School |  | College |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1-3 | 4 | $1 \text { Year }$ |  |
|  | $\begin{gathered} 7 \text { Years } \\ \text { (1) } \end{gathered}$ | Years (2) | Years (3) | Years (4) | or more (5) | $\underset{(6)}{\text { Total }}$ |
| All, 25 \& older |  |  |  |  |  |  |
| Total | 15.8 | 28.7 | 18.6 | 22.0 | 15.0 | 100.0 |
| Top 5 percent | 3.2 | 15.1 | 12.3 | 25.2 | 44.2 | 100.0 |
| Male, 25-44 |  |  |  |  |  |  |
| Total | 10.3 | 23.7 | 23.0 | 26.3 | 16.7 | 100.0 |
| Top 5 percent | 1.0 | 7.9 | 11.3 | 27.4 | 52.4 | 100.0 |
| Male, 45-64 |  |  |  |  |  |  |
| Total | 23.9 | 38.0 | 13.8 | 13.2 | 11.1 | 100.0 |
| Top 5 percent | 3.8 | 18.2 | 10.2 | 22.1 | 45.7 | 100.0 |
| Female, 25-44 |  |  |  |  |  |  |
| Total | 8.2 | 21.7 | 20.7 | 31.7 | 17.7 | 100.0 |
| Top 5 percent | 1.8 | 7.9 | 20.8 | 33.2 | 36.3 | 100.0 |
| Female, 45-64 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Top 5 percent | 3.4 | 16.6 | 14.3 | 20.0 | 45.8 | 100.0 |

Calculated from Income of the Nonfarm Population: 1946 (Bureau of the Census, Current Population Reports, Series P-60, No. 3), Table 13, p. 22. Having determined the point in the cumulative distribution of the total at which the top 5 percent line lies, we draw the partition line in the distribution for each years-of-schooling class. The number above this line in each class is added, and the total distributed percentagewise.
lege class in the top group is true of both male and female earners, whether between 25 and 44 or between 45 and 64 years old. The proportion of earners with longer formal education rises as we pass from the 45-64 to the $25-44$ age bracket, reflecting the spread of education in recent decades. The larger proportion with higher formal education among female than among male civilian earners when we compare all earners in the two broad age classes is due to a greater selectivity of participation in gainful employment among females, not a higher level of formal education among all females. When we compare the top earner groups, however, the relative importance of the college class appears distinctly greater for males than for females $25-44$, but tends to be about the same for the 45-64 age bracket.

Education is obviously related and subordinate to occupation in the sense that it affects income largely by qualifying a person to engage in one occupation rather than another. This is particularly true of such broad educational classes as are distinguished in Table 35.

The data on occupation are somewhat more revealing (Table 36). The
Table 36
Distribution of Families by Occupation, Upper Income Groups and Total: Consumer Purchases Study, 1935-1936

| Occupational Class \& Community |  | Number of Families (000) in Given Occupational Class WITH INCOME OF |  |  |  | $\%$ of Families in Given Occupational Class WITH INCOME OF |  |  |  | \% Distribution of Families WITH INCOME OF |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | \$5,000 | \$3,500 | \$3,000 |  | \$5,000 | \$3,500 | \$3,000 |  | \$5,000 | \$3,500 | \$3,000 |  |
|  |  | \& over (1) | \& over <br> (2) | \& over <br> (3) | total <br> (4) | \& over (5) | \& over (6) | \& over (7) | total <br> (8) | \& over (9) | \& over <br> (10) | \& over <br> (11) | total <br> (12) |
| A All Occupational Classes |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | Wage earner | 19.3 | 150.0 | 309.2 | 9,459.3 | 0.2 | 1.6 | 3.3 | 100.0 | 2.4 | 9.2 | 13.0 | 32.2 |
| 2 | Farm | 86.9 | 195.2 | 295.9 | 6,166.6 | 1.4 | 3.2 | 4.8 | 100.0 | 10.9 | 11.9 | 12.4 | 21.0 |
| 3 | Clerical | 66.2 | 241.7 | 422.3 | 3,626.2 | 1.8 | 6.7 | 11.7 | 100.0 | 8.3 | 14.8 | 17.8 | 12.3 |
| 4 | Business salaried | 181.5 | 317.4 | 419.4 | 1,112.6 | 16.3 | 28.5 | 37.7 | 100.0 | 22.9 | 19.4 | 17.6 | 12.3 3.8 |
| 5 | Business indep. | 185.0 | 312.4 | 402.2 | 2,372.6 | 7.8 | 13.2 | 17.0 - | 100.0 | 23.3 | 19.1 | 16.9 | 8.1 |
| 6 | Prof. salaried | 84.2 | 182.9 | 252.4 | 989.2 | 8.5 | 18.5 | 25.5 | 100.0 | 10.6 | 11.2 | 10.6 | 3.4 |
| 7 | Prof. indep. | 127.0 | 172.0 | 199.5 | 340.9 | 37.4 | 50.5 | 58.6 | 100.0 | 16.0 | 10.5 | 8.4 | 1.2 |
| 8 | All other nonrelief | 43.7 | 63.2 | 77.5 | 845.7 | 5.2 | 7.5 | 9.2 | 100.0 | 5.5 | 3.9 | 3.3 | 2.9 |
| 9 | Relief | 0.0 | 0.0 | 0.0 | 4,487.1 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 15.3 |
| 10 | All families | 793.8 | 1,634.8 | 2,378.4 | 29,400.3 | 2.7 | 5.6 | 8.1 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
|  | $B W^{\prime}$ | ge Earn | er Class, | , and Al | Other Oct | upation | al Clas | es Соmb | ined, by | ze of Co | mmunit |  |  |
| $11$ | Wage earner | 7.4 | 47.6 |  |  |  |  |  |  |  |  |  |  |
| 12 | Other incl. relief | 89.4 | 47.6 | 95.3 | 1,368.4 | 0.5 | 3.5 |  | 100 | 3.8 | 13. | 19.7 | 41.5 |
| 13 | Total | 196.8 | 303.1 | 388.6 | 1,926.7 | 9.8 | 15.7 | 20.2 | 100.0 | 96.2 | 86.4 | 80.3 | 58.5 |
| Large Cities 100.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Wage earner | 5.8 | 46.1 | 93.6 | 2,155.1 | 0.3 | 2.1 | 4.3 | 100.0 | 2.7 | 10.1 |  |  |
| 15 | Other, incl. relief | 206.6 | 409.3 | 558.4 | 3,424.2 | 6.0 | 12.0 | 16.3 | 100.0 | 97.3 | 89.9 | 85.4 |  |
| 16 | Total | 212.3 | 455.4 | 652.0 | 5,579.3 | 3.8 | 8.2 | 11.7 | 100.0 | 100.0 | 100.0 | 85.6 100.0 | 100.0 |




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first countrywide sample for the period that permits associating income with occupation is that of the Consumer Purchases Study. 'Nonrelief families', i.e., families receiving no direct or work relief whatever during 1935-36, are divided into eight classes; 'relief families' are treated en bloc. A family is classified by the occupation from which the largest amount of family earnings was derived. The income classification is per family, not per capita. Finally, there may be some lack of independence between the classification by occupation and by income: in many doubtful cases the level of earnings may have helped to decide whether a family was to be classified under the wage earner or the clerical group, under the clerical or the salaried business. Yet despite all these qualifications, the distinctive occupational composition of upper income groups emerges clearly.

Of the top 2.7 percent of families, almost three-quarters, 72.8 percent, receive their earnings chiefly from business or a profession (Table 36, column 9, lines 4-7). Adding those in the miscellaneous class (column 9, line 8), which includes a large group of families whose largest source of income is from pensions or solely from property, raises this percent to somewhat over 78 , the wage earner, farm, and clerical families accounting for somewhat less than 22 percent. When we extend the top group to cover the top 8.1 percent of families, the percentage in business, professional, or miscellaneous occupations drops to 57 , and the percentage in wage earner, farm, or clerical occupations rises to 43 (col. 11). But of all families, wage earner, farm, and clerical families plus those on relief (which should be included) constitute over 80 percent. The contrast between the very top income group and total population in occupational composition can, therefore, be expressed roughly by saying that of the former almost 80 percent are in business, professional, or miscellaneous occupations, of the latter more than 80 percent are in the wage earner, farm, clerical, or relief categories.

As shown below, size of community is closely related to income and is associated with at least some occupational differences. But comparison of upper groups with the total with respect to their relative proportion of wage earner families (data relating occupation to community size are available only for this, the numerically largest occupational class) and of all other families combined indicates that occupation is independent of size of community (Table 36, Part B). Consistently within each community size division wage earner families are a smaller proportion and 'other' families a much larger proportion of upper income groups than of all income groups (col. 9-12). The differential is least in metropolises and small cities, where the 'other' classes obviously include a large admixture of clerical and 'relief' families which are just as unlikely to be in upper
income groups as are wage earner families. The significance of occupation as a factor independent of community size differentials is thus amply confirmed, ás indeed would be expected.

It is important, however, that the community size differential also turns out to be independent of occupation. The proportion of wage earner families among upper income families is higher in metropolises than in large cities; in large cities than in middle-size or small cities; and in small cities than in rural communities (Table 36, Part B, col. 5-8). This means that the composition of upper income wage earner families by community size divisions resembles that of all upper income families: a higher proportion live in metropolises and large cities and a lower proportion in small cities and rural communities than is true of all wage earner families. The same is true of the residual, 'other' class although its occupational heterogeneity renders the result less significant.

The occupational distribution of Minnesota earners can add little to the broad conclusions from the countrywide data for 1935-36 in Table 36. Indeed, the difference between the occupational structure of the top group and of the total in Table 37 is similar to that in Table 36, the professional and entrepreneurial (and managerial) classes combined constituting almost three-fifths of the top earner group but only one-fifth of all earners. The feature of Table 37 is rather that the occupational structure of the top and total earner groups is compared for each age bracket separately. In other words, occupational differences are analyzed separately from age structure.

The distinctive occupational structure of the top group persists even in the several age brackets. Professional workers constitute a much larger proportion of top earners than of all earners in each age bracket with the single and obvious exception of the very young (under 20); and the same holds, without the qualification for the very young, for the proprietor and manager class. The operative, craftsman, and clerical classes, which, on the whole, constitute a smaller proportion of the top group than of all earners, tend to do so also in the age brackets over 20 , over 24 , and over 29 , respectively. But in the young age brackets, these occupational classes are more important among top earners than among all earners, and this is true also of the older age brackets of the clerical and craftsman classes, particularly the former. The service and laborer classes are the two which, like the professional and proprietor classes, exhibit their distinctive - this time, low - position at all age levels. Finally, farmers have a rather distinctive pattern: completely absent from the bracket under 20, they are disproportionately numerous among the top earners from 20-29 years old; disproportionately few among the top earners 30-34 and 40-49;
Table 37
Percentage Distribution of Earners in Each Age Bracket by Occupation, Top Group and Total: Minnesota, 1938-1939

|  | $\begin{aligned} & 09 \\ & 88 \\ & 89 \\ & \hline 9 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 88 \\ & 80 \\ & \hline-0 \end{aligned}$ | $\begin{aligned} & 08 \\ & 888 \\ & 88 \\ & \hline 10 \end{aligned}$ | $\begin{aligned} & \text { 오 } \\ & 888 \\ & \hline 8 \\ & \hline 10 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 88 \\ & 8.8 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 8.8 \\ & 8.8 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\dot{\sim}$ | $0$ | nN | $\underset{\infty}{+N}$ | $\underset{\rightarrow i}{r i}$ | $\begin{aligned} & 0 \\ & 0 i N \\ & \end{aligned}$ |
| $\begin{aligned} & \infty \\ & \omega \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\underset{m}{m}$ | $\begin{gathered} n 0 \\ m N \end{gathered}$ | ${\underset{N}{N}}^{\infty}$ | no | $\begin{gathered} 0 m \\ \mathbb{N}^{2} \end{gathered}$ | $0$ |
| $\begin{aligned} & 0 \stackrel{y}{0} \\ & 0.0 \\ & 3 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $9 \div$ | $\begin{aligned} & \pm \dot{N} \\ & \text { Nic } \end{aligned}$ | No | $\approx \underset{\sim}{9}$ | $\begin{gathered} 0 \times \\ 00 \\ \hline 0 \end{gathered}$ | $6$ |
|  | ${ }_{n} \underset{\sim}{c}$ | $$ | $\begin{aligned} & \text { nN } \\ & \end{aligned}$ | $\begin{aligned} & 0 n \\ & \infty \end{aligned}$ | $\begin{aligned} & 9 \infty \\ & 6 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 n \\ & n \end{aligned}$ | 0. 추



and in the older age brackets they are roughly in the same proportion to top earners as to all earners. However, all these details are in the nature of minor, though intriguing, deviations from the general predominance of professional and urban proprietor classes in upper income groups.

Professional and urban proprietor classes must go through a long training, possess a fair amount of risk-taking capital investment, or both. Consequently, at least part of the higher income of the professional and of some of the managerial classes is a return for extra costs incurred in longer and more expensive training; 4 and part of the higher incomes of entrepreneurs in any year, classified by current income, is in the way of compensation for and insurance against losses in other, less prosperous, years. In other words, the educational and occupational structure of upper income groups suggests that at least part of their current income excess above the average can be attributed to higher past costs or to the greater risk of losses in the future.

The Census samples show the classification of income recipients in 1947, 1948, and 1949, and of heads of families in 1948 and 1949 by their occupation as of April or March of the following year. Averages of these annual data are given in Table 38 for the top group, and for the total. They confirm the evidence of the earlier samples and provide more detail. The larger proportion of the professional and proprietor-manager classes in the top income group than in the total is true also of the subclasses of each - the self-employed and the salaried. The units dependent exclusively upon property incomes (or pay of those in the armed forces) form a much smaller proportion of the top income group than of all recipients, indicating that the majority receive small incomes. And whereas Table 36 showed a much smaller proportion of farm families in the upper income groups than among all families in 1935-36, and Table 37 showed the proportion of farmers in the top earner group in Minnesota in 1938-39 to be somewhat higher than its proportion in the total, the Census averages for 1947-49 show an even greater excess of the proportion of farmers in the top group of recipients over its proportion among all recipients. This reflects the better relative position of farmers in 1947-49 than in 1935-36 or 1938-39; moreover, the Census coverage is confined to money income, i.e., farmers' incomes are more substantially understated than incomes of other occupational classes. However, among family heads, as distinct from all income recipients, the proportion of farmers in the very top group is about the same as for the total, and is distinctly lower in the group just

[^33]Table 38
Percentage Distribution of Income Recipients and Heads of Families by Occupation, Top Income Group and Total: Census Samples, 1947-1949

| Occupational Class | Income Recipients Averages for 1947-49 |  | Heads of Families <br> Averages for 1948 and 1949 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Top 5.8 |  | Top 2.8 | Next 9.8 | Top 12.6 |
|  | $\underset{(1)}{\text { Total }}$ | Percent <br> (2) | Total (3) | Percent <br> (4) | Percent (5) | Percent (6) |
| Total employed civilians | 77.7 | 94.4 | 82.2 | 92.4 | 90.4 | 90.8 |
| Professional workers, total | 4.7 | 16.2 | 4.5 | 16.8 | 10.1 | 11.6 |
| Self-employed | 0.8 | 6.5 | n.a. | n.a. | n.a. | n.a. |
| Salaried | 3.9 | 9.7 | n.a. | n.a. | n.a. | n.a. |
| Semiprofessional workers | 1.0 | 2.3 | 1.1 | 1.0 | 2.1 | 1.8 |
| Farmers \& farm managers | 6.5 | 10.9 | 10.0 | 10.1 | 4.8 | 6.0 |
| Proprietors, managers, \& |  |  |  |  |  |  |
| officials except farm, total | 8.8 | 36.3 | 12.4 | 44.0 | 23.0 | 27.6 |
| Self-employed | 5.3 | 20.5 | 7.6 | 26.9 | 11.5 | 14.9 |
| Salaried | 3.5 | 15.8 | 4.8 | 17.2 | 11.4 | 12.7 |
| Clerical \& kindred workers | 10.1 | 4.1 | 6.0 | 3.0 | 7.6 | 6.5 |
| Salesmen \& saleswomen - | 4.7 | 6.9 | 4.2 | 4.0 | 6.3 | 5.8 |
| Craftsmen, foremen, \& |  |  |  |  |  |  |
| kindred workers <br> Operatives \& kindred 11.0 12.6 15.6 6.3 17.8 15.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Domestic service workers |  |  |  |  |  |  |
| Service workers except |  |  | 5.6 | 1.4 | 3.8 | 3.3 |
| domestic | 5.8 | 0.7 |  |  |  |  |
| $\begin{array}{lllllll}\text { Farm laborers \& foremen } & 2.0 & 0.1 & 1.5 & 0.1 & 0.1 & 0.1\end{array}$ |  |  |  |  |  |  |
| Laborers except farm \& mine | 4.5 | 0.3 | 5.0 | 0.6 | 2.2 | 1.9 |
| In armed forces or not |  |  |  |  |  |  |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*Less than 0.05 .
n.a: not available.

## Column

1, 2 Averages of annual percentages calculated from Census Report, 1947, Table 17, p. 25, 1948, Table 14, p. 25, and 1949, Table 19, p. 32. Column 2 is for levels of $\$ 5,000$ and over. When the percentage distribution of females is not indicated, that for males is used.
3-6 Averages of annual percentages calculated from Census Report, 1948, Table 8, p. 20, and 1949, Table 8, p. 24. Column 4 is for levels of $\$ 10,000$ and over; column 5, for levels of $\$ 5,000$ to $\$ 10,000$; column 6 , for levels of $\$ 5,000$ and over.
below the top. One may conclude that the professional and urban business and managerial classes are always prominent among the upper income groups, but that the proportion of farmers fluctuates widely with the variations in their economic position relative to that of other broad classes.

In general, there is less divergence between upper groups and all income recipients with respect to industrial affiliation than to occupation (Table

Table 39
Percentage Distribution of Income Recipients and Heads of Families by Industry, Top Income Group and Total: Census Samples, 1947-1949

| Industrial Class | Income Recipients Averages for 1947-49 |  | Heads of Families <br> Averages for 1948 and 1949 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Top 5.7 |  | Top 2.8 | Next 9.8 | Top 12.6 |
|  | Total (1) | Percent <br> (2) | Total (3) | Percent <br> (4) | Percent (5) | Percent (6) |
| Total employed civilians* | 77.5 | 94.2 | 82.0 | 92.2 | 90.0 | 90.6 |
| Agriculture, forestry, \& |  |  |  |  |  |  |
| Mining | 1.2 | 1.7 | 1.8 | 0.6 | 1.4 | 1.2 |
| Construction | 4.6 | 6.0 | 6.2 | 4.8 | 6.0 | 5.8 |
| Manufacturing | 21.6 | 21.8 | 22.5 | 18.7 | 28.6 | 26.4 |
| Transportation, communication, \& other public |  |  |  |  |  |  |
|  | 6.5 | 6.2 | 7.8 | 5.6 | 9.8 | 8.8 |
| Wholesale trade | 3.1 | 6.7 | 3.8 | 6.8 | 5.8 | 6.1 |
| Retail trade | 12.3 | 16.4 | 11.4 | 19.8 | 12.0 | 13.7 |
| Finance, insurance, \& |  |  |  |  |  |  |
| Business \& repair services | 1.8 | 2.5 | 2.1 | 1.2 | 1.6 | 1.5 |
| Personal \& domestic services 5.2 1.7 3.0 2.2 2.0 2.0 <br> Professional \& related       |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Government | 3.8 | 4.3 | 4.4 | 2.4 | 6.4 | 5.5 |
| In armed forces or not employed | 22.4 | 5.9 | 18.0 | 7.8 | 9.9 | 9.4 |
| Total ${ }^{*}$ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*Excluding those in amusement, recreation, and related services since their income distribution is not shown in the source.

## Column

1,2 Averages of annual percentages calculated from Census Report, 1947, Table 18, p. 26, 1948, Table 15, p. 26, and 1949, Table 20, p. 33. Column 2 is for levels of $\$ 5,000$ and over. When the percentage of females is not indicated, that for males is used.
3-6 Averages of annual percentages calculated from Census Report, 1948, Table 9, p. 20, and 1949, Table 9, p. 24. Column 4 is for levels of $\$ 10,000$ and over; column 5, for levels of $\$ 5,000$ to $\$ 10,000$; column 6, for levels of $\$ 5,000$ and over.
39). In other words, occupation, with its emphasis on differences in educational and experience requirements and on the extent to which risk capital investment or variability of economic fortunes is involved, has more influence on income inequality. In the industrial distribution diverse occupations tend to be combined and the effects on income spread are thereby damped. When differences between the industrial composition of the top group and of all income recipients are marked, occupational differences are probably responsible. For example, agriculture, construction, whole-
sale trade, retail trade, finance, and professional and related services are industries with larger proportions of proprietor-managerial or other high income occupations. It is for this reason that the proportion of recipients in these industries is larger among the top group than among all recipients. The reverse is true of personal and domestic service workers and of the armed forces-nonemployed property income group because they are dominated by lower income occupations. One is inclined to conclude that industrial affiliation, in and of itself, is not a characteristic with respect to which the top income group and the rest of the population differ significantly.

## 3 Size of Spending Unit

The sample distributions of spending units can be converted to distributions of persons by means of the cross-classification of units by income and by number of persons per unit. Size of unit, unlike the other characteristics, can therefore be studied in an array of income per capita.

Since the composition of the top income group by units of different size is essentially the same in all the sample studies, we present the results for the earliest and for the latest only - the Consumer Purchases Study for 1935-36 and averages from the Census samples for 1947 and $1948{ }^{5}$ (Table 40). The underlying data for the 1935-36 estimates are the set published before the adjustment that reduced the proportion of single persons to economic families (see Ch. 7, note 7). And as already noted, the family as defined in the Census sample is somewhat wider than the spending unit as defined in other size distributions of income.

Taking these qualifications into consideration, one must conclude that the top 5 percent group is much more heavily dominated by small spending units than by large - certainly in comparison with the total population. Thus in 1935-36 single persons and 2-person families accounted for 63 percent of persons in the top 5 percent group, but for only 20 percent of the total population. In the averages for 1947 and 1948 they account for 64 percent of the top 5 percent group and 22 percent of total population. And in the Census data the complete absence from the top 5 percent group of persons from families of more than 4 is striking. One must remember, of course, that the classifications used are not based on a count of spending units but employ the cells in a cross-classification of units by income and by the number of persons per unit. Some families of 5 or more in 1947 and 1948 may have been in an income bracket sufficiently high to remain within the top 5 percent even in an array based on per capita income. But their number must have been quite small; and by and large, as we pass

[^34]Table 40
Percentage Distribution of Persons and Spending Units in Top Income Group and in the Total, by Size of Spending Unit: Sample Data, 1935-36, 1947, and 1948

A Consumer Purchases Study, 1935-1936

| Persons \& Spending |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Income per Spend- | Single ${ }^{\text {- }}$ | 2 | 3-4 | 5-6 | 7 \& over |  |
| ing Unit | Persons <br> (1) | person (2) | person (3) | person <br> (4) | person (5) | Total |
| Persons (1) (3) (4) (5) |  |  |  |  |  |  |
| 1 Total | 8.0 | 12.2 | 33.8 | 26.6 | 19.4 | 100.0 |
| 2 Top 5 percent | 45.2 | 18.0 | 24.5 | 8.5 | 3.8 | 100.0 |
| Spending Units |  |  |  |  |  |  |
| 3 Total | 25.5 | 19.5 | 31.7 | 15.7 | 7.6 | 100.0 |
| 4 Top 5 percent of persons | 71.3 | 14.2 | 11.3 | 2.5 | 0.7 | 100.0 |

B Census Samples, Averages for 1947 and 1948
Families of Specified Number of Related Persons

| Single |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Persons | 2 | 3 | 4 | 5 | 6 | mor <br> $(1)$ | $(2)$ |
| $(3)$ | $(4)$ | $(5)$ | $(6)$ | $(7)$ | Total |  |  |

Persons

| 5 Total | 5.6 | 16.4 | 20.4 | 21.4 | 14.6 | 9.0 | 12.6 | 100.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 Top 5 percent | 19.4 | 44.2 | 22.0 | 14.4 | 0.0 | 0.0 | 0.0 | 100.0 |
| Spending Units |  |  |  |  |  |  |  |  |
| 7 Total | 17.6 | 25.8 | 21.3 | 16.7 | 9.2 | 4.8 | 4.8 | 100.0 |
| 8 Top 5 percent of persons | 37.1 | 42.0 | 14.1 | 6.8 | 0.0 | 0.0 | 0.0 | 100.0 |
| Persons URBAN |  |  |  |  |  |  |  |  |
| 9 Total | 7.0 | 18.2 | 21.4 | 22.4 | 13.9 | 8.1 | 9.0 | 100.0 |
| 10 Top 5 percent | 27.8 | 44.0 | 11.2 | 17.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| Spending Units |  |  |  |  |  |  |  |  |
| 11 Total | 20.6 | 26.8 | 20.9 | 16.4 | 8.1 | 4.0 | 3.2 | 100.0 |
| 12. Top 5 percent of persons | 48.1 | 38.1 | 6.4 | 7.4 | 0.0 | 0.0 | 0.0 | 100.0 |

## Persons

| 13 | Total | 3.9 | 15.1 | 21.1 | 21.6 | 15.8 | 8.7 | 13.8 | 100.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 | Top 5 percent | 11.6 | 43.4 | 29.8 | 11.8 | 3.4 | 0.0 | 0.0 | 100.0 |
| Spending Units |  |  |  |  |  |  |  |  |  |
| 15 | Total | 13.0 | 25.0 | 23.2 | 17.8 | 10.4 | 4.8 | 5.6 | 100.0 |
| 16 | Top 5 percent of persons | 24.6 | 46.3 | 21.3 | 6.4 | 1.4 | 0.0 | 0.0 | 100.0 |


| Persons |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 17 | Total | 3.3 | 12.6 | 16.6 | 17.8 | 15.2 | 12.4 | 22.0 |
| 18 Top 5 percent | 7.2 | 31.6 | 23.4 | 19.4 | 14.6 | .3 .8 | 0.0 | 100.0 |
| Spending Units | 12.1 | 23.0 | 20.1 | 16.3 | 11.1 | 7.6 | 10.0 | 100.0 |
| 19 | Total |  |  |  |  |  |  |  |
| 20 | Top 5 percent |  |  |  |  |  |  |  |
| of persons | 18.4 | 40.4 | 19.7 | 12.4 | 7.4 | 1.6 | 0.0 | 100.0 |

from smaller to larger units, income does not increase pari passu with the number of persons per unit; hence the larger spending units are distinctly underrepresented in the upper groups in any classification by per capita income, even though, as indicated in Chapter 4, they may loom large at upper levels in a distribution by total income per unit.

The distinctive size of unit structure of the top income group is true also of the top groups of the population subdivisions in 1947 and 1948. In each of the three major subdivisions - urban, rural nonfarm, and farm - single persons and 2 -person families account for a larger proportion of persons in the top 5 percent group than of the total. The only noticeable difference between urban and rural (both farm and nonfarm) population is in the size unit at which the proportion in the top income group begins to fall short of the proportion in the total: for the urban sector the 3-person family is the first unit underrepresented; for the rural sector, it is the 4 -person family.

## 4 Place of Residence

The earliest and most detailed sample providing information on place of residence is that of the Consumer Purchases Study for 1935-36: all families are classified by income level and by size of community, ranging from metropolises, i.e., cities with 1.5 million population and over, to farms. We establish the number at a given income level in each community size group, drawing the income dividing lines to set off, for the country as a whole, the top $1.6,5.6$, and 8.1 percent of families (at family income levels of $\$ 7,500$ and over, $\$ 3,500$ and over, and $\$ 3,000$ and over, respectively).

## Notes to Table 40:

Line

## Part A

1 The number of single persons and of persons in families, nonrelief and relief, by size classes, is taken from Appendix 6, Section A, Parts b, e, and f, and added. The total is then distributed by size of unit classes percentagewise.
2 Persons in the total underlying line 1 are ranked by their per capita income per spending unit from the highest to the lowest. Those in the top 5 percent of the array are then distributed by size of unit classes percentagewise.
3 The number of single persons and of families, nonrelief and relief, by size of unit classes, is taken from Appendix 6, Section A, Parts b, d, and f, and added. The total is then distributed by size of unit classes percentagewise.
4 The composition of the top 5 percent group underlying line 2 in terms of units is determined by dividing the number of persons in each size of unit class by the average size of the given class (see notes to Appendix 6, Section A, Parts b and e).
Parts B and C
Averages of annual percentages calculated by the procedure followed for Part A. For the underlying data, see Appendix 6, Section E.

Table 41
Distribution of Families in Upper Income Groups and in the Total, by Size of Community: Consumer Purchases Study, 1935-1936

|  |  | All <br> Commu nities <br> (1) | Metropolises (2) | Large Cities (3) | Middle size Cities (4) | Small Cities (5) | Rural <br> Nonfarm <br> Communities (6) | Farms (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A Number of Families (000) with Income per Family of |  |  |  |  |  |  |  |  |
| 1 | \$7,500 \& over | 470.9 | 136.5 | 129.2 | 42.3 | 47.3 | 68.4 | 47.1 |
| 2 | \$3,500 \& over | 1,634.8 | 350.6 | 455.4 | 164.2 | 215.5 | 253.9 | 195.2 |
| 3 | \$3,000 \& over | 2,378.4 | 484.0 | 652.0 | 246.0 | 342.2 | 358.4 | 295.9 |
| 4 | All families | 29,400.3 | 3,295.1 | 5,579.3 | 3,190.4 | 4,888.2 | 5,680.0 | ,767.2 |
| B | \% Distribution of All Families in Given Size of Community by lncome Group |  |  |  |  |  |  |  |
| 5 | \$7,500 \& over | 1.6 | 4.1 | 2.3 | 1.3 | 1.0 | 1.2 | 0.7 |
| 6 | \$3,500 \& over | 5.6 | 10.6 | 8.2 | 5.1 | 4.4 | 4.5 | 2.9 |
| 7 | \$3,000 \& over | 8.1 | 14.7 | 11.7 | 7.7 | 7.0 | 6.3 | 4.4 |
| 8 | All families | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| C \% Distribution of Families in Given Income Group by Size of Community |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 9 | \$7,500 \& over | 100.0 | 29.0 | 27.4 | 9.0 | 10.0 | 14.5 | 10.0 |
| 10 | \$3,500 \& over | 100.0 | 21.4 | 27.9 | 10.0 | 13.2 | 15.5 | 11.9 |
| 11 | \$3,000 \& over | 100.0 | 20.3 | 27.4 | 10.3 | 14.4 | 15.1 | 12.4 |
| 12 | All families | 100.0 | 11.2 | 19.0 | 10.9 | 16.6 | 19.3 | 23.0 |
| New England |  |  |  |  |  |  |  |  |
| 13 | \$7,500 \& over | 100.0 | 0.0 | 47.3 | 12.6 | 31.0 | 6.7 | 2.4 |
| 14 | \$3,500 \& over | 100.0 | 0.0 | 38.5 | 14.6 | 30.4 | 14.0 | 2.5 |
| 15 | \$3,000 \& over | 100.0 | 0.0 | 36.8 | 16.7 | 28.1 | 15.7 | 2.8 |
| 16 | All families | 100.0 | 0.0 | 29.4 | 23.6 | 22.5 | 16.5 | 7.9 |
| North Central |  |  |  |  |  |  |  |  |
| 17 | \$7,500 \& over | 100.0 | 46.9 | 24.9 | 8.6 | 4.9 | 11.0 | 3.6 |
| 18 | \$3,500 \& over | 100.0 | 39.8 | 25.0 | 9.3 | 9.3 | 8.8 | 7.7 |
| 19 | \$3,000 \& over | 100.0 | 37.5 | 24.6 | 9.3 | 11.3 | 8.3 | 8.9 |
| 20 | All families | 100.0 | 22.6 | 17.4 | 11.6 | 17.2 | 16.3 | 15.0 |
| South |  |  |  |  |  |  |  |  |
| 21 | \$7,500 \& over | 100.0 | 0.0 | 12.8 | 11.9 | 16.2 | 29.0 | 30.1 |
| 22 | \$3,500 \& over | 100.0 | 0.0 | 25.7 | 11.9 | 13.9 | 28.5 | 20.0 |
| 23 | \$3,000 \& over | 100.0 | 0.0 | 26.3 | 12.3 | 14.1 | 27.9 | 19.4 |
| 24 | All families | 100.0 | 0.0 | 15.4 | 7.7 | 13.7 | 23.6 | 39.6 |
| Mountain and Plains |  |  |  |  |  |  |  |  |
| 25 | \$7,500 \& over | 100.0 | 0.0 | 26.1 | 7.8 | 18.3 | 37.3 | 10.5 |
| 26 | \$3,500 \& over | 100.0 | 0.0 | 25.8 | 7.4 | 22.8 | 27.5 | 16.5 |
| 27 | \$3,000 \& over | 100.0 | 0.0 | 22.9 | 7.7 | 25.7 | 25.3 | 18.5 |
| 28. | All families | 100.0 | 0.0 | 11.5 | 6.8 | 19.5 | 27.2 | 35.0 |
| Pacific |  |  |  |  |  |  |  |  |
| 29 | \$7,500 \& over | 100.0 | 0.0 | 48.7 | - 5.0 | 6.2 | 15.3 | 24.7 |
| 30 | \$3,500 \& over | 100.0 | 0.0 | 46.3 | 6.1 | 14.5 | 13.1 | 20.0 |
| 31 | \$3,000 \& over | 100.0 | 0.0 | 45.4 | 7.3 | 17.1 | 12.2 | 18.0 |
| 32. | All families | 100.0 | 0.0 | 41.8 | 10.6 | 16.8 | 17.9 | 12.8 |

Line
1-3 Derived from Consumer Incomes in the United States, Table 9B, p. 97.
4 Nonrelief families as shown in ibid., plus relief families shown in ibid., Table 26B, p. 101. Among the latter none has an income above $\$ 3,000$.
$5-12$ Calculated from lines 1-4.

A larger proportion of families in upper income groups than of all families live in metropolises and large cities (Table 41, lines 9-12). Of the top 1.6 percent, 29 percent reside in metropolises; of all families only 11 percent. For large cities the corresponding percentages are 27 and 19. As a necessary corollary, smaller proportions of families in upper income groups than of all families live in small cities and rural areas, farm and nonfarm: of the top group the proportion is only 35 percent, of all families, almost 60 . This association between size of income and of community expresses itself also through the differentials in per capita income, which are appreciably higher in metropolises and large cities than in small cities or rural areas. ${ }^{6}$

Community-size composition of upper income groups is associated in part with their family size composition. The average number per family (nonrelief) in metropolises and large cities is 3.5 ; in small cities and rural nonfarm communities, 3.7 ; and on farms, 4.5 (see source cited in note 6). But it must be remembered that in Table 41 families are classified by their total income without any adjustment for the number of persons. Hence, lines $9-12$ are understatements, since the number of large family units among the upper income groups is undoubtedly disproportionate to that which would have been included in an array of families by income per person. We are thus justified in concluding that the distinctive communitysize composition of upper income groups reflected in lines 9-12 is independent of family-size composition, and would, in fact, be more conspicuous if adjusted for the latter.

Is the community-size composition of upper income groups the same for the country and for the several regions? This question is answered in lines 13-32. The larger proportion of metropolitan families in upper income groups than in the nation cannot be tested for persistence among regions, since only the North Central states have cities of more than 1.5 million inhabitants. In each of the five regions large city families are a higher proportion of upper income groups than of all families - if we

[^35]
## Notes to Table 41 concluded:

Line
13-5, 17-9, The absolute number of families in each income bracket in the given
21-3, 25-7, community size class is the product of the total for that class as shown
29-31 in ibid., Table 24B, p. 101, and the distributions in ibid., Tables 14B18B, pp. 98-99. The series for metropolises is given in ibid., Table 9B. Application of the dividing lines yields the number of families in the selected income groups; the percentage distribution is then computed.
16, 20,24, The absolute numbers are from ibid., Table 10A, p. 75.
28, 32
confine the comparison to the top 5.6 or 8.1 percent. In three regions the proportion of small city and rural (both farm and nonfarm) families combined is lower in these broad upper groups than in all families. In New England and the Pacific states, their proportion is the same as for all families (the reason may inhere in the industrial and suburban character of many small cities in New England, and the commercial character of agriculture on the Pacific coast - both making for relatively high incomes in the small city-rural areas). On the whole, the distinctive communitysize composition of upper income groups is roughly the same in the several regions.

Finally, inclusion of single persons would tend to sharpen the differences in Table 41. Single persons constitute a higher proportion of consumer units in metropolises and large cities than do families; and their high per capita income and large proportion in upper income groups would increase the excess of the proportion of metropolitan and large city units in upper income groups over their proportion in the total population. While this accentuation of the differences in community-size composition between upper income groups and total population would thus be due to the size of unit factor, some of it may well be due to other factors. Even the upper groups of single persons may have a much greater proportion living in metropolises and large cities (see Table 43).

The data in Table 41 suggest that purely regional differences, unlike other underlying differences, do not tend to make for a distinctive composition of upper income groups. From Table 42 it appears that whatever regional differences exist are due largely to differences in the proportions of communities of different size in each region.

When the regional composition of upper income groups is considered without allowance for the community-size factor, the proportion of North Central families is higher than their proportion in all families, and the proportion of families in the South, and Mountain and Plains regions, distinctly lower (lines 1-4). When we take account of community size, these regional differences fail to appear consistently, if at all (lines 5-24). In large cities, the proportion of North Central families in the more broadly defined upper groups (i.e., families with $\$ 3,000$ and over, or with $\$ 3,500$ and over) is only slightly higher than their proportion in all families; in middle-size cities their proportion is somewhat lower, and in small cities, distinctly lower. Except in farm regions, the proportion of Southern families in the broad upper groups is not lower than their proportion in all families; and similarly, in large and small cities the proportion of Mountain and Plains families in the upper groups is not lower. Furthermore, the pattern is rather erratic when we compare the regional composition of

Table 42
Percentage Distribution of Families in Upper Income Groups and in the Total by Region: Consumer Purchases Study, 1935-1936

| A |  | Percentage All Regions | ge Distributi New England | on of Fam North Central | ies in G South | iven Incom Mountain \& Plains | Group Pacific |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | All Community Size |  |  | Groups |  |  |
| 1 | \$7,500 \& over | 100.0 | 10.5 | 62.0 | 15.4 | 3.3 | 8.9 |
| 2 | \$3,500 \& over | 100.0 | 7.1 | 53.9 | 26.6 | 4.6 | 7.8 |
| 3 | \$3,000 \& over | 100.0 | 6.6 | 54.3 | 26.3 | 5.1 | 7.8 |
| 4 | All families | 100.0 | 6.6 | 49.7 | 30.0 | 6.4 | 7.3 |
|  |  | b Large Cities |  |  |  |  |  |
| 5 | \$7,500 \& over | 100.0 | 17.9 | 56.1 | 7.1 | 3.1 | 15.7 |
| 6 | \$3,500 \& over | 100.0 | 9.8 | 48.4 | 24.5 | 4.3 | 13.0 |
| 7 | \$3,000 \& over | 100.0 | 8.8 | 48.7 | 25.2 | 4.2 | 13.0 |
| 8 | All families | 100.0 | 10.3 | 45.4 | 24.3 | 3.9 | 16.1 |
|  |  | C Middle-size Cities |  |  |  |  |  |
| 9 | \$7,500 \& over | 100.0 | 14.4 | 58.1 | 19.9 | 2.8 | 4.9 |
| 10 | \$3,500 \& over | 100.0 | 10.3 | 50.2 | 31.4 | 3.4 | 4.8 |
| 11 | \$3,000 \& over | 100.0 | 10.6 | 48.9 | 31.3 | 3.8 | 5.5 |
| 12 | All families | 100.0 | 14.5 | 53.1 | 21.2 | 4.0 | 7.2 |
|  |  | D Small Cities |  |  |  |  |  |
| 13 | \$7,500 \& over | 100.0 | 32.5 | 30.8 | 25.1 | 6.0 | 5.6 |
| 14 | \$3,500 \& over | 100.0 | 16.5 | 38.5 | 28.3 | 8.1 | 8.7 |
| 15 | \$3,000 \& over | 100.0 | 12.9 | 42.8 | 25.9 | 9.1 | 9.3 |
| 16 | All families | 100.0 | 9.0 | 51.3 | 24.8 | 7.6 | 7.4 |
|  | E | Rural Nonfarm |  | Communities |  |  |  |
| 17 | \$7,500 \& over | 100.0 | 4.8 | 46.9 | 30.6 | 8.3 | 9.4 |
| 18 | \$3,500 \& over | 100.0 | 6.3 | 30.3 | 48.5 | 8.2 | 6.6 |
| 19 | \$3,000 \& over | 100.0 | 6.8 | 29.9 | 48.5 | 8.5 | 6.3 |
| 20 | All families | 100.0 | 5.7 | 41.9 | 36.7 | 9.0 | 6.8 |
|  |  | F Farms |  |  |  |  |  |
| 21 | \$7,500 \& over | 100.0 | 2.6 | 23.3 | 47.8 | 3.5 | 22.7 |
| 22 | \$3,500 \& over | 100.0 | 1.5 | 34.8 | 44.3 | 6.4 | 13.1 |
| 23 | \$3,000 \& over | 100.0 | 1.5 | 38.8 | 40.8 | 7.5 | 11.3 |
| 24 | All families | 100.0 | 2.3 | 32.4 | 51.5 | 9.8 | 4.0 |

Based on the number of families underlying the distributions in Table 41, lines 13-32.
families receiving incomes of $\$ 7,500$ and over with that of families receiving $\$ 3,500$ or $\$ 3,000$ and over. In short, in terms of the regions distinguished in the data for 1935-36, any substantial differences between the composition of upper group families and all families are due largely to regional differences in the proportions of communities of different size (rural vs. urban, large cities and metropolises vs. small cities); and region is apparently not a significant factor.

The generally much higher proportion of urban dwellers in upper income groups than in the total and the definite tendency for a higher
Table 43
Percentage Distribution of Spending Units in Upper Income Groups and in the Total by Size of Community Census Samples, Averages for 1947 and 1948
TOTAL
$(1)$
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0 ज゙\zh16
and 1948, Table 1, p. 15.


 (3)
17.1


20.9
20.8
12.8
12.8
proportion of the upper groups to live in large communities is true also of a recent year such as 1947 or 1948 as is evident in Table 43.7 Here we examine the place of residence factor for single persons as well as family units. The results, except for families in middle-size and small cities, confirm the observations for 1935-36. The relative dominance of urban dwellers among upper groups, especially in larger cities, is manifest; and one may infer that these residence features have been relatively stable, at least for the last two or three decades.

## 5 Expenditure-Income Patterns

Three of the characteristics discussed in the preceding sections - size of unit, place of residence, and occupation - have a distinct bearing upon the cost of living. Presumably it is cheaper to live in a family than alone, at least on a per capita basis; and presumably cheaper on a farm than in the city. In general, the cost of living is probably higher the larger the community in which one lives. Finally, occupations often involve living in certain neighborhoods, patronizing stores of different levels of costliness (sometimes masked by claims to render more services). It might be of interest to attempt an analysis that would at least suggest how the characteristics of the upper income groups with respect to size of unit, place of residence, and occupation affect their cost of living as compared with that of the population at large.

As the Consumer Purchases Study for 1935-36 is the only one that provides information on all three characteristics as well as on consumer expenditures, we use its data in the experimental calculations below. Since the analytical procedure in Table 44 is similar for all three characteristics, its description for one, the size of unit, will suffice for the others.

For all single persons and for all families, we can derive expenditures per capita by size of per capita income per unit. Expenditures, including gifts and all direct taxes not chargeable to business, and income per family in each size of family income class are reduced to a per capita basis by dividing by the average number per family in the given income class. This does not yield an exact distribution by per capita income, which could be calculated only by computing the per capita income for each family, then reclassifying all families by the size of the latter. But it does yield a working approximation to a distribution by income per capita.

We thus have two sets of series showing per capita expenditures at different levels of per capita income, one for single persons, the other for

[^36]Table 44
Expenditures per Capita (Including Gifts and Taxes) by Single Persons and Nonrelief Families at Identical Levels of Income per Capita
Consumer Purchases Study, 1935-1936


1-8 Per capita income and the percentage of income expended for current consumption (including gifts and taxes), both by income level, are shown in Consumer Expenditures in the United States (National Resources Committee, Washington, D.C., 1939), Table 3, p. 32. The percentage of income expended at the selected income levels per capita ( $\$ 300, \$ 400, \$ 900$, etc.) was computed on the assumption that the change in the logarithm of the percentage of income expended from the published to the selected level was proportionate to the corresponding change in the logarithm of per capita income. Per capita income at the selected level was then multiplied by the percentage of income expended to yield expenditures per capita at that level.
9-12 Income per 2-person family and the percentage of income expended for current consumption (including gifts and taxes) are shown in Family Expenditures in the United States (National Resources Planning Board, Washington, D.C., 1941), Table 61, p. 20. Income per capita was computed. Expenditures per capita at the selected income levels were then estimated by the procedure described for lines 1-8.
column 2
Per capita income and the percentage of income expended for current consumption (including gifts and taxes), both by income level, are shown in ibid., Table 18, p. 6 , and Table 1, p. 1, respectively. Expenditures per capita at the selected income levels were then estimated by the procedure described for column 1.
families. Each is plotted as a regression of per capita expenditures upon per capita income. By selecting certain points on the per capita income scale at identical values for single persons and for families we can, by interpolation, estimate the corresponding per capita expenditures (Table 44, Part A, col. 1 and 2). The per capita income values are selected so as to minimize interpolation yet cover the fullest possible range. The corresponding analysis for 2-person families and for all families is presented in Part B.

Single persons spend more than families per capita at each level of per capita income in Part A. Likewise, 2-person families spend more than 3- or more person families per capita at each level of per capita income (Part B). These differences in per capita expenditures at identical levels of per capita income have various causes. A family may include children whose needs at the given income level are smaller than those of adults (and all single persons are adults). Moreover, the propensity to consume may be greater among single persons than families, among 2-person than larger families; that is, at the same level of income the former will demand a larger real volume of goods and services, contribute more in gifts and taxes, and tend to save a smaller proportion of their income.

Yet it is not only possible but likely that a large part of the differential is due to differences in the cost of one and the same bundle of goods. Food for a single person in the small quantities that can be used before spoiling may cost more than the food a family can buy in bulk; clothes and rent per capita may cost single persons more than families. There may be a similar difference between costs in small and large families. The differences in Table 44, while based upon a classification by family size, may reflect also cost differences between country and city or between cities of different size: single persons and small families tend to be more concentrated in metropolises, larger families on farms and in rural and small urban communities. The well known urban-rural cost differentials in consumer goods may, therefore, go far to explain why in Table 44 single persons and small families consistently spend more per capita than all families or large families - at identical levels of per capita income.

The analysis underlying Tables 45 and 46 parallels that in Table 44: in Table 45 we deal with per capita expenditures, at identical levels of per capita income, of nonrelief families in rural and urban areas (Part A) and of nonrelief urban families in communities of different size (Part B); in Table 46, with per capita expenditures of white, nonrelief, complete families (i.e., both parents live together) in different occupational groups in metropolitan Chicago. Throughout, the social groups whose proportions in the upper income brackets are significantly higher than in the popula-

Table 45
Expenditures per Capita (Including Gifts and Taxes) by Community Size Groups at Identical Levels of Income per Capita, Nonrelief Families
Consumer Purchases Study, 1935-1936

| Per Capita Income |  | A Rural-Urban Differentials in Expenditures |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Rural |  | Col. 3 over | Col. 3 ove |
|  |  | Farm (1) | Nonfarm <br> (2) | Urban (3) | Col. 1 <br> (4) | Col. 2 <br> (5) |
| 1 | \$100 | \$148 | \$125 | \$190 | +28.4 | +52.0 |
| 2 | 200 | 212 | 216 | 239 | +12.7 | +10.6 |
| 3 | 300 | 284 | 304 | 314 | +10.6 | +3.3 |
| 4 | 400 | 341 | 390 | 401 | +17.6 | +2.8 |
| 5 | 600 | 430 | 542 | 567 | +31.9 | +4.6 |
| 6 | 900 | 522 | 751 | 783 | +50.0 | +4.3 |
| 7 | 1,300 | 632 | 937 | 1,068 | +69.0 | +14.0 |
| 8 | 1,700 |  | 1,066 | 1,350 |  | +26.6 |

B City-size Differentials in Expenditures

| Per Capita Income |  | Expenditures per Capita |  |  |  | \% Excess of Col. 3 over Col. 1 (4) | $\%$ Excess of Col. 2 over Col. 1 (5) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Small | Large | Metrop- |  |  |  |
|  |  | Cities (1) | Cities (2) | olises <br> (3) |  |  |  |
| 9 | \$100 | \$142 | \$190 | \$265 |  | +86.6 | +33.8 |
| 10 | 200 | 218 | 222 | 269 |  | +23.4 | +1.8 |
| 11 | 300 | 307 | 313 | 332 |  | +8.1 | +2.0 |
| 12 | 400 | 397 | 398 | 465 |  | +4.5 | +0.3 |
| 13 | 500 | 477 | 488 | 506 |  | +6.1 | $+2.3$ |
| 14 | 600 | 557 | 573 | 594 |  | +6.6 | +2.9 |
| 15 | 700 | 641 | 647 | 681 |  | +6.2 | +0.9 |
| 16 | 900 | 769 | 795 | 847 |  | +10.1 | +3.4 |
| 17 | 1,000 | 832 | 871 | 926 |  | +11.3 | +4.7 |
| 18 | 1,200 | 993 | 1,006 | 1,085 |  | +9.3 | +1.3 |
| 19 | 1,300 | 1,057 | 1,074 | 1,167 |  | +10.4 | +1.6 |
| 20 | 1,800 | 1,342 | 1,417 | 1,608 |  | +19.8 | +5.6 |

Calculated by the procedure described in the notes to Table 44. For Part A the basic data are from Family Expenditures in the United States, Table 41, p. 13, and Table 21, p. 8; Part B, ibid., Tables 195, 196, 199-202, pp. 66-68, income per capita being estimated by dividing income per family by the average number per family in the given size of community as shown in Consumer Incomes in the United States, Table 7, p. 23.
tion at large spend more per capita, at identical levels of per capita income.
It would be easy to exaggerate the significance of Tables 44-46. Even disregarding the fact that they are confined to one year, the relative differences in expenditure levels may be associated not with the social characteristics distinguished, i.e., the number in the family unit or their occupation, but with others whose effects cannot be isolated. A second limitation is that when the income classes are broad, intra-class variations may be significant. But the most serious limitation is raised by the question whether we are measuring differences in the cost of living or in the pro-
Table 46
Expenditures per Capita (Including Gifts and Taxes) by Occupational Groups at Identical Levels of Income per Capita, Nonrelief White Families, Chicago: Consumer Purchases Study, 1935-1936
EXPENDITURES PER CAPITA
EXCESS OF

COL. 8 OVER COL. 3 | Business | $\begin{array}{c}\text { Profes- } \\ \text { sional }\end{array}$ | $\begin{array}{c}\text { Av. of } \\ \text { (6) }\end{array}$ | Col. 8 OVER Col. 3 |  |
| :---: | :---: | :---: | :---: | :---: |
| (7) | (8) 7 | $\begin{array}{c}\text { Absolute } \\ \text { (9) }\end{array}$ | $\begin{array}{c}\text { Percentage } \\ (10)\end{array}$ |  |
| $\$ 458$ | $\$ 447$ | $\$ 454$ | $+\$ 1$ | +0.2 |
| 549 | 537 | 554 | +24 | +4.5 |
| 654 | 630 | 652 | +30 | +4.8 |
| 725 | 696 | 708 | +40 | +6.0 |
| 800 | 791 | 800 | +80 | +11.1 |
| 868 | 856 | 868 | +58 | +7.2 | level in Familit cedure described in the notes to Table 44.

Expenditures in Chicago, 1935-36 (BLS Bulletin 642, II), Table 1.
pensity to consume. If our main object is to ascertain whether an identical good costs the upper income groups more than the population at large, and how much more, such differences in costs of identical goods form only a part, and perhaps a minor part, of the expenditure differentials in Tables 44-46.

Yet one may claim that the analysis strongly suggests two conclusions. First, expenditures at identical levels of income per capita do differ significantly in clear association with the social characteristics noted - so that the distinctive characteristics of upper income groups mean higher expenditures per capita than for total population, at the same level of per capita income. Second, while this expenditure differential may be due to a greater propensity to consume, i.e., willingness, at a given income level, to purchase a larger volume of goods and to save proportionately less, it is highly unlikely that differences in the cost of living do not play a role. Unfortunately one cannot go further and estimate directly the cost of living differentials specifically defined and thus allow for differences in purchasing power between upper income groups and the total population.

## Part III

Income and Savings

## Chapter 6

## Shares of Upper Income Groups in Savings

## 1 Setting of the Problem

Distribution of income by size is of importance in so far as it affects the productivity of the various income classes in turning out the country's total product, determines how people use their income, and measures the economy's contribution to the well-being of the several groups in society. To trace these consequences of the income distribution would be difficult and we do not attempt it even for the shares of upper income groups. The discussion that follows is concerned with only one of the many uses to which data on upper group shares can be applied: an analysis of the effect on savings.

Interest in the apportionment of income between consumption expenditures and savings has been intensified by the strategic role Keynesian theory has assigned to it in influencing cyclical fluctuations and, on some interpretations, trends; moreover, the great depression of the 1930's heightened concern as to how well our economy satisfies the needs of various consumer groups. As a result, several countrywide studies of income, consumer expenditures, and savings, by income size classes, have been made. We can therefore, albeit with some difficulty, study upper group shares in individuals' total savings, relating their level and changes to the level of and changes in shares in income.

The data do not yield adequate annual estimates of even total savings of individuals, let alone savings of upper separately from those of lower income groups. Hence, to derive at least reasonable hypotheses concerning the level of, and particularly short term changes in, upper group shares in individuals' total savings, we must analyze the sample data on savings for the various income size classes.

But first it may be helpful to explore the formal relations between shares in income and in savings. Defining upper groups as we have done throughout this study - as the top 5 percent in a classification by current income per capita - we call the percentage of income received by it $I_{u}$. The average level of $I_{u}$ in the economic income variant was about 30 percent during 1919-38. The income share of the lower groups may be designated $I_{l}$, and since $I_{u}+I_{l}=1$, its average level was about 70 percent.

The percentage shares of upper and lower income groups in individuals'
total savings are $S_{u}$ and $S_{l}$ respectively. The relation between $I_{u}$ and $S_{u}$ (or between $I_{l}$ and $S_{l}$ ) depends upon the proportion of their income units at upper (or lower) income levels save. If we call the savings-income ratio for upper and lower groups $R_{u}$ and $R_{l}$ respectively and the savings-income ratio for all individuals $R_{t}$, the following simple relations can be stated:

$$
\begin{align*}
& S_{u}=I_{u} \dot{R}_{u} / R_{t}  \tag{1}\\
& S_{l}=I_{l} R_{l} / R_{t}  \tag{2}\\
& S_{u}+S_{l}=1 \tag{3}
\end{align*}
$$

and

$$
\begin{equation*}
R_{t}=I_{u} R_{u}+I_{l} R_{l} \tag{4}
\end{equation*}
$$

These equations show that if we wish to study the level of and changes in $S_{u}$ (and $S_{l}$ ) we need to know not only $I_{u}$ (and $I_{l}$ ), which we studied in the preceding chapters, but also $R_{u}$ and $R_{t}$ (or alternatively, $R_{l}$ and $R_{t}$; or $R_{u}$ and $R_{l}$ ). Information regarding the savings-income ratios for upper groups and for all groups (or for upper and for lower groups) is thus indispensable if we are to learn anything about upper group shares in individuals' total savings.

The average level of one of these ratios, $R_{u}$, can be approximated from the sample studies analyzed in detail in Section 3. Let us accept this average level and, in order to demonstrate the effects of changes in $I_{u}$ alone, assume that $R_{u}$ is constant, i.e., does not change during the period under study. Observation of these effects, together with what we know about the movement of the ratio of individuals' total savings to their total income, $R_{t}$, will lead us to formulate the specific question our study of $R_{u}$ and $R_{l}$ should answer.

Calculations based on this assumption appear in Table 47, columns 1-11 where we associate the positions of income groups, i.e., their income multiples, described below, with the savings-income ratios assumed for those positions, specific $R_{u}$ 's. These ratios can be studied for either (a) given percentile groups, i.e., the top 1,5 , etc. percent of the population in each year, or (b) groups at given relative income levels or income multiple positions, i.e., groups that in each year derive incomes $x$ times the average income per capita. Measures under (a) would be more directly relevant to the analysis. But the sample data on expenditures and savings yield more reliable estimates of savings-income ratios for (b). For this reason we couch Table 47 largely in terms of savings-income ratios at income multiple positions.

In columns 1, 4, and 7 we record the percentage shares in total income (economic income variant) received by the three upper groups. When
related to the percentage of the population covered, these shares determine for each year the income multiple position of each group; e.g., in 1919 the income multiple position of the top 1 percent was 14.0 ; of the 2 nd and 3 rd percentage band, 3.4. From the scattered sample evidence on expenditures and savings summarized in Section 3 (excluding that for 1948-50, which became available later) we estimate the savings-income ratio corresponding to the given income multiple position on the assumption that its level is constant for the period covered in Table 47 (col. 2, 5, and 8). Multiplying their income shares by their savings-income ratios, we obtain the hypothetical savings of the three upper groups, expressed in percentages of individuals' total income (col. 3, 6, and 9). The sum of these estimates for the three upper groups gives the savings of the top 5 percent (col. 10).

What would their hypothetical savings be if we assumed that the savingsincome ratio is constant for a given percentile group instead of for a given income multiple position? This assumption can easily be applied by using in columns 2,5 , and 8 a constant instead of a changing savings-income ratio. Setting the constant savings-income ratio for a given group at its mean level for the period, calculating the product of this ratio and the group's share, and adding the products for the three groups, we get column 11: the hypothetical savings of the top 5 percent group, expressed in percentages of individuals' total income, on the assumption that the savingsincome ratio for a given upper percentage band is constant.

In interpreting the results, two cautions must be kept in mind. First, when we convert the average per capita income of an income group (say, the top 1 percent) to an income multiple we identify that group with an income point. But the significance of a given multiple as a factor determining a savings-income ratio may depend upon the income range from which it was derived. Thus the multiple 3 calculated from a range of incomes extending from the multiple 10 down to 0.5 may yield one savings-income ratio; and the multiple. 3 calculated from a range of incomes from 3.1 down to 2.9 , a somewhat different ratio. Hence, there is an element of arbitrariness in passing from income groups to multiples. However, at the high income levels treated here, where the curve of savings-income ratios tends to be asymptotic to a constant or only slowly rising line of ratios, the possible error cannot be large.

The second caution relates to the savings-income ratios. Those yielded by the sample studies of expenditures and savings are usually higher than those yielded by the residual method which employs over-all totals or other approaches. Therefore, the savings-income ratios assumed for the multiples in Table 47 may be somewhat too high, even for the underlying concept of savings, i.e., including depreciation on consumer durable goods

Table 47
Savings of Upper Income Groups as Percentages of Individuals' Total Income Receipts, Assuming Constant Savings-Income Ratios for Given Upper Income Levels, 1919-1945

|  | TOP 1 PERCENT |  |  | 2ND \& 3RD PERCENTAGE BAND |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \% Share |  |  | \% Share |  |  |
|  | in Total |  | Savings | in Total |  | Savings |
|  | Income, | Savings- | as \% of | Income, | Savings- | as \% of |
|  | Economic | Income | Total | Economic. | Income | Total |
|  | Income | Ratio | Income | Income | Ratio | Income |
|  | Variant | (\%) | (1) $\times(2)$ | Variant | (\%) | (4) $\times(5)$ |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| 1919 | 14.0 | 42.10 | 5.9 | 6.8 | 25.80 | 1.7 |
| 1920 | 13.6 | 41.86 | 5.7 | 6.8 | 25.80 | 1.8 |
| 1921 | 16.2 | 43.06 | 7.0 | 9.0 | 29.46 | 2.7 |
| 1922 | 15.6 | 42.84 | 6.7 | 8.0 | 28.00 | 2.2 |
| 1923 | 14.0 | 42.10 | 5.9 | 8.5 | 28.60 . | 2.4 |
| 1924 | 14.7 | 42.48 | 6.2 | 8.4 | 28.60 | 2.4 |
| 1925 | 15.7 | 42.88 | 6.7 | 8.1 | 28.00 | 2.3 |
| 1926 | 15.8 | 42.92 | 6.8 | 8.2 | 28.30 | 2.3 |
| 1927 | 16.5 | 43.15 | 7.1 | 8.4 | 28.60 | 2.4 |
| 1928 | 17.2 | 43.34 | 7.4 | 8.3 | 28.30 | 2.3 |
| 1929 | 17.2 | 43.34 | 7.4 | 8.5 | 28.60 | 2.4 |
| 1930 | 15.6 | 42.84 | 6.7 | 8.4 | 28.60 | 2.4 |
| 1931 | 15.6 | 42.84 | 6.7 | 9.0 | 29.46 | 2.7 |
| 1932 | 15.3 | 42.72 | 6.5 | 9.3 | 30.01 | 2.8 |
| 1933 | 14.4 | 42.33 | 6.1 | 8.9 | 29.18 | 2.6 |
| 1934 | 13.6 | 41.86 | 5.7 | 8.5 | 28.89 | 2.5 |
| 1935 | 13.6 | 41.86 | 5.7 | 8.4 | 28.60 | 2.4 |
| 1936 | 14.7 | 42.48 | 6.2 | 8.0 | 28.00 | 2.2 |
| 1937 | 14.1 | 42.16 | 6.0 | 8.0 | 28.00 | 2.2 |
| 1938 | 12.8 | 41.38 | 5.3 | 8.4 | 28.60 | 2.4 |
| 1939 | 13.3 | 41.68 | 5.5 | 8.4 | 28.60 | 2.4 |
| 1940 | 13.0 | 41.50 | 5.4 | 7.8 | 27.70 | 2.2 |
| 1941 | 12.5 | 41.19 | 5.1 | 7.6 | 27.35 | 2.1 |
| 1942 | 10.8 | 39.84 | 4.3 | 6.8 | 25.80 | 1.8 |
| 1943 | 10.1 | 39.12 | 3.9 | 6.2 | 24.60 | 1.5 |
| 1944 | 9.1 | 37.92 | 3.4 | 5.8 | 23.40 | 1.4 |
| 1945 | 9.5 | 38.40 | 3.6 | 6.0 | 24.00 | 1.4 |

## Column

2, Multiples of average income were derived by dividing the percentage of 5, income received (col. 1, 4, and 7) by the percentage of population receiv8 ing it. To each multiple a savings-income ratio was assigned, set, on the basis of the sample evidence for $1929,1935-36,1941,1942$ (first quarter), 1945, 1946, and 1947 in Section 3, at 17 percent for the multiple 2, 24 percent for the multiple 3,28 percent for the multiple $4,30.8$ percent for the multiple $5,33.2$ percent for the multiple 6,35 percent for the multiple 7 , 37.8 percent for the multiple 9,39 percent for the multiple 10 , and 45 percent for the multiple 25 , and interpolated with an allowance for decreasing increments in the savings-income ratio as the multiple increases.
10 Sum of columns 3,6 , and 9.
11 Sum of products of columns 1, 4, and 7 and a constant savings-income ratio. The constant ratio for column $1,41.859$ percent, is the arithmetic mean of column 2 for $1919-45$; that for column $4,27.735$ percent, the arithmetic mean of column 5; and that for column 7, 24.037 percent, the arithmetic mean of column 8.
12, a) To the NBER estimates of individuals' savings for 1919-38 (National
13 Income and Its Composition, 1919-1938, Table 39, p. 276) and the Depart-

| $4 \mathrm{TH} \& 5$ | PERCENT | ge band | TOP 5 Saving | ERCENT as $\%$ of | Rank of (Upwa Top 5 Perc | f Share <br> ard) of <br> ent Group |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% Share |  |  | Total | ncome | in Total | Savings |
| in Total |  | Savings | Assumin | Constant | Assuming | Constant |
| Income, | Savings- | as \% of | Savings-I | come Ratio | Savings-Inc | come Ratio |
| Economic | Income | Total |  | Given |  | Given |
| Income | Ratio | Income | Income | Percentage | Income | Percentage |
| Variant (7) | $\begin{aligned} & (\%) \\ & (8) \end{aligned}$ | (7) $\times(8)$ (9) | multiple (10) | $\begin{aligned} & \text { band } \\ & \text { (11) } \end{aligned}$ | multiple <br> (12) | $\begin{aligned} & \text { band } \\ & \text { (13) } \end{aligned}$ |
| 5.3 | 21.60 | 1.1 | 8.8 | 9.0 | 6 | 6 |
| 5.3 | 21.60 | 1.1 | 8.6 | 8.9 | 10 | 10 |
| 6.5 | 25.40 | 1.7 | 11.3 | 10.8 | 26 | 26 |
| 6.8 | 25.80 | 1.7 | 10.7 | 10.4 | 20 | 20 |
| 5.6 | 22.80 | 1.3 | 9.6 | 9.6 | 12 | 12 |
| 6.0 | 24.00 | 1.4 | 10.1 | 9.9 | 19 | 19 |
| 6.4 | 25.00 | 1.6 | 10.6 | 10.4 | 14 | 14 |
| 6.3 | 24.60 | 1.5 | 10.6 | 10.4 | 18 | 18 |
| 6.3 | 25.00 | 1.6 | 11.1 | 10.7 | 17 | 17 |
| 6.6 | 25.40 | 1.7 | 11.5 | 11.1 | 21 | 21 |
| 6.2 | 24.60 | 1.5 | 11.4 | 11.0 | 15 | 15 |
| 6.7 | 25.40 | 1.7 | 10.8 | 10.5 | 23 | 23 |
| 7.4 | 27.00 | 2.0 | 11.3 | 10.8 | 22 | 22 |
| 7.5 | 27.35 | 2.1 | 11.4 | 10.8 | 24 | 24 |
| 7.6 | 27.35 | 2.1 | 10.7 | 10.3 | 27 | 27 |
| 7.1 | 26.20 | 1.9 | 10.0 | 9.7 | 25 | 25 |
| 6.8 | 25.80 | 1.8 | 9.8 | 9.6 | 13 | 13 |
| 6.5 | 25.40 | 1.7 | 10.2 | 10.0 | 8 | 8 |
| 6.4 | 25.00 | 1.6 | 9.8 | 9.7 | 11 | 11 |
| 6.6 | 25.40 | 1.7 | 9.4 | 9.3 | 16 | 16 |
| 6.4 | 25.00 | 1.6 | 9.5 | 9.4 | 9 | 9 |
| 6.3 | 24.60 | 1.5 | 9.1 | 9.1 | 7 | 7 |
| 5.9 | 23.40 | 1.4 | 8.6 | 8.7 | 5 | 5 |
| 5.1 | 21.00 | 1.1 | 7.1 | 7.6 | 3 | 3 |
| 4.8 | 20.30 | 1.0 | 6.4 | 7.1 | 2 | 2 |
| 4.0 | 17.00 | 0.7 | 5.5 | 6.4 | 1 | 1 |
| 4.0 | 17.00 | 0.7 | 5.8 | 6.6 | 4 | 4 |

ment of Commerce estimates of personal savings for 1929-45 (Survey of Current Business, July 1949, Table 3, p. 10) was added the latter's series on depreciation on owner-occupied dwellings as shown for 1929-41 in ibid., July 1947, National Income Supplement, Table 39, p. 47, for 1942-45 in ibid., July 1949, Table 39, p. 25, and extrapolated back to 1919 by an index based on depreciation on all residences (Solomon Fabricant, Capital Consumption and Adjustment, NBER, 1938, Table 29, p. 160) and the ratio of imputed rent to all rent paid on urban dwellings as computed from data underlying the NBER series on total imputed rent.
b) The series for 1919-38 and 1929-45 calculated in (a) were divided by aggregate payments to individuals including depreciation on owner-occupied dwellings from sources cited in (a).
c) The percentages for 1919-38 and 1929-45 calculated in (b) were converted to indexes with 1919-38 as the base.
d) The index for 1919-38 calculated in (c) was extrapolated through 1945 by that for 1929-45.
e) Columns 10 and 11 , each converted to an index with 1919-38 as the base, were divided by the index for 1919-45 calculated in (d), and the ratios ranked in increasing order, to yield columns 12 and 13 respectively.
and residential housing. However, here again a reasonable scaling down of the levels would not greatly affect the significance of the evidence.

The hypothetical savings of upper income groups, whether calculated on the assumption that the savings-income ratio is constant for a given income multiple position (col. 10) or for a given percentile group (col. 11), expressed in percentages of individuals' total income, vary little except for the years since 1939. Their slight fluctuations are counter-cyclical (they rise in 1921 and 1924, decline in 1920 and 1923, and show practically no decline during the great depression of 1929-33).

Columns 10 and 11 should be compared with individuals' total savings, also expressed in percentages of individuals' total income, i.e., $R_{t}$, but unfortunately, there is no reliable series. Available series, derived by the residual method, yield savings-income ratios whose average level is not consistent with the evidence yielded by the samples summarized in Section 3 and used in Table 47. But, for purposes of rough comparison, we took individuals' total savings derived crudely as the difference between aggregate income receipts and consumer expenditures plus taxes; added depreciation on owner-occupied houses; expressed the totals as percentages of all income payments to individuals; converted these percentages to an index with 1919-38 as the base; took the ratio of columns 10 and 11 (also converted to indexes with 1919-38 as the base) to this index; and ranked the ratios from lowest to highest. ${ }^{1}$

The share of the top 5 percent in total savings declined after 1939 and, what is more important here, its movement was counter-cyclical (col. 12 and 13). The years of depression, 1921, 1924, 1932-33, and 1938, are marked by high ranks, indicating a high ratio of upper group to total savings. The years of prosperity, 1919-20, 1923, 1929, and 1936-37, in contrast, are marked by low ranks. ${ }^{2}$

The question we propose to explore can now be posed. Is the assumption underlying Table 47 realistic: that the savings-income ratios for the upper income positions or groups, $R_{u}$, move relatively little during the short periods associated with business cycles? If they are relatively stable in the short run, the share of upper group savings in total savings, $S_{u}$, must vary widely and run counter to business cycles. Only if the savings-income ratios for upper income positions or groups vary with business cycles and much

[^37]more widely than those for lower income positions or groups will this greater variability of the former tend to offset the counter-cyclical movement of their income shares and make for a constant share in individuals' total savings. The question, then, reduces itself to one concerning the relative short term variability of savings-income ratios for upper and lower groups.

## 2 Effect of Changes in Savings-Income Ratios on Changes in Shares in Individuals' Total Savings

Before we study the sample data with an eye to the variability of savingsincome ratios, let us explore the formal relations between changes in the savings-income ratios, i.e., $R_{u}$ and $R_{l}$, and in the shares in savings, i.e., $S_{u}$ and $S_{l}$. Such an analysis will indicate in what form we should compare the variability of the savings-income ratios of upper and lower income groups respectively if we are to be able to draw unequivocal conclusions concerning changes in their shares in total savings.
a) Proportional changes in $R$

We begin with proportional changes in the savings-income ratios largely because they yield simpler results than absolute changes. Assume that proportional changes in $R_{u}$ and in $R_{l}$ are equal and expressible by a factor $A$. If for the initial point of time we retain the designations in equations (1)-(4) in Section 1, and for the next point of time at which the assumed change is observed, we add a plus sign to the subscripts, we get:

$$
\begin{align*}
& R_{t+}=I_{u} R_{u} A+I_{l} R_{l} A=A R_{t}  \tag{5}\\
& S_{u+}=\frac{I_{u} R_{u} A}{A R_{t}}=\frac{I_{u} R_{u}}{R_{t}}=S_{u}  \tag{6}\\
& S_{l+}=\frac{I_{l} R_{l} A}{A R_{t}}=\frac{I_{l} R_{l}}{R_{t}}=S_{l} \tag{7}
\end{align*}
$$

As (6) and (7) show, the same proportional change in the savings-income ratios for upper and lower income groups leaves their shares in savings unaffected.

Assume now a proportional change in $R_{u}$ equal to $A$, and a proportional change in $R_{l}$ equal to $B$, where $B=A(1+m)$.

$$
\begin{align*}
R_{t+} & =I_{u} R_{u} A+I_{l} R_{l} A(1+m) \\
& =I_{u} R_{u} A+I_{l} R_{l} A+I_{l} R_{l} A m \\
& =A\left(R_{t}+I_{l} R_{l} m\right) \\
& =A\left(R_{t}+S_{l} R_{t} m\right) \\
& =A R_{t}\left(1+S_{l} m\right) \tag{8}
\end{align*}
$$

$$
\begin{align*}
& S_{u+}=\frac{I_{u} R_{u} A}{A R_{t}\left(1+S_{l} m\right)}=\frac{I_{u} R_{u}}{R_{t}}\left(\frac{1}{1+S_{l} m}\right)=S_{u}\left(\frac{1}{1+S_{l} m}\right)  \tag{9}\\
& S_{l+}=\frac{I_{l} R_{l} A(1+m)}{A R_{t}\left(1+S_{l} m\right)}=S_{l}\left(\frac{1+m}{1+S_{l} m}\right) \tag{10}
\end{align*}
$$

As (9) and (10) show, different proportional changes in the savingsincome ratios of upper and lower income groups alter their shares in total savings. The proportional change in upper group shares in savings is measured by the ratio $\frac{1}{1+S_{l} m}$ since it equals $\dot{S}_{u+} / S_{u}$ (from equation 9 ); and that in the share of lower groups by $\frac{1+m}{1+S_{l} m}$ (from equation 10).

Let us assume that $S_{l}$ is positive, i.e., that the lower income groups do save; and that $m$ never becomes algebraically smaller than -1 (if it did; $S_{l+}$ would be negative). Under these reasonable assumptions, we can compare the proportional change in $S_{u}$ and $S_{l}$ respectively with the relative difference between $A$ and $B$.

| Line | Sign of $m$ <br> $(1)$ | $\frac{S_{u+}}{S_{u}}$ | $\frac{S_{l+}}{S_{l}}$ |
| :---: | :---: | :---: | :---: |
|  | (2) | $(3)$ |  |
| 1 | Plus | $\frac{1}{1+S_{l} m}>\frac{1}{1+m}$ | $\frac{1+m}{1+S_{l} m}<1+m$ |
| 2 | Minus | $\frac{1}{1-S_{l} m}<\frac{1}{1-m}$ | $\frac{1-m}{1-S_{l} m}>1-m$ |

Since $S_{l}$ is necessarily a proper fraction, a positive $m$, i.e., a larger proportional increase (or smaller decrease) in the ratio for lower income groups, increases their share in total savings and decreases that of upper groups. But as can be seen from line 1, the proportional increase in the savings share of lower income groups is smaller than $(1+m)$, i.e., than the relative difference between $A$ and $B$. Likewise, when $m$ is negative, both the proportional increase in the share of upper income groups in total savings and the proportional decrease in that of lower groups are smaller than the relative difference between $A$ and $B$. The point to note is that the analysis of proportional changes in the savings-income ratios for upper and for lower income groups does not suggest consistent differences in the sensitivity of their shares in total savings.
b) Absolute changes in $R$

The significance of these conclusions becomes evident when we contrast them with the effects of absolute changes in $R_{u}$ and $R_{l}$.
Assume the same absolute change in $R_{u}$ and $R_{l}$, and call it $a$. Then:

$$
\begin{align*}
R_{t+} & =I_{u}\left(R_{u}+a\right)+I_{l}\left(R_{l}+a\right) \\
& =I_{u} R_{u}+I_{u} a+I_{l} R_{l}+I_{l} a \\
& =R_{t}+a\left(I_{u}+I_{l}\right)=R_{t}+a  \tag{11}\\
S_{u+} & =\frac{I_{u} R_{u}+I_{u} a}{R_{t}+a}=\frac{I_{u} R_{u}+I_{u} a}{R_{t}(1+k)} \tag{12}
\end{align*}
$$

where $a=k R_{t}$

$$
\begin{equation*}
S_{l+}=\frac{I_{l} R_{l}+I_{l} a}{R_{t}(1+k)} \tag{13}
\end{equation*}
$$

It follows that:

$$
\begin{align*}
S_{u+}-S_{u} & =\frac{I_{u} R_{u}+I_{u} a}{R_{t}(1+k)}-\frac{I_{u} R_{u}}{R_{t}} \\
& =\frac{I_{u} R_{u}+I_{u} a-I_{u} R_{u}(1+k)}{R_{t}(1+k)} \\
& =\frac{I_{u}\left(R+a-R_{u}-R_{u} k\right)}{R_{t}(1+k)} \\
& =\frac{I_{u}\left(a-R_{u} k\right)}{R_{t}(1+k)}=\frac{I_{u}\left(k R_{t}-R_{u} k\right)}{R_{t}(1+k)}=\frac{I_{u} k\left(R_{t}-R_{u}\right)}{R_{t}(1+k)} \tag{14}
\end{align*}
$$

Likewise:
$S_{l+}-S_{l}=\frac{I_{l} k\left(R_{t}-R_{l}\right)}{R_{t}(1+k)}$
Equations (14) and (15) provide the key to the effects of absolute changes in the savings-income ratios on the percentage shares of upper and lower income groups in total savings. It should be remembered that $R_{t}-R_{u}$ is almost necessarily negative, and $R_{t}-R_{l}$ positive. Consequently, if $a$ (and hence $k$ ) is positive, $S_{u+}-S_{u}$ is negative, whereas $S_{l_{+}}-S_{l}$ is positive. Likewise, when $a$ (and hence $k$ ) is negative, $S_{u+}-S_{u}$ is positive, whereas $S_{l+}-S_{l}$ is negative. In other words, the same absolute increase in the savings-income ratio for upper and lower income groups causes a decline in the former's share in total savings (and a corresponding rise in the latter's share), and the same absolute decline in the savingsincome ratio for the upper and lower income groups causes a rise in the former's share in total savings (and a corresponding decline in the latter's share).

This conclusion is unavoidable inasmuch as we have already observed that only an equal proportional change in $R_{u}$ and $R_{l}$ leaves the savings shares unaffected. But its significance for the analysis that follows warrants special emphasis. Equality of absolute change in savings-income ratios
does not mean temporal stability of $S_{u}$ and $S_{l}$ but rather a change in $S_{u}$ opposite in sign to that in both $R_{u}$ and $R_{l}$. If the absolute changes in $R_{u}$ and $R_{l}$ are in the same direction, as they tend to be during business cycles, their equality would still cause a change in upper group shares in total savings - a counter-cyclical change. Given the same direction of short term changes in $R_{u}$ and $R_{l}$, only an equal proportional amplitude of variations in $R_{u}$ and $R_{l}$ would assure a short term constancy of $S_{u}$ and $S_{l}$.

In the light of the sample evidence to be considered in Section 3 (and already used in Table 47), $R_{u}$ for the upper income groups as we define them is about 5 times as large as $R_{l}$. It is, therefore, extremely unlikely that proportional changes in $R_{u}$ can ever be as large as in $R_{l} .{ }^{3}$ In other words, the smaller proportional variability of $R_{u}$ than of $R_{l}$ is almost in the nature of a mathematical necessity. Hence the empirical analysis of $R_{u}$ and $R_{l}$ is more in the way of measuring the difference in temporal variability than of proving its existence.

## 3 Statistical Evidence on Savings-Income Ratios

## a) Various samples, total population

What are the savings-income ratios at upper and at lower income levels? How do they change over time? To answer these questions we used the Brookings estimates for 1929; the Consumer Purchases Study for 1935-36; the Survey of Spending and Saving in Wartime for 1941 and the first quarter of 1942; and the Surveys of Consumer Finances for 1945-50. Their important defects must be borne in mind in appraising the evidence. ${ }^{4}$
First, the sample studies underrepresent upper income groups in varying degree; and while in some this underrepresentation has been adjusted for, the empirical basis for measurement at the upper levels is slender. In short, for the very groups in whose income disposition we are most interested, the sample data are most limited.

Second, with the possible exception of the 1935-36 study, the thinness of the sample when distributed by size of income and by some other charac-

[^38]reristic (e.g., by urban and rural areas or by family status) makes for irregularity of savings-income patterns.

Third, the years included do not represent a sufficient variety of cyclical experience. Indeed, in the Brookings analysis the income size distribution for 1929 is combined with consumption-savings ratios derived from budget studies covering scattered years from 1918 to 1932. The other studies are based on data for a specific year and none covers a year of marked cyclical depression or trough. Hence, while the years are not at the same stage of cyclical expansion, all are above the cyclical trough and with rising incomes - and similar evidence for years of cyclical trough and with declining incomes is not available, with the single exception of the mild recession from 1948 to 1949. However, some light on savings-income ratios during a period of decline in incomes is provided by the Brookings special sample for 1928-32, discussed in Section 3c.

Fourth, the concept of income used does not correspond to that underlying the national income total. The Brookings distributions are based on income including gains and losses from sales of assets. In the Consumer Purchases Study gifts and transfers from other individuals are included as well as net profits from property bought and sold within the year. In the Surveys of Consumer Finances money income alone is included.

Fifth, the concept of savings does not correspond to the definition implied in national income measurement. In the Brookings study it is seriously affected by the inclusion of capital gains and losses. In practically all the studies savings are gross of depreciation on owner-occupied dwellings unless current expenses happen to exceed current maintenance by an amount equal to the allowable depreciation, and interest accruing to individuals in such institutions as savings banks and life insurance companies is omitted.

Sixth, the unit of classification for both income and savings varies from study to study. The Brookings distribution is among families and single persons. The Consumer Purchases Study and the Survey of Spending and Saving in Wartime are in terms of consuming units which differ from census families in that they exclude members who do not pool their income and expenses. The Surveys of Consumer Finances are in terms of spending units, a concept that seems similar to that of consuming units in the 1935-36 and 1941-42 studies, but it is not clear from the published data whether the definitions coincide in detail.

We now consider how our attempt to compare the results of these several studies removes or reduces these defects and the incomparabilities arising from them. The several steps are described in the notes to the tables
in Appendix 1; here only a minimum summary statement indispensable for understanding the results is given.

1) We tried to adjust the Brookings 1929 distribution to exclude gains and losses on sales of assets. It was easy to approximate the results for the distribution of income by size. But for savings, a problem arose to which we had no ready answer. The savings-income ratios used in that study were derived by applying to the size classes of income including capital gains and losses in 1929 proportions found in various budget studies. The underlying budget studies, with the single exception of the Brookings special sample for 1928-32, were all for incomes in which capital gains and losses were negligible or excluded by definition. We can argue either that (a) consuming units enjoying such gains (or suffering such losses) consider them as bona fide income (or losses) and permit them to affect fully their current consumption and savings patterns (Assumption 1). Their true savings can then be calculated by subtracting the estimated capital gains and losses from the savings as estimated in the Brookings study. Or we can argue that (b) consuming units consider capital gains and losses as purely transitory and do not permit them to affect their current consumption and savings patterns, in which case the latter would reflect income excluding capital gains and losses (Assumption 2). We can, then, estimate income excluding capital gains and losses at successive levels, and apply the savings-income ratios used in the Brookings study for identical levels of income including gains and losses.

No attempt at other adjustments for the concept of either income or savings was made.
2) Because the studies vary in the degree to which they underrepresent upper income groups, direct comparison of the savings-income ratios for the top 1 or 5 percent group in each would be misleading. The same top percentage band in two studies would in fact be two different percentage bands in terms of the total population of the country. We therefore converted the income size classes in each study to classes characterized by income expressed as a multiple of the arithmetic mean income for the given sample study; then adjusted the multiples in each study by the relative discrepancy between the total income shown by the study and that shown by comparable and continuous Department of Commerce series. For example, for 1941-42 the family units with incomes of, say, $\$ 3,000-5,000$, were first expressed as a class whose income was $x$ times the average family income shown by the study; this $x$ was then multiplied by 0.87 , the ratio of total income covered by the study to the comparable Department of Commerce total. Thus, the level of each income size class in each study
was measured relative to a comparable and continuous series derived from the Department of Commerce estimates of national income. ${ }^{5}$

This conversion of the income of a sample unit or class to a multiple or relative of per unit income for the country not only serves to adjust for varying degrees of underrepresentation but also expresses the income position of a unit or class in a more meaningful way than would the absolute dollar value of its income or its relative standing within the sample. Countrywide per unit income is, of course, a rather unrepresentative average. But it is near enough some norm or standard to give a unit that enjoys an income $x$ times it a meaningful relative position. For example, a $\$ 1,000$ income leads to one type of apportionment between expenditures and savings when it is twice countrywide per unit income and to another when it equals the countrywide per unit income. Likewise, a position relative to a countrywide per unit income is more meaningful than a position within a sample that may suffer from various biases. Without claiming too much for this conversion, one could reasonably argue that it is likely to lead to a more useful analysis of savings patterns than relating savings-income ratios to absolute levels of dollar income or to relative positions within each sample.

A final advantage of this conversion is that it makes possible the comparison of the savings-income ratios derived from the samples with our estimates of upper group shares in income, which were measured for groups classified by their position relative to countrywide per capita income.
3) Variation in the unit of count and classification could not be adjusted for. But whenever possible, i.e., for all data except those in the Surveys of Consumer Finances, the family or consuming unit was reduced to a per capita basis and the entire calculation of relative income levels was repeated in terms of income per capita. The reduction was necessarily crude but removed both an element of variability among the several studies and an element that might obscure the savings-income patterns, viz., differences among units, classified by total income, in the number dependent upon that income.
4) Irregularities in the savings-income ratios for the income classes above the lowest ranges in the Surveys of Consumer Finances appeared to be due to the thinness of the samples. We therefore fitted simple straight lines to the ratios (logarithms of income multiples compared with the ratio of the share in savings to the share in income) for these income classes, and read

[^39]the savings-income ratios from these lines instead of taking them directly from the published data. A similar procedure might perhaps have been used to advantage on the 1941-42 study, but the income classes were so few that it did not seem worth while.

Obviously, we did not correct all the major defects of the studies, nor could we. The notable defects that still remain are: the limitation of the Surveys of Consumer Finances to money income; the use of a concept of savings gross of depreciation on owner-occupied dwellings; absence of data for years of declining income and cyclical trough; absence or thinness of sample data for upper income groups.

Table 48 covers all the samples and shows the percentage that savings are of income for consuming or spending units classified by the ratio of their income to the per unit income for the country as a whole derived from the Department of Commerce series.

First, the savings-income ratios are higher the higher the relative levels of income (the multiples), with two exceptions: in column 1, beyond the multiple 7.0 , and in column 4 , from the multiple 0.75 to 1.0 . The first exception is due to Assumption 1 which treats gains and losses from sales of assets as bona fide income, affecting consumption and savings as do the more stable income receipts. Savings as we define them are thereby greatly reduced at high income levels. The second exception, the drop in column 4, may be due either to a peculiar combination of farm and nonfarm families at these particular income levels (see Table 50) or to the thinness of the sample.

Second, beyond a certain upper range of the income multiples the savings-income ratios cease to rise, or at least rise little in comparison with the rise in the relative income level. The clearest indication is in the data for 1929 and 1935-36: the rise in the savings-income ratio, which is quite large as we pass from the multiple 0.25 to 4.0 , slackens appreciably beyond that level and the ratio becomes, as it were, asymptotic to a slowly rising upper limit. ${ }^{6}$

Third, the savings-income ratios at high relative levels of income per unit are fairly stable if we disregard column 1 . At the multiple 2.0 the absolute range is from 13.9 to 19.7 percent, or 5.8 ; at the multiple 3.0 , from 18.5 to 28.6 percent if we include 1945 , and to 24.9 percent if we exclude 1945 , or 10.1 and 6.4 respectively. And the range is even narrower at the higher multiples, although the comparison is circumscribed since fewer

[^40]Table 48
Savings as Percentages of Income, Given Relative Levels of Income per Consuming or Spending Unit Various Samples, 1929-1950

| Qニ incoininio |  |
| :---: | :---: |
|  |  |
|  |  |




| (lines 2-4) | 0.75 | 5.6 | 6.1 | $-1.8$ | 3.5 | 6.4 | 10.5 | 6.6 | 4.3 | 2.8 | (-) $0.0^{*}$ | 3.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (lines 6 \& 7) | 2.50 | 19.2 | 21.6 | 18.0 | 16.6 | 20.4 | 24.1 | 22.3 | 17.8 | 16.2 | 18.7 | 17.8 |
| (lines 6-8) | 3.00 | 21.0 | 24.0 | 21.1 | 19.3 | 22.7 |  |  |  |  |  |  |
| (lines 8-10) | 7.00 | 27.5 | 34.8 | 34.8 |  |  |  |  |  |  |  |  |

* Less than - 0.05 . over-all savings percentage and the ratio of the percentage of savdata in Appendix 1: for columns 1 and 2 , in Table 59; for column from a straight line fitted to the data in Table 66 , and line 1 was
 65; for columns 6-11, lines 2-11 were derived as the product of the sample data.
samples can be used. The lower multiples have much wider absolute ranges. For the multiple 0.75 the range is (excluding 1945) from -1.5 to 8.3 percent, or 9.8 ; for the multiple 0.50 , from -7.4 to 1.9 percent, or 9.3 ; and for the multiple 0.25 , from -32.1 to -9.3 percent, or 22.8 . In view of the narrower absolute range at upper than at lower income levels, the greater relative stability of savings-income ratios at the former is in striking contrast to their relative variability at the latter.

This finding can be made to bear more directly on our earlier analysis if we combine the entries in Table 48 into groups, distinguishing between those at upper and at lower income levels. We exclude the lowest income multiple, 0.25 , thereby weighting the comparison in favor of greater stability of savings-income ratios at upper levels. Also, we assign equal weight to each multiple position, since we do not have any reason to assume that the frequency 'zone' surrounding one multiple is larger or smaller than that associated with another. The results (using Assumption 2 for the Brookings data) reveal even better the smaller absolute variability of savings-income ratios at upper income levels (lines 13-15) than at lower (line 12). Unfortunately, only two of the samples extend to the income multiple range characterizing our top 5 percent group, 6.0 , whereas all cover the lower groups whose average income multiple position is 0.74 , i.e., $70 / 95$. But judging by the entries for 1929 and 1935-36, we would not expect much variation in the ratios at these higher multiple levels.

The exceptional behavior in 1929 on Assumption 1 and in 1945 calls for comment. If Assumption 1 is valid, i.e., if recipients allow their capital gains and losses to affect their current expenditures in the same way as equal amounts of more stable income, the savings-income ratios at upper levels, i.e., for the high multiples, would show more marked short term variations than those in Table 48; for capital gains and losses are incurred primarily and largely by persons in the upper brackets, and if they affect consumption-savings patterns, a counter-cyclical movement is introduced when savings are defined in terms corresponding to the national income concept. Whether Assumption 1 or 2 is more valid is a question that cannot be answered until we have more data. Perhaps the true ratios lie between those in columns 1 and 2. But since the Brookings study derived its consumption-savings ratios from income distributions that were little affected by capital gains and losses, Assumption 2 seemed more justifiable. ${ }^{7}$
${ }^{7}$ We preferred Assumption 2 for another important reason. Though we exclude gains and losses on sales of assets from income, we have to use size classes of income that include them. We therefore continue to include at the upper income levels units which, in a proper classification by economic income, would have been much lower in the income scale because large proportions of their income were from gains on

The exceptional showing for 1945 has entirely different causes. The savings-income ratios at the very low multiples, 0.25 and 0.50 , and at the top, 3.0, are high compared with those for other years. During part of 1945 the country was still at war, so that on the whole we would expect higher savings-income ratios because of restrictions on the supply of consumer goods and the pressure to buy savings bonds. That the ratios at the upper multiples are not even higher than those in Table 48 is probably attributable to the greater impact of income taxes than in pre-World War II years. The very high (compared with other years) ratios at the low multiples in 1945 are thus partly a reflection of the true situation; but may be due partly to the failure of the Survey to cover dissavings adequately ${ }^{8}-$ a failure that may have resulted in overstating particularly the net savings of lower income brackets.

In the light of these comments the following conclusion seems justified. If gains and losses on sales of assets are relatively minor or are treated by recipient units as transitory and have only a partial effect on the true con-sumption-savings pattern, the savings-income ratios for the high income multiples - beginning with 2.0 or 3.0 - tend to show only small absolute short term changes, except in years of a major war and forceful disturbance of consumption patterns. The ratios for the low multiples, 1.0 and below, on the contrary, show much more marked absolute short term changes.

Fourth, since savings-income ratios at high income levels tend to vary relatively little in the short run, and those at low income levels tend to vary considerably, the function that connects them with the relative position of income must obviously undergo short term changes. Table 48 suggests the character of the changes that can be expected. In relatively good years the spread of the savings-income ratios for the same range of income multiples would tend to narrow; in relatively bad years, to widen perceptibly. This statement can best be corroborated for the income classes that have positive net savings. Between multiples 1.0 and 3.0 in relatively prosperous years such as 1929,1942 , and 1945-48 the ratio ranges from $\cdot 6.4-12.9$ to $18.5-28.6$ percent. Thus, with a tripling of the income multiple,

[^41]it is at most tripled. But in 1935-36 the range is from 3.5 to 21.9 percent; in 1941, from 5.0 to 19.3 percent; and in 1949, from 5.0 to 21.8 percent -six- or fourfold. If data permitted extension to higher multiples for all the years up to the range where the rise in the savings-income ratio ceases or retards to an insignificant amount, the change in the function connecting the ratios with relative levels of income through cyclical phases would stand out even more. If savings-income ratios at upper income levels resist cyclical change and those at lower levels fluctuate widely with business cycles, the function connecting savings-income ratios with relative income positions must vary with business cycles - the slope of the line by which the ratio rises with the rise in the income multiple being gentler during expansions and periods of high over-all ratios, and steeper during contractions and periods of low over-all ratios.

In Table 48 savings-income ratios are shown for relative levels of income per consuming or spending unit. For all studies except the Surveys of Consumer Finances we can adjust for the number per unit, by income level. ${ }^{9}$ The results, in Table 49, confirm the conclusions from Table 48 and accentuate the differences in the level and behavior of savings-income ratios at the various income multiples.

For obvious reasons changes in the ratios associated with changes in the relative income level become sharper in Table 49 since here income is divided by the number of persons dependent upon it and reflects more clearly relative position with respect to consumption needs and savings possibilities. For all comparable columns in Tables 48 and 49 the range of the savings-income ratios is wider in the latter. Thus, in Table 48 between multiples 0.25 and 10.0 it is 68.9 percentage points in 1929 (Assumption 2) and 71.9 in 1935-36; in Table 49 it is 77.5 and 77.6 percentage points respectively. Between multiples 0.25 and 3.0 the range in the savings-income ratios in Table 48, columns 2-5, is $54.0,54.0,34.9$, and 47.8 percentage points respectively; in Table 49, 65.5, 62.2, 44.9, and 58.4 respectively.

Second, the tendency of savings-income ratios to approach some upperlevel, or at least for their rate of rise to retard as we approach the high multiples, is also more evident in Table 49. Between multiples 3.0 and 10.0 the ratios in Table 48 rise 14.9 percentage points in 1929 (Assumption 2) and 17.9 percentage points in 1935-36; in Table 49, 12.0 and 15.4 percentage points respectively.

[^42]Tâble 49
Savings as Percentages of Income, Given Relative Levels of Income per Capita: Various Samples, 1929-1942

|  | Multiples of Arithmetic Mean Income per Capita | $\begin{gathered} \text { Brookings Data, } \\ 1929 \\ \text { Assumption } \end{gathered}$ |  | Consumer Purchases Study 1935-36 (3) | Survey of Spending \& Saving in Wartime 1942 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} 1 \\ (1) \end{gathered}$ |  |  | $1941$ (4) | $\begin{gathered} 1 \text { st Qu. } \\ \text { (5) } \end{gathered}$ |
| 1 | 0.25 | -38.8 | -38.9 | -37.5 | -20.5 | -30.6 |
| 2 | 0.50 | -3.9 | -3.5 | -8.2 | -0.6 | -1.5 |
| 3 | 0.75 | 7.9 | 8.4 | -0.8 | 5.6 | 7.8 |
| 4 | 1.00 | 12.3 | 12.9 | 4.2 | 5.1 | 11.4 |
| 5 | 1.50 | 16.9 | 18.0 | 11.5 | 12.6 | 17.4 |
| 6 | 2.00 | 18.8 | 21.0 | 16.9 | 16.5 | 20.9 |
| 7 | 3.00 | 23.1 | 26.6 | 24.7 | 24.4 | 27.8 |
| 8 | 4.00 | 26.8 | 31.0 | 30.1 |  |  |
| 9 | 5.00 | 28.7 | 33.9 | 31.7 |  |  |
| 10 | 7.00 | 29.2 | 37.3 | 35.1 |  |  |
| 11 | 10.00 | 28.2 | 38.6 | 40.1 |  |  |

ARITHMETIC MEANS OFABOVEFOR WIDER GROUPS

| 12 (lines 2-4) | 0.75 | 5.4 | 5.9 | -1.6 | 3.4 | 5.9 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 13 (lines 6 \& 7) | 2.50 | 21.0 | 23.8 | 20.8 | 20.4 | 24.4 |
| 14 (lines 6-8) | 3.00 | 22.9 | 26.2 | 23.9 |  |  |
| 15 (lines 9 \& 10) | 6.00 | 29.0 | 35.6 | 33.4 |  |  |

See notes to Table 48.

Third, the resistance of the ratios at upper income levels to short term changes and the sensitivity of the ratios at lower levels is more conspicuous in Table 49. For multiples 2.0 and 3.0 the range in Table 48 for 1929-42 (Assumption 2 for 1929) is 5.6 and 4.3 percentage points respectively; that in Table 49, 4.5 and 3.4 percentage points respectively. For the four lower multiples, from 1.0 down, the range for these years is $8.1,9.8,7.6$, and 16.5 percentage points in Table 48; and 8.7, 9.2, 7.6 , and 18.4 percentage points in Table 49.

Fourth, it follows from the accentuation of the first three conclusions that the fourth, viz., the short term changes in the function that connects savings-income ratios with the relative income levels, associated largely with business cycles, would also be more conspicuous for distributions in which the relative income level is on a per capita than on a per unit basis.
b) Evidence on savings-income ratios for population subdivisions

Are the relative stability of savings-income ratios at upper income multiples and their variability at lower multiples true for population subdivisions as well as for total population?

Few subdivisions are distinguished in the available sample studies. The Surveys of Consumer Finances for 1945-50 do not admit of subdivisions
comparable with those in earlier samples, all of which separate single persons from families, and farm families from nonfarm, and some of which (those for 1935-36, 1941, and 1942) separate rural nonfarm families from urban. The evidence for these subdivisions is presented in Tables 50 and 51.

The income multiple positions for a given subdivision were calculated relative to the average income for that subdivision: e.g., the average income of single persons in a given income class was calculated as a multiple of the average income for all single persons in the given sample, not as a multiple of the average income for the total sample. And since the average income for each subdivision of the sample was also adjusted - to the countrywide average for the given subdivision - and thus linked to a continuous series of per capita or per unit income for total population, the calculations involved apportioning the total adjustment of the sample among its various subdivisions, sometimes rather arbitrarily.

The first set of comparisons is for single persons and families (Table 50). It covers 1929, 1935-36, and 1941, and omits 1942 since the published data for single persons for that year do not yield acceptable results for the savings-income ratios of the top bracket, derived as a residual. But even for these few years the conclusions are fairly clear.

The first is the difference between the level of savings-income ratios for single persons and for families commented on in Chapter 5 . The data there indicated that, on the whole, at the same absolute income level the savingsincome ratio for single persons is lower, and this is true of the ratio at the same relative income levels as shown for the multiples in Table 50. This is not unexpected when the comparison is for multiples in terms of average income per consuming or spending unit: the family is so much larger a unit than the single person that its average income per unit is also much larger and it follows that a given multiple represents a higher absolute income position for a family than for a single person. It is therefore not surprising that, except for the lowest multiple, 0.25 , the savings-income ratios for single persons in Table 50, Part A, are appreciably lower than those for families at identical multiples in Part B. But the difference, though much smaller, holds even when the data are adjusted to a per capita basis in Part C. Average per capita income is smaller for families than for single persons; nevertheless, at identical multiples, with the exception of the very lowest, the savings-income ratios for single persons are lower than those for families in almost every instance.

The second conclusion is more important in the present connection. Even when we differentiate between single persons and families, the relative stability of savings-income ratios at high multiples and their variability at

Table 50
Savings as Percentages of Income, Given Relative Levels of Income per Consuming Unit and per Capita, Single Persons and Families
Various Samples, 1929-1942

| Multiples of |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Arithmetic |  | Consumer | Survey of Spending |  |
| Mean Income | Brookings Data, 1929 | Purchases | \& Saving in Wartime |  |
| per Unit or | Assumption | Study |  | 1942 |
| per Capita | 1 | 2 | $1935-36$ | 1941 |
|  | (1) | (2) | (3) | (4) |

A Single Persons per Consuming Unit or per Capita

| 0.25 | -16.2 | -16.4 | -10.3 | -27.6 |
| ---: | ---: | ---: | ---: | ---: |
| 0.50 | -7.6 | -7.3 | -5.3 | -10.1 |
| 0.75 | 0.9 | 1.7 | -0.4 | 2.7 |
| 1.00 | 6.9 | 7.7 | 2.6 | 3.2 |
| 1.50 | 13.1 | 13.7 | 8.6 | 8.2 |
| 2.00 | 17.8 | 18.5 | 13.3 | 14.5 |
| 3.00 | 20.9 | 22.6 | 20.5 | 18.0 |
| 4.00 | 21.2 | 24.5 | 25.7 | 21.5 |
| 7.00 | 23.9 | 30.5 | 33.4 |  |
| 10.00 | 26.3 | 34.6 | 38.4 |  |
| 25.00 | 27.8 | 41.7 | 46.4 |  |


|  |  | 39.0 | -40.1 | -14.4 | -25.7 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 0.25 | -39.0 | -39.0 | -8.2 | 0.5 | 2.5 |
| 0.50 | 2.3 | 2.7 | -0.9 | 5.2 | 8.6 |
| 0.75 | 8.4 | 8.9 | 3.8 | 4.9 | 11.6 |
| 1.00 | 11.9 | 12.4 | 10.0 | 11.9 | 17.2 |
| 1.50 | 16.0 | 16.8 | 15.1 | 14.9 | 19.9 |
| 2.00 | 18.1 | 19.9 | 22.6 | 21.1 | 25.2 |
| 3.00 | 22.3 | 25.2 | 28.6 | 27.2 | 30.6 |
| 4.00 | 27.3 | 31.2 | 38.9 |  |  |
| 7.00 | 29.6 | 37.9 | 39.8 |  |  |
| 10.00 | 28.2 | 38.8 | 50.5 |  |  |
| 25.00 | 28.1 | 43.2 |  |  |  |
|  |  | C FAMILIES PER CAPITA |  |  |  |
|  |  | -38.8 | -41.5 | -15.1 | -27.6 |
| 0.25 | -38.8 | -38.8 | -7.7 | 0.0 | 1.1 |
| 0.50 | 2.5 | 3.0 | -0.8 | 5.2 | 8.1 |
| 0.75 | 8.6 | 9.1 | 3.7 | 4.7 | 11.3 |
| 1.00 | 12.2 | 12.8 | 10.3 | 12.5 | 17.9 |
| 1.50 | 16.4 | 17.4 | 15.8 | 16.6 | 21.6 |
| 2.00 | 18.5 | 20.6 | 23.8 | 24.9 | 29.0 |
| 3.00 | 23.3 | 26.7 | 29.6 |  |  |
| 4.00 | 27.7 | 31.6 | 31.3 |  |  |
| 5.00 | 29.5 | 34.7 | 37.9 |  |  |
| 7.00 | 29.6 | 37.9 | 39.7 |  |  |
| 10.00 | 29.0 | 39.0 |  |  |  |

See notes to Table 48.
low multiples persists. For single persons the absolute range (Assumption 2 for 1929 ) is about 4.2 percentage points at multiple $4.0,4.6$ at multiple 3.0, and 5.2 at multiple 2.0. The corresponding absolute range at multiple 0.25 is 17.3 percentage points, at $0.50,4.8$, at $0.75,3.1$, and at $1.0,5.1$. The differences in variability are perceptible, although they are reduced by the smaller number of years compared. They are more obvious in the comparison for families: on a per unit basis the absolute range is below 5 percentage points for multiples from 2.0 to 4.0 ; for multiples 1.0 or below it is close to 10 percentage points or more; and on a per capita basis, the range for multiples 2.0 and 3.0 is also about 5 percentage points, whereas for 1.0 or below it is close to 10 percentage points or more.

Consequently, there must be some systematic relation between the distribution of income among single persons and that among families which, at least during the period studied, permitted differences between these subdivisions in their levels of savings-income ratios and relative stability in their combined savings patterns (on either a per consuming unit or per capita basis). For if a population comprises two subdivisions with distinctly different savings patterns at all income levels, the temporal stability in its savings patterns depends upon the stability or some systematic relation between the two subdivisions.

In Table 51 farm families are compared with nonfarm for four years, on both a per family and a per capita basis. Some of the conclusions suggested can be accepted as at least well founded while others raise new questions about the character of the sample data and hence place additional qualifications on the conclusions in Section 3a.
a) Farm families have a much wider absolute range of savings-income ratios than nonfarm. From multiple 0.25 to multiple 3.0 the savings-income ratios for farm families range from less than -40 percent, even if we disregard the evidence for 1942 which is confined to the first quarter, to about +50 percent; those for nonfarm families. from about -40 per- . cent, disregarding the erratic showing for 1929 , to less than +30 percent. The difference is similar when we omit the lowest multiple, 0.25 , at which the savings-income ratio may gyrate wildly because the base for the percentage calculation, the income itself, may be very small.

This difference is easily explained. The income of farm families is preponderantly from entrepreneurial activities; that of nonfarm families, from wages and salaries. Entrepreneurial income is probably subject to wider intra-group variations, for it can be zero or a deficit whereas wages and salaries can scarcely be less than a given minimum; and we can assume also that its temporal variations are larger than those in wages and salaries. Hence for a given year, entrepreneurs who happen to be at a low income position will tend to have a lower savings-income ratio than wage and

Table 51
Savings as Percentages of Income, Given Relative Levels of Income per Consuming Unit and per Capita, Farm and Nonfarm Families
Various Samples, 1929-1942


## I FARM FAMILIES

| FARM FAMILIES |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: |
| 0.25 | -46.4 | -59.2 | -43.3 | -225.2 |
| 0.50 | -14.3 | -25.2 | -9.2 | -102.2 |
| 0.75 | 1.4 | -5.8 | -0.1 | -3.4 |
| 1.00 | 8.0 | 2.0 | 11.4 | 11.3 |
| 1.50 | 23.4 | 14.9 | 21.5 | 19.1 |
| 2.00 | 32.6 | 24.3 | 29.2 | 40.0 |
| 3.00 | 44.4 | 36.7 | 44.1 | 52.6 |
| 4.00 | 52.8 | 45.3 | 53.5 | 57.5 |
| 5.00 | 60.1 | 50.4 | 63.0 | 62.4 |
| II |  |  |  |  |
| NONFARM FAMILIES |  |  |  |  |
| 0.25 | -60.8 | -60.7 | -37.2 | -11.0 |
| 0.50 | 2.6 | 3.2 | -6.4 | -0.8 |
| 0.75 | 7.5 | 8.2 | -0.7 | 2.8 |
| 1.00 | 10.5 | 11.3 | 2.8 | 4.3 |
| 1.50 | 14.0 | 15.4 | 8.6 | 10.4 |
| 2.00 | 16.6 | 19.1 | 13.3 | 13.5 |
| 3.00 | 22.8 | 27.2 | 19.5 | 19.6 |
| 4.00 | 29.2 | 33.6 | 24.3 |  |
| 5.00 | 30.0 | 36.6 |  |  |
| 7.00 | 29.2 | 38.3 |  |  |
| 10.00 | 27.0 | 39.2 | 37.7 |  |
|  |  |  |  |  |


| ( $\mathrm{B}_{\text {Per Capita }}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I FARM FAMILIES |  |  |  |  |  |
| 0.25 |  | -49.1 | -62.1 | -45.3 | -227.7 |
| 0.50 |  | $-15.0$ | -26.1 | -11.4 | -113.7 |
| 0.75 |  | 1.7 | -5.5 | -0.1 | -4.2 |
| 1.00 |  | 9.0 | 2.8 | 15.4 | 12.9 |
| 1.50 |  | 24.4 | 15.7 | 21.3 | 20.7 |
| 2.00 |  | 34.1 | 25.3 | 25.0 | 39.7 |
| 3.00 |  | 45.2 | 37.7 | 46.2 | 50.9 |
| 4.00 |  | 54.9 | 45.9 | 55.4 | 56.7 |
| 5.00 . |  | 61.9 | 50.6 |  | 61.4 |
| II NONFARM FAMILIES |  |  |  |  |  |
| 0.25 | -64.0 | -64.0 | -38.4 | -12.7 | -20.2 |
| 0.50 | 2.8 | 3.3 | -6.4 | -1.8 | 1.4 |
| 0.75 | 7.7 | 8.4 | -0.7 | 2.8 | 7.5 |
| 1.00 | 11.2 | 12.0 | 2.8 | 4.9 | 11.6 |
| 1.50 | 15.1 | 16.8 | 9.3 | 11.6 | 17.5 |
| 2.00 | 17.3 | 20.3 | 14.6 | 16.0 | 22.1 |
| 3.00 | 24.3 | 28.6 | 21.0 | 24.7 |  |
| 4.00 | 29.2 | 33.6 | 25.0 |  |  |
| 5.00 | 30.1 | 36.7 |  |  |  |
| 7.00 | 29.2 | 38.3 |  |  |  |
| 10.00 | 27.0 | 39.2 | 38.2 |  |  |

See notes to Table 48. In the Brookings distribution all capital gains and losses are assigned to nonfarm families and none to farm families. The savings-income ratios for the latter are therefore identical under Assumptions 1 and 2.
salary recipients at the same low position on the relative income scale; and those at a high income level will tend to have a higher savings-income ratio than employees at the same relative position. Their position on the relative income scale is less permanent than that of employees; they adjust their consumption to any given year's income less than employees or recipients of more stable types of income; consequently, there will be a much wider differential between their savings patterns at low and high relative income positions. Furthermore, since farm families receive on the average an appreciably smaller income than nonfarm, higher savings-income ratios, either negative or positive, are more likely, arithmetically, for the former.
b) The savings-income ratios for the multiples above 1.0 are consistently higher for farm than for nonfarm families. Since the average income of the former is smaller, the difference in positive savings-income ratios is even bigger when compared for equal levels of dollar income. One explanation may be that consumers' outlay at higher income levels can be expanded less readily on farms than in cities. ${ }^{10}$ Another may inhere in the general characteristics of entrepreneurial income described under (a) : that savings of entrepreneurial units when their income position is relatively high must compensate and provide for past or future years of either small savings or losses. Finally, the economic advancement of an entrepreneur depends much more upon an accumulation of savings than does that of a person whose main income is a wage or salary: the latter may well advance his economic position by expenditures on education and other things and not depend upon money savings alone. This factor would give entrepreneurs in general and farm families in particular a much stronger incentive to save.
c) The conclusions under (a) and (b) are sharpened when farm and nonfarm families are compared on a per capita instead of on a per family basis. A farm family consists of more persons than a nonfarm family and has a wider range in size. Hence any differences between farm and nonfarm families in savings-income ratios with respect to either their range or level are accentuated when differences in the number per family are taken into account.
d) At all income multiples the savings-income ratios of farm families vary greatly. Even if we omit the evidence for 1942 as too erratic, they decline from 1929 to 1935-36 and rise from 1935-36 to 1941. This is true also of the ratios for all families at the lower income multiples (Table 50) but their ratios at the higher ones, i.e., 2.0 and 3.0, have a much narrower

[^43]amplitude. In other words, the savings-income ratios for farm families vary more at the higher multiples than those for all families.

There is indication below that the savings-income ratios for farm families in 1935-36 may be overstated in Table 51. But it is quite plausible that farm families with their fixed business costs and relatively low levels of average income even at the higher end of the relative income scale are more sensitive to cyclical variations in income than nonfarm families. Moreover, it must be remembered that high income multiples for farm families are substantially reduced when translated into income multiples for all families: a multiple of 5.0 for farm families is roughly equivalent to a multiple of slightly over 3.0 for all families.
e) We come now to the most puzzling conclusion of Table 51 - the failure of savings-income ratios of farm families to.show a much greater variability over time than those of nonfarm, particularly at the higher income levels. The range from 1929 (Assumption 2) to 1935-36 at the multiple 2.0, is 8.3 for farm families, 5.8 for nonfarm; at the multiple 3.0, 7.7 and 7.7 respectively; at the multiple $4.0,7.5$ and 9.3 respectively. In view of the much wider range in the ratios for farm families at any given point of time and the particularly severe impact of the depression of the 1930's on farm income, one would expect that, at least for this period, the range over time in the savings-income ratios for farm families at upper income levels would be much wider than those for nonfarm families.

The opposite showing in Table 51 calls for consideration of the average income levels and weights assigned to farm and nonfarm families in the successive years in the various samples. The average income of farm families is as follows: 1929, \$1,232; 1935-36, \$1,215; 1941, \$1,696; 1942 (first quarter), $\$ 367$. In our calculations we accepted these figures for farm family income given by the samples, and assigned the entire adjustment to the income of nonfarm families. Corresponding figures for nonfarm families, adjusted to the Department of Commerce series per nonfarm family, are: $1929, \$ 2,932 ; 1935-36, \$ 1,779 ; 1941, \$ 2,875 ; 1942$ (first quarter), \$774.

Average income per farm family declines only slightly from 1929 to 1935-36, markedly from 1941 to 1942 . This movement does not tally with that of other estimates of farm family income, and suggests that the samples overestimate it in 1935-36 and underestimate it in 1942. This leads us to discard the sample data for 1942, at least as far as farm. families are concerned. But the 1935-36 data are important in our analysis and we must see how the possible overestimate of income per farm family affects our comparisons.

We estimated farmers' income to be $\$ 8.9$ billion in $1929, \$ 6.6$ billion in

1935 , and $\$ 7.3$ billion in 1936. Corresponding estimates based on Department of Commerce series are $\$ 8.7, \$ 7.1$, and $\$ 6.3$ billion respectively. Farm families were estimated to number 5.8 million in 1929 by the Brookings study; 6.77 million in 1935-36 by the Consumer Purchases Study. If their income declined by the proportions indicated by the figures just cited, average income per farm family in 1935-36 should be $\$ 828$ instead of $\$ 1,215$. This overestimate of farm family income means, ipso facto, an underestimate of nonfarm family income, which, on revision, becomes $\$ 1,894$ per family instead of $\$ 1,779$. While these adjustments are inevitably crude, they are called for if we are to bring the movement of income in the sample studies into rough agreement with the movement of the over-all income totals for farm and nonfarm population. ${ }^{11}$

Farm families were estimated in the samples to number 5.8, 6.77, and 6.11 million in 1929, 1935-36, and 1941 respectively. According to the Census, rural farm families of 2 or more numbered 6.3 million in 1930 and 6.7 million in 1940; farms, 6.3 million in $1930,6.8$ million in 1935 , and 6.1 million in 1940 (Statistical Abstract for 1944-45, Table 46, p. 50, and Table 653, p. 597). Apparently the only possible error in the sample estimates is a minor understatement in 1929, and we therefore confine our experimental revisions to income per farm and nonfarm family in 1935-36.

What would be the effect of these revisions on the savings-income ratios in Table 51 and on the savings-income ratios for all families or all consuming units? The first question can be answered easily if only approximately. If the true average income per farm family is appreciably smaller in 1935-36 than that used in calculating Table 51, Part A, the multiples are not comparable with those for the other years: all are higher in terms of the true average and their revision would reduce the savings-income ratios for the standard multiples below those shown in Table 51. Likewise, if the true average income per nonfarm family in 1935-36 is larger than

[^44]Table 52
Illustrative Recalculation of Savings as Percentages of Income, Given Relative Levels of Income per Family: Consumer Purchases Study, 1935-1936

| Multiples of |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Arithmetic |  |  |  |  |  |  |
| Mean Income per | $\underset{\text { Original }}{\text { Families }}$ |  | Nonfarm Families Original |  | All Families Original |  |
| Family | (Table 51) <br> (1) | Revised (2) | (Table 51) <br> (3) | Revised (4) | (Table 50) <br> (5) | Revised (6) |
| 0.25 | -59 | -70 | -37 | -35 | -40 | -41 |
| 0.50 | -25 | -47 | -6 | -6 | -8 | -13 |
| 0.75 | -6 | -24 | -1 | 0 | -1 | -1 |
| 1.00 | 2 | -11 | 3 | 4 | 4 | 4 |
| 1.50 | 15 | 2 | 9 | 10 | 10 | 11 |
| 2.00 | 24 | 11 | 13 | 14 | 15 | 17 |
| 3.00 | 37 | 25 | 20 | 20 | 23 | 24 |
| 4.00 | 45 | 33 | 24 | 25 | 29 | 30 |
| 10.00 |  |  | 38 | 39 | 40 | 36 |

## Column

2 Standard multiples were adjusted by 1.467, the ratio of 1,215 to 828 (see text); then the savings percentages (from Table 51) were reinterpolated for the standard multiples.
4 Standard multiples were adjusted by .939 , the ratio of 1,779 to 1,894 (see text); then the savings percentages (from Table 51) were reinterpolated for the standard multiples.
6 Average income, $\$ 1,646$, was derived by weighting income per farm family, $\$ 828$, by 1 , and income per nonfarm family, $\$ 1,894$, by 3.3 (see text). Multiples of farm family income were adjusted by .503 , the ratio of 828 to 1,646 ; and of nonfarm family income by 1.151 , the ratio of 1,894 to 1,646 . The savings percentages of each (col. 2 and 4) were then interpolated for the standard multiples and weighted by 1 and 3.3 respectively to yield the percentages savings are of income for all families. For the multiple 10, the savings percentage is for nonfarm families only, and is lower than the original in column 5 because the latter presumably includes some farm families.
that used in calculating Table 51, Part A, the multiples would be lower in terms of the true average; and their revision would raise the savings-income ratios for the standard multiples above those shown in Table 51. For illustrative purposes such an adjustment was carried through, using the new figures for income per family for $1935-36$, i.e., $\$ 828$ per farm family and $\$ 1,894$ per nonfarm (Table 52, col. 2 and 4).

As expected, the revised savings-income ratios for farm families are lower than as originally calculated and those for nonfarm families higher. The revision more than confirms the greater variability in savings-income ratios for farm families even at high multiples, and changes the contrary evidence in Table 51.

But the second, more important, question concerns the effects on the savings-income ratios for all families and, by implication, for all consuming
units in 1935-36. The proper answer is contingent not only upon the revision of the income for all farm and all nonfarm families but also upon the distribution of the revised totals by income brackets. An elaborate apportionment is unwarranted in view of the margin of error attaching to the results. We made a simple adjustment, however, by weighting the multiples for farm and nonfarm families (adjusted to take account of the revision in the average income of farm and nonfarm families) by 1 and 3.3 respectively, representing roughly the relative weight of farm and nonfarm families given in the 1935-36 study. In assigning the same weights at each multiple position, we assume implicitly that the relative inequality in income distribution is the same among farm and nonfarm families. After converting each multiple underlying columns 2 and 4 to multiples for all families, we interpolated again to get the savings-income ratios for farm and nonfarm families separately at the standard multiple levels. Weighting these ratios by 1 and 3.3 respectively yielded the ratios for all families shown in column 6.

The revision alters materially the savings-income ratio at the multiple 0.50 but not at the other multiples. It thus leaves the major conclusions in Section 3a intact. This may at first seem surprising but it is traceable to the underlying figures: a decline in income per farm family from $\$ 1,232$ to $\$ 828$, or about 33 percent, from 1929 to 1935-36; and a decline per nonfarm family from $\$ 2,932$ to $\$ 1,894$, or over 35 percent. Even more important, farm families were estimated to number 5.8 million in 1929; nonfarm families, 21.7 million, or in the ratio of 1 to 3.7 ; the corresponding numbers for $1935-36$ are 6.77 and 22.6 million respectively, or in the ratio of 1 to 3.3. Thus, according to the two samples, from 1929 to 1935-36 the income of farm families relative to that of nonfarm improved slightly; moreover, farm families increased in number relative to nonfarm. Consequently, the bolstering effect of the much higher savings-income ratios of farm families at the higher multiples was greater in 1935-36 than in 1929; and even though the ratios at the higher multiples for both farm and nonfarm families declined, the ratio for farm and nonfarm combined becomes almost constant or changes only slightly owing to the relative improvement in income and the relatively greater growth in the number of farm families.

This conclusion is important in two respects. First, it partly explains the stability of savings-income ratios at upper income multiples in Section 3a: as far as such stability is attributable to the absence of a substantial decline in the ratios in 1935-36 it is due, if we use unrevised data for 1935-36, to the possible overestimate of income per farm family, and if we use revised data, to a combination of shifts in income levels and weights between the
farm and nonfarm family groups that may be unusual. In any event, we must consider further to what extent the relative weight and levels of farm and nonfarm groups, or of any groups characterized by different savings-income ratios, accompany short term shifts in income associated with business cycles.

The second respect is perhaps more important. Total population, comprising groups whose savings patterns differ materially, can have stable savings-income ratios though the ratios of the groups change, and change in the same direction. In other words, the ratio for the total population is a complex of components whose savings responses to changing conditions differ, and whose weights in the total income structure, as gauged by their income per unit levels and relative number of units, may shift concurrently. In a sense, therefore, a full explanation of the stability or variability of savings-income ratios for groups at any income level is impossible without a thorough account of the components. The explanations attempted below are presented with cognizance of this limitation, and merely as preliminary hypotheses designed to open the field for more realistic analysis.

## c) Brookings Special Sample for 1928-32

In connection with its study of income and economic progress, the Brookings Institution distributed in 1933 a questionnaire designed to obtain information on savings by families with incomes above $\$ 5,000$ (though some recorded smaller incomes). Respondents were asked to report income including capital gains, expenditures, and savings for each year, 1928-32. Of the $1,500-1,600$ questionnaires tabulated, somewhat over a quarter were from university professors and teachers outside universities, about three-tenths from professional and managerial groups, about a third from federal employees and persons in clerical-mechanical occupations, and only about a fourteenth from business plus a special group with high incomes (either business or managerial, with a sprinkling of professional). Through the courtesy of Clark Warburton, we were given access to unpublished tables summarizing this special sample which were prepared under his direction and for his use; the original questionnaires were not available.

The sample material is presented in some detail in Appendix 1, Tables 60-62 (see also America's Capacity to Consume, Brookings Institution, 1934, App. B, pp. 254-5). Income per sample unit declines much less from 1928-29 to 1932, somewhat over 20 percent, than countrywide income per unit, almost 50 percent. The chief reason for this relative stability is the fact that the data were collected in 1933 from persons who were then in occupations such as would be expected to yield incomes of $\$ 5,000$ or more. Obviously, persons in the same occupations or of similiar economic
status in 1928 who had lost their jobs, or who had had serious misfortunes because of the depression, were automatically excluded. For the same reason the over-all savings-income ratio for the sample declines much less than that for the country. Finally, because the sample was confined to persons expected to have incomes of $\$ 5,000$ or more, the average level of income per unit is way above that for the country - from over twice to almost four times as high (Table 61). In short, the sample is distinctly overweighted in favor of the higher income brackets and the more stable types of occupation.

For our purposes the sample has three other limitations: (a) capital gains are included, and we must adjust for losses, which are given separately in the summary tables; (b) the income information is by spending units, and we do not know their size (except in a few special high income cases) ; (c) the data are'subject to the errors that are common to information collected by a mail questionnaire. Yet it seemed worth while to analyze the sample and observe what light it sheds on the movement of savings-income ratios at various income levels.

The summary tabulations classify the units first by their income for the given year (Table 60); then, those units that reported for each of the five years, are classified by their average income for the quinquennium (Table 62). The moderate reduction in the savings-income ratio for the sample as a whole - from 29.6 percent in 1928 to 24.0 in 1932 (Table 60) and from 28.4 to 23.7 percent (Table 62) - might be taken as further support of the relative stability of savings-income ratios at upper income levels (Sec. 3a and b). But this inference is severely limited by the occupational structure of the sample: it obviously is not an unbiased sample of upper income groups. Furthermore, as Table 61 shows, the income multiple position of the sample as a whole rises steadily from 1928 to 1932, so that for a constant income multiple position, the savings-income ratio might decline more than that for the entire sample. We must, therefore, study the data for the various income classes.

We first analyze the sample as classified by current year income, treating it as we did the other samples - expressing the per unit income of each income class as a multiple of countrywide income per unit, then interpolating the savings-income ratios for such standard multiples as are within the range of the sample (Table 53, Part A). The one important difference is that here both the sample and the countrywide income include capital gains and losses.

The upper multiples, say, 4.0 and 10.0 , are probably the only ones significantly affected by the inclusion of capital gains and losses: even in the depression years, reported losses do not greatly affect the lower income

Table 53
Summary of Analysis of Brookings Special Sample, 1928-1932

| A Savings as Percentages of Income, Given Relative Levels of Income per Unit |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sample Cl | by C | t Year |  |  |
| Multiples of Arithmetic |  |  |  |  |  |
| $\begin{array}{cccccc}\begin{array}{c}\text { Mean Income } \\ \text { per Unit }\end{array} & 1928 & 1929 & 1930 & 1931 & 1932\end{array}$ |  |  |  |  |  |
| 0.50 | 0.9 | -1.6 | -18.8 | -9.7 | -17.2 |
| 0.75 | 14.7 | 13.0 | 4.2 | 2.3 | -9.5 |
| 1.00 | 16.7 | 16.5 | 14.0 | 14.2 | -1.7 |
| 1.50 | 21.6 | 19.9 | 19.1 | 16.3 | 10.8 |
| 2.00 | 23.8 | 22.1 | 21.8 | 21.1 | 17.0 |
| 3.00 | 25.3 | 28.0 | 24.6 | 23.1 | 22.1 |
| 4.00 | 31.1 | 32.2 | 24.4 | 24.2 | 22.3 |
| 10.00 | 39.7 | 38.3 | 34.5 | 34.1 | 31.3 |

B Proportion of Absolute Change in Savings Percentage to Percentage Change in Income (Limited to Income Change of $5 \%$ or More)

Sample Classified by Average Income for 1928-32
Change from
1928, 1929, or

II
II
III
IV
V
VI
VII
VIII
IX
XI
XII
XIII
XIV

Year to Year Change
Number Av.Proportion 1930 to 1932
Av. Proportion

$$
0.50
$$

$$
0.53
$$

$$
0.21
$$

0.36

$$
0.23
$$ 0.09

0.11 - *
$0.09 \quad 0.09$
0.02 *
$0.10 \quad 0.19$
$0.44 \quad 0.27$
$\begin{array}{ll}0.30 & 0.34 \\ 0.13 & 0.11\end{array}$
$0.20 \quad 0.31$

* Sign of change in income differs from that of change in savings percentage.

Part A
Arithmetic interpolation between multiples for the income groups in Table 61.
Part B
Calculated from Table 62 by the procedure described in the text. For income classes covered, see Table 60.
brackets (see Tables 60 and 62). The movement of the savings-income ratios at income multiples below 4.0 confirms our conclusion that the ratios at lower income multiples fluctuate more widely than those at the higher multiples. For example, at the multiples $0.50,0.75$, and 1.0 the range is 20,24 , and 18 percentage points respectively; at the multiples 2.0 and 3.0 , it is 7 and 6 percentage points respectively.

The variations in the ratio become again somewhat wider for the multiples 4.0 and 10.0: 10 and 8 percentage points respectively. Even so, they are narrower in range than the variations for the multiples 1.0 and lower. Furthermore, the exclusion of capital gains and losses would presumably reduce the savings-income ratios in the prosperous years, 1928 and 1929, and increase them in the depression years, 1930-32. It would affect also the multiple positions in the successive years and hence the movement of the savings-income ratios. Its effect on the latter cannot be estimated but is unlikely to be marked. Part A of Table 53 can be taken as confirming, on the whole, the stability of savings-income ratios at upper income levels and their variability at lower levels.

Part B summarizes the results of our attempt to analyze the Brookings special sample as a body of identical returns classified by their average income position for 1928-32. Here we are not interested in converting to multiples in terms of current year countrywide income since the results would be roughly the same as those in Part A. ${ }^{12}$ Instead, for each of the 14 income classes we found the changes from year to year and from 1928, 1929, or 1930 to 1932 that represented an increase or decline of 5 percent or more in per unit income (smaller changes were ignored since their effect on the savings-income ratios was not likely to be significant). For each percentage change in income per unit we measured the absolute change in the savings-income ratio. In all except four cases the association was positive - when income increased, the ratio rose; when income decreased, it fell. ${ }^{13}$ But our interest was mainly in the relation of the change in the ratio associated with a percentage change in income at different levels. We therefore calculated for each change the proportion of the absolute change in the ratio to the percentage change in income; and for income levels for which more than one such proportion was found, took a geometric mean of the proportions.

Since there were few instances in which the percentage change in income was sizeable the results are somewhat limited in significance. However, in the very low income classes, I and II, the proportions are fairly high; they tend to be quite low in the intermediate classes; and rise in the upper classes, although they never reach the level of the proportions in Class I in columns 2 and 3, or that in Class II in column 3.

It is clear that at the lower income levels a given percentage change in

[^45]income is associated with a much larger absolute change in the savingsincome ratio than is the same or a similar percentage change in income at the intermediate or upper levels; and there is some evidence that savingsincome ratios at the upper income levels are more sensitive to percentage changes in income than those at the intermediate; but how much is due to the effect of including capital gains and losses can be only conjectured. Part B of Table 53 thus more or less confirms Part A, though only as to the variability of the savings-income ratios at very low income levels.

Finally, the savings-income ratios at upper levels are more variable when the levels are based on average income for a longer period than when based on current year income. In the classification by average income we deal with a continuous identical body of units in the upper and lower brackets, which removes the effects of mobility. Mobility may well have a more stabilizing (or less disturbing) effect on the savings-income ratios of upper than of lower income groups (Sec. 4), and may explain why savingsincome ratios at upper levels appear more stable in Part A than in B. However, the difference is too small to be considered of much importance.

## 4 Factors Making for Stability of Savings-Income Ratios at Upper Income Levels

The empirical analysis in Section 3, bearing upon the relative variability of savings-income ratios at upper and lower income levels, is subject to numerous qualifications. We mention the most important before attempting to indicate the factors that may explain them.

First, the sample data yield general levels of savings-income ratios that are far higher than those obtained by other methods used by the author and recently by the Department of Commerce which involve comparisons of income and expenditures. True, deriving savings by such comparisons may cause large errors. Yet even allowing for such lack of reliability in year to year estimates, it is a matter of concern that the average savingsincome ratios from the sample studies are almost uniformly so much higher than those derived by the residual method. Some of the difference may be due to the inclusion of certain depreciation and expense items (e.g., depreciation on owner-occupied houses, and brokers' fees) in the sample estimates of savings; some to an underestimate of expenditures compared with income. On the other hand, the shortages in estimates of countrywide income may be larger than those in consumer expenditures, and the residual method may well yield a smaller total for savings, and hence a lower level of the savings-income ratio than the true one.

Since the first qualification affects only the average level of savings-income ratios it is not likely to affect the analysis of their short term changes.

The second qualification is more important: the sample data are confined largely to cyclical expansions, and shed little light on movements of sav-ings-income ratios during contractions. Yet the Brookings special sample covering the 1930-32 depression suggests the same conclusion; and for the years covered by the different samples, the over-all ratio varies considerably. In the sample data (Assumption 2 for 1929), savings constituted 17 percent of income in 1929, 10 in 1935-36, 9 in 1941, 12 in 1942, 15 in 1945, 12 in 1946, 9 in 1947, 7 in 1948, 5 in 1949, and 8 in 1950. The unadjusted savings-income ratios thus ranged from 5 percent to over three times that; and it is against this background that the relative stability of savings-income ratios at upper income levels must be considered.

The third qualification lies in the errors that can be attributed to the sample data, particularly the few cases covered at the upper income levels. Few samples reach the upper tail of the size distribution; most stop below the income multiple levels associated with the top 5 percent group in our analysis in Chapters 1-5. And a special case of uncertainty created by the character of the sample is the difficulty of choosing between Assumptions 1 and 2 in our treatment of the 1929 data.

Yet all these qualifications do not undermine the main conclusion from the sample data: the smaller relative variability of savings-income ratios at upper than at lower income levels. Furthermore, they strongly suggest smaller absolute variability at upper levels, say, top 5 to 10 percent.

Dorothy Brady and Rose Friedman came to a similar conclusion concerning absolute variability, though for urban families alone, in Savings and the Income Distribution, Studies in Income and Wealth, Volume Ten (p. 261). Their Chart 4 shows the percentages savings are of income for urban families classified by the ratio of their income to average income, i.e., by our multiples. For the multiple 2.0 the ratios in 1917-19, 1935-36, and 1941 are almost identical; and in 1935-36 and 1941 the ratios for the multiples from 2.0 to above 3.0 are very similar; they diverge much more at multiples below 2.0. However, the ratios for their 1901 sample are much higher at multiple 2.0 and above. Evidently stability of savingsincome ratios at high income levels characterized the 1920's and 1930's but not the beginning of the century. Still, as far as one can tell, the average income levels in the successive years have not been tested for comparability, i.e., Chart 4 is based on unadjusted multiples and adjustments might modify the results.

The importance of the narrower absolute variability of savings-income ratios at upper than at lower income levels, and the qualifications that necessarily attach to the empirical analysis in Section 3, warrant some
further exploration. We therefore consider the factors that might make for greater absolute stability of savings-income ratios at upper income levels.
a) The first factor is purely technical. It can be presented in a simple illustration, then generalized in an equally simple mathematical expression. Assume that in a given year real income is 400 , that each of four income classes has a total income of 100 , and that the savings-income ratios for these classes are $40,20,0$, and -20 percent respectively. These income classes with vastly different income levels per capita would spend 60,80 , 100 , and 120 percent respectively of their base-year income. Assume that real income rises 20 percent, so that total income the next year is 480 ; and that each income class continues to spend exactly what it spent the preceding year. What happens to their savings-income ratios provided their real incomes also rise 20 percent, i.e., that their relative shares in total income remain the same?

In the top class income increases from 100 to 120 , and since expenditures remain the same, savings increase from 40 to 60 . The savings-income ratio rises from 40 to 50 percent (60/120). The income of the second class increases from 100 to 120 , expenditures remain at 80 , savings increase from 20 to 40 , and the savings-income ratio rises from 20 to 33 percent (40/120). The income of the third class increases from 100 to 120 , expenditures remain at 100 , savings increase from 0 to 20 , and the savings-income ratio rises from 0 to 17 percent (20/120). Finally, in the bottom class income increases from 100 to 120 , expenditures remain at 120, savings increase from -20 to 0 , and the savings-income ratio rises from -20 to 0 percent. The point of the illustration is that with an equal relative increase in income and stable expenditures the savings-income ratio rises 10 percentage points in the top income class, 13 in the second, 17 in the third, and 20 in the bottom.

The results would be similar, in fact somewhat accentuated, if we assumed a 20 percent decline in real income while retaining all the other assumptions: the savings-income ratios would decline least in the top income class and most in the bottom. Likewise, if instead of assuming inflexible expenditures in real terms, i.e., complete lack of response to changes in real income, we assumed partial response, so that at each income level consumption would rise or decline but relatively less than income, the absolute change in the savings-income ratio would still be least in the top income class and most in the bottom.

This conclusion can be generalized by introducing four equations. Let $i$ be income; $e$ expenditures; $s$ savings; $k$ proportional change in income; $a k$ proportional change in expenditures, $a$ ranging from 0 to $1 ; R$ the
savings-income ratio. A plus sign as subscript indicates the item in the year following the base year. Then:

$$
\begin{align*}
R & =\frac{s}{i}=\frac{i-e}{i}  \tag{1}\\
R_{+} & =\frac{s_{+}}{i_{+}}=\frac{i(1+k)-e(1+a k)}{i(1+k)}=\frac{i+i k-e-a k e}{i(1+k)}  \tag{2}\\
R_{+}-R & =\frac{i+i k-e-a k e}{i(1+k)}-\frac{i-e}{i} \\
& =\frac{e k-a k e}{i(1+k)}=\frac{e k(1-a)}{i(1+k)} \tag{3}
\end{align*}
$$

But from (1): $e=i(1-R)$. Hence, we get in (3):

$$
\begin{equation*}
R_{+}-R=\frac{i(1-R) k(1-a)}{i(1+k)}=\frac{k(1-a)}{1+k}(1-R) \tag{4}
\end{equation*}
$$

If $k$ and $a$ are the same at all income levels, it follows that:
(i) As $R$ grows progressively smaller from the upper to the lower brackets, the absolute change in the savings-income ratio $\left(R_{+}-R\right)$ grows larger.
(ii) Given the value of $k$, the change in the savings-income ratio will be smaller the larger $a$ is and vice versa; it will be at a maximum when $a=0$. (iii) Given the value of $a$, the change in the savings-income ratio will vary with the value of $k$; but $k /(1+k)$ will be weighted for each income bracket by the factor $(1-a)(1-R)$.

If $\underline{a}$ is less than 1 and is identical from income bracket to income bracket, the same proportional change in income will produce a smaller absolute change in the savings-income ratios at upper than at lower brackets. By definition, equal multiples of average income in two or more years represent a percentage change in income equal to the percentage change in total income. Hence $k$ by definition is equal at the same multiples. What remains to be explored is whether $a$ tends, in the short run, to differ between the high and low income multiples; and whether such differences reenforce or offset the conclusions from equation (4). ${ }^{14}$

[^46]b) The general hypothesis here is that $a$, i.e., the ratio of the relative change in expenditures to that in total income, is likely to vary more at upper multiples than at lower. In other words, the expenditures of upper income classes are more sensitive to fluctuations in income than those of lower, making for short term stability of the savings-income ratios at upper brackets and short term variability at lower.

This hypothesis is most plausible if we first deal with a period during which real income declines. Expenditures at lower income levels can be curtailed only with difficulty for the simple reason that most consumer goods purchased are in the nature of necessities and contraction encounters serious, almost physiological, obstacles. Since expenditures of consumers at low income levels are chiefly on food, shelter, and clothing, a sizeable reduction may be inimical to health. Expenditures at upper income levels, on the contrary, are much more heavily weighted by luxuries and semi-

The conclusions from equation (4) can, therefore, be expressed as follows. If the average propensity to save changes during the period because the marginal propensity differs from the average in the initial year, the change is inversely related to the level of the average propensity to save in the initial year provided the relative marginal propensity to spend is the same for all income classes.

Equation (4) parallels those of Franco Modigliani (Studies in Income and Wealth, Volume Eleven, NBER, 1949) and James Duesenberry (Income, Employment and Public Policy, Essays in Honor of Alvin H. Hansen, Norton, 1948, pp. 54-82). Both authors express the over-all savings-income ratio by an equation in which there is a constant term and a term moving with the ratio of the given year income to the preceding cyclical peak income. When $R$ is defined as the savings-income ratio during the preceding cyclical peak year, and $a$, the proportion associated with the latter, both become constants; and $R_{+}$may be defined as the savings-income ratio for any subsequent year. On this interpretation, $k$ becomes the proportional change in income from the preceding cyclical peak income; and equation (4) can be rewritten as

$$
\frac{R_{+}}{1-R}=\frac{R}{1+R}+(1-a) \frac{k}{1+k}
$$

Since $R$ and $a$ are constants, the changing $R_{+}$is a function of a constant term $\left(\frac{R}{1+R}\right)$ and a term moving with $k$, the ratio of the given year income to the preceding cyclical peak income.

However, we need not define $R$ and $a$ as ratios associated with the preceding cyclical peak or $k$ as relating to changes in income from the preceding cyclical peak. They may well refer to the preceding year or to secular levels (of the savings-income ratio or the propensity to consume). The role to be assigned to $R, a$, and $k$ remains to be explored in the light of what yields the most efficient account of empirically observed short term changes in $R_{+}$. What is particularly important here is that $a$ need not be the same for all income groups; and the short term variations in $R_{+}$, the latter conceived as the over-all savings-income ratio, are much more complex than Modigliani and Duesenberry assume.
luxuries, and contraction, while still painful because of the desire to maintain class standards, is easier. One can, therefore, infer that when real income per capita declines, expenditures will be curtailed proportionately less at lower than at upper income levels; in other words, that $a$ will be higher at lower levels. Clearly, this difference in the response of expenditures to contraction will be wider the larger the relative contraction in real income per capita. If the decline is just 1 or 2 percent, $a$ may well be the same through the range of income multiples; if the decline is 20 percent, the difference in the response of expenditures at the various income levels is likely to be much wider.

If this relative inflexibility of expenditures at lower income levels and greater flexibility at upper levels is accepted as characterizing short term declines in per capita income, consequences follow for short term increases. Offhand, one would surmise that when per capita income increases, expenditures would tend to increase proportionately more among lower income groups than among upper: the former live closer to the margin of subsistence and have a much bigger unsatisfied potential. But in the continuous succession of short term cyclical changes increases in real income succeed decreases. During declines the lower income groups tend to dissave, either reducing their savings reserves, always relatively inadequate, to dangerously low levels or piling up a large net indebtedness. Hence, when recovery comes and income increases, any tendency to spend more is checked by the need to repay debts and by the desire to rebuild a safe reserve. Thus, the relative inelasticity of expenditures at low income levels during short term declines in income carries over into periods of increases in income, damping the responsiveness of current expenditures to a current increase in real income. ${ }^{15}$

[^47]Another reason for the greater sensitivity of expenditures at upper income levels is that holdings of assets are heavily concentrated there, and fluctuations in their value, even if not realized in the form of capital gains or losses, are keenly felt. Increases in their value during cyclical expansions, i.e., during short term increases in real income per capita, are likely to induce upper income groups to spend more. The impression of larger investment reserves and optimism concerning their adequacy in the future takes on the opposite hue during cyclical contractions, when the value of assets declines. Thus in expansions, upper income groups may spend more than they would were they not misled by the illusion of the rising value of assets; and in contractions, they may cut expenditures more than they would if declining property values did not cause them to worry about the future. These illusions affect the lower income groups too, but less, since a larger proportion of their incomes are wages and salaries, which do not fluctuate as violently as do assets. They operate regardless whether gains and losses are realized by sales of assets.
c) The discussion so far has dealt with income groups as if their composition remained the same, i.e., we have disregarded inter-class movements of the type studied in Chapter 4. During short periods such movements are limited and a given income class contains a large proportion of the same units in successive years. But some shifts do occur, and their effects on the behavior of savings-income ratios for upper and for lower income groups must be explored. Lack of data makes the exploration largely a matter of conjecture.

In this hypothetical analysis we must consider not merely income multiples, i.e., points on the income scale, but classes, since only for the latter can groups of units be observed and movements studied. We deal then with income classes as represented by income multiples, and distinguish between an income unit whose real income does not change during a given interval (designated R for 'resident'), and one whose real income rises or declines (a 'migrant up' is designated Mu , a 'migrant down', Md). The distinction between an R and an M is the constancy or change in its amount of income, not its income rank.

The systematic changes during business cycles can easily be postulated. During expansions and contractions there are R's, Mu's, and Md's, but there are more M's when levels of activity change materially; and Mu's outnumber Md's during expansions, whereas the reverse is true during contractions. In this continual movement of Md's and Mu's do the effects upon the savings-income ratios for upper and for lower income groups differ?

In an income group characterized by a given income multiple there are

R's, Mu's, and Md's. At a given income level the Mu's are likely to have a higher, and the Md's a lower, savings-income ratio than the R's. The spread between the ratios of R's and M's will depend upon the relative level of income. But for the present we may ignore this point.

The first obvious difference is that between extreme and intermediate income classes. In the lowest income class, classified by current income, there can be R's and Md's but few Mu's; in the intermediate classes there can be both Mu's and Md's, with an income balance of the two more possible the nearer the class is to the center of the distribution; and in the very top class there can be R's and Mu's but few Md's. On the average and disregarding short term fluctuations, the extreme income classes and those near them will have a preponderance of either Md's or Mu's; hence their savings-income ratios are likely to be lowered and raised more by inter-class migration, i.e., by the effect of the M's.

These statements, bearing upon the average effects of migration on the savings-income ratios for the extreme and intermediate income classes respectively, explain why, on the average, the ratios for the extreme income classes are so conspicuously low or high compared with those for the intermediate classes. In thinking of what this means in terms of temporal change, one is likely to conclude that during short term cyclical changes, variations in the income displacement attributable to the Mu's and Md's are likely to be larger for the extreme income classes than for the intermediate. ${ }^{16}$

But whether income displacement is greater or less for upper than for lower income groups, its effect on savings-income ratios is likely to be less at the upper levels. As noted in Section 3, the function associating savings-income ratios with income multiples looks like an hyperbola, rising rapidly (almost vertically) in the change from the very low multiples to the intermediate ones and flattening out as we reach the high multiples. And since beyond the multiple 5.0 or so, the savings-income ratios barely rise, a similar shape would be preserved were we to use logarithms of multiples on the $X$ scale - in the sense that the curve would still flatten beyond a certain high multiple level. Hence, when an income unit moves

[^48]into a higher or lower class within the income range well below the top, a given change in its income causes a large change in the savings-income ratio; when a similar movement occurs at the high income levels, a given change, whether absolute or relative, in its income does not greatly affect the ratio. True, the function just described is derived for income classes affected by migration, and hence may be due partly to differences in the relative income displacement associated with income level. But it may be surmised that could we study resident units alone, the slope of the low and the high segments of the income distribution would still differ. This means that, in addition to differences between the low and high income classes in the amplitude of short term changes in relative income migration, differences in the impact of income displacement also minimize the short term changes in the savings-income ratios for upper groups.

Finally, shifts associated with specific types of income may produce differentials in short term changes in savings-income ratios at different points on the income scale. As observed in Section 3b, the spread of the savings-income ratios for farm families was wider than for nonfarm families for the same range of income multiples; and at the higher multiples, where savings were positive, the ratios were consistently and appreciably higher for farm families. The factors explaining these differences between farm and nonfarm families may apply, in large part; also to a comparison between units depending upon entrepreneurial income and those depending mainly upon other, cyclically more stable, types of income.

The per unit income of entrepreneurial groups, whether farm or nonfarm, may rise during cyclical expansions and decline during contractions more than the per unit income of other groups. But for these entrepreneurial groups savings-income ratios may be higher at the same levels of income, once we pass the minimum level that yields positive savings; and the relative weight of entrepreneurs, particularly farm entrepreneurs, in the population, may increase during substantial cyclical contractions and diminish during substantial expansions. The latter shift may raise savingsincome ratios at upper income levels during contractions and depress them during expansions although the ratios of the entrepreneurial groups proper, and of other groups, decline during contractions and rise during expansions. Elements of stability would thereby be introduced into the ratios at such multiples as can be influenced by the relative number and savings patterns of the entrepreneurial groups. This would presumably not affect the very top income brackets, where incomes of entrepreneurs, especially of farm and similar small scale individual business men, play a minor role. Yet it may affect the savings-income ratios at the multiples from, say, 2.0 to 4.0, as in the analysis in Sections 3a and b.

## 5 Summary and Implications

As far as upper income groups can be characterized by their average income levels, they are at high multiples; consequently if their relative income position were constant during business cycles, their savings-income ratios would fluctuate with a much narrower relative amplitude than those of lower groups. Furthermore, the greater relative stability of their sav-ings-income ratios is reenforced by the counter movement of their income multiple position to business activity, except for the irregular behavior of the share of the top 1 percent. The movement in the ratios for upper income groups is a product of two sets of opposite changes: the countercyclical movement of their income shares (multiple positions) and the movement of the ratios at given upper income multiples with business cycles. We cannot tell with any assurance what the net effect of these opposite movements is in setting the cyclical pattern of changes in the savings-income ratios of upper groups: in most pronounced cyclical shifts the positive pattern of the ratios for a given multiple position probably outweighs the inverted pattern of shifts in income shares, i.e., in income multiple position, making the ratios for upper groups move with business cycles.

Even so, the savings of upper income groups must vary less cyclically than those of lower groups - for two reasons: (a) the inverted movement of upper group shares in total income tends to offset the positively conforming movement of savings-income ratios for given income multiples, whereas for lower income groups both the shares of total income received and the ratios move with business cycles; (b) the savings-income ratios vary less for upper multiples than for lower, and the difference in the relative variation must be quite large. ${ }^{17}$

As far as the savings of upper income groups, expressed as percentages
${ }^{17}$ Of all the evidence examined so far only one item for recent years qualifies the generalization that savings-income ratios for upper income groups change less absolutely than those for lower groups (both groups taken widely). George Katona of the University of Michigan Survey Research Center kindly provided a break at the upper 5 percent line for the samples for 1946-48 (Surveys of Consumer Finances). The ratio for the top 5 percent group declined from 26 percent in 1946 to 21 percent in 1947 and to 17 percent in 1948, 9 points. The corresponding ratio for the lower 95 percent declined from 8 percent in 1946 to 5 in 1947 and to 4 in 1948, only 4 points. We do not know how far this larger absolute, but not relative, decline in the ratio for the top group depends upon the exceptional conditions in 1946-48 or upon peculiarities of the sample. However, the sample data still support our basic conclusion that when the over-all savings-income ratio declines, the share of upper groups in savings increases. Thus while the over-all ratio in the sample declined from about 12 to about 7 percent, the share of the top 5 percent group in total savings increased from 50 to 58 percent.
of individuals' total income receipts, are stable or vary little, whereas the savings of lower groups vary markedly with business cycles, two further conclusions follow. First, the marked fluctuations in the over-all savingsincome ratio for individuals and its conformity to business activity must be due largely to variations in the ratios for lower income groups; they can be attributed only in small part to variations in either the income shares or the ratios for upper groups. Second, the shares of upper and lower income groups in individuals' total savings must change significantly during business cycles: as total savings and their ratio to total income rise during expansions, the percentage shares of upper groups must decrease; as total savings and their ratio to income decline during contractions, they must increase. In years of cyclically high savings by individuals, upper income groups must contribute proportionately less, and in years of low savings, more; lower income groups must do the opposite.

These conclusions are subject to several qualifications. The sample data we had to use were scanty, particularly in their coverage of the top income group and of cyclical contractions; and our adjustments were unavoidably crude. Furthermore, our analysis covers a period so short that we can merely surmise, not generalize. Yet one aspect of our conclusions is worthy of emphasis. If the average level of the savings-income ratio for upper groups (say, top 5 or 10 percent) is 25 or 30 percent, and that for lower groups 5 percent or less, the relative variability of the former can hardly be as wide as that of the latter. Consequently, the greater relative variability of savings-income ratios for the latter is so highly probable as to be almost in the nature of an algebraic necessity. If this is granted, the inference concerning the counter-cyclical movement of upper group shares in total savings must follow.

By way of final illustration we present Table 54, which in a sense restates data used in Section 3, but brings out more distinctly the association between changes in the over-all savings-income ratio and in the share of individuals' total savings accounted for by upper income groups. For the two samples that cover more than a year and for which changesin savingsincome ratios and in the shares of both income and savings can therefore be studied without adjustment for comparability, we assembled measures of over-all savings-income ratios and of shares of the upper one-tenth and lower nine-tenths in savings and income. All these were taken from the sample distributions, with only minor adjustments. The groups are classified by income per consuming or spending unit.

Whenever the over-all savings-income ratio rises from one year to the next, the percentage share of upper income groups in individuals' total savings declines; and whenever it declines, their share rises. The consistent

Table 54
Shares of the Top Income Group in Total Savings in Periods of Change in the Over-all Savings-Income Ratio: Two Samples

| OVER-ALL | TOP T | NTH OF | UN | LOWE | NINE <br> O UNI | S ${ }^{\text {anths }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| INCOME | Shar |  | Saving | Shar |  | Saving |
| RATIO FOR |  | In | Income |  | In | Incor |
| M | Savings | come | Ratio | Savings | come | Rat |
| ( | r |  | n t | a g | s |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

- SURVEY OF SPENDING AND SAVING IN WARTIME Farm

| 1 | 1941 | 13.8 | 56.0 | 23.4 | 33.1 | 44.0 | 76.6 | 8.0 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 1942, 1st Qu. | -10.2 | $*$ | 33.7 | 47.3 | $*$ | 66.3 | -39.3 |
|  | Rural Nonfarm |  |  |  |  |  |  |  |
| 3 | 1941 | 5.8 | 68.6 | 23.2 | 17.1 | 31.4 | 76.8 | 2.4 |
| 4 | 1942, 1st Qu. | 11.2 | 47.9 | 24.0 | 22.4 | 52.1 | 76.0 | 7.7 |
|  | Urban |  |  |  |  |  |  |  |
| 5 | 1941 | 9.0 | 78.4 | 31.6 | 22.4 | 21.6 | 68.4 | 2.9 |
| 6 | 1942, 1st Qu. | 13.9 | 68.3 | 31.5 | 30.1 | 31.7 | 68.5 | 6.4 | SURVEY OF CONSUMER FINANCES


| 7 | 1945 | 15 | 46 | 29 | 23.8 | 54 | 71 | 11.4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 8 | 1946 | 12 | 63 | 32 | 23.6 | 37 | 68 | 6.5 |
| 9 | 1947 | 9 | 77 | 33 | 21.0 | 23 | 67 | 3.1 |
| 10 | 1948 | 7 | 78 | 31 | 17.6 | 22 | 69 | 2.2 |
| 11 | 1949 | 5 | 105 | 30 | 17.5 | -5 | 70 | -0.4 |
| 12 | 1950 | 8 | 73 | 29 | 20.1 | 27 | 71 | 3.0 |

* Not shown because of difference in signs: for column 2 there are positive savings 156.9 percent as large as the negative total; for column 5 , there are negative savings 256.9 percent as large as the negative total.

Line
1-4 Calculated from Rural Family Spending and Saving in Wartime (Department of Agriculture, Miscellaneous Publication 520, Table 5, p. 26). Income classes for which data are not given (a few families with negative incomes and with incomes of $\$ 5,000$ or over) are omitted.
5,6 Calculated from Family Spending and Saving in Wartime (BLS Bulletin 822), pp. 33, 34, 94, 102, and 103.

7-12 Col. 1: 1945 and 1946 supplied by the University of Michigan Survey Research Center; 1947 and 1948 from Federal Reserve Bulletin, January 1950, p. 24; 1949 and 1950 from ibid., September 1951, Table 13, p. 1072.
Col. 2 \& 5: Federal Reserve Bulletin, August 1949, Tंable 9, p. 923, January 1950, Table 10, p. 23, and September 1951, Table 8, p. 1067.
Col. 3 \& 6: 1bid., June 1948, Table 4, p. 653, July 1949, Table 7, p. 786, and September 1951, Table 8, p. 1067.
Col. 4: the product of columns 1 and 2 divided by column 3.
Col. 7: the product of columns 1 and 5 divided by column 6.
negative association between changes in the over-all ratio and in the proportion of total savings contributed by upper income groups is due to a negative association between changes in the income share of upper groups and in the over-all ratio, and a consistently narrower relative, and often absolute, change in the savings-income ratio of the upper than in that of the lower income groups.

The significance of Table 54 is limited by the smallness of the samples and especially by the presence of war years in the period covered. Nevertheless, it is further evidence that short term variations in the percentage shares of upper income groups in individuals' total savings are large and run counter to variations in the over-all savings-income ratio, hence counter to business cycles.

Further implications of this conclusion cannot be pursued here. However, they seem, at least at first glance, to be far reaching. The savings of upper and of lower income groups tend to flow into different kinds of investment. Upper groups dominate in receipts of dividends and dividends constitute a large proportion of their property incomes. Their savings may, therefore, flow into dividend-bearing assets to a much greater extent than those of lower groups. Of the property incomes of lower groups, on the contrary, dividends constitute a small proportion; and one would surmise that their savings go largely into interest-bearing assets or into equities in small business units. Similar evidence concerning differences in the composition of assets held by upper and lower income groups is provided by the 1949 Survey of Consumer Finances (Federal Reserve Bulletin, Aug. and Sept. 1949). Cyclical shifts in upper group shares in total savings may alter the proportion of individuals' savings available for different types of investment, and an analysis of the relation between the new supply of savings and of investment opportunities during business cycles must take account of cyclical shifts in savings coming from upper and from lower income groups.

There are similar consequences in the distribution of consumption expenditures between those by upper and by lower income groups. The counter-cyclical movement of income shares and the lesser variability in savings-income ratios for upper groups mean that a decreasing share of income in expansions is offset by only a moderate rise in the ratio, whereas for the lower groups an increasing share of income may be offset by a sharp rise in the ratio. The proportion of upper group expenditures in total consumer expenditures may rise during expansions, or at least through a substantial part of them, and decline during contractions. But in the case of consumer expenditures, the counter-cyclical movement of the income shares of upper groups makes for a similar movement in the proportion
of upper group expenditures in total expenditures, whereas the movement of the savings-income ratio makes for cyclical conformity in that proportion. Thus, while the proportion of upper group savings moves counter to business cycles because of both the counter movement of income shares and the narrower amplitude of changes in the savings-income ratio, the proportion of upper group expenditures is subject to conflicting pressures - one, the movement of income shares, making for a counter-cycle pattern, the other, the narrower amplitude of changes in the savings-income ratio, making for a movement with business cycles. Because the effects may be offsetting, and also because the average shares of the upper groups in total expenditures are much smaller than those in total savings, the cyclical changes in the former may be quite small; and it is not clear whether they would run counter to or with business cycles.

## Appendix 1

## Basic Tables for Calculating Income Multiples and Savings-Income Ratios from the Sample Survey Data on

 Income and SavingsAppendix 1 is intended for the technical reader, both as a check upon the interpolations and estimates used in the text and as a convenient reference. Tables 55-66 present the data themselves, in the chronological order of years the samples cover. The notes indicate in detail the sources, and the adjustments or modifications to which the data were subjected in an attempt to make them more comparable.

Table 55: Estimated Income Excluding Capital Gains or Losses, Single Persons and Families: Brookings Data, 1929

| Income Class* | Capital Gains or Losses (\$ mil.) |  | Single Persons' Income Excl. Capital Gains or Losses |  | Capital <br> Gains or <br> Losses, <br> Families <br> (\$ mil.) <br> (5) | Family Income Excl. Capital Gains or Losses |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Per |  |  | Per |
|  | Persons (1) | Families (2) | $\underset{\binom{\text { (3) }}{\text { Total }}}{ }$ | Capita <br> (\$) <br> (4) |  | $\begin{gathered} \text { Total } \\ \left(\begin{array}{c} \$ \text { mil. }) \\ (6) \end{array}\right. \end{gathered}$ | Family <br> (\$) <br> (7) |
| Under \$1,000 | -145 | -639 | 2,354 | 571 | -639 | 3,539 | 600 |
| 1,000- 1,500 | 19 | 63 | 2,477 | 1,221 | 32 | 7,165 | 1,245 |
| 1,500- 2,000 | 17 | 68 | 2,215 | 1,714 | 44 | 8,123 | 1,728 |
| 2,000- 2,500 | 10 | 49 | 1,337 | 2,199 | 45 | 7,108 | 2,218 |
| 2,500-3,000 | 6 | 29 | 698 | 2,695 | 38 | 5,395 | 2,714 |
| 3,000- 3,500 | 4 | 23 | 502 | 3,197 | 38 | 4,640 | 3,207 |
| 3,500- 4,000 | 3 | 19 | 364 | 3,714 | 33 | 3,677 | 3,703 |
| 4,000- 4,500 | 4 | 21 | 282 | 4,209 | 38 | 3,003 | 4,182 |
| 4,500- 5,000 | 5 | 25. | 236 | 4,627 | 44 | 2,393 | 4,656 |
| 5,000- 6,000 | 10 | 55 | 370 | 5,286 | 94 | 3,538 | 5,312 |
| 6,000-7,000 | 13 | 66 | 292 | 6,213 | 104 | 2,524 | 6,201 |
| 7,000- 8,000 | 14 | 67 | 228 | 7,125 | 96 | 1,787 | 7,091 |
| 8,000- 9,000 | 13 | 64 | 189 | 7,875 | 85 | 1,374 | 7,988 |
| 9,000-10,000 | 15 | 70 | 159 | 8,833 | 93 | 1,125 | 8,789 |
| 10,000-15,000 | 61 | 283 | 538 | 10,760 | 328 | 3,338 | 10,980 |
| 15,000-20,000 | 48 | 220 | 323 | 14,682 | 211 | 1,645 | 15,231 |
| 20,000-25,000 | 37 | 176 | 226 | 18,833 | 168 | 1,141 | 19,339 |
| 25,000-30,000 | 33 | 150 | 163 | 23,286 | 144 | 821 | 23,457 |
| 30,000-40,000 | 52 | 239 | 227 | 28,375 | 230 | 1,165 | 29,125 |
| 40,000-50,000 | 43 | 193 | 160 | 32,000 | 187 | 797 | 36,227 |
| 50,000-100,000 | 136 | 620 | 403 | 57,571 | 598 | 2,054 | 52,667 |
| 100,000 \& over | 673 | 3,266 | 1,020 | 204,000 | 3,116 | 5,637 | 234,875 |
| Total | ,071 | 5,127 | 14,763 | 1,643 | 5,127 | 71,989 | 2,620 |

* Income including capital gains or losses per recipient for columns 1-4 and per family for columns 5-7.


## Column

1 Difference between total capital gains or losses (derived from America's Capacity to Consume, Brookings Institution, 1934, Tables 27 and 29, pp. 206 and 208) and column 2.
2 Derived by applying to family income including capital gains or losses (difference between total income, ibid., Table 27, p. 206, and single persons' income, ibid., Table 39, p. 229) the ratio of total capital gains or losses (see notes to col. 1) to total income for the given income class.
3 Difference between total income including capital gains or losses (ibid., Table 39, p. 229) and column 1.
4 Column 3 divided by the number of single persons (ibid., Table 37, p. 227).
5 Capital losses assumed to be the same as in column 2. The capital gains total for column 2 was redistributed by income classes as follows: a preliminary distribution was derived by multiplying income, including capital gains, in each size class of income per family (ibid., Table 39, p. 229) by the ratio of total capital gains (see notes to col. 1) to total income (ibid., Table 27, p. 206) in the respective size class of income per recipient. Multiplying these preliminary estimates by the ratio of the true total of capital gains of families (col. 2 excluding capital losses) to the total of the estimates just computed yielded the final distribution of capital gains of families by size classes of income per family.
6 Family income including capital gains (ibid., Table 39, p. 229) minus column 5.
7 Column 6 divided by the number of families (ibid., Table 37, p. 227).
(millions of dollars)
SINGLE PERSONS

$$
\begin{aligned}
& \text { I E S } \\
& \begin{array}{c}
\text { Savings } \\
\left.\begin{array}{c}
(3) \\
-201 \\
-35
\end{array}\right\} \\
99 \\
225 \\
260 \\
216 \\
176 \\
158 \\
127 \\
98 \\
123 \\
75 \\
42 \\
27 \\
15
\end{array}
\end{aligned}
$$


Inco





America's Capacity to Consume, Table 5, p. 260. It is
assumed that farm families did not have capital gains or
osses.
Column
$1-3$
Column 6 of Table 55 minus column 1.
Estimated Savings, Farm Families, Nonfarm Families, and Single Persons: Brookings Data, 1929, Assumption 1 (milhons of dollars)
Table 57
Unadjusted Income Multiples per Consuming Unit, and Savings-Income (S-I) Ratios: Brookings Data, 1929, Assumption 1
$\stackrel{\bullet}{0}$1.00

Notes to Table 57

* Income including capital gains or losses.

The income multiple is computed by dividing the average income for the given income class by the average income for all classes.

The savings-income ratio is computed by dividing savings by income excluding capital gains or losses.

## Column

1 Average income is calculated by dividing column 1 of Table 56 by the number of farm families given in America's Capacity to Consume, Table 5, p. 260.

2 Table 56: column 3 divided by column 1.
3 Average income is calculated by dividing column 4 of Table 56 by the number of nonfarm families given in America's Capacity to Consume, Table 6, p. 261.
4 Table 56: column 6 divided by column 4.
5 Average income is calculated by dividing the sum of columns 1 and 4, Table 56 , by the total number of families (see notes to col. 1 and 3 above).
6 Table 56: sum of columns 3 and 6 divided by the sum of columns 1 and 4.
7 Average income is calculated by dividing column 7 of Table 56 by the number of single persons given in America's Capacity to Consume, Table 9, p. 265.
8 Table 56: column 9 divided by column 7.
9 Average income is calculated by dividing the sum of columns 1,4 , and 7 of Table 56 by the total number of consuming units (see notes to col. 1, 3, and 7).
10 Table 56: sum of columns 3, 6, and 9 divided by the sum of columns 1,4 , and 7.

Table 58
Savings-Income Ratios (percentages) : Brookings Data, 1929, Assumption 2 Based on Income Including Capital Gains or Losses, A, or Income Excluding Capital Gains or Losses, B, as Indicated

| Income Class* | Farm Families $A$ or $B$ (1) | Nonfarm <br> (2) | Families <br> B <br> (3) | AllFamilies $B$$(4)$ | Single Persons |  | $\begin{gathered} \text { All } \\ \text { Consuming } \\ \text { Units } \\ B \\ (7) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{gathered} \boldsymbol{A} \\ (5) \end{gathered}$ | $\begin{gathered} B \\ (6) \end{gathered}$ |  |
| $\begin{aligned} & \text { Under } \$ 500 \\ & 500-\quad 1,000 \end{aligned}$ | $\begin{array}{r} -47.7 \\ -2.8 \end{array}$ | -67.6 | -67.6 | -42.4 | -12.4 | -12.4 | -30.4 |
| 1,000-1,500 | 8.0 | 1.2 | 1.2 | 2.4 | 1.7 | 1.7 | 2.2 |
| 1,500- 2,000 | 21.4 | 5.7 | 5.7 | 7.7 | 9.1 | 9.1 | 8.0 |
| 2,000- 2,500 | 29.6 | 8.2 | 8.2 | 10.8 | 12.5 | 12.5 | 11.1 |
| 2,500- 3,000 | 35.9 | 10.3 | 10.3 | 13.2 | 15.3 | 15.3 | 13.4 |
| 3,000- 3,500 | 40.4 | 12.5 | 12.5 | 15.1 | 18.4 | 18.4 | 15.4 |
| 3,500- 4,000 | 44.6 | 13.5 | 13.5 | 16.5 | 20.2 | 20.2 | 16.9 |
| 4,000- 4,500 | 48.7 | 14.6 | 14.6 | 17.5 | 21.3 | 21.3 | 17.8 |
| 4,500-5,000 | 51.6 | 16.4 | 16.4 | 19.2 | 22.4 | 22.4 | 19.5 |
| 5,000- 6,000 | 56.4 | 18.1 | 17.8 | 20.2 | 23.2 | 23.0 | 20.4 |
| 6,000- 7,000 | 61.5 | 20.5 | 19.9 | 21.9 | 24.6 | 24.3 | 22.2 |
| 7,000- 8,000 |  | 23.1 | 22.1 | 23.6 | 25.6 | 25.2 | 23.8 |
| 8,000- 9,000 | 66.7 | 26.4 | 24.7 | 26.0 | 27.2 | 26.2 | 26.0 |
| 9,000-10,000 |  | 28.7 | 27.1 | 27.9 | 28.7 | 27.7 | 27.9 |
| -10,000-15,000 |  | 35.4 | 32.8 | 32.8 | 31.4 | 30.0 | 32.4 |
| 15,000-20,000 |  | 38.1 | 37.2 | 37.2 | 35.3 | 33.7 | 36.6 |
| 20,000-25,000 |  | 38.3 | 38.2 | 38.2 | 37.6 | 36.3 | 37.9 |
| 25,000-30,000 |  | 39.5 | 38.6 | 38.6 | 38.8 | 37.9 | 38.5 |
| 30,000-40,000 |  | 39.0 | 39.2 |  | 40.9 | 38.9 | 39.2 |
| 40,000-50,000 |  | 41.6 | 39.4 |  | 42.9 | 40.1 | 39.5 |
| 50,000-75,000 |  | 43.0 \} |  | 48.8 | 46.6 | 44.9 | 42.8 |
| 75,000-100,000 |  | 45.4 \} | 42.4 |  |  |  |  |
| 100,000 \& over |  | 58.4 | 54.4 |  | 59.0 | 54.8 | 54.5 |
| Total | 19.7 |  | 17.3 | 17.5 |  | 14.4 | 17.0 |

## Notes to Table 58

* Income including capital gains or losses.


## Column

1 Table 57, column 2.
2 Savings and income are given in America's Capacity to Consume, Table 6, p. 261, except for income classes of $\$ 1,000$ and under, for which the ratio in column 4 of Table 57 is used.
3 For income classes of $\$ 5,000$ and under the ratios are assumed to be the same as in column 2. For any given income class over $\$ 5,000$, its ratio of savings to income excluding capital gains is estimated by interpolating between the ratio in column 2 for the given class and that for the class below it on the basis of the proportionate difference between the logarithms of per family income including and excluding capital gains. For example:
a Income incl. capital gains, $\$ 5,000-6,000$ class $\$ 3,414,000,000$
b Number of families 626,000
c Income incl. capital gains per family, $\$ 5,000-6,000$ class $\$ 5,454$
d Logarithm of $\mathrm{c} \quad 3.73672$
e Income incl. capital gains, $\$ 6,000-7,000$ class $\$ 2,506,000,000$
f Number of families 388,000
g Income incl. capital gains per family, $\mathbf{\$ 6 , 0 0 0 - 7 , 0 0 0}$ class $\$ 6,459$
h Logarithm of $g$ 3.81017
i Income excl. capital gains, $\$ 6,000-7,000$ class $\$ 2,402,000,000$
j Income excl. capital gains per family, $\$ 6,000-7,000$ class $\$ 6,191$
k Logarithm of $\mathbf{j}$ 3.79176
1 Savings, \$5,000-6,000 class \$617,000,000
m Savings, $\$ 6,000-7,000$ class $\$ 513,000,000$
n Ratio of savings to income incl. capital gains, $\quad 18.1 \%$
o
$\$ 6,000-7,000$ class $\quad 20.5 \%$
p Line h minus line d . 07345
q Line k minus line d . 05504
r Ratio, line q to line p . 7494
s Line o minus line $\mathrm{n} \quad 2.4 \%$
$t$ Line $r$ times line s $\quad 1.8 \%$
u Estimated ratio of savings to income excl. capital gains, $\$ 6,000-7,000$ class (line $n$ plus line $t$ )
$19.9 \%$
4 Calculated from savings and income underlying columns 1 and 3.
5 Savings and income are given in America's Capacity to Consume, Table 9, p. 265 , except for income classes of $\$ 1,000$ and under, for which the ratio in column 8 of Table 57 is used.
6 Assumed to be identical with or calculated from column 5; see notes to column 3.
7 Calculated from savings and income underlying columns 4 and 6.

Table 59: Adjusted Income Multiples per Consuming Unit and per Capita, and Savings-Income (S-I) Ratios: Brookings Data, 1929

| FARM FAMILIES |  |  | Adj. Inc. ${ }^{\text {NONFARM FAMLIES }}$ |  |  |  | Adj. Inc. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| Income Multiple |  | S-I | Adj. Inc. Multiple |  | S-I Ratio (\%) |  | Multiple |  |
| Per | Per | Ratio | Per | Per | Assu | ption | Per | Per |
| unit | capita | (\%) | unit | capita | 1 | 2 | unit | capita |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 0.24 | 0.26 | -47.7 | 0.23 | 0.24 | -67.6 | -67.6 | 0.23 | 0.23 |
| 0.59 | 0.59 | -2.8 | 0.43 | 0.43 | 0.7 | 1.2 | 0.49 | 0.48 |
| 1.00 | 0.97 | 8.0 | 0.59 | 0.58 | 5.1 | 5.7 | 0.67 | 0.67 |
| 1.40 | 1.37 | 21.4 | 0.75 | 0.73 | 7.5 | 8.2 | 0.87 | 0.85 |
| 1.81 | 1.73 | 29.6 | 0.93 | 0.90 | 9.6 | 10.3 | 1.06 | 1.03 |
| 2.21 | 2.11 | 35.9 | 1.09 | 1.03 | 11.7 | 12.5 | 1.24 | 1.18 |
| 2.62 | 2.56 | 40.4 | 1.26 | 1.19 | 12.7 | 13.5 | 1.44 | 1.37 |
| 3.02 | 2.95 | 44.6 | 1.43 | 1.29 | 13.3 | 14.6 | 1.63 | 1.51 |
| 3.42 | 3.27 | 48.7 | 1.58 | 1.43 | 14.8 | 16.4 | 1.82 | 1.68 |
| 3.86 | 3.68 | 51.6 | 1.81 | 1.66 | 15.8 | 17.8 | 2.07 | 1.93 |
| 4.42 | 4.15 | 56.4 | 2.11 | 1.95 | 17.0 | 19.9 | 2.42 | 2.24 |
| 5.21 | 4.89 | 61.5 | 2.42 | 2.22 | 18.8 | 22.1 | 2.76 | 2.57 |
| 6.82 | 6.39 | 66.7 | 2.71 | 2.50 | 21.7 | 24.7 | 3.11 | 2.89 |
|  |  |  | 2.99 | 2.75 | 22.7 | 27.1 | 3.42 | 3.18 |
|  |  |  | 3.74 | 3.72 | 29.0 | 32.8 | 4.27 | 4.27 |
|  |  |  | 5.19 | 5.17 | 30.2 | 37.2 | 5.13 | 5.94 |
|  |  |  | 6.60 | 6.57 | 29.3 | 38.2 | 7.53 | 7.53 |
|  |  |  | 8.00 | 7.97 | 28.9 | 38.6 | 9.13 | 9.14 |
|  |  |  | 9.93 | 9.88 | 27.0 | 39.2 | 11.34 |  |
|  |  |  | 12.35 | 12.30 | 27.9 | 39.4 | 14.11 |  |
|  |  |  | 17.96 | 17.88 | 27.6 | 42.4 | 20.50 | 30.08* |
|  |  |  | 80.10 | 79.72 | 35.5 | 54.4 | 91.44 |  |

[^49]Note A Adjustment of Income Multiples per Unit
Total income distributed by income class in America's Capacity to Consume is $\$ 92,950$ million: for farm families, $\$ 7,141$ million ( p .260 ); for nonfarm families, $\$ 69,975$ million (p. 261) ; and for single persons, $\$ 15,834$ million (p. 265).

Exclusion of gains and losses on sales of property, $\$ 6,198$ million, reduces the Brookings total to $\$ 86,752$ million. The Department of Commerce figure for personal income in 1929 is $\$ 85,127$ million (Survey of Current Business, July 1947, National Income Supplement, Table 3, p. 19). The ratio of the former to the latter is 1.02 and the income multiples for all consuming units combined are adjusted by multiplying by this factor.

An adjustment is assumed to be unnecessary for farm family income. Subtracting it from the totals and dividing the Brookings figure ( $\$ 86,752$ million minus $\$ 7,141$ million) by the Commerce figure ( $\$ 85,127$ million minus $\$ 7,141$ million) we again get 1.02 as the adjustment factor to be applied to single persons' and nonfarm families'.income multiples.

## Note B Derivation of Adjusted Income Multiples per Capita

The ratio of the average per capita income for the given income class to that for all income classes is calculated from the income series in Table 56 and the population estimates described below. The ratio is then adjusted by the factor indicated in Note A.

Family population is estimated as the product of the number of families (given in America's Capacity to Consume) and the number of persons per family. A preliminary estimate of the size of farm, nonfarm, and all families was derived from 1930 Census data by dividing population excluding 1 person families by the number of families of 2 or more. The final number per family for all families of $\mathbf{2}$ or more was

| SINGE PERSONS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FAMILIES |  | Adj. <br> Income |  |  | ALL CONSUMINO UNITS |  |  |  |
|  |  |  |  | Adj. Inc. |  |  |  |
| S-I Ra | (\%) |  | Multiple |  |  | S-I Ratio (\%) |  | S-I Ratio (\%) |  |
| Assum | ption | Per | Assum | ption | Per | Per | Assu | tion |
| 1 | 2 | Capita | 1 | 2 | unit | capita | 1 | 2 |
| (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| -42.4 | -42.4 | 0.36 | -12.4 | -12.4 | 0.25 | 0.31 | -30.4 | -30.4 |
| 2.0 | 2.4 | 0.75 | 0.9 | 1.7 | 0.53 | 0.54 | 1.7 | 2.2 |
| 7.2 | 7.7 | 1.06 | 8.4 | 9.1 | 0.74 | 0.73 | 7.5 | 8.0 |
| 10.3 | 10.8 | 1.37 | 11.9 | 12.5 | 0.95 | 0.88 | 10.5 | 11.1 |
| 12.6 | 13.2 | 1.67 | 14.6 | 15.3 | 1.16 | 1.03 | 12.8 | 13.4 |
| 14.4 | 15.1 | 1.99 | 17.7 | 18.4 | 1.38 | 1.17 | 14.7 | 15.4 |
| 15.8 | 16.5 | 2.31 | 19.5 | 20.2 | 1.59 | 1.35 | 16.1 | 16.9 |
| 16.4 | 17.5 | 2.61. | 20.2 | 21.3 | 1.80 | 1.48 | 16.7 | 17.8 |
| 17.7 | 19.2 | 2.88 | 20.8 | 22.4 | 2.00 | 1.65 | 18.0 | 19.5 |
| 18.3 | 20.2 | 3.28 | 21.1 | 23.0 | 2.27 | 1.89 | 18.5 | 20.4 |
| 19.2 | 21.9 | 3.86 | 21.2 | 24.3 | 2.66 | 2.22 | 19.4 | 22.2 |
| 20.4 | 23.6 | 4.43 | 21.1 | 25.2 | 3.04 | 2.56 | 20.5 | 23.8 |
| 23.1 | 26.0 | 4.89 | 22.2 | 26.2 | 3.42 | 2.90 | 23.0 | 26.0 |
| 23.6 | 27.9 | 5.49 | 22.0 | 27.7 | 3.77 | 3.20 | 23.4 | 27.9 |
| 29.0 | 32.8 | 6.68 | 23.6 | 30.0 | 4.69 | 4.35 | 28.3 | 32.4 |
| 30.2 | 37.2 | 9.12 | 25.7 | 33.7 | 6.49 | 6.16 | 29.4 | 36.6 |
| 29.3 | 38.2 | 11.69 | 27.4 | 36.3 | 8.25 | 7.81 | 29.0 | 37.9 |
| 28.9 | 38.6 | 14.45 | 26.4 | 37.9 | 10.05 | 9.52 | 28.5 | 38.5 |
| 27.0 | 39.2 | 17.62 | 27.3 | 38.9 | 12.43 | 11.79 | 27.0 | 39.2 |
| 27.9 | 39.4 | 19.87 | 27.5 | 40.1 | 15.20 | 14.67 | 27.8 | 39.5 |
| 27.6 | 42.4 | 35.74 | 28.5 | 44.9 | 22.90 | 21.45 | 27.8 | 42.8 |
| 35.5 | 54.4 | 126.64 | 32.0 | 54.8 | 98.42 | 94.02 | 34.9 | 54.5 |

obtained by subtracting from total population an estimated 2 million for institutional residents (the figure shown for 1935-36 in the Consumer Purchases Study) and the $8,988,000$ reported as single persons in America's Capacity to Consume, then dividing by the number of families of 2 or more. The ratio of the final to the preliminary number per family for all families of 2 or more was applied to the preliminary number per farm and nonfarm family respectively to yield the final number. The number per family for each income class was then derived for farm, nonfarm, and all families of 2 or more by multiplying the 1935-36 estimates in the Consumer Purchases Study by the ratio of the number per family for all families of 2 or more in 1929 to the number per family for all families of 2 or more in 1935-36.

## Column

1 Table 57, column 1.
2, 5, Derived by the method outlined in Note B, above.
9, 16
3 Table 57, column 2.
4 Table 57, column 3, multiplied by 1.02 .
6 Table 57, column 4.
7 Table 58, column 3.
8 Table 57, column 5, multiplied by 1.02 .
10 Table 57, column 6, and extensions thereof.
11 Table 58, column 4, and extensions thereof.
12 Table 57, column 7, multiplied by 1.02 .
13 Table 57, column 8.
14 Table 58, column 6.
15 Table 57, column 9, multiplied by 1.02 .
17 Table 57, column 10.
18 Table 58, column 7.

Table 60
Number, Income, and Savings of Units Classified by Their Current Year Income Brookings Special Sample, 1928-1932

|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Income Class | No. | $\begin{gathered} \text { Income } \\ \text { (\$ tho } \end{gathered}$ | Savings usand) | No. | $\begin{gathered} \text { Income } \\ \text { (\$ th } \end{gathered}$ | Savings usand) |
|  |  | (1) | (2) | (3) | (4) | (5) | (6) |
| I | Under \$1,500 | 59 | 55.8 | -4.2 | 47 | 45.3 | -4.4 |
| II | 1,500-2,000 | 70 | 120.8 | 17.3 | 65 | 113.0 | 11.7 |
| III | 2,000-2,500 | 88 | 199.9 | 31.6 | 70 | 158.3 | 28.6 |
| IV | 2,500-3,000 | 129 | 348.4 | 60.9 | 143 | 388.6 | 60.4 |
| V | 3,000-3,500 | 165 | 522.5 | 104.9 | 148 | 466.0 | 91.2 |
| VI | 3,500-4,000 | 147 | 542.8 | 116.5 | 152 | 559.0 | 104.8 |
| VII | 4,000-4,500 | 137 | 570.7 | 130.2 | 135 | 553.5 | 122.3 |
| VIII | 4,500-5,000 | 162 | 759.6 | 176.5 | 159 | 739.0 | 160.0 |
| IX | 5,000-6,000 | 238 | 1,275.9 | 313.6 | 256 | 1,353.8 | 302.0 |
| X | 6,000-7,000 | 101 | 644.1 | 140.5 | 123 | 767.6 | 184.0 |
| XI | 7,000-8,000 | 56 | 410.7 | 102.7 | 64 | 470.3 | 131.4 |
| XII | 8,000-10,000 | 77 | 674.2 | 191.0 | 68 | 589.8 | 165.2 |
| XIII | 10,000-15,000 | 53 | 627.4 | 221.8 | 66 | 761.5 | 273.3 |
| XIV | 15,000 \& over | 57 | 2,465.6 | 1,125.7 | 66 | 3,270.0 | 1,386.8 |
| Total |  | 1,539 | 9,218.4 | 2,729.0 | 1,562 | 10,235.8 | 3,017.3 |
| Av. per unit, \$Av. savings-income ratio, \% |  |  | 5,990 | 1,773 |  | 6,553 | 1,932 |
|  |  |  | 29.6 | 29.5 |  |

From original summary tables by Clark Warburton. Income shown here is adjusted for losses. Savings are as reported, except in the few cases where reported savings were larger than the difference between income (adjusted for losses) and reported expenses. In these cases, the savings were reduced by the amount of the discrepancy.
APPENDIX 1

| No.(7) | 1930 |  | 1931 |  |  | 1932 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Income (\$ thou | Savings usand) | $\begin{aligned} & \text { No. } \\ & \text { (10) } \end{aligned}$ | $\begin{aligned} & \text { Income } \\ & \text { (\$ th } \end{aligned}$ | Savings usand) | $\begin{aligned} & \text { No. } \\ & \text { (13) } \end{aligned}$ | Income Savings (\$ thousand) |  |
|  | (8) | (9) |  | (11) | (12) |  | (14) | (15) |
| 62 | 61.8 | -13.3 | 56 | 56.0 | -3.3 | 74 | 71.7 | -6.8 |
| 49 | 83.7 | 7.4 | 61 | 104.9 | 14.9 | 71 | 118.9 | 9.0 |
| 86 | 192.0 | 28.8 | 91 | 202.0 | 30.5 | 117 | 260.0 | 37.5 |
| 121 | 328.8 | 62.0 | 130 | 350.5 | 58.8 | 133 | 359.1 | 63.9 |
| 132 | 418.9 | 68.1 | 136 | 434.9 | 91.0 | 157 | 491.4 | 93.9 |
| 156 | 580.2 | 116.0 | 130 | 481.9 | 102.4 | 143 | 523.4 | 115.0 |
| 147 | 617.9 | 134.5 | 169 | 700.9 | 162.2 | 193 | 808.1 | 180.4 |
| 169 | 784.6 | 172.9 | 161 | 749.0 | 157.1 | 172 | 800.5 | 190.5 |
| 272 | 1,447.9 | 296.1 | 278 | 1,476.8 | 352.7 | 237 | 1,266.7 | 276.8 |
| 129 | 800.2 | 194.8 | 133 | 840.5 | 186.7 | 106 | 657.3 | 163.7 |
| 63 | 461.4 | 119.0 | 60 | 443.3 | 116.1 | 57 | 408.2 | 111.0 |
| 72 | 630.9 | 152.2 | 73 | 634.9 | 161.9 | 50 | 406.7 | 80.9 |
| 57 | 654.8 | 210.7 | 56 | 611.9 | 202.2 | 39 | 450.7 | 140.6 |
| 56 | 2,658.9 | 1,079.4 | 42 | 2,035.1 | 800.4 | 33 | 1,481.0 | 490.7 |
| 1,571 | 9,722.0 | 2,628.6 | 1,576 | 9,122.6 | 2,433.5 | 1,582 | 8,103.7 | 1,947.3 |
|  | 6,188 | 1,673 |  | 5,788 | 1,544 |  | 5,122 | 1,231 |
|  |  | 27.0 |  |  | 26.7 |  |  | 24.0 |

## Table 61

U Income Multiples and Savings-Income (S-I) Ratios of Units Classified by Their Current Year Income

## Table 62

Number，Income，and Savings of Units Classified by Their Average Income for 1928－1932，Brookings Special Sample

$$
\begin{aligned}
& 25.1 \\
& \text { 曾 }
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{ll}
8,823.8 & 2,254.0 \\
5,775 & 1,475
\end{array} \\
& 25.5 \\
& \begin{array}{l}
8,279.2 \\
5,418
\end{array} \\
& \text { column 1, and for sources of columns 2-12, see Table } 60 \text { and its notes. } \\
& \text { Av per unit, } \\
& \text { income ratio, \% } \\
& \text { For coverage of income classes, column 1, and for sources of columns 2-12, see Table } 60 \text { and its notes. }
\end{aligned}
$$

Table 63: Adjusted Income Multiples per Consuming Unit and Per Capita, and Savings-Income (S-I) Ratios: Consumer Purchases Study, 1935-1936

| FARM FAMILIES Income |  |  | RURAL NONFARM FAMILIESAdj. Inc. |  |  | URBAN FAMILIES |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Adj. Inc. |
|  | ple | S-I |  |  |  |  | iple | S-I |  | ple | S-I |
| Per | Per | Ratio | Per | Per | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | unit | capita | (\%) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 0.25 | 0.27 | -59.2 | 0.23 | 0.24 | -18.0 | 0.17 | 0.18 | -67.3 |
| 0.61 | 0.61 | -10.2 | 0.52 | 0.53 | -6.0 | 0.41 | 0.41 | -9.0 |
| 1.01 | 0.98 | 2.3 | 0.85 | 0.85 | 0.0 | 0.65 | 0.65 | -2.1 |
| 1.41 | 1.38 | 13.2 | 1.14 | 1.10 | 3.8 | 0.91 | 0.92 | 1.9 |
| 1.97 | 1.89 | 23.9 | 1.66 | 1.60 | 9.7 | 1.26 | 1.23 | 6.5 |
| 2.79 | 2.73 | 34.4 | 2.37 | 2.20 | 14.5 | 1.82 | 1.69 | 12.3 |
| 3.62 | 3.46 | 43.3 | 3.12 | 2.94 | 22.1 | 2.34 | 2.07 | 15.6 |
| 5.42 | 5.41 | 52.6 | 4.78 | 4.49 | 37.7 | 3.66 | 3.32 | 20.5 |
| 15.67 | 15.68 | 74.1 | 14.27 | 16.70 | 57.8 | 12.35 | 11.83 | 42.1 |

${ }^{2}$ The corresponding savings-income ratio is 46.2 percent.
${ }^{\mathrm{b}}$ The corresponding savings-income ratio is 46.4 percent.

## Column

1 The ratio of average income per family for the given income class to that for all income classes calculated from total income and number of families given by income class in Family Expenditures in the United States (National Resources Planning Board, 1941), Table 87, p. 29.
2 The ratio of the average per capita income for the given income class to that for all income classes. The per capitas are calculated by dividing income as reported in ibid. by population as estimated below. Population of nonrelief farm families is given by income class in ibid., Table 362, p. 120. Population of relief farm families was derived by multiplying the number of families by the estimated size of family. The number of relief farm families is the difference between all farm families (ibid., Table 87, p. 29) and nonrelief farm families (ibid., Table 20, p. 7). The average size of relief farm families in each income class was estimated from that for all relief families by multiplying the latter by the ratio of size of family in all income classes of relief farm families (ibid., Table 20, p. 7) to that of all relief families (ibid., Table 335, p. 108).
3 Savings of nonrelief and relief farm families divided by their income. Sayings and income of nonrelief farm families are given by income class in ibid., Table 372, p. 123. Savings of relief farm families were estimated by income class by multiplying their income by the nonrelief farm family savings-income ratio and adjusting the products to add to total savings of relief farm families as reported. The savings-income ratio for nonrelief families, by income class, was taken from ibid., Table 21, p. 8, or computed from ibid., Table 372, p. 123; income of relief families, by income class, is the difference between income of all families (ibid., Table 87, p. 29) and that of nonrelief families; total savings of relief families are the difference between those of all families (ibid., Table 88, p. 29) and those of nonrelief families.
4 For source and procedure see notes to column 1. Here, however, the multiples were adjusted to the correct countrywide average income, by the factor indicated below.

Aggregate income in the Consumer Purchases Study is $\$ 59,983$ million.

| Nonfarm familiesAdj. Inc. |  |  | all families |  |  | SINGLe PersonsAdj. Inc. |  | all consuming units |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Adj. Inc. <br> Multiple |  | S-I |  |  | Adj. Inc. <br> Multiple |  | S-I |
| Adj. Inc. Multiple |  | S-I |  |  | Multiple | S-I |  |  |  |
| Per | Per | Ratio | Per | Per |  | Ratio | Per | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | capita | (\%) | unit | capita | (\%) |
| (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
| 0.18 | 0.19 | -48.5 | 0.19 | 0.20 | -51.9 | 0.37 | -7.9 | 0.20 | 0.24 | -38.8 |
| 0.43 | 0.43 | -8.2 | 0.38 | 0.38 | -14.6 | 0.74 | -0.5 | 0.41 | 0.45 | -10.5 |
| 0.69 | 0.69 | -1.6 | 0.53 | 0.52 | -6.6 | 0.95 | 2.0 | 0.57 | 0.57 | -4.9 |
| 0.96 | 0.96 | 2.3 | 0.68 | 0.67 | -2.8 | 1.17 | 4.7 | 0.74 | 0.71 | -1.7 |
| 1.34 | 1.31 | 7.1 | 0.82 | 0.82 | 1.0 | 1.37 | 7.2 | 0.89 | 0.87 | 1.9 |
| 1.91 | 1.79 | 12.6 | 0.97 | 0.98 | 3.5 | 1.59 | 9.6 | 1.05 | 1.00 | 4.2 |
| 2.47 | 2.23 | 16.8 | 1.11 | 1.11 | 5.0 | 1.89 | 12.5 | 1.20 | 1.12 | 5.8 |
| 3.86 | 3.56 | 24.0 | 1.34 | 1.33 | 8.2 | 2.30 | 15.6 | 1.45 | 1.33 | 8.9 |
| 12.90 | 12.74 | 44.2 | 1.64 | 1.61 | 11.6 | 2.90 | 19.9 | 1.77 | 1.53 | 12.0 |
|  |  |  | 2.05 | 1.98 | 15.6 | 3.82 | 25.1 | 2.21 | 1.92 | 16.1 |
|  |  |  | 2.66 | 2.48 | 20.6 | 5.81 | 31.4 | 2.87 | 2.41 | 21.2 |
|  |  |  | 4.16 | 3.92 | 29.5 | 10.21 | 38.8 | 4.48 | 3.85 | 29.8 |
|  |  |  | 6.86 |  | 38.9 | 14.51 | 42.1 | 7.47 |  | 38.9 |
|  |  |  | 10.47 | $13.92{ }^{\text {a }}$ | 39.9 | 37.37 | 51.4 | 11.28 | $13.74{ }^{\text {b }}$ | 40.2 |
|  |  |  | 25.29 |  | 50.7 |  |  | 27.52 |  | 50.8 |

## Column

According to Consumer Incomes in the United States (p. 35), this is about $\$ 3$ billion short of the Department of Commerce figure. The latter has since been revised downward by an average of $\$ 0.6$ billion (Survey of Current Business, July 1947, National Income Supplement). Since the National Resources Committee allowance for imputed rent was too large $-\$ 2.4$ billion compared with an average of $\$ 1$ billion - the real shortage is only $\$ 1$ billion. Dividing $\$ 59,983$ billion by $\$ 60,983$ billion yields the factor, 0.98 , by which the income multiples for all consuming units are adjusted. An adjustment is assumed unnecessary for farm family income ( $\$ 8,224$ billion). Subtracting it from both totals and dividing we again get 0.98 - the adjustment factor for income multiples of all units other than farm families.
5 The procedure parallels that for column 2; for the adjustment factor, see notes to column 4.
6 The procedure parallels that for column 3. Total savings and income of nonrelief families are given by income class in Family Expenditures in the United States, Table 386, p. 127; the savings-income ratio for nonrelief families, by income class, was taken from ibid., Table 21, p. 8, or computed from ibid., Table 386; income of relief families by income class is the difference between income of all families (ibid., Table 87, p. 29) and that of nonrelief families (ibid., Table 386); total savings of relief families are the difference between those of all families (ibid., Table 88, p. 29) and those of nonrelief families.
7 For sources, procedure, and the adjustment factor see notes to columns 1 and 4.
8 See notes to column 5.
9 The procedure parallels that for column 3. Savings and income of nonrelief families are given by income class in ibid., Table 400, p. 130; the savings-income ratio for nonrelief families, by income class, was taken from ibid., Table 21, p. 8, or computed from ibid., Table 400; the income of relief families, by income class, is the difference between income of all families (ibid., Table 87) and that of nonrelief families; total savings of relief families are the difference between those of all families (ibid., Table 88) and those of nonrelief families.
(concluded on page 234)

Table 64
Adjusted Income Multiples per Consuming Unit and per Capita, and Savings-Income (S-I) Ratios: Survey of Spending and Saving in Wartime, 1941

| farm families |  |  | RURAL NONFARM FAMILIES |  |  | URban families |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Adj. Inc. |  |  | Adj. Inc. |  |  |
|  | iple | S-I |  |  | S-I |  | ple | S-I |
| Per | Per | Ratio | Per | Per | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | unit | capita | (\%) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 0.33 | 0.35 | -31.7 | 0.27 | 0.32 | -9.5 | 0.15 | 0.20 | -29.1 |
| 0.48 | 0.51 | -10.0 | 0.51 | 0.49 | -6.4 | 0.26 | 0.29 | -6.5 |
| 0.69 | 0.69 | -1.6 | 0.75 | 0.77 | 1.9 | 0.42 | 0.47 | -3.4 |
| 0.83 | 0.83 | 1.8 | 1.00 | 0.92 | 5.4 | 0.56 | 0.57 | 2.1 |
| 1.05 | 0.92 | 14.2 | 1.37 | 1.28 | 7.2 | 0.71 | 0.75 | 1.0 |
| 1.37 | 1.29 | 19.7 | 2.05 | 1.85 | 17.2 | 0.88 | 0.82 | 3.0 |
| 1.81 | 2.11 | 25.8 |  |  |  | 1.17 | 1.09 | 8.4 |
| 2.65 | 2.42 | 40.8 |  |  |  | 1.93 | 1.50 | 16.8 |
| 4.93 | 4.74 | 62.3 |  |  |  | 4.38 | 3.26 | 27.3 |

Notes to Table 63 concluded:

## Column

10-12 Calculated from the data for rural nonfarm and urban families combined (see notes to col. 4-9).
13 The ratio of average income per family for the given income class to that for all income classes calculated from Consumer Expenditures in the United States, Table 1, p. 20, and multiplied by 0.98 (see notes to col. 4).
14 The ratio of average per capita income for the given income class to that for all income classes calculated from Family Expenditures in the United States, Table 18, p. 6, and adjusted by 0.98 (see notes to col. 4).
15 Consumer Expenditures in the United States, Table 1, p. 20.
16 The ratio of average per capita income for the given income class to that for all income classes calculated from ibid., Table 3, p. 32, and adjusted by 0.98 (see notes to col. 4).

17 Ibid., Table 3.
18 The ratio of average income per consuming unit for the given income class to that for all income classes calculated from ibid., Table 19A, p. 83, and adjusted by 0.98 (see notes to col. 4).
19 The ratio of the average per capita income for the given income class to that for all income classes adjusted by 0.98 (see notes to col. 4). Total income is given in ibid., Table 19A. Total population is the sum of family population (Family Expenditures in the United States, Table 335, p. 108) and of single persons (Consumer Incomes in the United States, Table 15, p. 30).

20 Consumer Expenditures in the United States, Table 19A.

| NONFARM FAMILIESAdj. Inc. |  |  | all families |  |  | SINGLE PERSONS |  | all CONSUMING UNITS Adj. Inc. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Adj. Inc. |  |  | Adj. Inc. |  |  |  |  |
| Adj. Inc. Multiple |  | S-I |  | tiple | S-I | Multiple | S-I |  | iple | S-I |
| Per | Per | Ratio | Per | Per | Ratio | Per | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | Capita | (\%) | unit | capita | (\%) |
| (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
| 0.18 | 0.21 | $-16.3$ | 0.22 | 0.23 | -16.9 | 0.33 | $-22.0$ | 0.22 | 0.27 | -18.4 |
| 0.31 | 0.32 | -6.4 | 0.37 | 0.37 | -4.2 | 0.68 | 2.6 | 0.39 | 0.42 | -2.8 |
| 0.48 | 0.52 | -1.3 | 0.54 | 0.56 | 2.0 | 1.07 | 3.3 | 0.57 | 0.60 | 2.1 |
| 0.65 | 0.64 | 2.8 | 0.71 | 0.70 | 5.3 | 1.46 | 7.7 | 0.77 | 0.72 | 5.7 |
| 0.89 . | 0.88 | 2.7 | 0.97 | 0.99 | 4.5 | 2.01 | 14.6 | 1.04 | 0.99 | 4.9 |
| 1.34 | 1.25 | 9.4 | 1.44 | 1.38 | 11.5 | 4.97 | 24.9 | 1.57 | 1.37 | 11.6 |
| 3.88 | 3.03 | 25.0 | 4.11 | 3.36 | 27.9 |  |  | 4.45 | 3.36 | 27.2 |

## Notes to Table 64

## Column

1 The ratio of average income per family for the given income class to that for all income classes. Average income, money and nonmoney, by income classes up to $\$ 4,999$, and for all classes is given in Rural Family Spending and Saving in Wartime (Dept. of Agriculture, Misc. Pub. 520, June 1943), Table 49, p. 156. The average income for the 'residual' class was derived by multiplying the average income for each income class reported by the percentage of families in that class (ibid.), adding the products, and dividing the difference between this total and the average for all classes multiplied by 100 by the percentage unaccounted for by the income classes reported. Families with negative incomes (BLS Bulletin 822, Table 1, p. 68), were combined with those in the lowest income group.
2 The ratio of average per capita income for the given income class to that for all income classes. Per capita income was derived by dividing average family income (see notes to col. 1) by the number of persons per family (given for income classes up to $\$ 5,000$ in ibid. and estimated for the 'residual' class by weighting the data for $\$ 5,000-10,000$, and $\$ 10,000$ and over in BLS Bulletin 822, Table 2, p. 70, by the number of families, ibid., p. 34).

3 Average savings per family divided by average income. Average net savings excluding inheritances and gifts, by income classes up to $\$ 4,999$, and average savings for all classes are given in the same source as average income (see notes to col. 1). Average savings for the 'residual' class were derived by the same procedure as its average income (see notes to col. 1).
4 For the sources and procedure see notes to column 1. Here, however, the multiples were adjusted to the correct average income by the factor indicated below.

Money income in BLS Bulletin 822, p. 43, is $\$ 77.3$ billion. Department of Commerce money income is $\$ 90.4$ billion (Survey of Current Business, July 1947, National Income Supplement: personal income, $\$ 95,308$ million, minus income all in kind, $\$ 3,519$ million, minus income partly in kind, $\$ 1,400$ million). The difference is $\$ 13.1$ billion. We assumed there was no shortage in the BLS estimates of income in kind, which we calculated to be $\$ 9.4$ billion (average income in kind per family and/or single consumer is given as $\$ 239$ in BLS Bulletin 822, Table 3, p. 71, and the number of families and/or single consumers as $39,287,000$ in ibid., Table 1, p. 68). Dividing the BLS $\$ 86.7$ billion (i.e., $77.3+9.4$ ) by the Department of Commerce

Notes to Table 64 concluded:

## Column

4 (concl.)
total, $\$ 99.8$ billion (i.e., $90.4+9.4$ ), yields the factor, 0.87 , by which income multiples for all consuming units are adjusted.

An adjustment is assumed unnecessary for farm family income, estimated to be $\$ 10.4$ billion (the product of $\$ 1,696$, the average income in Rural Family Spending and Saving in Wartime, Table 49, p. 156, and 6,113,000, the number of farm families of 2 or more in BLS Bulletin 822, Table 1). Subtracting it from the BLS and Department of Commerce totals and dividing, we get 0.85 - the adjustment factor for income multiples of units other than farm.
5 The ratio of the average per capita income for the given income class to that for all income classes multiplied by 0.85 (see notes to col. 4). For the derivation of the per capitas see notes to column 2 .
6 For the sources and procedure see notes to column 3.
7 The ratio of average income for the given income class, BLS Bulletin 822, Table 18, p. 95, to that for all classes, ibid., Table 3, p. 71, adjusted by 0.85 (see notes to col. 4).

8 The ratio of the average per capita income for the given income class to that for all income classes adjusted by 0.85 (see notes to col. 4). Per capita income was computed by dividing average family income (see notes to col. 7) by the average number per family, BLS Bulletin 822, Table 2, p. 70.
9 Average savings per family, excluding inheritances, by income class (ibid., Table 19, p. 102) divided by average income per family (see notes to col. 7).
10- Calculated from the data for rural nonfarm and urban families combined
12 (see notes to col. 4-9).
13. The ratio of average income per family (or unit) for the given income class

18 to that for all income classes was derived as for column 1 from BLS Bulletin 822, Tables 1 and 3, pp. 68 and 71, and adjusted by 0.87 (see notes to col. 4).
14. The ratio of average per capita income for the given income class to that

19 for all income classes, adjusted by 0.87 (see notes to col. 4). Per capita income was derived as for column 2. The average number of persons per family is given in ibid., Table 2, p. 70.
15, Average savings per family (or single person, or unit) divided by average
17, income. Average savings for income classes up to $\$ 5,000$ are given in ibid.,
20 Table 4, p. 73. Those for the 'residual' class were derived by the method outlined for column 3 . For sources and methods of deriving average income see notes to columns 13 and 1.
16 The ratio of average income for the given income class to that for all income classes, adjusted by 0.85 (see notes to col. 4). For sources and methods of deriving average income see notes to columns 13 and 1.

Table 65
Adjusted Income Multiples per Consuming Unit and per Capita, and Savings-Income (S-I) Ratios: Survey of Spending and Saving in Wartime 1942, First Quarter

| FARM FamiliesIncome |  |  | RURAL NONFARM Families |  |  | URban families |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Multiple |  | S-I | Adj. Inc. |  | S-I |
| Multiple |  | S-I |  |  |  |  |  |
| Per | Per | Ratio | Per | Per |  | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | unit | capita | (\%) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 0.18 | 0.18 | -259.7 | 0.25 | 0.30 | -25.0 | 0.14 | 0.18 | -37.2 |
| 0.69 | 0.73 | -8.7 | 0.46 | 0.44 | -3.5 | 0.25 | 0.28 | -19.1 |
| - 0.87 | 0.80 | 7.2 | 0.71 | 0.68 | 5.9 | 0.39 | 0.42 | -3.7 |
| 1.15 | 1.11 | 16.1 | 0.96 | 0.97 | 12.1 | 0.53 | 0.58 | 4.1 |
| 1.51 | 1.46 | 19.2 | 1.31 | 1.18 | 18.3 | 0.67 | 0.69 | 4.9 |
| 2.02 | 2.03 | 40.8 | 1.98 | 1.86 | 23.6 | 0.82 | 0.81 | 8.5 |
| 3.02 | 3.18 | 52.8 | 8.24 | 8.46 | 62.2 | 1.09 | 1.00 | 13.1 |
| 9.42 | 9.72 | 83.7 |  |  |  | 1.90 | 1.47 | 17.1 |
|  |  |  |  |  |  | 4.73 | 3.27 | 31.0 |


| NONFARM FamiliesAdj. Inc. |  |  | all families |  |  | all Consuming unirs |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Adj. Inc. |  |  | Adj. Inc. |  |  |
|  |  | S-I |  |  | S-I |  |  | S-I |
| Per | Per | Ratio | Per | Per | Ratio | Per | Per | Ratio |
| unit | capita | (\%) | unit | capita | (\%) | unit | capita | (\%) |
| (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| 0.16 | 0.19 | -29.0 | 0.19 | 0.20 | -37.5 | 0.19 | 0.22 | -35.5 |
| 0.28 | 0.30 | -12.8 | 0.33 | 0.34 | -9.9 | 0.35 | 0.39 | -7.8 |
| 0.44 | 0.46 | 0.0 | 0.50 | 0.52 | 2.5 | 0.55 | 0.57 | 2.5 |
| 0.60 | 0.64 | 6.2 | 0.67 | 0.72 | 7.7 | 0.73 | 0.76 | 8.1 |
| 0.82 | 0.82 | 8.3 | 0.92 | 0.95 | 10.5 | 0.99 | 0.96 | 10.8 |
| 1.23 | 1.15 | 14.3 | 1.38 | 1.33 | 16.6 | 1.51 | 1.30 | 16.0 |
| 3.52 | 2.68 | 28.4 | 3.82 | 3.08 | 29.6 | 4.14 | 3.00 | 27.8 |

For sources and methods see notes to Table 64. Since the data for single persons as published for 1942 did not yield acceptable results for the top income class, they were not used.


Notes to Table 66

* Net savings are less than one-half of 1 percent of total savings.
$\dagger$ No entries for lines 1-7.


## Column

1 Percentage of income divided by percentage of spending units. Source for lines 1-5 is A National Survey of Liquid Assets, Federal Reserve Bulletin, August 1946, Table 6, p. 852; for lines 8-17, the 1948 Survey of Consumer Finances, ibid., August 1948, Table 9, p. 923.
2 Column 1 multiplied by 0.88 , since "the survey appears to have covered about 88 percent of the income involved" (ibid., June 1946, p. 580).
3 Same sources as for column 1.
4 Column 3 multiplied by 15 percent, the over-all savings-income ratio for 1945 supplied by letter from Ralph A. Young, Associate Director, Division of Research and Statistics, Board of Governors of the Federal Reserve System.
5 Percentage of income divided by percentage of spending units. Source for lines 1-7 is Survey of Consumer Finances, ibid., August 1947, Table 3, p. 954, for lines 8-17, same source as for column 1.

6 Column 5 multiplied by 0.85 , since "In the case of income, the expanded survey total for 1946 amounted to about 85 percent of the Department of Commerce estimate after adjustment for comparability" (ibid., August 1947, p. 960).
7 Same sources as for column 5.
8 Column 7 multiplied by 12 percent, the over-all savings-income ratio for 1946 (ibid., Aug. 1948, p. 915).
9 Percentage of income divided by percentage of spending units (ibid., Table 8, p. 920, for lines 1-7 and Table 9, p. 923 for lines 8-16).
10 Column 9 multiplied by 0.88. "Personal money incomes increased by approximately 20 billion dollars in 1947" (ibid., June 1948, p. 649). Department of Commerce personal income was $\$ 178.1$ billion in 1946 and $\$ 195.2$ billion in 1947 (Survey of Current Business, July 1948, Table 3, p. 16). Income in kind was $\$ 9.3$ billion in both years (ibid., Table 39, p. 26), leaving money income of $\$ 168.8$ billion in 1946 and $\$ 185.9$ billion in 1947. Since the Survey of Consumer Finances total in 1946 was estimated to be $\$ 143.5$ billion (i.e., 85 percent of the Department of Commerce figure), that for 1947, $\$ 20$ billion larger, is $\$ 163.5$ billion, or 88 percent of the Department of Commerce total.
11 Same sources as for column 9.
12 Column 11 multiplied by 9 percent, the over-all savings-income ratio for 1947 (same source as for col. 8).
13 Percentage of income divided by percentage of spending units ( 1949 Survey of Consumer Finances, Federal Reserve Bulletin, Jan. 1950, Table 10, p. 23).

14 Column 14 multiplied by 0.88 . "Total consumer money income rose almost 15 billion dollars from 1947 to 1948" (ibid., July 1949, p. 778). Adding $\$ 15$ billion to the 1947 total, $\$ 163.5$ billion (see notes to col. 10 ), yields $\$ 178.5$ billion for 1948. The ratio of this total to that of the Department of Commerce, $\$ 202.9$ billion ( $\$ 211.9$ billion personal income minus $\$ 9.0$ billion income in kind as given in Survey of Current Business, July 1949, Table 3, p. 10, and Table 39, p. 25), yields the adjustment factor.
15 Same source as for column 13.
16 Column 15 multiplied by 7 percent, the over-all savings-income ratio for 1948 (Federal Reserve Bulletin, Jan. 1950, p. 24).
(concluded on page 240)

Notes to Table 66 concluded:

## Column

17, 21 Percentage of income divided by percentage of spending units (1951 Survey of Consumer Finances, ibid., Sept. 1951, Table 8, p. 1067).
18 Column 17 multiplied by 0.87 , the ratio of total consumer money income, $\$ 170$ billion, as calculated from the 1950 Survey of Consumer Finances (the product of 52 million spending units, ibid., Nov. 1950, Table 1, p. 1, and their mean income, $\$ 3,270$, ibid., Aug. 1950, Table 12, p. 960) to personal income excluding income in kind as calculated from the Department of Commerce series (personal income, $\$ 205.1$ billion, reported in National Income, 1951 ed., Supplement to Survey of Current Business, Table 3, p. 151, minus income in kind and partially in kind, $\$ 9.3$ billion, ibid., Table 39, p. 203).
19, 23 Same source as for columns 17 and 21.
20 Column 19 multiplied by 5.5 percent, the over-all savings-income ratio for 1949 (mean net savings, $\$ 180,1950$ Survey of Consumer Finances, Federal Reserve Bulletin, Nov. 1950, Table 1, p. 1441, divided by mean income, for which see notes to col. 18).
22 Column 21 multiplied by 0.85 , the ratio of total consumer money income, $\$ 183$ billion, as reported in the 1951 Survey of Consumer Finances (ibid., Aug. 1951, p. 920) to personal income excluding income in kind, $\$ 214.9$ billion, as calculated from the Department of Commerce series reported in the sources indicated in the notes to column 18.
24 Column 23 multiplied by 7.7 percent, the over-all savings-income ratio for 1950 (mean net savings, $\$ 270$, 1951 Survey of Consumer Finances, ibid., Sept. 1951, Table 7, p. 1067, divided by mean income, ibid., Aug. 1951, Table 1, p. 921 ).

## Volume Two

## Part IV

## Derivation and Characteristics of the Estimates

## Chapter 7

Coverage of Federal Income Tax Returns

## 1 Tax Return Population

A tax return may record the income of one or more persons or an income that is the source of support for one or more persons. ${ }^{1}$ Since returns are not equivalent with respect to the number of income recipients or of dependents, they were converted to the number of persons dependent upon the income reported. Conversion was to dependents rather than to recipients because it seemed more useful to measure distribution of income by size among the persons assumed to share in that income than among recipients regardless of the number of dependents involved. ${ }^{2}$

The conversion is described in detail in Appendix 2. The general rule was to count two persons for each joint return and one for each return in other family status classes, then calculate the number of dependents proper from the credits claimed. In this way the total number of persons represented on all returns with statutory net income was approximated for each year for each income class up to $\$ 10,000$ and for those of $\$ 10,000$ and over treated as a single class. ${ }^{3}$

For comparison with the population to whom countrywide income payments flow, the estimate of the tax return population suffers from several biases. First, the federal tabulations include tax returns from Alaska and Hawaii as well as from continental United States, and there is no easy way of eliminating these two territories. However, the numbers involved are relatively small: in 1942, the last year for which data were published for both, Hawaii had 165,000 returns among the almost 37 million total; and even when the 39,000 returns for Alaska are added, the total for these territories is a negligible fraction of the tax return population. ${ }^{4}$

[^50]Second, nonresident aliens are required to file income tax returns for all taxable income from sources within the United States, regardless of amount, unless total tax has been paid at the source. They may be largely omitted from the count of total population of the United States, but they can be only a minute fraction of a percentage of the latter. ${ }^{5}$

More serious biases are likely to characterize the estimate of dependents proper. Because of tax advantages, the bias is toward exaggerating or duplicating the number of dependents claimed on returns as compared with the number that would be recognized in more disinterested reporting. On the other hand, before 1944 the tax law limited credit claims to dependents under 18 years of age and to those incapable of self-support because of mental or physical illness. Yet there must have been numerous dependents neither so young nor so disabled as to qualify under the law. Their exclusion causes an underestimate in the total number of persons dependent upon income reported on tax returns - in the sense of having and exercising claims on it for living and related expenses. This downward bias in the tax return population may be appreciably greater than the upward bias due to unwarranted claims for tax credits. If so, the contrast between the high per capita income of the tax return population and the low per capita income of the nontax return population is exaggerated.

Table 67 sheds some light on these issues. The tabulations of tax returns permit a distinction between those filed by heads of families (joint returns of husband and wife, single heads of families, etc.) and those filed by single persons (persons who, under the tax law, are neither heads of families nor dependents). There is no information to show whether the latter represent persons living alone, each constituting an independent economic unit, or members of families who file separate returns because they are not legally dependent and because the relation to the head of the family is such as to bar reporting on a joint return.

The major year to year changes in total returns (col. 1 and 2) are due to shifts in the exemption level. The increase following 1916 is due to a reduction in the personal exemption from $\$ 4,000$ to $\$ 2,000$ for a family head, and from $\$ 3,000$ to $\$ 1,000$ for a single person; the drop following 1924, to a raising of the exemption from $\$ 2,500$ to $\$ 3,500$ for a family head, and from $\$ 1,000$ to $\$ 1,500$ for a nonhead; the increase in 1932, to a restitution of the exemption to the lower levels of 1924; the further increase in 1940 and the years through 1944, in part to the drastic lower-

[^51]Table 67
Distribution of Federal Income Tax Returns between Family and Nonfamily Types, 1913-1948 (includes only net income returns; thousands).

|  |  | Returns Adj. for Separate |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Returns of. | - |  | \% | $\%$ |
|  |  | Wives \& for |  |  | Col. 3 | $\begin{gathered} \text { Col. } \\ \text { Is } \end{gathered}$ |
|  |  | Community |  | Single | Is | Is |
|  | Total | Property | Family | Person | of | of |
|  | Returns | Returns | Returns | Returns | Col. 2 | Col. 2 |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| 1913 | 358 | 351 | n.a. | n.a. | n.a. | n.a. |
| 1914 | 358 ${ }^{\text {a }}$ | 354 | n.a. | n.a. | n.a. | n.a. |
| 1915 | $337{ }^{\text {a }}$ | 332 | n.a. | n.a. | n.a. | n.a. |
| 1916 | 437 | 429 | 355 | 74 | 82.7 | 17.3 |
| 1917 | 3,473 | 3,441 | 2,077 | 1,364 | 60.4 | 39.6 |
| 1918 | 4,425 | 4,389 | 2,938 | 1,451 | 66.9 | 33.1 |
| 1919 | 5,333 | 5,274 | 3,310 | 1,964 | 62.8 | 37.2 |
| 1920 | 7,260 | 7,162 | 4,402 | 2,760 | 61.5 | 38.5 |
| 1921 | 6,662 | 6,560 | 4,007 | 2,554 | 61.1 | 38.9 |
| 1922 | 6,787 | 6,672 | 4,108 | 2,564 | 61.6 | 38.4 |
| 1923 | 7,698 | 7,510 | 5,088 | 2,422 | 67.7 | 32.3 |
| 1924 | 7,370 | 7,187 | 4,549 | 2,639 | 63.3 | 36.7 |
| 1925 | 4,171 | 4,041 | 2,455 | 1,586 | 60.8 | -39.2 |
| 1926 | 4,138 | 4,003 | 2,407 | 1,597 | 60.1 | 39.9 |
| 1927 | 4,102 | 3,977 | 2,435 | 1,541 | 61.2 | 38.8 |
| 1928 | 4,071 | 3,926 | 2,389 | 1,537 | 60.9 | 39.1 |
| 1929 | 4,044 | 3,907 | 2,393 | 1,513 | 61.3 | 38.7 |
| 1930 | 3,708 | 3,586 | 2,252 | 1,334 | 62.8 | 37.2 |
| 1931 | 3,226 | 3,126 | 2,001 | 1,125 | 64.0 | 36.0 |
| 1932 | 3,877 | 3,787 | 2,343 | 1,444 | 61.9 | 38.1 |
| 1933 | 3,724 | 3,636 | 2,288 | 1,349 | 62.9 | 37.1 |
| 1934 | 4,094 | 3,995 | 2,502 | 1,493 | 62.6 | 37.4 |
| 1935 | 4,575 | 4,454 | 2,723 | 1,731 | 61.1 | 38.9 |
| 1936 | 5,413 | 5,253 | 3,135 | 2,118 | 59.7 | 40.3 |
| 1937 | 6,350 | 6,165 | 3,627 | 2,538 | 58.8 | 41.2 |
| 1938 | 6,204 | 6,028 | 3,647 | 2,381 | 60.5 | 39.5 |
| 1939 | 7,633 | 7,427 | 4,326 | 3,101 | 58.3 | 41.7 |
| 1940 | 14,665 | 14,418 | 8,983 | 5,434 | 62.3 | 37.7 |
| 1941 | 25,855 | 25,304 | 17,010 | 8,294 | 67.2 | 32.8 |
| 1942 | 36,538 | 35,061 | 24,102 | 10,959 | 68.7 | 31.3 |
| 1943 | 43,602 | 40,624 | 27,793 | 12,831 | 68.4 | 31.6 |
| $1944{ }^{\text {b }}$ | 47,012 | 44,332 | 30,451 | 13,881 | 68.7 | 31.3 |
| $1945{ }^{\text {b }}$ | 49,865 | 46,876 | 31,949 | 14,928 | 68.2 | 31.8 |
| $1946{ }^{\text {b }}$ | 52,722 | 49,690 | 33,725 | 15,965 | 67.9 | 32.1 |
| $1947{ }^{\text {b }}$ | 54,910 | n.a. | n.a. | n.a. | n.a. | n.a. |
| $1948{ }^{\text {b }}$ | 51,847 | n.a. | n.a. | n.a. | n.a. | n.a. |

Because of rounding, columns may not add to total.
n.a: not available.
a Excluding returns filed by withholding agents. For 1914 they numbered 28,471 on which a tax of $\$ 5,528,366$ was collected at the source; for 1915 they numbered 34,132 and $\$ 6,591,912$ was paid (Annual Report of the Commissioner of Internal Revenue, 1915, p. 25, and 1916, p. 33).
${ }^{b}$ In this table and in all subsequent tables pertaining to federal income tax returns, the entries for 1944 and later years are for retyrns with adjusted gross, not net income.
Column
1 1913-15: Statistics of Income, 1942, Part 1, Table 14, p. 232
1916-48: Table 111, column 2
2 1913-15: Annual Report of the Commissioner of Internal Revenue 1916-46: Table 111, column 3
3, 4 Table 111, columns 4 and 5 respectively
ing of exemptions - by 1944 they had been reduced to $\$ 1,000$ for a family head and $\$ 500$ for a nonhead; and the decrease in 1948 , in part to the raising of the per capita exemption from $\$ 500$ to $\$ 600$, with additional exemptions for old age and blindness. ${ }^{\circ}$

A second factor affecting the number of tax returns are the changes in economic conditions that modify the significance of dollar exemption levels. For example, an exemption of $\$ 3,500$ or $\$ 2,500$ for a family head means a larger number of tax returns in years of prosperity and high incomes than in years of depression and low incomes. This explains the. short term fluctuations in the number of returns, with the reference years of cyclical lows ( $1921,1924,1927,1930-33,1938$ ) marked by drops, and the reference years of cyclical highs (1920, 1923, 1937, and the years associated with World War II) marked by peaks.

The large proportion of single person returns is the most significant point in the present connection. Except for 1916, when the exemption for a single person was at the high level of $\$ 3,000$ - near that for a family head, $\$ 4,000$ - single person returns through 1940 are over a third, distinctly exceeding the proportion of 1-person families in the total population. According to the 1940 Census, 1-person families constituted slightly less than 8 percent of total private families in 1930 and about 10 percent in 1940. A similar comparison for urban families alone, relevant because they are the chief filers, shows 8 and about 11 percent respectively. A large part of the difference between this low percentage in the Census data and the high percentage in Table 67 is explained by the Census definition of a private family: "a family head and all other persons in the home who are related to the head by blood, marriage, or adoption, and who live together and share common housekeeping arrangements". ${ }^{6}$ The NRC Study of Consumer Incomes for 1935-36 followed a broader definition, including under single individuals not only individual householders but also single persons living in lodging houses or hotels, servants and lodgers in private homes, and sons and daughters living with their parents but paying for board and lodging and not pooling their incomes in the common family fund. Families were estimated to number 29.4 million, and single individuals, 10.1 million or 25.5 percent of total consuming units (institutional residents excluded). ${ }^{7}$ The proportion of single person returns

[^52](Table 67, col. 6) is larger than even this higher percentage resulting from a more liberal definition of a single person economic unit.

Before attempting to interpret this structure of tax returns by family type, we comment upon two aspects of Table 67. First, the proportion of single person returns tends to rise from 1917 to 1939, before the recent wide extension of the coverage of the federal income tax law. This trend is especially manifest when we calculate arithmetic means for column 6 for the three periods distinguished by different exemption levels-1917-24, 1925-31, and 1932-39. ${ }^{8}$ Their movement is in accord with the rise in the proportion of 1-person families shown by the Census data from 1930 to 1940. Second, the percentage of single person returns declines drastically after 1939, suggesting that as coverage of the income tax law expands, the family structure of the returns approaches that of the total population.

The very high proportion of single person returns may be attributed to two factors. First, the exemptions may reach relatively further down the income scale of single persons than of families. Second, individuals who, either in the Census or the NRC classification would be considered members of a family, may be required by law to report separately. As far as the first factor is operative, the tax returns give relatively greater representation to 1-person economic units than to family units; but, except for this bias in weighting, they represent both types of unit as completely. As far as the second factor is operative, tax returns understate the true size of economic families. The first factor does not present any obstacle in analyzing shares of upper income groups. The second factor, in and of itself, merely shifts persons from family to single person returns. But it suggests the greater difficulty that some individuals who share in and are dependent upon the family income may not be recorded even on single person returns and thereby may be omitted from the tax return population.

The first factor is by far the more important, largely explaining the high proportion of single person returns in all tax returns. The NRC distributions for 1935-36 show that the $\$ 1,000$ exemption limit for single individuals covers about 40 percent of all individual units, whereas the $\$ 2,500$ exemption limit for families covers only about 13 percent of all family

[^53]units. ${ }^{9}$ And this is not due entirely to the use of income tax returns to piece out the NRC distributions at the levels of $\$ 7,500$ and over. Combining these results with the NRC estimates of the proportion of family and single individual units in total consuming units ( 74.5 and 25.5 percent respectively), we would expect that single person returns would exceed family returns - in the proportion of 102 ( $25.5 \times 0.40$ ) to 97 ( 74.5 x 0.13 ) - rather than fall short of them. ${ }^{10}$ Even allowing for the fact that income as defined by the NRC is larger than that as defined by the federal law for tax purposes, one could reasonably attribute the peculiar family type structure of tax returns almost entirely to the first factor. Yet the second factor, the underreporting by families because some members may be required by law to report as individuals, should be explored, since it is possible that the missing family members may not all be accounted for on single person returns.

Table 68 , column 1, tests the latter hypothesis crudely. Applying the methods described in Appendix 2, we calculate the number represented on family returns, then the average per return, which ranges from somewhat less than 3 to not more than $31 / 3$. For 1935-36 the number per family return is almost 3 ; the average number per family consumer unit, as estimated by the NRC, is 3.9 . Thus, the average family unit is understated about 25 percent on tax returns.

However, part of the difference may be genuine in the sense that the population represented on tax returns is characterized by smaller family units than the total population. Obviously, through most of the period persons required to file federal tax returns were largely in the upper income brackets, living chiefly in the larger urban communities which are characterized by higher dollar incomes. From Consumer Incomes in the United States we calculated the average size of families in urban communities alone, excluding families that received any relief during the year, to be 3.6. ${ }^{11}$ On the assumption that during most of the period returns from rural

[^54]Table 68
Number of Persons per Family Return by Net Income Classes, Tax Definition, 1916-1946 (includes only net income returns)

${ }^{\text {a }}$ Owing to an error in the Statistics of Income tabulation of personal exemptions and credit for dependents for North Dakota returns under $\$ 5,000$, columns 1 and 4-6 are too high. We estimated the correct figure for column 1 to be about 3.11, but made no corresponding estimates for columns 4-6.
${ }^{5}$ Not available for columns 5 and 6 separately.
${ }^{\text {c }}$ Not available for columns 4,5, and 6 separately. For net income classes of $\$ 1,500-$ 5,000 , the figure is 3.25 ; for classes under $\$ 1,500,2.86$.
Calculated from Table 111, columns 4 and 6.
and the distribution by family classes of different size from Table 8B, p. 97, Consumer Incomes in the United States), we get 4 as the average number per family unit for all nonrelief families with incomes of $\$ 3,000$ and over. But this comparison assigns a double effect to the possible omission of earners: if such an earner is reported separately on or omitted from tax returns, his inclusion in the family unit would raise both the number per family and the total family income. The comparison in the text provides a more reliable approach to gauging the possible understatement in the size of the family unit on tax returns.
nonfarm or from rural farm areas are an insignificant proportion of the total tax return population, ${ }^{12}$ the suggested understatement of the true size of the family unit is over 15 percent, indicating that the average number per family tax return should be raised almost a fifth to approximate the size of family as an economic unit. ${ }^{13}$

As already indicated, some of the individuals omitted from family tax returns may be recorded on single person returns, and thus not lost in the calculation of population dependent upon tax return income. In the Study of Consumer Incomes many separate earners were presumably reincluded with family units. These earner members, who pooled their income with that of the family and hence were not treated as single individuals, may have filed separate returns. But the analysis above has indicated that such separate reporting must be minor indeed and can scarcely compensate for the understatement of family size on family tax returns.

Even on the extreme assumption that the full excess in the proportion of single person returns is to be attributed to missing reporting earners of family units, the average size of the latter as shown by tax returns would not be increased very much. For 1935-36 the excess of the percentage in Table 67, column 6, over the NRC proportion of single individuals is 14.1 , or 35.6 percent of the total single person return population. If we transfer 35.6 percent of the single person return population for 1935-36, which averaged 1.9 million, to the family return population, which averaged 8.7 million, the relative increase in the latter is only 7.8 percent. This means an increase in the average number per family to 3.2 ; in the Study of Consumer Incomes it is 3.6. ${ }^{14}$

It is not clear whether the underestimate in family size on income tax returns is larger in the top income brackets, and would thus lead to a particular exaggeration of their per capita income. In Table 68 the average number per family return is shown for broad groups classified by size of

[^55]net income as defined for tax purposes. Invariably the average number for returns with net income $\$ 10,000$ and over is lower than that for the $\$ 5,000-10,000$ classes; is in most years lower than that for the $\$ 3,000-$ 5,000 classes; and in some years lower even than that for the $\$ 2,000-3,000$ class. But for 1935-36 the average number per family as calculated from Family Expenditures in the United States also shows some tendency for upper income families to be smaller: 3.9 for families with income $\$ 10,000$ and over; 4.2 for the $\$ 5,000-10,000$ classes; 4.1 for the $\$ 3,000-5,000$ classes; and 4.0 for the $\$ 2,000-3,000$ class. ${ }^{15}$

Since income is not defined in the same way by the NRC study and the tax law, it is impossible to calculate differences in underreporting among the several upper income brackets. ${ }^{16}$ The effect upon the inequality of the size distribution of income within the upper tail of the income distribution is, therefore, indeterminate.

The drop in the average number per family return, especially in the 1930's (Table 68, col. 1), is in consonance with the decline in the median size of families of 2 or more, calculated from the Census - from 3.11 in 1930 to 2.88 in 1940 for the total population, and from 2.94 to 2.74 for the urban population. ${ }^{17}$ Combined with the increase in the proportion of single person returns, the drop in the average number per family return produces a marked downward trend to 1940 in the average number per tax return (Table 69, col. 4).

For our analysis the most important use of the tax return population is to compare it with the population to whom income payments flow - the total population of continental United States. In any year some residents of continental United States may neither receive any income nor have any ties with other recipients such as would entitle them to a part of this flow. They may live upon their assets or charity. But it is much to be doubted that they are numerous absolutely or significant relatively. Besides, in any analysis of the distribution of total income among the population, such groups should be included - with zero income. Accordingly column 5, the number dependent upon countrywide income payments, is for the total population of continental United States. ${ }^{18}$
${ }^{15}$ National Resources Planning Board, Washington, 1941, Table 335, p. 108.
${ }^{10}$ The much smaller number per family return in the lower income brackets should be interpreted in the light of the exemptions which at lower income levels mean a tax obligation only for families below a certain size. It cannot, therefore, be taken as evidence of a greater underreporting bias, in the sense of omission of members of an economic family unit.
${ }^{17}$ Table 8, p. 24, volume cited in note 6.
${ }^{18}$ Countrywide income payments include those for relief, pensions, and the like which renders all the more justifiable the assumption just made in the text.

Table 69
Population Covered by Federal Income Tax Returns, 1913-1948 (includes only net income returns; population in millions)


Because of rounding, columns may not add to total.
n.a: not available.
${ }^{\text {a }}$ Excluding population covered by returns filed by withholding agents; see note (a) to Table 67.
${ }^{\text {b }}$ Owing to an error in the Statistics of Income tabulation of personal exemptions and credit for dependents for North Dakota returns under $\$ 5,000$, columns 1, 3, 4, and 6 are too high. We estimated the correct figures to be $7.45,8.97,2.22$, and 7.36 respectively.

## Column

1-3 1913-15: see Appendix 2, Section B 1916-48: Table 111, columns 6-8 respectively

In the years before 1940, population covered by tax returns constitutes only a small proportion of the country's total: before 1917, about 1 percent, and in' most of the following years, between 6 and 12 percent (col. 6 ). The changes in the proportion are due largely to changes in the tax exemptions and in the economic conditions that determine purchasing power. Thus, the marked rise in the percentage following 1916 and the marked drop following 1924 are due to changes in the exemption limits already noted. The drop in the percentages in 1930 and 1931 when exemption requirements remained constant is due to the effects of the depression on the absolute levels of dollar incomes. The rise in the percentage in 1932 is due to the lowering of the exemption limits, and the upward movement after 1933, to the improvement in economic conditions. Finally, the marked increase in the percentage after 1939 is associated with World War II tax legislation and the rise in dollar incomes.

## 2 Tax Return Income

If we are to calculate the share of countrywide income payments received by the population covered by tax returns, the latter should record all income receipts fully and exclude elements that are not part of current income properly defined. But a scrutiny of the tax return tabulations reveals that even were the full detail of each return available, it would still be impossible to get a complete and unambiguous coverage of receipts that represent an individual's share in countrywide income payments. The already tabulated totals, i.e., the figures that can be analyzed - specifically those for returns with net income, tax definition - suffer from the omission of relevant items, the inclusion of receipts that are in the nature of transfers, and the deduction of items that should not be deducted.

The omissions comprise income exempt from tax, the notable examples being interest on tax exempt securities, and wages and salaries of state and local government employees (through 1938). The inclusions consist of gains from sales of assets that are not part of the net income of persons engaged in distribution or exchange. The deductions include contribu-

## Notes to Table 69 concluded: Column

4 Column 3 divided by column 1 of Table 67
5 1913-29: Consumption of Agricultural Products (Bureau of Agricultural Economics, March 1941)
1930-38: Bureau of the Census releases, March 15, 1941 and June 11, 1942
1939-45: Bureau of the Census releases, April 30, 1945 and July 10, 1946
1946 \& 1947: Bureau of the Census release, August 19, 1949
1948: Bureau of the Census release, March 22, 1951
The series are for July 1 and include armed forces abroad. They are not strictly comparable from period to period but the differences are minor.
tions, losses from sales of assets not constituting the loss of persons engaged in distribution or exchange, and payments of interest and taxes that do not represent business expenses.

While these sins of omission and commission are numerous, the annual volumes of Statistics of Income (supplemented for years beginning with 1927 by the Source Book) permit a rough approximation to the desired income total. Our treatment of various income and deduction items in calculating total economic income of the tax return population is described fully in Appendix 2. The general rule was to add wages and salaries, income from business and partnerships, interest, dividends, rents and royalties (the last three whether received directly or through fiduciaries); to exclude gains and losses from sales of assets reported as such; and to avoid reducing the total by offsets reported in Statistics of Income under various deductions. Such an income total was calculated for each $\$ 1,000$ income class up to $\$ 10,000$ distinguished in the tabulations for each year, and for those of $\$ 10,000$ and over treated as a single class, for net income returns alone.

This income total for the tax return population is not strictly comparable with countrywide income payments. First, it is impossible to compensate fully for the omission of interest payments on tax exempt securities: such an adjustment can be made only for statutory net income classes $\$ 5,000$ and over (Table 70, col. 3). Second, the omission of wages and salaries of state and local government employees cannot be adjusted for. ${ }^{19}$ Third, beginning in 1942 military pay of armed forces abroad was not reported; moreover, at least some of the transfer payments that we included in our countrywide total of employee compensation, e.g., social insurance benefits and payments to veterans, are exempt from reporting, fully or in part. These are the clearly recognizable omissions: there may be others, either explicitly allowed (e.g., such minor items as rental value of residence of clergy), or arising because a complex tax law inevitably has loopholes that are eagerly exploited (consider, for instance, the possibility of interpreting a business profit as capital gains subject to a lower rate of tax). However, legally permitted omissions have negligible effect on income at upper income levels; and the magnitude of such omissions as represent stretching the law is limited by the continuous effort to make the law inclusive in its coverage of all payments that may be viewed as current income. Finally, the published tabulations are of unaudited re-

[^56]turns, and any willful or involuntary understatements have not been corrected for. All these factors make for an understatement of the income of the tax return population in comparison with countrywide income payments.

On the other hand, our estimate of income of the tax return population may be too high, largely because among the deductions that we reject some may be legitimate in the derivation of economic income as a share in income payments; e.g., net loss from business and partnerships which, before 1930, was included with 'other deductions' in the published tabulations and could not be deducted by us in deriving economic income for the years before 1930. ${ }^{20}$ In this miscellaneous category there may be other items that are properly chargeable as business expenses, and this may be true also of some taxes and interest paid by individuals. Our reinclusion of deductions introduces an upward bias into our estimate of income of the tax return population.

The net balance of these errors cannot be determined from the data at hand. But it seems reasonable to conclude that the resulting estimate is a fair approximation to the economic income of the tax return population.

The size of and changes in the adjustments by years (Table 70) deserve note. The exclusions, gains from sales of assets, naturally move with business cycles - rise during expansions and decline during contractions. At their peak they constitute a substantial fraction of net income, tax definition, reported on tax returns - almost a fifth in 1928 and in 1929. The additions, largely capital losses, taxes, interest payments, and contributions, are continuously a sizeable proportion of net income, tax definition, never, until 1940, much less than a seventh and rising in some years to a quarter. The percentages these deductions constitute of net income tend to run counter to business cycles partly because capital losses naturally decline during expansions and rise during contractions; partly because other deductions tend to be relatively stable over time, with the result that positive cyclical fluctuations in the base, i.e., net income, tax definition, produce opposite changes in the relative magnitudes of these deductions.

The net balance of exclusions and additions, expressed as a percentage of net income, tax definition, is highly variable cyclically because the percentage constituted by the former moves with business cycles, while the percentage constituted by the latter runs counter to them. In consequence,

[^57]Table 70 Adjustments to Approximate Economic Income, Federal Income Tax Returns, 1918-1948 (includes only net income returns; dollar figures in million)
$\overbrace{A d A} A$






| 1929 | 24,801 | 4,683 | 230 | 527 | 995 |  |  | 3,522 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1930 | 18,119 | 1,193 | 224 | 418 | 1,233 |  |  | 2,378 |
| 1931 | 13,605 | 472 | 206 | 328 | 1,161 |  |  | 2,040 |
| 1932 | 11,656 | 163 | 208 | 304 | 375 |  |  | 1,944 |
| 1933 | 11,009 | 554 | 202 | 252 | 366 | 508 | 506 | 661 |
| 1934 | 12,797 | 211 | 256 | 273 | 184 | 517 | 541 | 688 |
| 1935 | 14,910 | 510 | 239 | 305 | 146 | 504 | 597 | 764 |
| 1936 | 19,240 | 974 | 225 | 386 | 130 | 545 | 699 | 788 |
| 1937 | 21,239 | 434 | 253 | 440 | 264 | 561 | 837 | 986 |
| 1938 | 18,897 | 500 | 205 | 407 | 418 | 509 | 816 | 878 |
| 1939 | 23,192 | 426 | 237 | 495 | 344 | 549 | 882 | 799 |
| 1940 | 36,589 | 435 | 217 | 735 | 424 | 720 | 1,256 | 977 |
| 1941 | 58,868 ${ }^{\text {a }}$ | 574 | 217 | 997 | 764 | 932 | 1,641 | 1,184 |
| 1942 | 78,889 ${ }^{\text {a }}$ | 424 | 229 | 1,445 | 327 | 1,149 | 2,121 | 2,296 |
| 1943 | 99,586 ${ }^{\text {a }}$ | 960 | 214 | 1,830 | 268 | 1,047 | 2,126 | 2,185 |
| 1944 | 117,370 ${ }^{\text {b }}$ | 1,289 | 214 |  | 289 |  |  |  |
| 1945 | 121,158 ${ }^{\text {b }}$ | 2,541 | 214 |  | 255 |  |  |  |
| 1946 | 135,395 ${ }^{\text {b }}$ | 3,672 | 214 |  | 302 |  |  |  |
| 1947 | 151,269 ${ }^{\text {b }}$ | 2,656 | 214 |  | 347 |  |  |  |
| 1948 | 165,161 ${ }^{\text {b }}$ | 2,709 | 214 |  | 373 |  |  |  |
| Because of rounding, columns may not add to total. <br> ${ }^{\text {a }}$ Includes gross income reported on Form 1040A for which there are no entries forcolumns 2-8 <br> ${ }^{\text {b }}$ Adjusted gross or total income, for which there are no entries for columns 4, 6, 7, and 8. <br> Source: Table 112 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Table 71: Exclusions and Additions in Passing from Net Income, Tax Definition, to Economic Income, by Net Income Classes, 1916-1948

|  | \$ 10,000 and over |  |  |  | \$5,000-10,000 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Net } \\ \text { Income, } \\ \text { Tax } \\ \text { Defini- } \\ \text { tion } \\ \text { (\$ mil- } \\ \text { lion) } \\ \text { (1) } \end{gathered}$ | Exclusions as \% <br> Col. 1 <br> (2) | Additions af Col. 1 (3) | Net Balance Col. 2 $\& 3$ $(4)$ <br> (4) | $\begin{gathered} \text { Net } \\ \text { Income, } \\ \text { Tax } \\ \text { Defini- } \\ \text { tion } \\ \text { (\$ mil- } \\ \text { lion) } \\ (5) \end{gathered}$ | Exclusions as of Col. 5 | Addias \% Col. 5 (7) | $\begin{gathered} \text { Net } \\ \text { Balance } \\ \text { of } \\ \text { Col. } 6 \\ \text { \& } 7 \\ (8) \end{gathered}$ |
| 1916 | 4,637 | n. | n.a. | 5.08 | 1,037 | n.a. | n.a. | 4.72 |
| 1917 | 5,183 | 3.18 | 7.95 | 4.76 | 1,828 | 2.90 | 6.98 | 4.08 |
| 1918 | 4,385 | 2.70 | 20.19 | 17.49 | 2,146 | 3.22 | 18.31 | 15.09 |
| 1919 | 5,756 | 7.97 | 21.92 | 13.94 | 2,954 | 7.40 | 18.47 | 11.07 |
| 1920 | 5,393 | 6.28 | 29.98 | 23.70 | 3,068 | 9.30 | 18.19 | 8.89 |
| 1921 | 3,983 | 3.81 | 33.87 | 30.06 | 2,379 | 4.32 | 21.04 | 16.71 |
| 1922 | 5,162 | 11.43 | 25.04 | 13.60 | 2,642 | 5.68 | 19.05 | 13.37 |
| 1923 | 5,636 | 11.05 | 24.83 | 13.78 | 2,653 | 5.31 | 17.89 | 12.58 |
| 1924 | 6,760 | 14.11 | 19.81 | 5.70 | 2,991 | 6.87 | 17.71 | 10.83 |
| 1925 | 9,314 | 25.19 | 17.77 | -7.42 | 3,464 | 9.18 | 17.29 | 8.11 |
| 1926 | 9,389 | 20.02 | 18.01 | -2.01 | 3,839 | 6.70 | 17.52 | 10.82 |
| 1927 | 10,168 | 22.93 | 17.40 | -5.53 | 3,896 | 6.72 | 16.59 | 9.87 |
| 1928 | 12,673 | 33.27 | 15.81 | -17.46 | 4,282 | 8.50 | 16.14 | 7.64 |
| 1929 | 12,214 | 33.28 | 20.14 | -13.14 | 4,482 | 7.27 | 17.50 | 10.23 |
| 1930 | 6,797 | 13.96 | 29.64 | 15.68 | 3,724 | 3.63 | 21.22 | 17.58 |
| 1931 | 4,135 | 7.54 | 36.28 | 28.74 | 2,807 | 1.95 | 25.08 | 23.13 |
| 1932 | 2,567 | 3.80 | 31.42 | 27.62 | 1,677 | 1.44 | 28.67 | 27.24 |
| 1933 | 2,610 | 13.90 | 27.53 | 13.64 | 1,538 | 5.18 | 26.09 | 20.91 |
| 1934 | 3,048 | 3.96 | 26.73 | 22.77 | 1,953 | 2.03 | 20.89 | 18.86 |
| 1935 | 3,812 | 8.13 | 22.78 | 14.65 | 2,283 | 3.94 | 18.20 | 14.26 |
| 1936 | 5,917 | 10.89 | 18.34 | 7.45 | 2,978 | 5.46 | 14.93 | 9.48 |
| 1937 | 5,646 | 4.27 | 21.96 | 17.69 | 3,171 | 2.66 | 17.13 | 14.47 |
| 1938 | 4,014 | 8.18 | 25.55 | 17.37 | 2,784 | 2.38 | 18.74 | 16.37 |
| 1939 | 4,733 | 4.88 | 22.63 | 17.74 | 3,241 | 2.41 | 16.08 | 13.67 |
| 1940 | 5,499 | 4.50 | 20.66 | 16.17 | 3,604 | 1.92 | 15.41 | 13.49 |
| 1941 | 7,269 | 4.69 | 18.48 | 13.78 | 4,286 | 1.72 | 15.68 | 13.96 |
| 1942 | 9,181 | 2.54 | 13.57 | 11.04 | 5,254 | 1.01 | 12.75 | 11.74 |
| 1943 | 11,836 | 4.57 | 10.97 | 6.39 | 7,384 | 1.89 | 9.94 | 8.05 |
| 1944 | 14,620** | 4.63 | 1.75 | -2.88 | 11,828* | 1.92 | 0.64 | -1.28 |
| 1945 | 17,393* | 8.25 | 1.46 | -6.79 | 12,393* | 3.34 | 0.55 | -2.78 |
| 1946 | 21,324* | 8.58 | 1.28 | -7.29 | 15,423* | 4.15 | 0.53 | -3.61 |
| 1947 | 21,873* | 5.84 | 1.28 | -4.56 | 18,552* | 2.50 | 0.49 | -2.01 |
| 1948 | 27,532* | 5.32 | 1.07 | -4.24 | 29,931* | 1.76 | 0.34 | -1.41 |

Calculated from Table 112. n.a: not available.
during expansions, net income, tax definition, is appreciably reduced by the subtraction of relatively large capital gains and is increased by only moderate additions. During contractions, on the contrary, it is little reduced by the exclusion of capital gains and is raised appreciably by relatively large additions. Since it is itself very responsive to business cycles, the effect of the adjustments in passing to economic income is to reduce markedly the cyclical variability of the latter.

Both exclusions and additions tend to be relatively larger in the upper

| \$3,000-5,000 |  |  |  | \$2,000-3,000 |  |  |  | Under \$2,000 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Net |  |  |  | et |  |  |  |
| Incom Tax | Ex |  |  | Income, |  |  |  | Income, Tax |  |  | $\begin{aligned} & \text { Bet } \\ & \text { Ral- } \end{aligned}$ |
| Defini- tion <br> tion | sions as $\%$ |  | $\begin{aligned} & \text { Balance } \\ & \text { of } \end{aligned}$ | Defini- <br> tion | sions as \% |  |  | Definition | sions as |  | ance |
| (\$ mil- |  |  | Col. 10 | (\$ mil- |  |  |  | (\$ mil |  |  |  |
| (9) | ${ }_{(10)}$ | (1i) | (12) |  | $\underset{(14)}{\text { Col. } 13}$ | ${ }_{\text {(15) }}^{\text {Col. } 13}$ | (16) | Hion) | 7 |  | $\xrightarrow[(20)]{\text { (19 }}$ |
| 625. | n.a. | n.a. | 6.78 |  |  |  |  |  |  |  |  |
| 2,116 | n.a. | n.a. | 7.29 | 2,065 | n.a. | n.a. | 8.38 | 2,461 |  |  | 7.95 |
| 3,535 | 1.67 | 8.38 | 6.71 | 3,627 | 0.89 | 6.62 | 5.73 | 2,232 | 0.56 | 6.40 | 5.83 |
| 4,513 | 4.03 | 10.07 | 6.05 | 3,807 | 1.84 | 7.79 | 5.95 | 2,829 | 2.49 | 8.07 | 5.59 |
| 5,040 | 5.25 | 9.29 | 4.05 | 6,184 | 1.47 | 5.57 | 4.10 | 4,050 | 1.01 | 5.62 | 4.60 |
| 4,055 | 2.48 | 14.37 | 11.88 | 5,326 | 0.90 | 9.84 | 8.94 | 3,835 | 1.56 | 28.48 | 26.92 |
| 4,501 | 2.83 | 13.29 | 10.46 | 5,154 | 1.23 | 9.48 | 8.25 | 3,878 | 1.57 | 23.57 | 22.00 |
| 6,469 | 3.58 | 16.16 | 12.58 | 6,073 | 2.06 | 12.47 | 10.41 | 3,946 | 1.22 | 26.28 | 25.06 |
| 6,828 | 3.28 | 13.60 | 10.32 | 5,277 | 1.61 | 12.25 | 10.64 | 3,800 | 1.20 | 18.11 | 16.91 |
| 5,236 | 3.80 | 13.74 | 9.94 | 2,048 | 2.19 | 14.22 | 12.03 | 1,833 | 1.32 | 17.32 | 15.99 |
| 4,873 | 3.75 | 15.46 | 11.71 | 2,043 | 1.82 | 10.23 | 8.40 | 1,815 | 1.18 | 21.28 | 20.10 |
| 4,701 | 3.76 | 13.73 | 9.97 | 2,062 | 3.05 | 15.58 | 12.53 | 1,718 | 3.60 | 29.18 | 25.57 |
| 4,648 | 3.16 | 13.76 | 10.60 | 2,031 | 2.30 | 13.95 | 11.64 | 1,591 | 2.13 | 23.31 | 21.18 |
| 4,573 | 3.82 | 19.76 | 15.94 | 1,959 | 2.77 | 21.62 | 18.85 | 1,574 | 3.99 | 44.65 | 40.66 |
| 4,152 | 1.50 | 15.97 | 14.47 | 1,864 | 1.26 | 17.14 | 15.89 | 1,581 | 1.49 | 29.42 | 27.93 |
| 3,516 | 1.15 | 18.31 | 17.16 | 1,642 | 2.48 | 20.62 | 18.13 | 1,506 | 1.58 | 36.44 | 34.86 |
| 2,598 | 0.62 | 19.18 | 18.56 | 2,437 | 0.46 | 17.80 | 17.34 | 2,377 | 0.58 | 25.76 | 25.18 |
| 2,208 | 2.34 | 19.02 | 16.68 | 2,296 | 1.22 | 16.61 | 15.39 | 2,358 | 1.32 | 24.34 | 23.02 |
| 2,839 | 0.89 | 15.08 | 14.18 | 2,468 | 0.50 | 14.04 | 13.54 | 2,489 | 0.53 | 18.55 | 18.02 |
| 3,249 | 1.74 | 13.81 | 12.07 | 2,832 | 1.00 | 12.65 | 11.65 | 2,734 | 0.91. | 16.94 | 16.03 |
| 3,822 | 2.44 | 11.88 | 9.44 | 3,325 | 1.21 | 10.65 | 9.44 | 3,198 | 1.04 | 13.57 | 12.53 |
| 4,647 | 1.22 | 12.43 | 11.21 | 3,981 | 0.68 | 11.02 | 10.34 | 3,795 | 0.66 | 14.31 | 13.65 |
| 4,318 | 1.12 | 12.98 | 11.86 | 4,092 | 0.66 | 11.22 | 10.56 | 3,690 | 0.82 | 18.06 | 17.24 |
| 5,434 | 1.02 | 11.08 | 10.06 | 5,202 | 0.56 | 9.12 | 8.58 | 4,582 | 0.71 | 13.92 | 13.21 |
| 6,015 | 0.77 | 10.72 | 9.95 | 12,584 | 0.27 | 6.96 | 6.69 | 8,887 | 0.44 | 12.57 | 12.12 |
| 8,001 | 0.79 | 11.14 | 10.35 | 19,012 | 0.20 | 6.32 | 6.12 | 20,300 | 0.29 | 8.02 | 7.73 |
| 12,453 | 0.35 | 10.27 | 9.93 | 24,040 | 0.15 | 7.51 | 7.36 | 27,960 | 0.21 | 9.18 | 8.97 |
| 22,187 | 0.49 | 8.70 | 8.20 | 29,914 | 0.23 | 6.19 | 5.96 | 28,270 | 0.36 | 6.57 | 6.21 |
| 36,255* | 0.49 | 0.13 | $-0.36$ | 28,117* | 0.36 | 0.16 | $-0.30$ | 26,550* | 0.39 | 0.30 | $-0.09$ |
| 34,747* | 0.93 | 0.14 | -0.79 | 28,747* | 0.63 | 0.13 | -0.50 | 27,878* | 0.68 | 0.21 | -0.46 |
| 36,563* | 1.65 | 0.14 | $-1.50$ | 33,162* | 0.97 | 0.12 | $-0.85$ | 28,923* | 0.97 | 0.23 | -0.74 |
| 48,766* | 0.93 | 0.12 | -0.81 | 35,901* | 0.68 | 0.13 | -0.55 | 26,176* | 0.82 | 0.31 | -0.50 |
| 55,258* | 0.66 | 0.14 | -0.52 | 31,115* | 0.56 | 0.13 | -0.42 | 21,324* | 0.84 | 0.32 | -0.52 |

*Adjusted gross or total income, which includes contributions, interest paid, taxes paid, and 'other' deductions previously covered in columns $3,7,11,15$, and 19.
income brackets than in the lower (Table 71). Capital gains are of much greater relative importance in the $\$ 10,000$ and over net income classes than in the lower classes. Indeed, in the classes with net income under $\$ 5,000$, they account, in most years, for much less than 5 percent of net income, tax definition. Somewhat less expected are the differences among the broad net income classes in Table 71 with respect to the relative importance of additions. These too are relatively larger in the very top income brackets, tending to decline in relative importance as we descend the net
income scale until we reach the lowest income class distinguished, for which their percentage is again quite high. Apparently, in the high income brackets (disregarding the possible tendency toward overreporting deductions), the acquiring of large incomes is accompanied by a relatively substantial outlay in the form of deductible taxes, interest payments, and contributions (donations and gifts) plus, at least in some years, large capital losses. The percentage of such additions (appearing as deductions on tax returns) is again high in the very low net income brackets because the net income base is greatly reduced by them.

The cyclical variability of the net balance of exclusions and additions in Table 70 is manifest also in Table 71. But it is most pronounced in the top income brackets, where the expanded net income in the prosperous years 1928 and 1929 is reduced by between a seventh and a sixth; and the greatly reduced net income in 1931 and 1932 is raised by well over a quarter. This inverse cyclical variability of the net balance, i.e., total adjustment in passing from net income, tax definition, to economic income, persists through the $\$ 5,000-10,000$ and the $\$ 3,000-5,000$ classes, although with diminishing magnitude. It ceases in the $\$ 2,000-3,000$ class, and in the under $\$ 2,000$ classes the net balance begins to move with business cycles, tending to be greater in more prosperous years and smaller in contraction years, although the reversal in cyclical conformity is not complete. Since it is in the income brackets above $\$ 3,000$ that net income, tax definition, moves with business cycles, we conclude that the net balance of exclusions and additions tends to damp its cyclical sensitivity in the upper brackets, especially the top.

The adjustments discussed were needed to approximate economic income on tax returns for comparison with countrywide income payments (Table 72). For the latter we used the series in National Income and Its Composition, 1919-1938, W. I. King's estimates for 1913-19 in National Income and Its Purchasing Power, and those of the Department of Commerce for 1929-48 in the Survey of Current Business. These series were in turn adjusted to assure greater comparability with the income of the tax return population. Imputed rent on owner-occupied houses and property income of life insurance companies were excluded, because neither is covered on tax returns. Net profits or losses of entrepreneurs were taken with the adjustment for gains and losses from sales of assets but without any other adjustments, e.g., for the effect of inventory revaluation. Several additional adjustments were made in the 1913-19 and 1929-48 series since they were derived from sources not strictly comparable with those underlying the NBER series. The changes in countrywide income payments to individuals resulting from these adjustments were minor, representing, on

Table 72
Economic Income Covered by Federal Income Tax Returns and Individuals' Total Income Receipts, 1913-1948 (includes only net income returns; dollar figures in billions)

${ }^{\text {a }}$ Excluding income on returns filed by withholding agents, for which see note (a) to Table 67.
${ }^{\text {b }}$ Excluding net loss from business and partnerships. Entries comparable with those for 1929 and preceding years when this item could not be deducted are column 1, $\$ 21,350$ million; column 3, 29.76 percent for the 1919-38 series and 30.39 percent for the 1929-48 series.

## Column

1 Table 112, last column

## Column

2 Table 114, column 12
the average, a reduction ranging from 3.2 percent for the 1913-19 series to 4.1 percent for the 1919-38 series to 5.5 percent for the 1929-48 series. Comparison of the adjusted series at the overlapping year, 1919, shows that the difference between the first two sets of estimates is quite minor, at least for the over-all totals in Table 72. Nor are the differences between our estimates and those of the Department of Commerce for 1929-38 significant.

The percentages of income received by the tax return population between 28 and 39 in over half the years covered (col. 3) - are appre-
ciably higher than the percentages it constitutes of total population between 6 and 12 in half the years covered (Table 69). ${ }^{21}$ This, of course, confirms the obvious: the tax return population enjoys an average income very much larger than the total population. Second, the percentages of income coverage vary within a relatively narrower range - from about 13 to about 80 - than those of population coverage - from less than 1 to 88. In other words, persons who move in and out of the tax return population command a much smaller share of total income payments than persons who have to file a return every year, regardless of changes in the law or economic conditions.

## 3 Net Deficit Returns

Our entire analysis utilizes the various published, and some unpublished, data from net income returns alone. Data for net deficit returns are available from 1928 on, but not by deficit classes, so that it is impossible to determine their position on the income scale. We pause to consider the magnitude of the omission involved in their exclusion.

Summary data (Table 73) indicate that, at least for the second half of the period under study, net deficit returns are a small fraction of net income returns, accounting in the worst years of the 1930 depression for somewhat more than 5 percent of the total in Table 67. Conversion to population equivalents is impossible but there is no ground for assuming that the average number per net deficit return is much different from that per net income return. Hence, the population represented by net deficit returns at its greatest is probably not much more than 5 percent of the population represented by net income returns; which, in turn, means that it forms a small fraction of 1 percent of the total population.

Economic income reported on net deficit returns is also a very small fraction of that estimated for net income returns. Indeed, in the years beginning with 1930, when net losses from business and partnerships can be subtracted, the proportion it constitutes of income on net income returns is much smaller than the proportion of the number of returns. That this is not true for 1928 and 1929 is probably due to the impossibility of deducting net losses from business and partnerships in estimating income: this failure causes a much larger relative overestimate of income on statutory net deficit returns than on statutory net income returns (compare the two entries for 1930 in column 4 with those in Table 72, column 1 and note b). One may conclude, therefore, that per capita economic income on net deficit returns is much smaller than that on net income returns.
${ }^{24}$ The puzzling shortage of the income shares in 1944 and later years as compared
with the proportion of the population is analyzed in Chapter 11 .

In short, net deficit returns are relatively few, and are characterized by an average economic income per capita appreciably lower than that for net income returns. Even were it possible to include them, most of them

Table 73
Relative Proportion of Net Deficit Returns, 1928-1948

|  | No. of Net Deficit Returns (000) (1) | Col. 1 as \% of Net Income Returns (2) | Economic Income, Net Deficit Returns $(\$$ million $)$ (3) | Col. 3 as $\%$ of Economic Income, Net Income Returns (4) |
| :---: | :---: | :---: | :---: | :---: |
| 1928 | 73 | 1.79 | 367 | 1.50 |
| 1929 | 93 | 2.29 | 816 | 3.21 |
| 1930 | 145 | 3.91 | 1,136 ${ }^{\text {a }}$ | 5.32 |
| 1930 | 145 | 3.91 . | $566{ }^{\text {b }}$ | 2.67 |
| 1931 | 185 | 5.72 | 680 | 4.03 |
| 1932 | 206 | 5.32 | 292 | 2.04 |
| 1933 | 168 | 4.52 | 408 | 3.15 |
| 1934 | 104 | 2.54 | 153 | 1.02 |
| 1935 | 95 | 2.07 | 117 | 0.69 |
| 1936 | 73 | 1.35 | 108 | 0.51 |
| 1937 | 84 | 1.32 | 69 | 0.29 |
| 1938 | 100 | 1.62 | 123 | 0.57 |
| 1939 | 82 | 1.08 | 64 | 0.25 |
| 1940 | 113 | 0.77 | 75 | 0.19 |
| 1941 | 100 | 0.39 | 125 | 0.19 |
| 1942 | 163 | 0.45 | 30 | 0.03 |
| 1943 | 217 | 0.50 | -7 | -0.01 |
| $1944{ }^{\text {e }}$ | 192 | 0.41 | -198 | -0.17 |
| $1945^{\circ}$ | 214 | 0.43 | -260 | -0.22 |
| $1946{ }^{\circ}$ | 216 | 0.41 | -229 | -0.17 |
| $1947{ }^{\circ}$ | 299 | 0.54 | -531 | -0.36 |
| 1948 ${ }^{\text {e }}$ | 326. | 0.63 | -627 | -0.38 |

${ }^{2}$ Comparable with preceding years in that net loss from business and partnerships is not deducted.
${ }^{5}$ Comparable with succeeding years in that net loss from business and partnerships is deducted.
${ }^{\text {© }}$ Entries are for returns with adjusted gross deficit.

## Column

1 1928-42: from Statistics of Income, 1942, Part 1, pp. 243-7.
1943: from special tabulations provided by the Bureau of Internal Revenue. 1944-48: from Press Release dated August 21, 1947, Preliminary Reports dated July 30, 1948 and June 3, 1949, Press Release dated November 25. 1949, and Preliminary Report dated June 22, 1951.
2 Column 1 divided by column 1 of Table 67.
3 Derived by deducting from total income, profit from sales of real estate, stocks, bonds, etc., other than taxed as capital net gain, capital net gain from sales of assets held more than 2 years, net gain from sales of property other than capital assets, and net loss from business and partnerships when shown as a separate deduction. For sources see notes to column 1.
4 Column 3 divided by column 1 of Table 72.
would rank very low in an array of all tax returns in a descending scale of economic income per capita, and would tend to occupy a small span at the bottom of this scale. Since our calculations of income shares stop short of the lower reaches of this scale, it is quite likely that the analysis would not have extended to net deficit returns anyway, even had it been possible to include them in the tax return population. Inclusion of net deficit returns could, therefore, affect the results discussed below only slightly.

## 4 Relative Income Levels, Tax Return and Total Population

Having estimated the percentage the tax return population is of the total and the percentage it receives of countrywide income payments, we can compare the two percentages and calculate the ratio of the latter to the former (Table 74) - automatically the ratio of the per capita income of the tax return population to that of the total population (col. 4-6).

As already indicated, the per capita income of the tax return population is appreciably larger than that of the total population - from 2 to 5 times as large in most years, the ratio declining to less than 2 only in the recent years of widely expanded tax coverage, and rising in some years to almost 15 (exceptions in 1944 and later years, analyzed in Chapter 11, should again be noted). Obviously, the relative excess over the per capita income of the nontax return population is even greater; the necessary calculations can easily be made from Table 74.

The ratio of the per capita income of the tax return population to that of the total population varies inversely to the relative weight of the tax return population in the total. Thus, in 1920, 1923, and 1940-48, the years in which the tax return population coverage is the highest, the ratios in columns 3 and 6 are the lowest. In 1915, on the contrary, when the tax return population coverage is the lowest, the ratio is the highest. Thus, as the relative coverage of tax returns expands, it reaches into progressively lower levels of per capita income.
Our plan of analysis can now be briefly outlined. First, the relation between the percentage of population and of income received was studied not only for the whole tax return population but also at levels representing the top $1,3,5$, etc., percent of the country's population. In other words, we studied the distribution within the tax return population, at selected levels short of the total coverage of tax returns.

Second, we carried through the analysis for each year separately instead of combining the years in a single regression line. The important question was whether the characteristics of the size distribution of income change from year to year in response to cyclical fluctuations or show any longer term drifts. True, we could study these characteristics for only the short

Table 74
Relative Income Levels, Tax Return and Total Population, 1913-1948

|  |  | ECONOMIC |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | INCOME ON |  |  |  |  |
|  | TAX | TAX RETURNS |  | PER CAPI | INCOME |  |
|  | RETURN | As \% OF |  |  |  |  |
|  | POPU- | Individuals' |  | Tax |  |  |
|  | LATION | total | RATIO: | Return | Total | Ratio: |
|  | As \% OF | INCOME | COL. 2 | Popu- | Popu- | COL. 4 |
|  | TOTAL (1) | $\begin{aligned} & \text { RECEIPTS } \\ & \text { (2) } \end{aligned}$ | $\begin{aligned} & \text { TO col. } 1 \\ & \text { (3) } \end{aligned}$ | lation <br> (4) | Iation (5) | $\begin{gathered} \text { TO COL. } 5 \\ (6) \end{gathered}$ |
| 1913 | 1.05 | 15.13 | 14.47 | 4,840 | 335 | 14.45 |
| 1914 | 1.04 | 13.20 | 12.66 | 4,076 | 322 | 12.66 |
| 1915 | 0.96 | 14.20 | 14.74 | 4,997 | 339 | 14.74 |
| 1916 | 1.22 | 16.29 | 13.37 | 5,333 | 399 | 13.37 |
| 1917 | 7.38 | 29.27 | 3.97 | 1,899 | 479 | 3.96 |
| 1918 | 10.44 | 31.86 | 3.05 | 1,610 | 528 | 3.05 |
| 1919 | 11.83 | 34.29 | 2.90 | 1,740 | 600 | 2,90 |
| 1919 | 11.83 | 33.97 | 2.87 | 1,740 | 606 | 2.87 |
| 1920 | 16.28 | 38.77 | 2.38 | 1,494 | 627 | 2.38 |
| 1921 | 13.59 | 43.48 | 3.20 | 1,568 | 490 | 3.20 |
| 1922 | 14.27 | 42.11 | 2.95 | 1,535 | 520 | 2.95 |
| 1923 | 16.60 | 42.61 | 2.57 | 1,522 | 593 | 2.57 |
| 1924 | 15.04 | 42.23 | 2.81 | 1,646 | 586 | 2.81 |
| 1925 | 8.14 | 31.85 | 3.91 | 2,390 | 610 | 3.92 |
| 1926 | 8.04 | 31.62 | 3.93 | 2,467 | 627 | 3.93 |
| 1927 | 7.61 | 31.78 | 4.17 | 2,595 | 622 | 4.17 |
| 1928 | 7.50 | 32.15 | 4.28 | 2,698 | 630 | 4.28 |
| 1929 | 7.61* | 31.65 | 4.16* | 2,740* | 659 | $4.16{ }^{*}$ |
| 1930 | 6.83 | 29.52 | 4.32 | 2,518 | 583 | 4.32 |
| 1931 | 5.96 | 28.36 | 4.76 | 2,283 | 480 | 4.76 |
| 1932 | 7.09 | 31.19 | 4.40 | 1,618 | 368 | 4.40 |
| 1933 | 6.86 | 28.92 | 4.22 | 1,504 | 357 | 4.21 |
| 1934 | 7.25 | 29.09 | 4.01 | 1,643 | 409 | 4.02 |
| 1935 | 7.78 | 30.05 | 3.86 | 1,713 | 443 | 3.87 |
| 1936 | 8.93 | 32.97 | 3.69 | 1,840 | 498 | 3.69 |
| 1937 | 10.19 | 34.82 | 3.42 | 1,840 | 538 | 3.42 |
| 1938 | 9.93 | 33.90 | 3.41 | 1,678 | 491 | 3.42 |
| 1929 | 7.61* | 31.98 | 4.20* | 2,740* | 652 | 4.20 * |
| 1930 | 6.83 | 30.14 | 4.41 | 2,518 | 571 | 4.41 |
| 1931 | 5.96 | 28.41 | 4.77 | 2,283 | 479 | 4.77 |
| 1932 | 7.09 | 32.04 | 4.52 | 1,618 | 358 | 4.52 |
| 1933 | 6.86 | 29.74 | 4.34 | 1,504 | 347 | 4.33 |
| 1934 | 7.25 | 30.19 | 4.17 | 1,643 | 394 | 4.17 |
| 1935 | 7.78 | 29.99 | 3.86 | 1,713 | 444 | 3.86 |
| 1936 | 8.93 | 32.42 | 3.63 | 1,840 | 507 | 3.63 |
| 1937 | 10.19 | 34.39 | 3.37 | 1,840 | 545 | 3.38 |
| 1938 | 9.93 | 33.65 | 3.39 | 1,678 | 495 | 3.39 |
| 1939 | 11.73 | 37.89 | 3.23 | 1,698 | 526 | 3.23 |
| 1940 | 24.03 | 54.42 | 2.26 | 1,277 | 564 | 2.26 |
| 1941 | 43.81 | 69.89 | 1.60 | 1,097 | 688 | 1.59 |
| 1942 | 62.84 | 73.18 | 1.16 | 1,017 | 873 | 1.16 |
| 1943 | 71.40 | 74.19 | 1.04 | 1,091 | 1,050 | 1.04 |
| 1944 | 80.36 | 74.50 | 0.93 | 1,051 | 1,133 | 0.93 |
| 1945 | 82.90 | 73.92 | 0.89 | 1,029 | 1,154 | 0.89 |
| 1946 | 86.88 | 76.87 | 0.88 | 1,078 | 1,218 | 0.89 |
| 1947 | 88.25 | 79.09 | 0.90 | 1,174 | 1,310 | 0.90 |
| 1948 | 87.59 | 80.54 | 0.92 | 1,270 | 1,381 | 0.92 |

For notes see page 266.
upper tail of the total distribution, and for a relatively brief period -thirty-six years at most. Nevertheless, the promise of the analysis lay in the two directions indicated; and whatever qualifications may attach to the conclusions, there is hope of reducing them by extending the series and by amplifying the evidence in the future.

The technical difficulties were numerous, due largely to the fact that the published and unpublished data employ units of classification and concepts of income that differ from those derived. How the analysis was carried out and the difficulties overcome, if only partly, is discussed in detail in Chapters 8-10.

## Notes to Table 74:

* Owing to an error in the Statistics of Income tabulation of personal exemptions and credit for dependents for North Dakota returns under $\$ 5,000$, columns $1,3,4$, and 6 are incorrect. We estimated the correct figures to be $7.36,4.30,2,832$, and 4.30 respectively for the $1919-38$ series, and $7.36,4.35,2,832$, and 4.34 for the $1929-48$ series.


## Column

1 Table 69, column 6
2 Table 72, column 3
4 Column 1 of Table 72 divided by column 3 of Table 69
5 Column 2 of Table 72 divided by column 5 of Table 69

## Appendix 2

Section A
Tabular Summary of the Analysis of Federal
Income Tax Returns by Individuals, 1919-1948
Section B
Special Notes on the Analysis for 1913-1918
Section C
Statistics of Income Revisions

## Section A: Tabular Summary of the Analysis of Federal Income Tax Returns by Individuals, 1919-1948

The analysis for 1919-38 covers each $\$ 1,000$ net income class up to $\$ 10,000$, and all net income classes $\$ 10,000$ and over treated as a single class. For subsequent years it is extended to cover each income class up to $\$ 10,000$ or to that income class in which the top 1 percent line lies, all classes above the latter being treated as a single class.

## I taX return population

Number of individual returns and taxable fiduciary returns with net (or adjusted gross) income, by sex and family relationship, converted to population represented (1919-42 from Statistics of Income, Basic Tables 5 and 13, unless otherwise noted; 1943 from special tabulations provided by the Bureau of Internal Revenue; 1944-46 from Press Release dated Aug. 21, 1947, Preliminary Reports dated July 30, 1948 and June 3, 1949; and special tabulations provided by the Bureau of Internal Revenue; 1947 from Press Release dated Nov. 25, 1949; 1948 from Preliminary Report dated June 22, 1951, and special tabulations provided by the: Bureau of Internal Revenue)

## a Family returns

1 Joint returns of husbands and wives, or of either husband or wife when no other return is filed
2 Separate returns of husbands ${ }^{\text {a }}$
3 Separate returns of wives
4 Returns of single men and married men not living with wives (heads of families) ${ }^{\text {b }}$
5 Returns of single women and married women not living with husbands (heads of families) ${ }^{\text {b }}$
6 Returns of single persons and married persons not living with spouses, claiming more than one exemption ${ }^{\text {c }}$
7 Community property returns, total ${ }^{d}$
8 Community property returns, mene
9 Community property returns, women ${ }^{\text {e }}$
For notes see pages 272-3.

## Returns of family heads

1919-43: $\mathrm{a} 1+\mathrm{a} 2+\mathrm{a} 4+\mathrm{a} 5+1 / 2 \mathrm{a} 7$ or a 8 (when the latter is shown). a 3 and a9 are disregarded since the head of family is presumably covered in a1, a2, or a8. Only half of a7 is included since a7 represents returns for both husband and wife, only one of whom is a head.
1944-46: $\mathrm{a} 1+\mathrm{a} 2+\mathrm{a} 6+\mathrm{a} 8$ (see note for 1919-43)

## b Single person returns

1 Returns of single men and married men not living with wives (not heads of families) ${ }^{\text {b }}$
2 Returns of single women and married women not living with husbands (not heads of families) ${ }^{b}$
3 Returns of estates and trusts ${ }^{f}$
4 Taxable fiduciary returns with net (or total) incomes (1938-42 from Statistics of Income, Basic Table 11 or 7B; 1943-48 from sources cited above for other series)
5 Returns of single persons and married persons not living with spouses, claiming one exemption ${ }^{\text {c }}$

## Total

1919-43: b1 + b2 + b3 or b4
1944-46: b4 + b5
c Population represented, excluding dependents, 1919-43 only: $(\mathrm{a} 1 \times 2)$ $+(\mathrm{a} 2+\mathrm{a} 3)^{\mathrm{b}}+\mathrm{a} 4+\mathrm{a} 5+\mathrm{a} 7$ (or $\left.\mathrm{a} 8+\mathrm{a} 9\right)+\mathrm{b}$ (total). All community property and separate returns are included to allow for both husband and wife.
d Dependents
1919-32: Estimated by the following steps for taxable and nontaxable income classes separately.
1 The combined total of personal exemption and credit for dependents, 1919-38, is taken from Statistics of Income, Basic Table 2.
2 Personal exemption, 1919-38, is estimated as the sum of the product of returns of family heads (see a) and the exemption per family head ${ }^{\mathrm{i}}$ and the product of returns of single persons (see b) and the exemption per nonhead. ${ }^{\text {i }}$
3 Credit for dependents, 1919-38, is estimated as the difference between the total in step 1 and personal exemption as derived in step 2.

For notes see pages 272-3.

4 Credit for dependents as estimated in step 3 is divided by the allowance per dependent ${ }^{1}$ to yield a preliminary estimate of the number of dependents, 1919-38.

5 The number of dependents as estimated in step 4 is divided by the population represented on tax returns (see c) to yield preliminary ratios for 1919-38.
6 The actual number of dependents in 1933-38 as derived in step 11 below is divided by the population represented (see c) to yield final ratios for 1933-38.
7 The ratios of the ratios derived in step 6 to those derived in step 5 are computed for 1933-38.
8 The geometric mean of the ratios for 1933-38 (step 7) is calculated for each income class to yield a correction factor for the ratios for 1919-32 (step 5).

9 The ratios for 1919-32 (step 5) are multiplied by the correction factor (step 8) ${ }^{j}$ to yield the final ratios for 1919-32.
10 Population represented (see c) is multiplied by the final ratios (step 9 ) to yield the final estimate of the number of dependents.

1933-43:
11 Credit for dependents (1933 from Source Book; 1934-42 from Statistics of Income, Basic Tables 2 and 13; 1943 from special tabulations provided by the Bureau of Internal Revenue) is divided by the allowance per dependent ${ }^{1}$ to yield the number of dependents.
e Total population represented, including dependents
1919-32: c + d10
1933-43: c + d11
1944-47: The surtax exemption of $\$ 500$ for the taxpayer, $\$ 500$ for his spouse, and $\$ 500$ for each dependent is in reality a per capita exemption. It is assumed, therefore, that the population represented by tax returns equals the total number of surtax exemptions claimed, plus the number of taxable fiduciary returns.
1948: Assumed equivalent to the number of per capita exemptions (other than for old age and blindness), plus the number of taxable fiduciary returns.

For notes see pages 272-3.

## II ECONOMIC income on tax returns

Income items included (1919-42 from Statistics of Income, Basic Tables 7 and 13, unless otherwise noted; 1943-48 from sources indicated for tax return population).
a Employee compensation: Salaries, wages, commissions, etc. as reported
b Entrepreneurial net income: Sum (algebraic) of
1 Business profits
2 Partnership profits ${ }^{\text {k }}$
3 Business loss ${ }^{1}$
4 Partnership loss ${ }^{1}$
c Service incomes: Sum of a and b
d Dividends, 1919-43, 1946-48: Sum of
1 Dividends from domestic and foreign corporations ${ }^{\mathrm{m}}$
2 Dividends included in income from fiduciaries, ${ }^{\mathrm{k}}$ estimated as the product of income from fiduciaries and the ratio of dl to the sum of dividends and interest excluding income from fiduciaries ${ }^{\text {n }}$
e Interest, 1919-43, 1946-48: Sum of
1 Taxable interest on partly tax exempt government obligations, net income classes up to $\$ 5,000^{\circ}$
2 Other taxable interest ${ }^{\text {p }}$
3 Interest on wholly and partly tax exempt government obligations, net income classes of $\$ 5,000$ and over (1919-23 extrapolated from 1924 by the NBER series on interest payments to individuals by government, the movement being assumed the same for each net income class; for 1941-43 and 1946-48 when wholly tax exempt interest is not reported, the 1940 data are used, it being assumed that there is only slight year to year change in the item)
4 Interest included in income from fiduciaries, ${ }^{k}$ estimated as the difference between income from fiduciaries and d2 above ${ }^{\mathrm{n}}$
5 Dividends on share accounts in federal savings and loan associations ${ }^{9}$
6 Annuities (and pensions) ${ }^{\text {r }}$
7 'Other' (or miscellaneous) income ${ }^{m, p}$
For notes see pages 272-3.
f Dividends and interest
1919-43, 1946-48: Sum of d and e 1944, 1945: Sum of
1 Dividends and interest
2 Annuities and pensions ${ }^{8}$
3 Income from estates and trusts
4 Miscellaneous income
5 Interest on wholly tax exempt government obligations as reported for 1940 (see note to e3)
g Rent: Rents and royalties, as reported ${ }^{\mathrm{m}, \mathrm{t}}$
h Property incomes: Sum of $f$ and $g$
i Economic income: Sum of c and h , or

$$
\text { 1919-43: i1 - i2 }+\mathrm{i} 3-\mathrm{i} 5-\mathrm{i} 6-\mathrm{i} 7-\mathrm{i} 8
$$

$$
1944-48: \mathrm{i} 1+\mathrm{i} 4-\mathrm{i} 5-\mathrm{i} 6+\mathrm{i} 9+\mathrm{i} 10
$$

1 Total income, 1919-43; adjusted gross income, 1944-48
2 Taxable interest on partly tax exempt government obligations, net income classes of $\$ 5,000$ and over
3 Interest on wholly and partly tax exempt government obligations, net income classes of $\$ 5,000$ and over (see e3)
4 Interest on wholly tax exempt government obligations, net income classes of $\$ 5,000$ and over (see e3)
5 Net gain from sales or exchanges of capital assets
6 Net gain from sales or exchanges of other property
7 Business loss (see b3)
8 Partnership loss (see b4)
9 Net loss from sales or exchanges of capital assets
10 Net loss from sales or exchanges of other property

## Notes to Section A:

: Shown for 1935 and later years; for preceding years tabulated with joint returns.
${ }^{\text {b }}$ Not shown for 1944 and later years; for these years see line a6 or b5.
${ }^{\text {c }}$ Shown for 1944 and later years; for preceding years see lines a4 and a5 or lines b1 and b2.
${ }^{\text {d }}$ Not shown for 1919.

- Shown for 1940 and later years; for preceding years see line a7.
${ }^{1}$ Shown for 1935-37 only; for preceding years distributed among the various groups of returns according to the sex and family relationship of the testator, grantor, or beneficiary; for 1938 and later years see line b4.
${ }^{8}$ Shown for 1938 and later years; for preceding years see line b3.

Notes to Section A concluded:
${ }^{\mathrm{n}}$ ( $\mathrm{a} 2+\mathrm{a} 3$ ) is included only in years when separate returns of husbands are not tabulated with joint returns.
${ }^{1}$ Exemptions for 1919-42 are shown in the Synopsis of Federal Tax Laws, Table A (Statistics of Income, 1942, Part 1, pp. 312-7); those for 1943 are from the notes to the special tabulations provided by the Bureau of Internal Revenue. Although the personal exemption allowed an estate or trust is that of a person not head of family, for the years preceding 1935 when the returns for estates or trusts are distributed by the sex and family relationship of the testator, grantor, or beneficiary, an estate or trust falling in a head-of-family category would, by our procedure, be allowed a head-of-family exemption. To this extent we overestimate personal exemption and underestimate credit for dependents. The net income classes most affected are those up to $\$ 2,000$. The error is not large enough to warrant a special adjustment, but comparability with preceding years is impaired.
${ }^{3}$ For the nontaxable net income class under $\$ 1,000$ and the taxable net income classes under $\$ 4,000$ the ratios derived in step 9 are not used. Instead, the average of the 1933-38 ratios derived in step 6 is used unless it is smaller than the ratio for the current year derived in step 5 , in which case the latter is used.

Since the correction factor derived in step 8 is not available for the nontaxable net income classes $\$ 6,000-10,000$, it is estimated as the product of the correction factor for the corresponding taxable net income classes and the ratio for the $\$ 5,000-6,000$ net income class of the correction factor for the nontaxable net income class to that for the taxable.
${ }^{k}$ For 1919, 1920, and 1921, when income from partnerships is combined with fiduciary income, the former is estimated for each net income class (taxable and nontaxable separately) by multiplying the combined total by the arithmetic mean of the ratios for 1922-26 of partnership income to the combined total. This procedure is in error in that income from personal service corporations is also included with partnership income, but its inclusion does not affect the results appreciably.
${ }^{\text {' }}$ Shown for 1930 and later years; for preceding years the item is tabulated with 'other deductions'.
${ }^{m}$ Including the part of the item reported on Form 1040A in 1941, 1942, and 1943 as 'dividends, interest, (rent) and annuities' that is estimated as belonging to this category. The distribution of this entry on Form 1040A is based on the corresponding entries on Form 1040.
${ }^{\text {a }}$ In this distribution of fiduciary income between dividends and interest, no allowance is made for the inclusion in 1934-37 of net capital gains or losses received from an estate or trust, since it was impossible to exclude them.
${ }^{\circ}$ Shown for 1919-23 only.
${ }^{\mathrm{D}}$ Tabulated as 'interest and investment income' before 1928.
${ }^{\text {a }}$ Shown for 1941 and 1942 only; in preceding years tabulated with 'other income'; in later years tabulated with dividends from domestic and foreign corporations. We classified this item under Interest because it was tabulated with 'other income' through 1940.
${ }^{\text {r }}$ Shown for 1941 and later years; in preceding years tabulated with 'other income'.
${ }^{8}$ Included with miscellaneous income in 1945.
${ }^{\text {t }}$ For 1944 and later years net loss, not previously shown separately, is deducted from net profit.

Section B: Special Notes on the Analysis for 1913-1918

The analysis for 1913-18 covers each $\$ 1,000$ net income class up to $\$ 10,000$ (unless otherwise indicated), and all net income classes $\$ 10,000$ and over treated as a single class. Basic data for 1916-18 are from Statistics of Income; those for 1913-15 are from the Annual Report of the Commissioner of Internal Revenue.

## I tax return population

1918: Estimated by the procedure outlined for 1919-32
1917: Estimated separately for the net income class of \$1,000-2,000 and for classes of $\$ 2,000$ and over
a $\$ 2,000$ and over
1 For each income class up to $\$ 10,000$ (taxable and nontaxable separately), and for all classes $\$ 10,000$ and over, the number of persons represented, excluding dependents, is calculated by the procedure outlined for 1919-32.
2 The total number of dependents is reported in Statistics of Income but is not shown by income class.
3 The ratio of dependents to persons represented for all income classes $\$ 2,000$ and over is computed for 1917 and 1918.
4 The ratio of the 1917 ratio in step 3 to that for 1918 is computed and applied to the 1918 ratio of dependents to persons represented for each income class.
5 The number of persons represented (step 1) multiplied by the final ratio estimated in step 4 yields a preliminary estimate of the number of dependents in each income class.
6 The ratio of the number of dependents as reported (step 2) to the sum of the estimates for each income class (step 5) yields a correction factor by which the estimates in step 5 are adjusted.
7 The number of dependents (step 6) is then added to the number of persons represented (step 1).
b \$1,000-2,000
1 The number of returns is reported in Statistics of Income but the distribution by family relationship and the number of dependents are not shown. Separate returns of wives appear to be included.
2 The number of persons, including dependents, per return (including separate returns of wives) for the $\$ 1,000-2,000$ income class in 1918 is calculated.

3 The ratio of the number of persons, including dependents, per return for all returns over $\$ 2,000$ in 1917 to that in 1918 is computed.
4 The number of persons, including dependents, per return for the $\$ 1,000-2,000$ class in 1917 is the product of the number in step 2 and the ratio in step 3.
5 The tax return population is the product of the number of returns (step 1) and of persons per return (step 4).

1916:
1 Returns, as reported, show joint combined with all other returns of heads. Joint returns are estimated, class by class, on the basis of the 1917 distribution of the returns of heads in the given income class.
2 No credit for dependents was allowed in 1916. The number of dependents is estimated by multiplying the returns of heads in the given income class (step 1) by the 1917 ratio of dependents to the returns of heads in that income class.
3 The tax return population is the sum of the number of persons represented (estimated from step 1 by the procedure outlined for 1919-32) and dependents (step 2).

1913-1915: For 1913 returns cover only the last 10 months of the year. For every year, returns filed by withholding agents are excluded. For 1913 the number is negligible since the law applied to November and December alone. For the other years it is appreciable: 28,471 in 1914 and 34,132 in 1915 , representing taxes of $\$ 5,528,366$ and $\$ 6,591,912$. respectively.

1 From the returns of married persons are deducted the separate returns of wives. The balance is multiplied by 2 and returns of single persons added to yield the number of persons represented, excluding dependents.
2 The tax return population is the product of the number of persons represented (step 1) and the 1916 ratio of tax return population to the number of persons represented, excluding dependents.

## II ECONOMIC INCOME ON TAX RETURNS

1918:
1 From total income, as reported, profits from sales of real estate, stocks, bonds, etc. are deducted.
2 Tax exempt interest on government obligations for net income classes $\$ 5,000$ and over, estimated as follows, is added. Wholly and partly
tax exempt interest as estimated for 1919 is extrapolated to 1918 by the interest on government obligations as shown in Income in the United States (NBER, 1922), II, 261. It is assumed that the movement is the same for each income class and that the proportion not included on the returns is the same in 1918 as in 1919.

1917: Estimated separately for the net income class of $\$ 1,000-2,000$ and for classes of $\$ 2,000$ and over
a $\$ 2,000$ and over
1 The sources of income and deductions are not reported for each class under $\$ 10,000$, the classes from $\$ 2,000$ to $\$ 4,000$ being combined, as are those from $\$ 5,000$ to $\$ 10,000$. Economic income (excluding wholly tax exempt interest) for each of these broad classes and for the $\$ 4,000-5,000$ class is the difference between total income and profits from sales of assets.
2 The ratio of economic income (excluding wholly tax exempt interest) to net income is computed for each broad class indicated in step 1 for 1917.
3 The ratio of economic income (excluding wholly tax exempt interest) to net income is computed for the same broad classes for 1918.
4 The ratio of economic income (excluding wholly tax exempt interest) to net income is computed for 1918 for each $\$ 1,000$ class included in the broad classes.
5 The ratio in step 2 is multiplied by the ratio of the ratio in step 4 to the ratio in step 3.
6 Net income, as reported, includes contributions, which are shown separately. To make net income comparable with that reported in later years, contributions are deducted.
7 Net income excluding contributions (step 6) is multiplied by the ratio of economic income to net income as estimated in step 5.
8 Economic income as estimated in step 7 is adjusted by the ratio of economic income as reported for the broad classes (step 1) to the sum of the estimates of their $\$ 1,000$ class components (step 7).
9 Tax exempt interest on government obligations, estimated by the procedure indicated for 1918 , is added.
b \$1,000-2,000
1 Net income before contributions is the only income item reported. Net income after contributions is estimated by applying the ratio of net income after contributions to net income before contributions
for the $\$ 2,000-3,000$ class adjusted by the proportionate difference between this ratio for the $\$ 1,000-2,000$ class and for the $\$ 2,000-$ 3,000 class in 1922 (the earliest year for which contributions are shown by income class).
2 The ratio of economic income to net income after contributions for the $\$ 2,000-3,000$ class is computed for 1917.
3 The ratio of economic income to net income is computed for the $\$ 1,000-2,000$ and $\$ 2,000-3,000$ classes for 1918 . The proportionate difference between them is applied to the ratio in step 2.
4 Net income after contributions (step 1) multiplied by the final ratio in step 3 yields economic income.

1916: Income from the various sources represents gross receipts, the deductions not having been allocated to the various sources, as in later years, but tabulated under 'deductions' in the aggregate. Net income, assumed to include contributions and capital gains and to exclude tax exempt interest, is multiplied by the 1917 ratio of economic income to net income, both excluding tax exempt interest. Tax exempt interest, estimated by the procedure indicated for 1918 , is then added.

1913-1915: Net income is not reported by income class. Assumed to be comparable in coverage with net income as reported in 1916, it is multiplied by the 1916 ratio of economic income (including tax exempt interest) to net income. The estimate for 1913 is raised 20 percent to allow for the 2 months not covered.

## Section C: Statistics of Income Revisions

Statistics of Income, 1938, Part 1, pp. 74-5, indicates revisions in the published data for 1920, 1923, 1929, 1930; and 1932. Details of the revisions for 1929, 1930, and 1932 were obtained either from the Bureau of Internal Revenue or from Statistics of Income (1934, Part 1, p. 31, note 18; 1937, Part 1, p. 47, note 25; and 1935, Part 1, p. 31, note 6). The revised figures for North Dakota for 1929, shown in ibid., 1934, do not cover revisions in personal exemption and credit for dependents. Since we were unaware of the error in this item when estimating the total tax return population for that year, the latter is overestimated by about 300,000 . Only for Tables 68 , 69, and 74 do we attempt a correction.

Since details of the revisions for 1920 and 1923 were unavailable, they were estimated as follows:
1920: Returns for Alabama (see Statistics of Income, 1935, Part 1, p. 42, note 4). Some interest, etc. seems to have been transferred to wages and salaries, business profits, and partnership profits. The ratio of the revised total to the unrevised, calculated for wages and salaries, business profits, and partnership profits separately, for all taxable net income classes under $\$ 5,000$ combined, was used to adjust wages and salaries, business profits, and partnership profits for each net income class under $\$ 5,000$. Interest for each class was reduced by the absolute amount added to the other three income categories.
1923: Returns for District of Columbia (see Statistics of Income, 1925, $\mathrm{pp} .28-9$ ). Although the total number of returns remains unchanged, the distribution by net income classes is appreciably altered. It is assumed that the allowance for personal exemption for all net income classes combined also remains unchanged and that the distribution by net income classes parallels the revision of the number of returns. The only nontaxable net income classes affected are the $\$ 4,000-5,000$ and $\$ 5,000$ 6,000 . Since the total number of returns for these two classes combined remains unchanged, it is assumed that the personal exemption too remains unchanged, and that its distribution by net income classes parallels that of the revision in the number of returns.

The distribution of returns between family heads and nonheads for each net income class (taxable and nontaxable separately) is based on the corresponding distribution of returns for all states including the unrevised data for the District of Columbia (community property returns being excluded, since the District of Columbia has none). The net income of nonheads is estimated by multiplying total net income by the ratio of the net income of nonheads to the net income of all persons reporting as computed from the unrevised data.

The amount by which each source of income is adjusted for all net income classes under $\$ 5,000$, and all those over $\$ 5,000$ (Statistics of Income) is distributed by net income classes on the basis of the reported revision in net income.

For 1927-36, when Statistics of Income publishes only totals for returns with net income under $\$ 5,000$, the distribution by net income classes is from the Source Book. The slight undercoverage for 1930 is assumed to be due to omission of data for Idaho and New Mexico for the taxable net income class under $\$ 1,000$, since there was no similar gap in the data for these states in the other years under consideration.

## Chapter 8

The Basic Variant

In Chapter 7 we discussed the difficulty of comparing income on tax returns with total income receipts of individuals because the former excludes some income items that should be included and includes some that should be excluded. The major difficulty, however, lies in the way the income tax data are classified.

The tabulations published annually in Statistics of Income and available in more detail in the Source Book for the years beginning with 1927, classify tax returns by their net income, defined in most years as total income, including capital gains reportable by law, minus allowable deductions (tax and interest payments, capital losses, etc.), but not reduced either by personal exemptions or credits for dependents (or by prior year loss, even when permitted as an offset in calculating the tax). ${ }^{1}$

For our analysis such classification suffers from two major defects: the use of the return as a unit and of net income as a base. Since we are interested in income per person rather than per return, we need a classification by income per person. And since an individual's share in countrywide income payments is measured properly by his income receipts excluding such transfer items as capital gains, and not reduced by any transfer losses or by deductions that may be interpreted as part of the cost of living (i.e., nonbusiness expenses), and including such imputed income as net rent on owner-occupied dwellings, the income total that should be used in the classification by size is substantially different from net income, tax definition.

We must either discard the available classification, except for the kind of comparison in Chapter 7, or adjust it as best we can to fit our needs. We adopted the second course, and the remaining chapters of Part IV discuss our procedures, devices, and assumptions. This chapter deals with
${ }^{1}$ The income total underlying the classification of returns by size changes from one part of the period to the next as the tax law and form of return change. In recent years, e.g., returns on the brief 1040A form are tabulated by size of gross income, i.e., total income gross of any deduction, and from 1944 on all returns are classified by total income minus allowable trade and business deductions. But by and large, for most years the basis of classification by size is net income, which includes capital gains and is reduced appreciably by deductions that are a legitimate part of economic income.
the estimates of shares of upper income groups as derived from the available material with only such modifications as still permit us to use it in almost complete detail. The shares are designated basic because they permit fullest analysis and hence are those most emphasized in Part I. The adjustments applied to this basic variant in an attempt to reach more closely the desired approximation to shares in economic income are discussed in Chapters 9 and 10.

## 1 Basic Variant, Total Population

The basic variant yielding the shares of upper income groups of the total population is derived by the following procedure. For each net income class, tax definition, in the published data we calculate, by methods already discussed, economic income on returns - income which, with minor qualifications, ${ }^{2}$ accords with that underlying countrywide income payments. Likewise, for each net income class we estimate the total number of persons covered by the returns. We can, therefore, calculate per capita economic income for each net income class (with the qualifications listed in note 2). Next we array the classes in decreasing order of economic income per capita, cumulate their population and income from the top down, then express each succeeding level of these distributions as a percentage of countrywide population' and income respectively. In these cumulative distributions we interpolate at the points where the tax return population constitutes $1,3,5,7$, and for some years, larger percentages of total population. Since these interpolations are made in the cumulative distributions, counting from the top, the line drawn at 1 percent of total population cuts the cumulated income distribution at a point that shows the percentage of countrywide income payments received by the 1 percent of the population drawing the highest incomes. The $3,5,7$, etc. percent lines of total population yield corresponding shares of income.

A sample calculation of the share of the top 1 percent in this basic variant for total population is given in Appendix 3, Section A. Several technical points may be noted here. First, the 1 percent of population line is in most years well below the $\$ 10,000$ net income class, tax definition, and no class above this line can affect our estimate as the array is reshuffled when the classification base shifts from net income to economic income. Hence we start with returns with net income of $\$ 10,000$ and over,

[^58]treating them as a single class; and distinguish and check upon the order of only the net income classes below $\$ 10,000 .^{3}$ Second, the income totals for the successive income classes are rearrayed before cumulation, then converted into percentages of the countrywide total. Third, the interpolation is by a straight line to the logarithms, i.e., direct proportions of logarithms of percentages of population and of income. This is justified by the fact that the two cumulative percentage series plotted on a double logarithmic chart form straight lines for almost all ranges and practically each year in the period.

From these interpolations at successively lower percentages we derive the share of income received by the top 1 percent, the next pair, the 2nd and 3rd percentage band, and so on, until we are stopped by the limits of the data. The chief aspects of the procedure, of possible interest to the technically minded reader, are presented in Table 75.

As may be noted in columns 1 and 2 , in many years the lowest partition line, i.e., the lowest percentage of population line in the cumulative distribution from top incomes down, is drawn appreciably short of the total tax return coverage. This is a safety measure since evasion and underreporting may be more widespread at the exemption limits and filing margins than at some distance above them. And the series used in the analysis in Part I stop short, for all years except 1930, 1931, and 1933, even of the partition lines in column 2 . On the other hand, the desire to have a comparable continuous series for as long a period as possible has tempted us to include 1913-16, when the total coverage is barely 1 percent of population and in 1915 even less; and to draw the lowest partition line in other years, notably 1917, 1918, 1927-29, and 1934-35, uncomfortably near the very bottom of the tax return distribution. In general, the shares of the lower percentage bands in all these years are subject to a wider margin of error than those for years when we stop appreciably short of exhausting the full tax return population.

Column 3 indicates the extent of shifting in the array produced by ranking net income classes, tax definition, by economic income per capita instead of by net income, tax definition, per return. Two conclusions emerge. First, changes in rank are few, confined in most years to one that affects only two income classes. This is obviously due to the fact that the class intervals distinguished in the data are wide: in most years for $\$ 1,000$ spans. Only for 1941 through 1943, when the spans in the lower ranges
${ }^{8}$ This economy of labor is not justified when the top 1 percent line is close to or above the $\$ 10,000$ and over class limit of net income, tax definition, or were we to distinguish partition lines at higher ranges, e.g., the top 0.25 percent. When the former occurs, we extend our analysis to cover the necessary additional net income classes; the latter refinement is difficult with the available data, as is explained below.

Table 75
Coverage of the Basic Variant, Total Population, 1913-1948

|  | $\%$ of Total Population Covered by Tax Return Population (1) | Lowest $\%$ Line Covered by Variant (2) | Classes <br> Changing Rank in Shift from Net Income, Tax Definition, Per Return to Economic Income Per Capita (thousands (3) | Net Income Class, Tax Definition, in Which Lowest \% Line Lies of dollars) (4) | Economic Income Per Capita, Lowest $\%$ Band Distinguished (5) | Economic Income Per Capita, Tax Return Population Omitted (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1913 | 1.05 | 1 | - | * | \$5,013 | \$1,114 |
| 1914 | 1.04 | 1 | * | * | 4,206 | 953 |
| 1915 | 0.96 | 1 | , | A | 4,852 |  |
| 1916 | 1.22 | 1 | None | 3-4 | 6,209 | 1,307 |
| 1917 | 7.38 | 7 | 1-2 | 2-3 | 955 | 863 |
| 1918 | 10.44 | 10 | 1-2 | 2-3 | 840 | 759 |
| 1919 | 11.83 | 10 | $\begin{aligned} & 1-2 \\ & 2-3 \end{aligned}$ | 2-3 | 966 | 854 |
| 1920 | 16.28 | 10 | 1-2 2 | 2-3 | 1,016 | 814 |
| 1921 | 13.59 | 10 | $\begin{gathered} \text { Under } 1 \\ 2-3 \\ 3-4 \end{gathered}$ | 2-3 | 1,043 | 948 |
| 1922 | 14.27 | 10 | $\begin{gathered} \text { Under } 1 \\ 2-3 \end{gathered}$ | 2-3 | 987 | 901 |
| 1923 | 16.60 | 10 | 1-2 | 2-3 | 1,052 | 943 |
| 1924 | 15.04 | 10 | $\begin{aligned} & 1-2-2 \\ & 2-3 \end{aligned}$ | 2-3 | 1,045 | 1,009 |
| 1925 | 8.14 | 7 | 2-3 | 1-2 | 1,366 | 1,173 |
| 1926 | 8.04 | 7 | $\begin{aligned} & 2-3 \\ & 3-4 \end{aligned}$ | 1-2 | 1,371 | 1,208 |
| 1927 | 7.61 | 7 | $\begin{aligned} & 2-3 \\ & 3-4 \\ & 4-5 \end{aligned}$ | 1-2 | 1,401 | 1,325 |
| 1928 | 7.50 | 7 | 2-3 | 1-2 | 1,406 | 1,135 |
| 1929 | 7.61 | 7 | $\begin{aligned} & 2-3 \\ & 3-4 \end{aligned}$ | 1-2 | 1,445 | 1,275 |
| 1930 | 6.83 | 5 | 2-3 3-4 | 3-4 | 1,509 | 1,229 |
| 1931 | 5.96 | 5 | $\begin{aligned} & 2-3 \\ & 3-4 \end{aligned}$ | 1-2 | 1,410 | 1,071 |
| 1932 | 7.09 | 7 | None | Under 1 | 923 | 683 |
| 1933 | 6.86 | 5 | None | 1-2 | 990 | 820 |
| 1934 | 7.25 | 7 | None | Under 1 | 961 | 695 |
| 1935 | 7.78 | 7 | None | 1-2 | 1,056 | 859 |
| 1936 | 8.93 | 7 | None | 1-2 | 1,095 | 984 |
| 1937 | 10.19 | 10 | None | Under 1 | 1,115 | 783 |
| 1938 | 9.93 | 7 | $\begin{aligned} & \text { None } \\ & 1-2 \end{aligned}$ | 1-2 | 1,107 | 1,079 |
| 1939 | 11.73 | 10 | $\begin{array}{r} 2-2.5 \\ 2.5-3 \end{array}$ | 2.5-3 | 1,120 | 1,056 |

Table 75 concluded:

${ }^{\text {a }}$ Data not available by income classes.
${ }^{\mathrm{b}}$ The classes are as follows (thousands of dollars):

| 1941 |  |
| :--- | :---: |
| Form | Forms |
| 1040A | $1040 \& 1041$ |
| $0.75-1$ | $0.75-1$ |
| $1.5-1.5$ | 1 |
| $1.5-2$ | 1.5 |
| 2 | -2.5 |
| $2.5-3$ |  |

## Column

|  | 1942 |
| :---: | :---: |
| Form | Forms |
| $1040 A$ | $1040 \& 1041$ |
| $0.75-1$ | $0.75-1$ |
| 1 | -1.25 |
| $1.25-1.5$ | $1.25-1.25$ |
| $1.5-1.75$ | $1.5-1.5$ |
| $1.75-2$ | $1.75-2$ |
| 2 | -2.25 |
| 2.25 | -2.25 |
| $2.25-2.5$ | $2.25-2.5$ |
| $2.5-2.75$ | $2.5-2.75$ |
| $2.75-3$ |  |


|  | 1943 |
| :---: | :---: |
| Form | Forms |
| $1040 A$ | $1040 \& 1041$ |
| $1.5-1.75$ | $1.25-1.5$ |
| $2-2.25$ | $1.5-1.75$ |
| $2.25-2.5$ | $1.75-2$ |
| $2.5-2.75$ | $2-2.25$ |
| $2.75-3$ | $2.25-2.5$ |
|  | $2.5-2.75$ |

1 Table 69, column 6.
3 From Table 113, column 2.
4 For 1929 see columns 1, 6, and 8 of the sample calculation in Appendix 3, Section A. Entries for the other years are derived by the same procedure.
5 The total income received by the lowest percentage band is the product of total income receipts of individuals (Table 72, col. 2) and its share in that total (Table 118, col. 1). Its total income is then divided by its population (for total population, see Table 69, col. 5) to yield its income per capita.
6 From economic income covered by tax returns (Table 72, col. 1) we subtract the amount received by all the upper percentage bands distinguished (estimated by the procedure indicated in the notes to col. 5 for the amount received by the lowest percentage band). From the population covered by tax returns (Table 69, col. 3) we subtract the population covered by all the upper percentage bands (the product of total population, Table 69, col. 5 , and col. 2 of this table). The income not covered by these percentage bands is then divided by the population not covered.
are reduced to $\$ 250$ and when the published data separate short from long forms (1040A on the one hand, and 1040 and 1041 on the other), does the number of income classes changing rank increase markedly. In 1944 and later years, when all returns are classified by adjusted gross income, approximating our concept of economic income, no shifts occur.

The second conclusion is that the changes in rank are among low income classes: in years when they occur they are, with a single exception, for classes below $\$ 4,000$ net income, tax definition. This indicates that of the two factors that can produce a shift in rank - difference between net income, tax definition, and economic income as bases of classification, and difference between returns and persons as units of classification - the latter is by far the more important. We observed in Chapter 7 that the difference between the two income bases was relatively more appreciable in the upper net income brackets, tax definition, than in the lower ones, except the very bottom; hence this factor would tend to produce shifts in rank chiefly among the upper net income brackets. But because most single person returns are in the lower income brackets, there may be appreciable differences from bracket to bracket in the number of persons per return, and it is this factor that is chiefly responsible for the shifts in rank at the lower income levels. A check of this conclusion by the detailed information in Tables 111-113 confirms its validity. ${ }^{4}$

The per capita economic income of the lowest percentage band distinguished in the basic variant (col. 5) is larger than that of the residual part of the tax return population (col. 6). This is a necessary arithmetical result of the arraying procedure used; what is of interest is the relative difference between the two. In general, it runs well above 10 percent, being especially large in the early years when the top 1 percent is the only band covered; in the early 1930's, when there is a rapid falling away of income

[^59]below the last band included; and in 1941-48, when the lowest percentage line falls far short of the total coverage of the tax return population.

One aspect of the procedure, common to the basic variant and to all adjustments of it, is not revealed by Table 75: the limiting of percentage bands to $1,3,5,7,10$, etc. and the avoiding of more narrowly defined bands either above or below the top 1 percent line. The reason is the roughness of the classification of the published data which for most years distinguish only $\$ 1,000$ intervals of net income, tax definition, in the lower ranges of the distribution. When the class intervals are few and broad, the distinction of narrower percentage bands in our analysis would mean several interpolations within one and the same net income class; and any differences among shares of successive percentage bands might be spurious. This argument does not apply to refinement within the top 1 percent band, since the published distributions give much detail for class intervals above its lower partition line; however, as capital gains and various deductions become more important, estimating a proper distribution by economic income becomes much more difficult than in the lower brackets, and the resulting approximations subject to a much wider margin of error. It was, therefore, considered best not to push the analysis into partition lines above the top 1 percent of total population. ${ }^{5}$

## 2 Coverage of Farm Population by Tax Returns

In Chapter 7 we compared the tax return population and its economic income with total population and countrywide income payments. The basic variant just discussed is also in terms of shares of the upper percentage groups of total population. Might it not be just as relevant, at least in the way of supplementary analysis, to compare the number and income of the tax return population with the nonfarm population and its income?

This question is strongly suggested by even a superficial study of the tax returns, especially their classification by the residence of the filer and by the industrial source of the income reported. Some evidence that the returns are, through most of the period, overwhelmingly from nonfarm areas was given in Chapter 7. Another measure of the extent to which the farm population is covered is the number of returns reporting income from farming. An attempt to estimate its proportion in all net income returns is provided in Table 76.

Several assumptions had to be made to fill in gaps in the evidence; of these, three are vital for understanding the results. First, we assumed that the income from farming entered on returns that reported it constituted

[^60]Table 76

| Economic | Net Profit from Business |  | \% |
| :---: | :---: | :---: | :---: |
| Income, |  | Agr. \& | Col. 10 |
| Returns |  | Related | Is of |
| (8) | (9) | (10) | (11) |
| 17,591 | 3,124 | 1,123 | 6.38 |
| 21,647 | 3,878 | 1,211 | 5.60 |
| 25,931 | 3,216 | 637 | 2.46 |
| 23,162 | 2,366 | 229 | 0.99 |
| 24,141 | 2,840 | 231 | 0.96 |
| 28,323 | 4,723 | 357 | 1.26 |
| 28,274 | 4,755 | 372 | 1.32 |
| 22,545 | 3,689 | 250 | 1.11 |
| 23,292 | 3,573 | 239 | 1.02 |
| 23,533 | 3,287 | 237 | 1.01 |
| 24,407 | 3,244 | 234 | 0.96 |
| 25,392 | 3,328 | 216 | 0.85 |
| 21,178 | 2,628 | 117 | 0.55 |
| 16,869 | 1,890 | 38 | 0.22 |
| 14,325 | 1,295 | 24 | 0.17 |
| 12,950 | 1,403 | 54 | 0.42 |
| 15,044 | 1,717 | 97 | 0.65 |
| 16,954 | 1,855 | 124 | 0.73 |
| 21,039 | 2,374 | 169 | 0.80 |
| 24,146 | 2,493 | 175 | 0.73 |
| 21,631 | 2,349 | 171 | 0.79 |
| 26.072 | 2.711 | 202 | 0.77 |
| 64,029 | 6,453 | 1,767 | 2.76 |



 4.21 Returns Showing Net Profit from Business
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Notes to Table 76

## Column

1 Table 67, column 1.
2 1918-25, 1937, 1939, and 1941: Statistics of Income. Data for 1939 and 1941 include returns with no net income and exclude taxable fiduciary returns.
1928: number as reported on Form 1040 in Statistics of Income plus the number estimated for Form 1040A by dividing net profit from business for each income class (Statistics of Income) by the mean income for the given income class, estimated as the arithmetic average of its upper and lower levels.
1926, 1927, 1929-36, and 1938: number as reported in Statistics of Income for returns with net incomes $\$ 5,000$ and over plus the number estimated for returns with net incomes under $\$ 5,000$, calculated as follows:

Net profit from business for each income class under $\$ 5,000$ (Statistics of Income or the Source Book) is divided by the mean income for the given class, estimated as the arithmetic average of its upper and lower levels. For 1926, 1927, and 1938 the number of returns with net profit from business thus derived is regarded as final. For 1929-36 it is adjusted by the average of the 1928 and 1937 ratios of the actual number of such returns with net incomes under $\$ 5,000$ (Statistics of Income) to the number just computed.
3 1918-25, 1939, and 1941: Statistics of Income; see note to column 2 regarding 1939 and 1941.
1928: number as reported on Form 1040 in Statistics of Income plus the number estimated for Form 1040A on the assumption that the industrial distribution of all business returns on Form 1040A (see notes to col. 2) is the same as that of business returns on Form 1040 with net incomes under \$5,000 (Statistics of Income).
1926, 1927, and 1929-38: estimated by the following steps:

1) For 1925, 1928, and 1939 the percentage that column 3 constitutes of column 2 is computed.
2) For 1925-37 Statistics of Income shows the industrial distribution of returns with net incomes of $\$ 5,000$ and over reporting net profit from business. The percentage that the number reporting net profit from agriculture and related industries constitutes of the total number is computed.
3) For 1926 and 1927 the percentage derived in step 1 is interpolated between 1925 and 1928 along a straight line. For 1929-37 it is extrapolated from 1928 by the series derived in step 2. For 1938 it is interpolated along a straight line between the percentage for 1937, just derived, and the percentage for 1939 calculated in step 1.
4) Column 2 is multiplied by the percentages derived in step 3.

5 Table 69, column 3.
6 Column 3 multiplied by the average number of persons per family return, Table 68, column 1.
8 Table 72, column 1.
9 Statistics of Income; see note to column 2 regarding 1939 and 1941.
10 1918-25, 1939, and 1941: Statistics of Income; see note to column 2 regarding 1939 and 1941.
1928: Net profit as reported for returns on Form 1040 in Statistics of Income plus net profit for returns on Form 1040A estimated as the product of the number of such returns (see notes to col. 3) and the net profit per return, calculated by the following steps:
(continued on page 288)
their total economic income; second, that the units filing these returns were members of the farm population; third, that these returns were family returns. The first assumption leads to an underestimate of the income of the farm population reported on tax returns. The second leads to an overestimate which would offset, if only in part, the underestimate from the first assumption. The last assumption is the least doubtful of the three in that farming is a family business, particularly at the income levels that would entail filing a federal income tax return.

If the assumptions are valid, and the error implied in them cannot be fatal, we can accept the estimates in Table 76 as representing the total number and income of the farm population recorded on tax returns. The proportion the farm population constitutes of the total represented on tax returns is quite small, somewhat over 10 percent at the highest and ranging from 1 to 3 percent in most years. The proportion of income attributable to the farm tax return population is even lower, not exceeding 7

## Notes to Table 76, column 10, concluded:

1) Net profit from agriculture and related industries per return is calculated for returns on Form 1040 with net income under $\$ 5,000$.
2) Net business profit per return is calculated for all returns on Form 1040 with net incomes under $\$ 5,000$.
3) The ratio of the net profit per return derived in step 1 to that derived in step 2 is calculated.
4) Net business profit per return is calculated for all returns reporting such profits on Form 1040A (see notes to col. 2).
5) Net business profit per return as calculated in step 4 is multiplied by the ratio derived in step 3.
1926, 1927, 1929-38: estimated in 9 steps:
6) For 1925-39 net profit from business per return reporting it is calculated by dividing column 9 by column 2 .
7) For 1925,1928 , and 1939 net profit from agriculture and related industries per return reporting it is calculated by dividing column 10 by column 3 .
8) For 1925-37 net profit from business per return reporting it with net incomes $\$ 5,000$ and over is calculated from Statistics of Income.
9) For $1925-37$ net profit from agriculture and related industries per return reporting it with net incomes of $\$ 5,000$ and over is calculated from Statistics of Income.
10) For 1925, 1928, and 1939 the ratio of the net profit per return as calculated in step 2 to that calculated in step 1 is computed.
11) For 1925-37 the ratio of the net profit per return calculated in step 4 to that calculated in step 3 is computed.
12) For 1926 and 1927 the ratio derived in step 5 is interpolated between 1925 and 1928 on the basis of the change in the ratio derived in step 6. For 1929-37 it is extrapolated from 1928 with the ratio in step 6 as index. For 1938 it is interpolated along a straight line between the ratio for 1937, just calculated, and that for 1939 derived in step 5.
13) Net business profit per return calculated in step 1 is multiplied by the ratio derived in step 7.
14) The number of returns in column 3 is multiplied by the net profit per return calculated in step 8.
percent at the highest and below 1 percent in most years. As the coverage of tax returns widened after 1941, the percentages accounted for by the farm population and its income must have increased appreciably; but even in these years the proportions they constitute of the upper income groups (confined, say, to the top 5 percent of total population and its income) are, on the basis of the record, within the low levels indicated for most years by columns 7 and 11.

One conclusion is obvious: tax returns may be treated as filed almost exclusively by the nonfarm population, especially if we emphasize the upper percentage bands and discard, in any calculated variants, the lower tail of the tax distribution. In other words, we can legitimately compare population and economic income on tax returns not only with total population and its income but with the nonfarm population and its income, thereby deriving a variant that yields the shares, year in year out, of the upper percentages of the nonfarm population. These estimates will be subject to error as far as some members of the farm population are included whose omission might have led to replacement by members of the nonfarm population with perhaps different per capita income. But the error is obviously slight enough so that the reliability of the basic variant for the nonfarm population is not appreciably less than that for the total population. ${ }^{6}$

Before discussing this basic variant for nonfarm population, we must touch upon a different question raised by Table 76: do the low proportions of farm tax return population and its income in the total tax return population and its income reflect genuine differences in income levels between farm and total population, or are they due to more evasion and underreporting by the farm population? If the former, the biases in the basic variant for total population due to underreporting and evasion are relatively equal to those in the basic variant for nonfarm population. If the latter, those in the basic variant for total population are greater than those in the basic variant for nonfarm population.

A valid answer could be given only if we had size distributions of economic income per person, separately for the farm and nonfarm populations, both distinguishing fairly narrow size classes, especially in the upper

[^61]ranges. We could array the size classes, cumulate them in a single distribution from the top down (keeping the farm and nonfarm distinction for subsequent recognition), then interpolate at the top 1,3 , etc. percentage lines. We could then ascertain what proportion of the farm population should characterize the top $x$ percent, $x$ being the proportion of the total population accounted for by the total tax return population for the given year. Comparison of the proportion of the farm population in the top $x$ percent of total population, thus calculated, with the proportion of the farm tax return population in the total tax return population for that year (given in Table 76, col. 7), would tell us whether the nonreporting bias for the farm population was bigger than for the nonfarm.

Such data are unavailable, even the NRC estimates for 1935-36 not permitting a rearraying of the income distributions for the farm and nonfarm populations by income per person. But an experimental test, starting with some bold assumptions, was attempted. The basic assumption was that the inequality in the size distribution of income was the same for the farm and nonfarm populations - inequality being measured by the ratio of the average income of the given income group to the average income of the population, as revealed for each year by its share in the basic variant for total population. Thus, if the share of the top 1 percent of the total population is 13 percent, the ratio of its average income to the average income of the entire population is as 13 to 1 , and the ratio of the average income of the top 1 percent of the farm (or nonfarm) population to the average income of the entire farm (or nonfarm) population is also as 13 to 1.

With the help of this and some auxiliary assumptions we constructed two hypothetical distributions, one for the nonfarm and the other for the farm population, and arrayed them in such a way as to see how large a proportion of the upper income groups is accounted for by the latter. An illustrative calculation for 1929 is given in Appendix 3, Section B. All we need to note here is that this calculation is likely to exaggerate the proportion of the farm population that should be represented on the tax returns - for two reasons. First, the relative excess of the average income of upper percentage groups over the average income of the total population is likely to be larger for the nonfarm than for the farm population merely because the spread of income opportunities is much wider for the former and hence the probability of very large incomes is much greater. ${ }^{7}$ Second, the

[^62]procedure by which the shares of the lower percentages of the nonfarm population are estimated is likely to place their income levels too low in the combined array.

The results are erratic from year to year, and only the average for the entire period is of interest. If the assumptions are correct, the proportion of the farm population that should be reported on tax returns averages about 6 percent for the period. Since our entries in Table 76 average only 3 percent, they suggest that there is relatively more underreporting among farm income recipients than among nonfarm.

But large as the difference seems, the effect on the reliability of the basic variant for total population as compared with that for nonfarm is not marked. All that the experimental calculation shows is that the basic variant for total population is subject to a somewhat larger bias of underreporting - a rough maximum on the average of 3 percent of the total coverage. In other words, the relatively greater underreporting by the farm group affects only 3 percent of the total tax return population which might have reported somewhat larger incomes than those actually reported. As already remarked, the error in estimating upper group shares resulting from such displacement can be only a minor fraction of the percentage that gauges the displacement itself.
While the average level of the proportions the farm tax return population and its income constitute of the total tax return population and its income (Table 76, col. 7 and 11) is probably too low, the changes in these proportions are confirmed by independent data. In Table 77 and Chart 5 are estimates showing the relation between the income of the entire farm population and total income receipts. These countrywide estimates are completely independent of data on federal tax returns from individuals whereas all the percentages in Table 76 are derived from them. Hence, when we compare the percentage that the income of the farm population constitutes of the income of the total population with the percentage the farm tax return population constitutes of the total tax return population or with the percentage the income on farm tax returns constitutes of economic income reported on all tax returns, we are comparing independent series.

It is this fact that makes the close agreement in Chart 5 so significant. In lines $\mathrm{a}, \mathrm{b}$, and c the percentages the farm tax return population and its income constitute of the total tax return population and its income move in close conformity with the percentage the income of the farm population constitutes of the income of the total population. Likewise, in lines $d$ and e the shortage of the proportion of income on farm tax returns relative to the proportion of population represented changes in close conformity with

Table 77
Percentages that Population and Income on Farm Returns Constitute of Total Tax Return Population and Income Compared with Percentage that Income of Farm Population Constitutes of Total Income Receipts, 1918-39, 1941

|  | Income of Farm Population as $\%$ of | Per Capit <br> (dol | Income rs) | Ratio: Col. 2 | Ratio of \% of Income to \% of Population, Farm to |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total Income | Farm | Nonfarm | to | Total Tax |
|  | Receipts <br> (1) | Population <br> (2) | Population <br> (3) | Col. 3 <br> (4) | Returns (5) |
| 1918 | 19.51 | 339 | 610 | 0.56 | 0.58 |
| 1919 | 18.46 | 377 | 693 | 0.54 | 0.53 |
| 1919 | 18.29 | 377 | 702 | 0.54 | 0.53 |
| 1920 | 14.86 | 314 | 759 | 0.41 | 0.47 |
| 1921 . | 11.36 | 191 | 614 | 0.31 | 0.37 |
| 1922 | 11.51 | 208 | 646 | 0.32 | 0.45 |
| 1923 | 11.37 | 243 | 727 | 0.33 | 0.40 |
| 1924 | 11.75 | 255 | 708 | 0.36 | 0.43 |
| 1925 | 12.52 | 287 | 727 | 0.39 | 0.39 |
| 1926 | 11.58 | 279 | 750 | 0.37 | 0.38 |
| 1927 | 11.43 | 281 | 737 | 0.38 | 0.42 |
| 1928 | 11.14 | 280 | 747 | 0.37 | 0.44 |
| 1929 | 11.11 | 295 | 778 | 0.38 | 0.36 |
| 1930 | 9.72 | 231 | 697 | 0.33 | 0.33 |
| 1931 | 8.61 | 168 | 581 | 0.29 | 0.27 |
| 1932 | 8.00 | 118 | 450 | 0.26 | 0.27 |
| 1933 | 9.81 | 137 | 432 | 0.32 | 0.34 |
| 1934 | 11.05 | 179 | 487 | 0.37 | 0.39 |
| 1935 | 11.78 | 209 | 521 | 0.40 | 0.43 |
| 1936 | 11.52 | 234 | 584 | 0.40 | 0.45 |
| 1937 | 11.37 | 255 | 628 | 0.41 | 0.46 |
| 1938 | 10.97 | 229 | 573 | 0.40 | 0.43 |
| 1938 | 10.90 | 229 | 577 | 0.40 | 0.43 |
| 1939 | 10.54 | 238 | 613 | 0.39 | 0.43 |
| 1941 | 11.29 | 345 | 787 | 0.44 | 0.50 |

## Column

1 Income of farm population (Table 114: difference between column 12 and column 13) divided by total income receipts of individuals (column 12).
2 Income of farm population (see note to column 1) divided by farm population (difference between column 5 of Table 69 and column 1 of Table 115).
3 Table 115: column 2 divided by column 1.
5 Table 76: column 11 divided by column 7.
the shortage of the per capita income of the farm population relative to the per capita income of the nonfarm population. In other words, our estimates for the tax return population reflect faithfully both the changing proportion of the income of the farm population in the income of the total population and the changing inequality in average per capita income between the farm and nonfarm population. If there are any differences in

Chart 5
Percentages that Population and Income on Farm Returns Constitute of Total Tax Return Population and Income Compared with Percentage that Income of Farm Population Constitutes of Total Income Receipts 1918-39 and 1941

the reporting bias between the farm and nonfarm population, they obviously do not vary enough to conceal genuine changes in the distribution of total income between the two groups or in the inequality between their per capita incomes.

## 3 Basic Variant, Nonfarm Population

As we have seen, the proportion of the farm tax return population in the total tax return population is quite small, and its proportion in the upper percentage bands would be even smaller. It certainly seems clear that the tax returns covered in our estimate of the top 1 percent of the total population include so few, if any, farm returns that it is justifiable to treat all as being from the nonfarm population, and hence to compare them with the total number and income of the latter. This interpretation of tax returns as being almost exclusively from the nonfarm population would probably be quite justifiably applied also to those included in the 2nd and 3rd and in the 4th and 5th percentage bands of the basic variant, and, with continuously decreasing confidence, to those in the lower percentage bands.

It is impossible to say at what point in the distribution the proportion of farm tax returns in all tax returns becomes large enough to render this interpretation untenable. In the detailed tables in Part $V$ this point was taken to lie at the 10th percentage line from the top in the basic variant for nonfarm population. In some years this point is probably too low; and for purposes of analysis in Part I we stopped at the 7th percentage line. Within the tax return population above this line the proportion of farm tax returns is assuredly small enough to permit us to treat all as being for the nonfarm population alone.

We compute the basic variant for nonfarm population by a procedure analogous to that employed in deriving the basic variant for the total population except that we now use the number and income of the nonfarm population as denominators. In the array of classes by economic income per capita, derived from the tax return tabulations, we interpolate lines at $1,3,5$, etc. percent from the top of the nonfarm population, ${ }^{8}$ cutting off the percentages of income received by its ordinal percentage bands, and yielding the income shares of the top 1, 3, 5, etc. percentage bands. An illustrative calculation for 1929 is provided in Appendix 3, Section C.

What the basic variant for nonfarm population shows concerning the level of and changes in the inequality of the size distribution of income was
${ }^{8}$ The interpolation using straight lines on a double logarithmic scale follows the procedure used for the basic variant for the total population. But in 1938 the slope of the straight line changed materially from one interclass interval to the next, and some smoothing was called for to yield successively decreasing percentages of income per unit as we went down the array. The smoothing was done simply by omitting some of the interclass intervals, thereby drawing the straight line over a wider interval than in the fully detailed array. Because the smoothing was applied to the nonfarm variant alone, the results of the comparison of the basic variant for the total and the nonfarm population for 1938 are not strictly in line with the results for other years.
discussed in Part I. Here we are concerned with the technical aspects of the procedure that explain how and why the differences between income shares in the basic variant for the total and the nonfarm population come out as they do. As noted in Part I, the difference between income shares of identical percentage bands in the basic variant for the total and the nonfarm population was relatively narrow; and while the shares of the top 1 , and 2 nd and 3rd percentage bands were, on the whole, larger in the variant for the nonfarm population, the opposite was, on the whole, true of the share of the 4th and 5th percentage band (and also, in the shorter period covered, of the 6th and 7th percentage band).

The average per capita income of the nonfarm population is larger than that of the total population. If, for a given group of tax returns in the upper brackets we compare economic income per person with the average income of a wider population group, the excess of the former would be relatively less if the latter were the average income of the nonfarm population than if it were the average income of the total population. Therefore, in the shift from the basic variant for the total population to that for the nonfarm, the percentage share of income of an identical group of returns, disregarding the proportion of population represented, would be lower in the nonfarm variant. The ratio of the per capita income of the nonfarm population to the per capita income of the total population (Table 78, col. 1), thus measures a factor that would make the share of a given percentage band in the basic variant for nonfarm population smaller than its share in that for the total population.

But we must take into account also the proportion of the population represented. If the nonfarm population is only 60 percent of the total population, a group of returns that is included in the top 1 percent of the former is, at the same time, a group that covers only the top 0.6 percent of the latter. This top 0.6 percent of total population must, in the nature of the case, have a higher per capita income than the group of returns that comprises the full top 1 percent of the total population. The ratio of the per capita income of the top 0.6 percent of the total population (equal to the top 1 percent of the nonfarm population) to that of the top 1 percent of the total population measures the factor that would make the share of a given percentage band (in this case, the top 1 percent) in the nonfarm variant larger than its share in the basic variant for the total population. This raising factor, which differs in size for the several percentage bands, is shown for the top 1,2 nd and 3 rd, 4 th and 5 th, and combined top 5 percent, in Table 78, columns 2-5. ${ }^{9}$

[^63]Table 78
Analysis of Relative Difference between Shares of Upper Income Groups in Basic Variant for Nonfarm
Population and Those for Total Population, 1913-1948

|  | Income of Nonfarm to | Ratio: Per Capita Income of Given Percentage Band of Nonfarm Population to That of Total |  |  |  | Ratio: Income Share of Given Percentage Band of Nonfarm Population to That of |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | That of Total | Band of Nonfarm Population to That of Total |  |  |  |  | Total Population <br> That of |  |  |
|  | Population | Top 1 | 2nd \& 3rd | 4th \& 5th | Top 5 | Top 1 | 2nd \& $3 r d$ | $4 t h$ \& $5 t h$ | Top 5 |
|  | (1) | (2) |  |  |  | (6) |  |  |  |
| 1913 | 1.27 | 1.37 |  |  |  | 1.08 |  |  |  |
| 1914 | 1.26 | 1.36 |  |  |  | 1.08 |  |  |  |
| 1915 | 1.25 | 1.35 |  |  |  | 1.08 |  |  |  |
| 1916 | 1.24 | 1.35 |  |  |  | 1.09 |  |  |  |
| 1917 | 1.20 | 1.31 | 1.21 | 1.07 | 1.24 | 1.10 | 1.01 | 0.89 | 1.04 |
| 1918 | 1.16 | 1.28 | 1.21 | 1.13 | 1.23 | 1.11 | 1.04 | 0.98 | 1.07 |
| 1919 | 1.16 | 1.25 | 1.25 | 1.17 | 1.24 | 1.08 | 1.08 | 1.01 | 1.07 |
| 1919 | 1.16 | 1.25 | 1.25 | 1.17 | 1.24 | 1.08 | 1.08 | 1.01 | 1.07 |
| 1920 | 1.21 | 1.26 | 1.24 | 1.18 | 1.24 | 1.04 | 1.02 | 0.97 | 1.02 |
| 1921 | 1.25 | 1.25 | 1.23 | 1.08 | 1.21 | 1.00 | 0.98 | 0.86 | 0.97 |
| 1922 | 1.24 | 1.25 | 1.19 | 1.20 | 1.22 | 1.00 | 0.96 | 0.97 | 0.98 |
| 1923 | 1.23 | 1.24 | 1.20 | 1.09 | 1.20 | 1.01 | 0.98 | 0.89 | 0.98 |
| 1924 | 1.21 | 1.22 | 1.19 | 1.13 | 1.20 | 1.01 | 0.99 | 0.94 | 0.99 |
| 1925 | 1.19 | 1.21 | 1.21 | 1.11 | 1.19 | 1.02 | 1.02 | 0.93 | 1.00 |
| 1926 | 1.20 | 1.21 | 1.24 | 1.07 | 1.19 | 1.01 | 1.04 | 0.89 | 1.00 |
| 1927 | 1.19 | 1.21 | 1.22 | 1.04 | 1.18 | 1.02 | 1.03 | 0.88 | 1.00 |



Chart 6
Relative Difference between Income Shares of Upper Income Groups in Basic Variant for Nonfarm Population and those for Total Population, and Factors Determining Its Magnitude, 1913-1948
a Ratio: income share of given percentage band of nonfarm population to that of total population
$b$ Factor a: ratio of per capita income of nonfarm population to that of total population
c Factor b: ratio of per capita income of given percentage band of nonfarm population to that of total population


## Chart 6 (concl.)

a Ratio: income share of given percentage band of nonfarm population to that of total population
b Factor a: ratio of per capita income of nonfarm population to that of total population
c Factor b: ratio of per capita income of given percentage band of nonfarm population to that of total population


The relative difference between the income shares of identical upper percentage bands in the basic variant for the nonfarm and the total population is then a compound of two factors: the ratio of the per capita income of the nonfarm to the per capita income of the total population, which tends to make the shares in the variant for the former smaller, and the ratio of the per capita income of the percentage band in the total population that is the equivalent of the given upper, $x$, percentage band in the nonfarm population to the per capita income of the upper $x$ percentage band in the total population, which would always raise the share of an upper percentage band of the nonfarm population above the share of the ordinally identical percentage band of the total population. Dividing the second (the raising) ratio by the first (the reducing) ratio should yield the ratio, for ordinally identical percentage bands, of the share in the nonfarm variant to the share in the variant for the total population. For example, in Table 78, the entry for each year in column 6 is the result of dividing the ratio in column 2 by that in column 1 ; and it is at the same time identical with the ratio of the share of the top 1 percent in the nonfarm variant to that in the variant for the total population (see entries for these shares in Table 116, col. 4 and 1 respectively).

With the help of Table 78 and Chart 6 we can see why the share of a given percentage band in the variant for the nonfarm population differs from that in the variant for the total population. First, the difference is relatively small obviously because the reducing and the raising ratio tend largely to offset each other. As the share in the nonfarm variant is
reduced because the denominator base - the average income with which the upper incomes are being compared - is larger than in the variant for the total population, this reduction is offset (or more than offset) because the numerator - the per capita income of the upper group - is also raised by drawing the partition lines at ordinal percentages that segregate much narrower upper groups in the total population.

Second, the relative size of the reducing and the raising ratio differs for the successive percentage bands in the nonfarm variant. For the top 1 percent, and somewhat less for the 2nd and 3rd percentage band, the raising ratio exceeds the reducing ratio. Hence, the share of the top 1 , and somewhat less, of the 2 nd and 3rd percentage band of nonfarm population are, on the whole, larger than the shares for the identical percentage bands in the variant for the total population. For the 4th and 5th percentage band, and also for the 6th and 7th (not shown in the table or chart) in the nonfarm variant, the reducing ratio is, on the whole, larger than the raising ratio. Hence, the shares of these percentage bands in the nonfarm variant are, on the whole, smaller than their shares in the variant for the total population.

Third, both ratios decline because the percentage of the nonfarm population in the total population has been increasing fairly steadily, except in a few years in the depressed 1930's, when some people went back to the farm. Obviously, if the nonfarm population approaches the total population in size, its per capita income too, other conditions being equal, will tend to approach that of the latter; and an ordinal percentage band in the former will tend to approach an ordinally identical percentage band in the latter. Hence both ratios, as far as they always tend to be above 1 (with 1 as the lower limit), will show a downward drift as the proportion of the nonfarm population in the total rises.

Consequently, the ratio of the share in the nonfarm variant to its share in the variant for total population, for an ordinally identical percentage band, will also approach unity, i.e., the relative difference will tend to disappear as the nonfarm population approaches the total population in size. On the whole then, this ratio should be nearer 1 in the later years of the period studied than in the earlier. This trend is confirmed by Table 78 and Chart 6 until the years associated with World War II. The rise in the ratio in the recent years is probably due to an increase in the proportion of farm returns in the upper brackets, i.e., to the failure of our basic assumption. Such an increase in the proportion of farm returns, influencing the numerator of the share but not its denominator, would tend to raise the ratios in columns 6-9 above 1 .

## Appendix 3

$$
\begin{aligned}
& \text { Section A } \\
& \text { Sample Calculation of Income Share of } \\
& \text { Top } 1 \text { Percent, Basic Variant, Total Population, } 1929
\end{aligned}
$$

Section B
Calculation of Hypothetical Proportion of Farm Population in Tax Return Population, 1929
Section C
Sample Calculation of Income Share of
Top 1 Percent, Basic Variant, Nonfarm Population, ..... 1929
Section DSample Calculation of Ratios for Table 78,Columns 2-5, 1929
Section A: Sample Calculation of Income Share of Top 1 Percent, Basic Variant, Total Population, 1929


$$
\left.\begin{array}{cc}
\text { Net } \\
& \begin{array}{c}
\text { Income } \\
\text { Class, }
\end{array} \\
\text { Tax, } \\
\text { Definition }
\end{array}\right)
$$

$$
\begin{array}{cl}
\text { Column } & \\
\text { 1-3 } & \text { Table 111, columns 1, 2, and } 8 \text { respectively. } \\
4 & \text { Table 112, last column. } \\
5 & \text { Column 4 divided by column 3. } \\
8 & \text { For total population see Table 69, column 5. } \\
11 & \text { For total income receipts see Table 114, column } 12 .
\end{array}
$$

Interpolation at Top 1 Percent of Total Population
Log 1 is zero, falling between lines 2 and 3 of column 9
a) Log. 1 minus line 2 , column $9=0.03905$
b) Line 3, column 9, minus $\log 1=0.04100$
c) $\mathrm{a}+\mathrm{b}=0.08005$

g) Log of percentage of income corresponding to $\log$ of top 1 percent
h) Antilog of $g=14.497 \%$

$$
\begin{gathered}
\begin{array}{c}
\text { Col. } 7 \\
\text { as } \% \\
\text { of }
\end{array} \\
\text { Total } \\
\text { Pop. } \\
\text { (8) } \\
0.769 \\
0.914 \\
1.099 \\
1.356 \\
1.717 \\
2.289 \\
3.489 \\
4.702 \\
6.244 \\
7.371 \\
7.606
\end{gathered}
$$

$$
\begin{gathered}
\text { Income } \\
\text { in Col. } 4 \\
\text { Cumulated } \\
\text { by Rank } \\
\text { in Col. } 6 \\
(\$ 00) \\
(10) \\
10,609,313 \\
11,270,061 \\
12,023,439 \\
12,949,335 \\
14,075,448 \\
15,549,166 \\
18,020,099 \\
20,347,963 \\
23,178,369 \\
25,049,830 \\
25,391,912
\end{gathered}
$$

APPENDIX 3, SECTION B 303
Section B: Calculation of Hypothetical Proportion of Farm Population in Tax Return Population, 1929
I Distribution of Population and Income of Upper Percentage Bands of Total Population between Farm and Nonfarm

|  |  |  |  | NONFARM INCL | population <br> N CoL: 1 | $\begin{aligned} & \text { FARM } \\ & \text { INCL } \end{aligned}$ | pulation <br> C COL. 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Income |  | Income |
|  |  |  |  |  | Share |  | Share |
|  | total por | POPUL | TION |  | (\% of |  | (\% of |
|  |  | Income | are (\%) |  | total |  | total |
|  |  | of | iven |  | income |  | income |
|  |  | Percent | ge Band |  | receipts) |  | receipts) |
|  |  |  | Per | As \% | per Per- | As \% | per Per- |
|  |  |  | Percen- | of | centile |  | centile of Pop. |
|  | Percentage Band | Total | tile of Pop. | Total Pop. | of Pop. <br> in Col. 4 | Total Pop. | of Pop. <br> in Col. 6 |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1 | Top 1 | 14.497 | 14.497 | 0.752 | 17.137 | 0.248 | 6.496 |
| 2 | 2nd \& 3rd | 6.807 | 3.404 | 1.504 | 4.023 | 0.496 | 1.525 |
| 3 | 4th \& 5th | 4.783 | 2.392 | 1.504 | 2.827 | * | * |
| 4 | 6th \& 7th | 4.389 | 2.194 | 1.504 | 2.594 |  |  |
| 5 | Next 0.606 | 1.172 | 1.934 | 0.456 | 2.286 |  | * |
| 6 | Next 1, extrap. | . 1.774 | 1.774 | 0.752 | 2.097 |  | * |
| 7 | Next 1, extrap. | . 1.574 | 1.574 | 0.752 | 1.861 | * |  |

II Cumulation of Population and Income of Upper Percentage Bands, Distinguishing between Farm and Nonfarm

| \% OF |  |  |  |
| :---: | :---: | :---: | :---: |
| income |  |  | TOTAL InCOME |
| Recerved |  |  | Share |
| PER Per- | Pop. RECEIVING PER |  | (\% of total |
| Centile | PERCENTIL | ncome | income |
| OF POP., | IN CO |  | receipts) |
| col. 5 \& 7 , |  | As \% | OF POP. |
| FROM |  |  | IN COL. 3 |
| highest | Farm or | Total | (col. $1 \times$ |
| to lowest | Nonfarm | Pop. | col. 3) |
| (1) | (2) | (3) | (4) |
| 17.137 | Nonfarm | 0.752 | 12.887 |
| 6.496 | Farm | 0.248 | 1.611 |
| 4.023 | Nonfarm | 1.504 | 6.051 |
| 2.827 | Nonfarm | 1.504 | 4.252 |
| 2.594 | Nonfarm | 1.504 | 3.901 |
| 2.286 | Nonfarm | 0.456 | 1.042 |
| 2.097 | Nonfarm | 0.752 | 1.577 |
| 1.861 | Nonfarm | 0.752 | 1.399 |
| Total, lines 1-8 |  | 7.471 | 32.719 |
| Farm, line 2 |  | 0.248 | 1.611 |
| Farm as \% of to |  | 3.319 | 4.924 |

For notes see page 304.

## Notes to Section B

* Entry omitted since the income share per percentile for this line is smaller than that in line 2 and would therefore be excluded from the calculations in Part II.


## Column

## Part I

1 Percentage of population covered by federal income tax returns (see Table 69 , col. 6) extrapolated to permit analysis of the additional percentage bands indicated.
2 Lines 1-4: Table 118, column 1.
Line 5: column 3 of Table 72 minus the sum of lines 1-4.
Lines 6 \& 7: see column 3.
3 Lines 1-5: column 2 divided by percentage of population covered in column 1.
Lines 6 \& 7: line 5 extrapolated on the basis of the change from line 4 to line 5 per percentile of population.
4 Percentage of population covered in column 1 multiplied by 75.195 , the percentage nonfarm population constitutes of total population (col. 1 of Table 115 divided by col. 5 of Table 69).
5 Column 3 multiplied by 1.1821 , the ratio of per capita income of nonfarm population to per capita income of total population (Table 78, col. 1). The basic assumption is that the relative inequality in the distribution of income by size, as measured by column 3, is the same for the farm and the nonfarm population.
6 The percentage of the population covered in column 1 minus column 4.
7 Column 3 multiplied by 0.4481 , the ratio of the per capita income of farm population to the per capita income of total population (col. 2 of Table 77 divided by col. 5 of Table 74). See note to column 5 regarding the basic assumption.

## Part II

Only entries for the top 7.471 percent of the population (see col. 3) are used, this being the coverage most closely approximating that in Part I, column 1, lines 1-5.
Section C: Sample Calculation of Income Share of Top 1 Percent, Basic Variant, Nonfarm Population, 1929

$$
\text { . }-1 .
$$

Ec. Inc. of
Tax Return
Population
Cumulated
by Rank of
Per Capitas
(\$000) 10,080,468 $10,609,313$
$11,270,061$
$12,023,439$
$12,023,439$
$12,949,335$ $14,075,448$
$15,549,166$ 18,020,099 20,347,963 $23,178,369$
$25,049,830$ 25,391,912

percentage of income corresponding to log of top 1 percent of nonfarm population $=$ line 1 of column $9+f=1.16903$ h) Antilog of $\mathrm{g}=14.758 \%$

[^64]
## Notes to Section C <br> Column

2, 3 Appendix 3, Section A, columns 3 and 4 extended to show the $\$ 10,000-11,000$ net income class separately.
4, 7 See Appendix 3, Section A, columns 7 and 10. The separate coverage of the $\$ 10,000-11,000$ net income class does not alter the rank of the per capitas, those for lines 1 and 2 being $\$ 12,437$ and $\$ 4,174$ respectively.
5 For nonfarm population see Table 115, column 1.
8 For income of nonfarm population see Table 115 , column 2, estimated as the difference between total income receipts of individuals (Table 114, col. 12) and income received by the farm population. The latter is estimated by the following steps:
1913-1938:

1) From net income from agriculture, including government payments (Farm Income Situation, June-July 1947, p. 20), we subtract net rent to nonfarmers (National Income and Its Composition, 1919-1938, p. 543, Table A1, col. 4, and unpublished extension back to 1913).
2) Net income from agriculture to persons on farms (Farm Income Situation, June-July 1947, p. 21) is expressed as a percentage of the total derived in step 1.
3) Farm income of persons on farms is the product of net income from agriculture (National Product in Wartime, p. 139, and unpublished extension for 1913, and National Income and Its Composition, p. 544) and the percentages derived in step 2 .
4) From net income to persons not on farms, including government payments and the nonfarm income of farmers, 1934-46 (Farm Income Situation, June-July 1947 , p. 21), we subtract undistributed corporate profits after taxes and the corporate inventory valuation adjustment (Survey of Current Business, July 1947, Supplement, p. 19, Table 1).
5) Nonfarm income of farmers, 1934-46 (Farm Income Situation, JuneJuly 1947, p. 22, Table 2 for 1940-46, and special tabulation from the Bureau of Agricultural Economics for 1934-39) is expressed as a percentage of the total derived in step 4.
6) The percentage change from year to year is computed for the total derived in step 4.
7) The absolute change from year to year is computed for the percentages derived in step 5.
8) On the basis of steps 6 and 7 it is assumed that:
a) When the percentage change in the total derived in step 4 is -20.0 or close to it, the absolute change in the percentage derived in step 5 is +0.20 .
b) When the percentage change in the total derived in step 4 is -10.0 or close to it, the absolute change in the percentage derived in step 5 is +0.10 .
c) When the percentage change in the total derived in step 4 is zero or +10.0 or close to either, the absolute change in the percentage derived in step 5 is zero.
d) When the percentage change in the total derived in step 4 is +20.0 or close to it, the absolute change in the percentage derived in step 5 is -0.20 .
9) From total income receipts of individuals (Table 114, col. 12) we subtract the total derived in step 3.
10) The percentage change from year to year is computed for the total derived in step 9.
11) The percentages derived for 1934-46 in step 5 are extrapolated back to 1919 by applying step 8 to the percentage changes derived in step 10. For the 1913-19 series it is assumed that the figure for 1919 is the same as that estimated for the $1919-38$ series. Extrapolation back to 1913 is by the procedure indicated for 1919-33.
12) Nonfarm income of farmers is the product of the total derived in step 9 and the percentage derived in step 11.

Notes to Section C, column 8, concluded:
13) Farm income of farmers (step 3) is added to nonfarm income of farmers (step 12).
1929-1948:

1) From total income receipts of individuals (Table 114, col. 12) we subtract agricultural income received by the farm population (special tabulation from the Department of Commerce, National Income Division).
2) The percentage change from year to year is computed for the total derived in step 1.
3) The percentages derived for 1934-46 in step 5 above are extrapolated back to 1929 by applying step 8 above to the percentage changes derived in step 2. They are calculated for 1947 and 1948 from extensions of the series indicated in steps 4 and 5 above, as given in Farm Income Situation, August 1950, p. 27, and Survey of Current Business, July 1950, Table 1, p. 9. 4) Nonfarm income of farmers is the product of the total derived in step 1 and the percentage derived in step 3.
4) Farm income of farmers (see step 1) is added to nonfarm income of farmers derived in step 4.

Section D: Sample Calculation of Ratios for Table 78, Columns 2-5, 1929

|  |  |  | PE | centa | GE | N D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | TOTALS <br> (1) | Top 1 <br> (2) | 2nd \& 3rd <br> (3) | 4th \& 5th <br> (4) | $\text { Top } 5$ |
|  | Nonfarm population (000) | 91,612 |  |  |  |  |
|  | Income of nonfarm population (000,000) | \$71,315 |  |  |  |  |
|  | Total population (000) | 121,832 |  |  |  |  |
|  | Individuals' total income receipts $(000,000)$ | \$80,232 |  |  |  |  |
|  | $\%$ of population in given percentage band |  | 1 | 2 | 2 | 5 |
|  | $\%$ of total income received by given percentage band of total population per percentile of |  |  |  |  |  |
|  | population |  | 14.497 | 3.404 | 2.392 | 5.217 |
|  | Nonfarm population in given percentage band (line $1 \times$ line 5) ( 000 ) |  | 916 | 1,832 | 1,832 | 4,581 |
|  | Nonfarm population, line 7 as |  |  |  |  |  |
|  | $\%$ of total population, line 3 |  | 0.752 | 1.504 | 1.504 | 3.760 |
|  | $\%$ of income of nonfarm population received by given percentage band of nonfarm |  |  |  |  |  |
|  | population |  | 14.758 | 6.938 | 4.354 | 26.050 |
| $\begin{array}{r} 10 \% \\ \text { ul } \\ \text { in } \end{array}$ | $\%$ of income of nonfarm population, line 9 , as $\%$ of total income receipts |  | 13.118 | 6.167 | 3.870 | 23.155 |
| $\begin{array}{r} 11 \% \\ \\ \\ \\ p_{1} \\ 1 \end{array}$ | $\%$ of total income, line 10 , per percentile of population, line 8 |  | 17.445 | 4.101 | 2.573 | 6.159 |
| 12 R | Ratios (line $11 \div$ line 6) |  | 1.203 | 1.205 | 1.076 | 1.180 |
| Line | ne |  |  |  |  |  |
|  | 2 Table 115: columns 1 and | 2 respe |  |  |  |  |
|  | 3 Table 69, column 5. |  |  |  |  |  |
|  | 4 Table 114, column 12. |  |  |  |  |  |
|  | 6 Column 1 of Table 116 div | vided by |  |  |  |  |
|  | 9 Table 116, column 4. |  |  |  |  |  |
|  | 0 Line 9 multiplied by ratio o | of line 2 t | e 4. |  |  |  |

## Chapter 9

## Adjustments for Scope of Income

In the comparisons that yield the basic variant we attempt to measure both the income and population represented on tax returns so as to approximate economic income and the number dependent upon it. In this attempt to fit the information on tax returns to our concepts we were hampered by lack of data and did not resort to partial information or assumptions we could not support empirically. However, since with the data for the basic variant we could not estimate shares of upper income groups completely free from omissions and other defects, we experimented with adjustments that would suggest the changes produced by taking account of the missing elements or other ways in which the variant departs from the ideal. In this chapter we discuss adjustments for scope of income: the first two are for items that are excluded from income reported on tax returns but are part of economic income; the second two for modifications in the direction of approximating the disposable income of individuals. The adjustments do not, indeed cannot, yield measures as valid as the basic variant itself.

## 1 Compensation of Nonfederal Government Employees

Until 1939 employees of state and local governments did not have to report their compensation on federal tax returns. We can therefore assume that practically all compensation paid by nonfederal governments is omitted from federal tax returns until 1939. Nevertheless it is part of economic income. What would have been the distribution of the economic income recorded on tax returns had it been included? This question should be answered if only to show to what degree omission before 1939 and inclusion subsequently affect the continuous series of estimates yielded by the basic variant.

A complete answer would require annual distributions of the compensation of nonfederal employees by per capita income, data on the extent to which such compensation is combined with income from other sources, the proportion of recipients whose income from other sources made them subject to tax, plus an indication of the income brackets they entered, and the amounts of other income they received. We have only annual totals of payments to employees of state and local governments and of the num-
ber of recipients. For lack of other data we assume that compensation paid by nonfederal governments is the sole income of their employees and that consequently none filed federal tax returns before 1939. Though extreme, this assumption does not do great violence to the facts: only a small fraction of total income would be received by this group from sources other than the nonfederal governments that employ them, and only a minute fraction would be reported on federal tax returns.

For the one year 1937-38, we do have the distribution of compensation paid by nonfederal governments by size among recipients. We assume that the size classes do not differ with respect to the number of dependents per recipient, at least not enough to prevent using the distribution as a rough approximation to that among the total population dependent upon nonfederal compensation. On this assumption and the one, already stated, that identifies compensation with the total income of the group in question, the 1937-38 distribution becomes one of total income per capita for the entire population dependent upon compensation from nonfederal governments. Comparison of the shares of the upper percentage bands of this distribution with those in our basic variant reveals the expected difference: the shares in the distribution of nonfederal compensation are smaller. In the basic variant for both the total and the nonfarm population, the average share of the top 1 percent for 1937 and 1938 is well over 12 percent of total income; in the distribution of nonfederal compensation, it is less than 5 percent of total compensation. The latter lacks the sharp edge of inequality associated with the share of the top percentage band in the basic variant. The distribution of nonfederal compensation would be quite similar to that underlying the basic variant if we excluded the top 1 percent from the latter. This is confirmed by Table 79 where the shares of the percentage bands below the top 1 percent in the basic variant, expressed as shares of the lower 99 percent of the population, are close to the shares derived from the distribution of nonfederal compensation.

This agreement provides whatever empirical foundation there is for the chief assumption used to calculate the annual adjustment for the inclusion of nonfederal compensation: that for each year the relative inequality in its distribution is the same as that shown in the basic variant for the range below the top 1 percent. To illustrate: for 1929 the share of the top 2.02 percent of the lower 99 percent of the population (i.e., the 2 nd and 3 rd percentage band of total population) in the income of the lower 99 percent is 7.96 percent; we assume, therefore, that the top 2.02 percent of the population dependent upon nonfederal compensation is 7.96 percent of total nonfederal compensation.

The annual adjustment rests also upon the two assumptions underlying

Table 79
Shares of Upper Income Groups of Employees of Nonfederal Governments and of Total and Nonfarm Population, 1937-1938


## Column

1 Derived from Bulletin of the Treasury Department, January 1940, p. 3.
2,3 The shares of the 2 nd and $3 \mathrm{rd}, 4 \mathrm{th}$ and 5 th , and 6 th and 7 th percentage bands adjusted to 99 percent of the population by the procedure indicated in Appendix 4, Section A, lines 7-12. The shares were calculated separately for 1937 and 1938, then an arithmetic mean for the two years taken.
our derivation of the shares of upper income groups in the distribution of nonfederal compensation which identify nonfederal compensation with total income of nonfederal employees and posit an equal number of dependents per recipient in each compensation size class. A fourth assumption, indispensable in calculating the number dependent upon nonfederal compensation, states that the number of dependents per nonfederal employee is the same as the average number of persons per tax return on all tax returns for the given year. The procedure built upon these assumptions can best be followed in detail in the illustrative calculation for 1929 (App. 4, Sec. A). It consisted of computing for each year the shares of the upper percentage bands of the population dependent upon nonfederal compensation in percentages of income of the entire population, total or nonfarm, excluding the share of the top 1 percent; identifying the bands of the basic variant these upper bands would enter in the usual array downward by per capita income; making the entries; and shifting downward the fractions of population and income displaced by the new entries.

The assumptions, however reasonable, are obviously challengeable and could easily be modified without undermining the plausibility of the procedure. For example, we could assume that the number of dependents per nonfederal employee is set by the ratio of the total population to the gainfully occupied, which is slightly larger than that set by the average number of persons per tax return. The effect would be to reduce the per capita
income of persons dependent upon nonfederal compensation, thereby reducing slightly the size of the adjustment for the inclusion of such compensation. Or we could calculate the shares of the top 1, 2nd and 3rd, 4th and 5th, etc. percentage bands of the population dependent upon nonfederal compensation on the assumption that the relative difference between them and those of the corresponding percentage bands in the entire population is constant - at the 1937-38 level. The results would differ only slightly from those derived on the basis of the similarity shown in Table 79, since the lesser inequality in the distribution of nonfederal compensation together with the moderate income per capita of the population dependent upon it would still mean that the adjustment would not reach into the top 1 percent of the entire population but would affect chiefly the 2nd and 3rd, and 4th and 5th percentage bands. ${ }^{1}$ Finally, we could attempt to allow for combining nonfederal compensation with other income or for varying the number of dependents per recipient among size classes of the distribution of nonfederal compensation per recipient. But there is no evidence that leads us to believe these factors are of much importance. All in all, the assumptions used are among the more plausible, and any acceptable modification in them would not materially alter the character of the adjustment actually calculated.

The main conclusions from the level and fluctuations of the adjustment in the basic variant for total population (Table 80 and Chart 7) are six:

First, the shares of the upper percentage bands are inevitably increased: in calculating the shares in the basic variant, nonfederal compensation was included in individuals' total income receipts, thereby entering the denomi-

|  | adjustments in shares of upper percentage bands |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1919 Lop 19 2nd\&3rd 4th\& |  |  |  |  |  |
|  |  |  |  |  |  |
| Assumption used | 0 | 0 | 0.016 | 0.017 | 0.033 |
| Alternative | 0 | 0.007 | 0.034 | 0.009 | 0.050 |
| 1932 |  |  |  |  |  |
| Assumption used | 0 | 0.759 | 0.223 | 0.192 | 1.174 |
| Alternative | 0 | 0.587 | 0.209 | 0.211 | 1.007 |

These two years were chosen because they yielded the smallest and largest adjustment respectively. While the alternative assumption does yield different results, the differences are insignificant in comparison with the similarities. Particularly important is the confirmation of the absence of the effect on the share of the top 1 percent and the large contribution of the adjustment in the 2 nd and 3rd or 4th and 5th percentage band.

Table 80
Adjustment for Inclusion of Compensation of Nonfederal Government Employees and Factors Affecting Its Magnitude
Basic Variant, Total Population, 1917-1938


Because of rounding, columns may not add to total.

## Column

1-3 Table 118: column 2 minus column 1.
4 Column 5 of Table 115 is divided by column 12 of Table 114 to yield nonfederal compensation as a percentage of total income receipts. This percentage is divided by the share of income received by the lower 99 percent of the population ( 100 percent minus the share of the top 1 percent, Table 118 , col. 1).
5 Column 4 divided by the percentage that persons dependent upon nonfederal compensation (Table 115, col. 4) are of 99 percent of total population (99 percent of col. 5 of Table 69).

Chart 7
Adjustment for Inclusion of Compensation of Nonfederal Government Employees, Basic Variant, Total Population, 1917-1938
a Compensation of nonfederal employees as \% of income of lower 99 percent of total population
b Ratio: per capita income of nonfederal employees to that of lower 99 percent of total population
$\mathrm{c}, \mathrm{d}, \mathrm{a}$ e Change in share of given percentage band due to adjustment (\% of total income receipts)

nator of the fraction whose numerator was economic income received by the upper percentage bands of total population. If some of the upper percentage bands of the population dependent upon nonfederal compensation
are included among the upper percentage bands of the total population, the numerator will be raised, thereby increasing the shares. The shares would be reduced only if, in calculating the basic variant, the denominator, i.e., individuals' total income receipts, had excluded nonfederal compensation.

Second, the share of the top 1 percent is unaffected, because the distribution of nonfederal compensation is less unequal and because even in the years such as the depressed 1930's when the per capita income of persons dependent upon nonfederal compensation is appreciably higher than that of the total population, none of the former's upper percentage bands has a per capita income high enough to enter the top 1 percent of the basic variant. While different assumptions might modify the result somewhat, even upon the most extreme premises the share of the top 1 percent would not be affected significantly.

Third, the increases are chiefly in either the 2 nd and 3 rd or the 4 th and 5th percentage band, depending upon the ratio of the per capita income of persons sharing in nonfederal compensation to that of the total population (see especially col. 5). Below the 4th and 5th percentage band they are negligible in all years except 1919 and a few in the middle 1930's. Moreover, had the basic variant extended to lower percentage bands, the increases would probably have been equally insignificant because the relative difference in per capita income from one percentage band to the next diminishes rapidly as we descend the income scale. When per capita incomes in two percentage bands are close, the effect of entrants into the upper one from the distribution of nonfederal compensation and of consequent displacements downward is necessarily quite limited.

Fourth, the increases are moderate. For 1919-38 they average about 0.18 percentage points for the 2 nd and 3 rd percentage band, or only about a thirty-fifth of its average share; again about 0.18 percentage points for the 4th and 5th percentage band, or only about a twenty-eighth of its average share; and about 0.36 percentage points for the top 5 percent, or only about a seventieth of its average share. It may be doubted that any other set of reasonable assumptions would yield much larger increases. Since nonfederal compensation averaged nearly a twentieth of individuals' total income receipts, the increase of only about a seventieth in the share of the top 5 percent of the population may seem surprising. But it should not, since the effect is produced only by the difference between the shares of the upper bands of the population dependent upon nonfederal compensation and the shares of the fractions of the upper bands in the basic variant that move down.

Fifth, changes produced by the adjustment are closely correlated with
changes in the proportion of nonfederal compensation in the total income of the lower 99 percent of the population and in the ratio of the per capita income of the persons dependent upon the former to that of persons dependent upon the latter. Since nonfederal compensation is much less sensitive to cyclical ups and downs than individuals' total income receipts, its proportion in the latter rises appreciably during contractions and declines during expansions. Moreover, the period is characterized by a fairly marked upward trend in the proportion and relative level (per capita) of nonfederal compensation. Presumably, were the analysis made for years after 1938, both would decline markedly, especially after 1941; and so would the increases in the share of the top 5 percent.

Finally, the correlation between the relative size of total or per capita nonfederal compensation and the increases in the shares is closest when the latter are taken in toto for the top 5 percent group. It is still close when we distinguish between the increases in the share of the 2nd and 3rd percentage band and those of the 4th and 5th but some divergencies appear, probably because we deal with fairly wide percentage bands of persons dependent upon nonfederal compensation, i.e., operate with 'chunks' whose effects on the shares in the basic variant may be erratic.

Table 81 and Chart 8 present the results of the adjustment of the basic variant for nonfarm population. The assumptions and the procedure are strictly parallel to those underlying the adjustment of the basic variant for the total population. Since at least a preponderant majority of persons dependent upon nonfederal compensation and almost all in the upper brackets reside in nonfarm areas, the application of the adjustment to the nonfarm variant is quite as justified as its application to the variant for the total population.

The level of and changes due to the adjustment are fairly similar to those found above. Indeed, the six conclusions from Table 80 and Chart 7 could be repeated for Table 81 and Chart 8 . The only differences result from the higher per capita income of the nonfarm population which makes the ratio of the per capita income of persons dependent upon nonfederal compensation to that of the nonfarm population lower than its ratio to the per capita income of the total population. This places the effect of the adjustment in the nonfarm variant in lower percentage bands than in the basic variant for the total population - more in the 6th and 7th, and less in the 2 nd and 3rd. Consequently, the increases in the share of the top 5 percent of the nonfarm population are smaller than those in the share of the corresponding band of the total population - averaging about 0.27 percentage points per year for 1919-38 instead of 0.36 . Finally, changes in the increases in the shares of the several percentage bands diverge some-

Table 81
Adjustment for Inclusion of Compensation of Nonfederal Government
Employees and Factors Affecting Its Magnitude
Basic Variant, Nonfarm Population, 1917-1938

|  | Change in Share of Given Percentage Band Due to Adjustment |  |  |  | Compensation of Nonfederal Employees as $\%$ of Income of Lower 99 Percent of Nonfarm Population | Ratio: <br> Per Capita <br> Income of <br> Nonfederal <br> Employees <br> to That of <br> Lower 99 <br> Percent of <br> Nonfarm <br> Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | 4th\&Sth <br> (2) | 6th \& 7th <br> (3) | Top 7 <br> .(4) | Population <br> (5) | Population (6) |
| 1917 | 0.00 | 0.04 | 0.02 | 0.06 | 3.94 | 0.90 |
| 1918 | 0.00 | 0.03 | 0.02 | 0.06 | 3.92 | 0.79 |
| 1919 | 0.00 | 0.05 | 0.04 | 0.09 | 3.91 | 0.82 |
| 1919 | 0.00 | 0.01 | 0.04 | 0.05 | 3.66 | 0.67 |
| 1920 | 0.00 | 0.01 | 0.04 | 0.05 | 3.91 | 0.69 |
| 1921 | 0.02 | 0.13 | 0.06 | 0.20 | 5.44 | 1.05 |
| 1922 | 0.00 | 0.11 | 0.10 | 0.20 | 5.40 | 0.99 |
| 1923 | 0.00 | 0.05 | 0.03 | 0.08 | 4.90 | 0.85 |
| 1924 | 0.00 | 0.09 | 0.06 | 0.16 | 5.26 | 0.94 |
| 1925 | 0.00 | 0.11 | 0.04 | 0.16 | 5.28 | 0.96 |
| 1926 | 0.00 | 0.13 | 0.02 | 0.15 | 5.26 | 0.94 |
| 1927 | 0.01 . | 0.15 | 0.03 | 0.19 | 5.64 | 1.03 |
| 1928 | 0.02 | 0.16 | 0.04 | 0.22 | 5.81 | 1.04 |
| 1929 | 0.00 | 0.14 | 0.04 | 0.18 | 5.72 | 0.98 |
| 1930 | 0.04 | 0.17 | 0.03 | 0.25 | 6.43 | 1.11 |
| 1931 | 0.13 | 0.24 | 0.12 | 0.48 | 7.75 | 1.32 |
| 1932 | 0.45 | 0.31 | 0.14 | 0.90 | 9.70 | 1.65 |
| 1933 | 0.36 | 0.22 | 0.21 | 0.79 | 9.24 | 1.58 |
| 1934 | 0.17 | 0.30 | 0.12 | 0.60 | 8.01 | 1.42 |
| 1935 | 0.15 | 0.36 | 0.10 | 0.60 | 7.75 | 1.41 |
| 1936 | 0.12 | 0.35 | 0.03 | 0.50 | 7.40 | 1.34 |
| 1937 | 0.11 | 0.30 | 0.08 | 0.49 | 7.27 | 1.31 |
| 1938 | 0.22 | 0.21 | 0.24 | 0.68 | 8.26 | 1.46 |
| 1929 | 0.01 | 0.16 | 0.04 | 0.21 | 6.04 | 1.01 |
| 1930 | 0.06 | 0.21 | 0.04 | 0.31 . | 6.98 | 1.16 |
| 1931 | 0.15 | 0.25 | 0.13 | 0.53 | 8.24 | 1.33 |
| 1932 | 0.51 | 0.34 | 0.15 | 1.00 | 10.14 | 1.69 |
| 1933 | 0.43 | 0.25 | 0.22 | 0.89 | 9.63 | 1.64 |
| 1934 | 0.20 | 0.33 | 0.13 | 0.66 | 8.39 | 1.45 |
| 1935 | 0.17 | 0.39 | 0.10 | 0.66 | 8.19 | 1.44 |
| 1936 | 0.11 | 0.32 | 0.03 | 0.46 | 7.47 | 1.30 |
| 1937 | 0.12 | 0.31 | 0.08 | 0.50 | 7.51 | 1.31 |
| 1938 | 0.21 | 0.21 | 0.24 | 0.67 | 8.51 | 1.43 |

Because of rounding, columns may not add to total.

## Column

1-4 Table 119: column 2 minus column 1.
5 . Column 5 of Table 115 is divided by column 13 of Table 114 to yield nonfederal compensation as a percentage of income of nonfarm population. This percentage is divided by the share of income received by the lower 99 percent of nonfarm population ( 100 percent minus the share of the top 1 percent, Table 119, col. 1).
6 Column 5 divided by the percentage that persons dependent upon nonfederal

Chart 8
Adjustment for Inclusion of Compensation of Nonfederal Government Employees, Basic Variant, Nonfarm Population, 1917-1938
a Compensation of nonfederal employees as \% of income of lower 99 percent of nonfarm population
b Ratio: per capita income of nonfederal employees to that of lower 99 percent of nonfarm population
$c, d, e, B f$ Change in share of given percentage band due to adjustment (\% of income of nonfarm population)


Notes to Table 81 concluded:
compensation (Table 115, col. 4) are of 99 percent of the nonfarm population (99 percent of col. 1 of Table 115).
what more on Chart 8 than on Chart 7, although the correlation of increases in the share of the combined top 7 percent with the relative level of nonfederal compensation (total or per capita) is as close as was the correlation in Chart 7 between the increases in the share of the top 5 percent of the total population and the movement of nonfederal compensation.

## 2 Imputed Rent

Imputed rent on owner-occupied dwellings is not reported on tax returns, nor did we include it in individuals' total income receipts in calculating the basic variant. ${ }^{2}$ Yet, in a country where home owners are common and people can usually choose whether to buy or to rent, there are good reasons for including imputed rent in economic income. To exclude it and to include net income from residences rented to others is inconsistent. We thought it worth while to experiment with including imputed rent to see how much the shares of upper income groups would be modified.

Total imputed rent on owner-occupied dwellings is estimated annually in deriving national income by industrial source, although with a wide margin of error. But even accepting these estimates at their face value, we must still find out how this rent is distributed by income classes and what its proportion is in total economic income at various levels of per capita income. The only reasonably complete information is for 1935-36 in the Consumer Expenditures Study. In the distribution of family income by income per family, we calculate the proportion imputed rent is of total income for each size of income class. Moreover, total imputed rent is given for all single individuals, and we can apportion it by income size classes on the basis of its distribution for families. The error in this allocation is not large because imputed rent assigned to single individuals is only 3 percent of the countrywide total. ${ }^{3}$ We can also calculate the proportion of imputed rent in economic income for the total population; of imputed rent in economic income for each upper percentage band; and finally, the ratios of the latter proportions to the former. Then, assuming that these ratios are the same for each year as they were in 1935-36, we apply them to the annually changing proportion of imputed rent in individuals' total income receipts, deriving for each upper percentage band an

[^65]annual series of the proportion of imputed rent in its income. From these proportions we recalculate the shares of the upper percentage bands in income including imputed rent.

The details of the procedure can best be learned by consulting Appendix 4 , Section B. Here we give merely the general characteristics, and point out its three major limitations. First, we use proportions of imputed rent in economic income derived from averages for income size classes: these averages fail to reveal intra-class variations in the proportions. Second, the distribution derived from the Consumer Expenditures Study is by classes of economic income per consuming unit (a family or an individual), not per capita. ${ }^{4}$ This means that in the upper percentage bands of that distribution, single individuals and small families are underrepresented and large families overrepresented. Since the proportion of imputed rent in income tends to be lower for single individuals and small families, its proportion in the upper percentage bands of the distribution we are using is overestimated compared with what it would be in a distribution by income per capita. Consequently, the adjustment should have been larger. Finally, it is incorrect to assume that the ratio of the proportion of imputed rent in the income of the upper percentage bands to its proportion in total income receipts remains the same throughout the period at the levels of 1935-36.

Because of these limitations, the adjustment is not of definitive value. It suggests the order of magnitude and the general characteristics of changes introduced by taking account of imputed rent but it does not yield a revised variant that truly measures the shares of upper percentage bands in a distribution of income including imputed rent. The second, and most important, qualification suggests that the average adjustment could be doubled at most without influencing the year to year changes. The third qualification would probably not affect the year to year changes significantly, since house ownership and the income class ratio of house expenses to income are determined by slowly changing, long standing institutional factors. We may, therefore, examine the effects of the adjustment in the belief that the general conclusions are not invalidated by the limitations of our procedure (Table 82 and Chart 9).

First, the effect on the basic variant for total population is chiefly on the share of the top 1 percent. The changes in the share of the 2nd and 3rd percentage band are minor, and those in the 4th and 5th percentage band

[^66]Table 82
Adjustment for Inclusion of Imputed Rent and the Factor that Determines Its Magnitude: Basic Variant, Total Population, 1913-1947

|  | Change in Share of Given Percentage Band Due to Adjustment |  |  | Imputed Rent as \% of Total Income Receipts (excl. imputed rent) |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Top 1 | $2 n d$ \& 3 rd | Top 5 |  |
|  | (1) | (2) | (3) | (4) |
| 1913 | -0.15 |  |  | 3.43 |
| 1914 | . -0.14 |  |  | 3.61 |
| 1915 | -0.14 |  |  | 3.42 |
| 1916 | -0.13 |  |  | 2.95 |
| 1917 | -0.10 | -0.01 | -0.11 | 2.45 |
| 1918 | -0.08 | -0.01 | -0.09 | 2.28 |
| 1919 | -0.08 | -0.01 | -0.09 | 2.19 |
| 1919 | -0.09 | -0.01 | -0.10 | 2.38 |
| 1920 | -0.10 | -0.02 | -0.12 | 2.86 |
| 1921 | -0.16 | -0.03 | $-0.20$ | 4.05 |
| 1922 | -0.16 | -0.03 | $-0.18$ | 3.93 |
| 1923 | -0.13 | -0.02 | -0.15 | 3.52 |
| 1924 | -0.15 | -0.03 | -0.18 | 3.97 |
| 1925 | -0.15 | -0.02 | -0.17 | 3.64 |
| 1926 | -0.13 | -0.02 | -0.15 | 3.27 |
| 1927 | -0.14 | -0.02 | -0.15 | 3.22 |
| 1928 | -0.13 | -0.02 | -0.14 | 2.96 |
| 1929 | -0.12 | -0.02 | -0.14 | 2.91 |
| 1930 | -0.13 | -0.02 | -0.15 | 3.18 |
| 1931 | -0.11 | -0.02 | -0.14 | 2.92 |
| 1932 | -0.11 | -0.02 | -0.13 | 2.80 |
| 1933 | -0.10 | -0.02 | -0.12 | 2.72 |
| 1934 | -0.07 | -0.01 | -0.09 | 2.03 |
| 1935 | -0.07 | -0.01 | -0.08 | 1.96 |
| 1936 | -0.07 | -0.01 | -0.08 | 1.75 |
| 1937 | -0.07 | -0.01 | -0.08 | 1.90 |
| 1938 | -0.08 | -0.02 | -0.09 | 2.23 |
| 1929 | -0.15 | -0.02 | -0.17 | 3.49 |
| 1930 | -0.15 | -0.02 | -0.17 | 3.55 |
| 1931 | -0.14 | $-0.03$ | -0.18 | 3.58 |
| 1932 | -0.14 | -0.03 | -0.18 | 3.59 |
| 1933 | -0.10 | -0.02 | -0.12 | 2.67 |
| 1934 | -0.07 | -0.02 | -0.08 | 1.90 |
| 1935 | -0.06 | -0.01 | -0.07 | 1.66 |
| 1936 | -0.06 | -0.01 | -0.07 | 1.58 |
| 1937 | -0.06 | -0.01 | -0.07 | 1.69 |
| 1938 | -0.07 | -0.02 | -0.09 | 2.16 |
| 1939 | -0.07 | -0.02 | -0.09 | 2.12 |
| 1940 | -0.07 | -0.01 | -0.08 | 2.01 |
| 1941 | -0.06 | -0.01 | -0.07 | 1.83 |
| 1942 | -0.05 | -0.01 | -0.06 | 1.74 |
| 1943 | -0.04 | -0.01 | -0.05 | 1.66 |
| 1944 | . -0.04 | -0.01 | -0.05 | 1.75 |
| 1945 | -0.05 | -0.01 | -0.06 | 1.80 |
| 1946 | -0.04 | -0.01 | -0.04 | 1.34 |
| 1947 | -0.03 | -0.01 | -0.04 | 1.20 |

Because of rounding, columns may not add to total.

Chart 9
Adjustment for Inclusion of Imputed Rent
Basic Variant, Total Population, 1913-1947
a imputed rent as \% of total income receipts
b 8. c Change in share of given percentage band due to adjustment ( $\%$ of total income receipts)


## Notes to Table 82:

## Column

1-3 Table 118: column 3 minus column 1.
4 Column 6 of Table 115 divided by column 12 of Table 114.
so small that confining the figures to two decimal places removes them entirely. The reason is that while the income class differences in the proportion of imputed rent in income in the 1935-36 distribution are large, they become small when weighted by the low countrywide proportion. The results would be altered only if the income class differences in the rent-income proportions proved to differ widely from those assumed, or if the weight of imputed rent in countrywide income were much heavier than that derived from the national income series. Neither contingency is probable; and the conclusion that the adjustment affects significantly the share of the top 1 percent alone is likely to stand.

Second, the change introduced by the adjustment is negative, i.e., it reduces the share of the top 1 percent and, in very minor degree, that of the 2 nd and 3rd percentage band - because the proportion of imputed rent in total income is lower for the top 1 percent and also, but only slightly, for the 2nd and 3rd percentage band than for the total population. Hence adding imputed rent raises the income of the top 1 percent less than it raises the income of the total population, and in consequence reduces the share of the former in the latter. If the analysis were carried to lower percentage bands we would reach levels at which the adjustment would raise the share because their proportion of imputed rent in income is higher than that for the total population. Indeed, reductions in the shares of upper percentage bands must be compensated for by increases in those of lower bands since the total of the shares of all bands must be 100 percent.

Third, year to year changes in the adjustment and in the proportion of imputed rent in individuals' total income receipts are closely correlated (see especially Chart 9 ) since the countrywide proportion is the sole factor that can produce annual changes in the adjustment. The higher this proportion the bigger the reduction in the share of the top 1 percent; and, within the limits of the 2 decimal place entries, also in the share of the 2nd and 3rd percentage band. Conversely, the smaller this proportion the smaller the reduction in the share of these upper bands.

In the adjustment for including imputed rent in the nonfarm variant (Table 83 and Chart 10), the procedure is parallel to that used in the basic variant for total population except that the over-all proportions are for imputed rent on nonfarm dwellings in the income of the nonfarm population. And since it is impossible to separate out farm families from the 1935-36 distribution and still study the income class proportions of imputed rent in total income, we must again use those calculated from the distribution for total population. This qualifies our results even further; however, imputed rent on farm dwellings is a relatively small proportion of total imputed rent.

Table 83
Adjustment for Inclusion of Imputed Rent and the Factor that Determines Its Magnitude: Basic Variant, Nonfarm Population, 1913-1947


Because of rounding, columns may not add to total.

* Less than $\pm 0.005$ percent.

For notes see page 325.

## Chart 10

Adjustment for Inclusion of Imputed Rent Basic Variant, Nonfarm Population, 1913-1947
a Imputed rent as \% of income af nanfarm population
b, c, a d Change in share of given percentage band due to adjustment $\%$ of income of nonfarm population)


The results are similar to those discussed in connection with Table 82 and Chart 9 except that the analysis is pushed to lower percentage bands, where the sign of the adjustment is positive. The major change is again in the share of the top 1 percent; and here too it is not large, averaging less than a hundredth of the top 1 percent's share in the basic variant. Here too the share of the top 1 percent is reduced, and also, though much less absolutely and relatively, that of the 2nd and 3rd percentage band. Again, year to year changes in the adjustment and annual fluctuations in the proportion of imputed rent in the income of the nonfarm population are closely correlated.

## 3 Exclusion of Federal Income Taxes

The basic variant, and the adjustments for scope discussed so far, are guided by the concept of economic income adhered to in national income measurement. Income excluding taxes or including capital gains may be urged as a better approximation to the annual flow of means at the disposal of individuals. Indeed, the entire process of the redistribution of income, once it has accrued from economic activity proper, is important since it may yield a distribution of disposable income among individuals quite different from that of economic income.

Tax returns permit an adequate coverage of two items involved in the transition from economic to disposable income: federal income taxes and gains and losses on sales of assets. In this section we deal with the changes in the shares of upper income groups due to deducting federal income taxes.

There is little doubt that practically all federal income taxes paid are reported on tax returns. The sole omissions are the additional taxes collected as a result of audit - a minor fraction either of total collections or of the tax payments by any single percentage band in our basic variant. The published data provide also considerable detail on federal income taxes in the various net income classes, tax definition. Hence deriving the shares of upper groups in income from which federal income taxes have been deducted is not difficult. We merely deduct federal income taxes from

## Notes to Table 83:

## Column

1-4 Table 119: column 3 minus column 1.
5 Imputed rent on owner-occupied nonfarm dwellings divided by income of nonfarm population (Table 115, col. 2). The imputed rent series is that in Table 115, column 6, adjusted in 1913-19 and in 1929-47 to exclude rent on owner-occupied farm dwellings (for 1919-38 it is already excluded). The adjustment for 1913-19 is from unpublished estimates by W. I. King; that for 1929-47 from unpublished estimates by the Department of Commerce, National Income Division.
economic income, as already derived for the various net income classes, tax definition; recompute the income, thus reduced, on a per capita basis for each class; rearray the classes, if necessary; and draw new partition lines.

Appendix 4, Section C, provides an illustrative calculation for 1929. If we confine the analysis to deducting federal income taxes (instead of all direct taxes), the basic qualification of the procedure lies in operating with whole size of income classes: this disregards the intra-class variations in the proportion of taxes in economic income. But this limitation is characteristic of our analysis throughout, even of our basic variant. It renders the estimates crude and insensitive but does not consistently bias the long or short term changes they reveal. The broad results for the upper percentage bands in the basic variant for total population may be summarized from Table 84 and Chart 11.

First, because federal income taxes are progressive, their impact is naturally greatest at the top income levels. Consequently, excluding taxes reduces the share of the top 1 percent. But except for 1918 and 1920 and especially during World War II and the years following it, when taxes were heavy, the share of the 2nd and 3rd percentage band is increased; and that of the 4th and 5th percentage band is increased in all years except the ones associated with World War II and those immediately following it. The shares of percentage bands below the top 1 percent increase in these years because their proportion of taxes in income was lower than the countrywide proportion of taxes in income.

Second, the reduction in the share of the top 1 percent is relatively substantial only through a small part of the period prior to 1940, notably the years of World War I, 1919, 1936, and 1937. But even in these years it is not much more than about a tenth of the share. Only beginning with 1940 does it begin to be large, reaching in 1943 over four-tenths of the share.

Third, the effects of deducting federal income taxes naturally vary with changes in their proportion in individuals' total income receipts (see Chart 11). But the direction of the association depends upon whether we view the changes in the share of the top 1 percent or in the shares of the 2nd and 3rd, and 4th and 5th percentage bands. The reduction in the share of the top 1 percent is directly and closely correlated with changes in the proportion of federal income taxes in total income receipts of individuals: the higher the proportion, the larger the reduction; the lower the proportion, the smaller the reduction. But the association of changes in the share of the 2 nd and 3 rd , and 4th and 5th percentage bands with those in the countrywide proportion of taxes in total income receipts varies. During World Wars I and II (and the few years since World War II), when the over-all proportion of taxes in income was at peak levels, the changes in

Table 84
Effect of Deducting Federal Income Taxes
Basic Variant, Total Population, 1914-1947

|  |  | e in Share Band Due | ustment | Federal Incom Taxes as \% of Total Income Receipts |
| :---: | :---: | :---: | :---: | :---: |
|  | Top 1 <br> (1) | 2nd \& 3rd <br> (2) | $4 t h$ \& $5 t h$ <br> (3) | Excl. Taxes <br> (4) |
| 1914 | -0.08 |  |  | 0.11 |
| 1915 | -0.12 |  |  | 0.16 |
| 1916 | -0.36 |  |  | 0.43 |
| 1917 | -1.30 | 0.04 | 0.05 | 1.63 |
| 1918 | -1.52 | -0.03 | 0.02 | 2.09 |
| 1919 | -1.52 |  | 0.03 | 2.05 |
| 1919 | -1.51 | * | 0.03 | 2.03 |
| 1920 | -1.12 | -0.03 |  | 1.63 |
| 1921 | -0.98 | 0.02 | 0.03 | 1.37 |
| 1922 | -1.12 | 0.01 | 0.05 | 1.52 |
| 1923 | -0.73 | * | 0.02 | 1.01 |
| 1924 | -0.84 | 0.03 | 0.03 | 1.06 |
| 1925 | -0.87 | 0.05 | 0.04 | 1.05 |
| 1926 | -0.83 | 0.04 | 0.04 | 1.00 |
| 1927 | -0.94 | 0.05 | 0.05 | 1.13 |
| 1928 | -1.29 | 0.08 | 0.07 | 1.56 |
| 1929 | -1.07 | 0.07 | 0.06 | 1.26 |
| 1930 | -0.55 | 0.03 | 0.03 | 0.67 |
| 1931 | -0.34 | 0.02 | 0.02 | 0.42 |
| 1932 | -0.55 | 0.01 | 0.02 | 0.72 |
| 1933 | -0.68 | 0.02 | 0.03 | 0.84 |
| 1934 | -0.82 | 0.03 | 0.04 | 1.00 |
| 1935 | -0.96 | 0.04 | 0.04 | 1.18 |
| 1936 | -1.55 | 0.05 | 0.07 | 1.94 |
| 1937 | -1.32 | 0.03 | 0.06 | 1.67 |
| 1938 | -0.96 | 0.01 | 0.04 | 1.22 |
| 1929 | -1.08 | 0.08 | 0.06 | 1.28 |
| 1930 | -0.56 | 0.03 | 0.03 | 0.68 |
| 1931 | -0.34 | 0.02 | 0.02 | 0.42 |
| 1932 | -0.56 | 0.01 | 0.02 | 0.74 |
| 1933 | -0.69 | 0.02 | 0.03 | 0.87 |
| 1934 | -0.84 | 0.03 | 0.04 | 1.04 |
| 1935 | -0.96 | 0.04 | 0.04 | 1.18 |
| 1936 | -1.53 | 0.04 | 0.06 | 1.91 |
| 1937 | -1.31 | 0.02 | 0.06 | 1.65 |
| 1938 | -0.96 | 0.01 | 0.04 | 1.21 |
| 1939 | -1.05 | 0.01 | 0.04 | 1.37 |
| 1940 | -1.50 | 0.01 | 0.06 | 2.05 |
| 1941 | -2.37 | -0.14 | -0.02 | 4.46 |
| 1942 | -2.93 | -0.36 | -0.13 | 8.22 |
| 1943 | -3.91 | -0.56 | -0.18 | 13.59 |
| 1944 | -2.84 | -0.47 | -0.16 | 11.67 |
| 1945 | -3.09 | -0.58 | -0.18 | 11.97 |
| 1946 | -2.95 | -0.57 | -0.18 | 10.45 |
| 1947 | -2.63 | -0.52 | -0.17 | 10.71 |

* Less than $\pm 0.005$ percent.


## Column

1-3 Table 118: column 4 minus column 1.
4 Column 7 of Table 115 , divided by column 12 of Table 114 minus column 7 of Table 115.

Chart 11
Effect of Deduction of Federal Income Taxes
Basic Variant, Total Population, 1914-1947
a Federal income taxes as \% of total income receipts excluding taxes
b, c, \& d Change in share of given percentage band due to adjustment ( $\%$ of total income receipts)

the shares of the 2 nd and 3rd, and 4th and 5th percentage bands and in the proportion are negatively correlated, i.e., correlated in the same way as are changes in the share of the top 1 percent throughout the period. During the remaining years, roughly from 1925-1940, when changes in
the shares of the 2 nd and 3 rd , and 4 th and 5 th percentage bands are all positive, they are positively correlated with changes in the countrywide proportion of taxes in income receipts; and hence negatively correlated with changes in the share of the top 1 percent. These results reflect the varying ratio of the proportion of taxes in income within each percentage band to the countrywide proportion. But whatever the direction of changes in the shares of the 2 nd and 3 rd, and 4 th and 5th percentage bands, the changes themselves are minor.

Table 85 and Chart 12 summarize the adjustment for the basic variant for nonfarm population, the population which accounts for almost all federal income taxes paid. The results parallel those observed for the basic variant for the total population. Here again deducting taxes reduces chiefly the share of the top 1 percent; those in the lower bands are reduced only during World War I, the years immediately following it and, most markedly, those associated with and following World War II. Here too changes in the lower bands are quite small, whether positive or negative, throughout the period excepting again the recent years. Here, too, annual changes in the share of the top 1 percent are correlated negatively with those in the countrywide proportion of taxes in income, whereas changes in the shares of the 2 nd and 3rd, 4th and 5th, and, also in this case, the 6th and 7th percentage band are negatively correlated only during $1918,1919,1921$, 1925, and 1941-46.

The small effect of deducting federal income taxes on the shares of upper income groups during all except the very recent years in the period does not easily square with general notions concerning the impact of federal income taxes on upper income classes. But in Table 86 and Chart 13 the results are checked and explained for the basic variant for total population. First, we derive the federal income taxes chargeable to each income class included in the successive percentage bands of the basic variant; then, if no income class shifts from one band to another when taxes are deducted from economic income, as is true in our calculations, we can show: (a) the proportion of taxes in income within the original percentage band of the basic variant (col. 2, 3, and 4); (b) the countrywide proportion of taxes in income (col. 1), identical with column 4 of Table 84; (c) the relative change in the share of the given percentage band due to deducting taxes (col. 5, 6, and 7); and (d) the change under (c) as the ratio of (a) plus 100 to (b) plus 100.

Since item (c) represents the ratio of income including taxes paid,

[^67]Table 85
Effect of Deducting Federal Income Taxes
Basic Variant, Nonfarm Population, 1914-1947

|  | Given Top 1 (1) | Change ercentage $B$ 2nd \& 3rd <br> (2) | Share of d Due to 4th \& 5th <br> (3) | djustment 6th \& 7th <br> (4). | Federal Income Taxes as \% of Income of Nonfarm Population Excl. Taxes (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | -0.09 |  |  |  | 0.13 |
| 1915 | -0.13 |  |  |  | 0.19 |
| 1916 | -0.42 |  |  |  | 0.51 |
| 1917 | -1.53 | 0.03 | 0.05 | 0.06 | 1.99 |
| 1918 | -1.81 | -0.02 | 0.01 | 0.04 | 2.60 |
| 1919 | -1.79 | * | 0.03 | 0.04 | 2.53 |
| 1919 | -1.77 | * | 0.03 | 0.04 | 2.50 |
| 1920 | -1.25 | -0.04 | 0.01 | 0.02 | 1.92 |
| 1921 | -1.07 | -0.01 | 0.04 | 0.04 | 1.55 |
| 1922 | -1.22 | -0.01 | 0.03 | 0.05 | 1.73 |
| 1923 | -0.80 | -0.02 | 0.02 | 0.02 | 1.14 |
| 1924 | -0.93 | 0.02 | 0.04 | 0.03 | 1.21 |
| 1925 | -0.98 | 0.05 | 0.05 | 0.04 | 1.20 |
| 1926 | -0.92 | 0.04 | 0.04 | 0.04 | 1.14 |
| 1927 | -1.04 | 0.06 | 0.05 | 0.04 | 1.28 |
| 1928 | -1.43 | 0.09 | 0.07 | 0.06 | 1.76 |
| 1929 | -1.20 | 0.08 | 0.06 | 0:05 | 1.42 |
| 1930 | -0.61 | 0.03 | 0.03 | 0.03 | 0.74 |
| 1931 | -0.37 | 0.02 | 0.02 | 0.02 | 0.46 |
| 1932 | -0.58 | * | 0.02 | 0.02 | 0.79 |
| 1933 | -0.73 | 0.01 | 0.03 | 0.02 | 0.94 |
| 1934 | -0.90 | 0.02 | 0.04 | 0.04 | 1.12 |
| 1935 | -1.07 | 0.02 | 0.05 | 0.05 | 1.34 |
| 1936 | -1.72 | 0.04 | 0.07 | 0.06 | 2.20 |
| 1937 | -1.46 | 0.02 | 0.05 | 0.05 | 1.89 |
| 1938 | -1.06 | * | 0.04 | 0.04 | 1.37 |
| 1929 | $-1.20$ | 0.09 | 0.06 | 0.05 | 1.44 |
| 1930 | -0.62 | 0.03 | 0.03 | 0.03 | 0.76 |
| 1931 | -0.38 | 0.02 | 0.02 | 0.02 | 0.46 |
| 1932 | -0.60 | * | 0.02 | 0.02 | 0.81 |
| 1933 | -0.75 | 0.02 | 0.03 | 0.03 | 0.96 |
| 1934 | -0.91 | 0.02 | 0.04 | 0.04 | 1.14 |
| 1935 | -1.08 | 0.02 | 0.05 | 0.05 | 1.35 |
| 1936 | $-1.67$ | 0.03 | 0.07 | 0.06 | 2.12 |
| 1937 | -1.45 | 0.02 | 0.05 | 0.05 | 1.88 |
| 1938 | -1.05 | * | 0.04 | 0.04 | 1.36 |
| 1939 | -1.14 | * | 0.04 | 0.04 | 1.53 |
| 1940 | -1.64 | 0.01 | 0.03 | 0.06 | 2.30 |
| 1941 | -2.56 | -0.17 | -0.03 | 0.04 | 5.05 |
| 1942 | -3.15 | -0.38 | -0.11 | -0.05 | 9.52 |
| 1943 | -4.16 | -0.62 | -0.16 | -0.08 | 15.68 |
| 1944 | -2.99 | -0.51 | -0.16 | -0.08 | 13.35 |
| 1945 | -3.24 | -0.63 | -0.19 | -0.08 | 13.64 |
| 1946 | -3.11 | -0.62 | -0.18 | -0.08 | 12.02 |
| 1947 | -2.77 | -0.55 | -0.17 | -0.07 | 12.32 |

## Column

1-4 Table 119: column 4 minus column 1.
5 Table 115: column 7, divided by column 2 minus column 7.

Chart 12

## Effect of Deduction of Federal Income Taxes

Basic Variant, Nonfarm Population, 1914-1947
a Federal income taxes as \% of income of nonfarm population excluding taxes
$b, c, d, b e$ Change in share of given percentage band due to adjustment
0
( $\%$ of income of nonfarm population)


Table 86
Ratios of Shares of Upper Income Groups Before to Shares After Deduction of Federal Income Taxes: Basic Variant, Total Population, 1914-1947

|  | Federal Income Taxes as $\%$ of Income Receipts Excl. Taxes |  |  |  | Ratio of Shares <br> $2 n d \& 3 r d 4 t h \& 5 t h$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Countrywide (1) | Top 1 percent (2) | percentage band (3) | percentage band (4) | Top 1 percent (5) | percentage band (6) | percentage band (7) |
| 1914 | 0.11 | 0.76 |  |  | 1.01 |  |  |
| 1915 | 0.16 | 1.01 |  |  | 1.01 |  |  |
| 1916 | 0.43 | 2.82 |  |  | 1.02 |  |  |
| 1917 | 1.63 | 11.92 | 0.94 | 0.56 | 1.10 | 0.99 | 0.99 |
| 1918 | 2.09 | 16.00 | 2.64 | 1.51 | 1.14 | 1.00 | 0.99 |
| 1919 | 2.05 | 15.59 | 2.07 | 1.37 | 1.13 | 1.00 | 0.99 |
| 1919 | 2.03 | 15.59 | 2.05 | 1.40 | 1.13 | 1.00 | 0.99 |
| 1920 | 1.63 | 11.76 | 2.11 | 1.56 | 1.10 | 1.00 | 1.00 |
| 1921 | 1.37 | 9.32 | 1.06 | 0.77 | 1.08 | 1.00 | 0.99 |
| 1922 | 1.52 | 10.76 | 1.44 | 0.50 | 1.09 | 1.00 | 0.99 |
| 1923 | 1.01 | 7.41 | 1.06 | 0.68 | 1.06 | 1.00 | 1.00 |
| 1924 | 1.06 | 8.05 | 0.61 | 0.45 | 1.07 | 1.00 | 0.99 |
| 1925 | 1.05 | 7.88 | 0.36 | 0.11 | 1.07 | 0.99 | 0.99 |
| 1926 | 1.00 | 7.40 | 0.36 | 0.14 | 1.06 | 0.99 | 0.99 |
| 1927 | 1.13 | 8.18 | 0.37 | 0.13 | 1.07 | 0.99 | 0.99 |
| 1928 | 1.56 | 11.12 | 0.39 | 0.18 | 1.09 | 0.99 | 0.99 |
| 1929 | 1.26 | 9.32 | 0.18 | 0.01 | 1.08 | 0.99 | 0.99 |
| 1930 | 0.67 | 4.86 | 0.24 | 0.14 | 1.04 | 1.00 | 1.00 |
| 1931 | 0.42 | 3.09 | 0.15 | 0.09 | 1.03 | 1.00 | 1.00 |
| 1932 | 0.72 | 5.20 | 0.61 | 0.32 | 1.04 | 1.00 | 1.00 |
| 1933 | 0.84 | 6.78 | 0.58 | 0.26 | 1.06 | 1.00 | 0.99 |
| 1934 | 1.00 | 8.35 | 0.54 | 0.25 | 1.07 | 1.00 | 0.99 |
| 1935 | 1.18 | 9.94 | 0.62 | 0.36 | 1.09 | 0.99 | 0.99 |
| 1936 | 1.94 | 15.35 | 1.23 | 0.49 | 1.13 | 0.99 | 0.99 |
| 1937 | 1.67 | 13.18 | 1.27 | 0.44 | 1.11 | 1.00 | 0.99 |
| 1938 | 1.22 | 10.42 | 1.03 | 0.32 | 1.09 | 1.00 | 0.99 |
| 1929 | 1.28 | 9.32 | 0.16 | 0.04 | 1.08 | 0.99 | 0.99 |
| 1930 | 0.68 | 4.86 | 0.24 | 0.14 | 1.04 | 1.00 | 1.00 |
| 1931 | 0.42 | 3.09 | 0.16 | 0.08 | 1.03 | 1.00 | 1.00 |
| 1932 | 0.74 | 5.20 | 0.61 | 0.34 | 1.04 | 1.00 | 1.00 |
| 1933 | 0.87 | 6.78 | 0.58 | 0.27 | 1.06 | 1.00 | 0.99 |
| 1934 | 1.04 | 8.35 | 0.54 | 0.24 | 1.07 | 1.00 | 0.99 |
| 1935 | 1.18 | 9.94 | 0.62 | 0.35 | 1.09 | 0.99 | 0.99 |
| 1936 | 1.91 | 15.35 | 1.22 | 0.52 | 1.13 | 0.99 | 0.99 |
| 1937 | 1.65 | 13.18 | 1.28 | 0.42 | 1.11 | 1.00 | 0.99 |
| 1938 | 1.21 | 10.42 | 1.02 | 0.32 | 1.09 | 1.00 | 0.99 |
| 1939 | 1.37 | 11.23 | 1.20 | 0.64 | 1.10 | 1.00 | 0.99 |
| 1940 | 2.05 | 16.81 | 1.96 | 0.66 | 1.14 | 1.00 | 0.99 |
| 1941 | 4.46 | 31.86 | 6.94 | 4.93 | 1.26 | 1.02 | 1.00 |
| 1942 | 8.22 | 52.65 | 15.96 | 12.27 | 1.41 | 1.07 | 1.04 |
| 1943 | 13.59 | 94.88 | 27.50 | 20.30 | 1.72 | 1.12 | 1.06 |
| 1944 | 11.67 | 66.97 | 23.62 | 17.67 | 1.50 | 1.11 | 1.05 |
| 1945 | 11.97 | 72.51 | 25.79 | 18.52 | 1.54 | 1.12 | 1.06 |
| 1946 | 10.45 | 64.54 | 22.85 | 16.25 | 1.49 | 1.11 | 1.05 |
| 1947 | 10.71 | 60.52 | 22.30 | 16.33 | 1.45 | 1.10 | 1.05 |

## Column

1 Table 84, column 4.
2-4 (a) Total income receipts (Table 114, col. 12) are multiplied by the share of the given percentage band of the basic variant (Table 118, col. 1); (b) total income receipts excluding federal income taxes (col. 12 of Table 114 minus col. 7 of Table 115) are multiplied by the share of the given percentage band adjusted to exclude federal income taxes (Table 118, col. 4); (c) the product calculated in (b) is subtracted from that calculated in (a) to yield federal income taxes for the given percentage band; (d) the amount in (c) is divided by that derived in (b).
5-7 Columns 2-4 respectively plus 100, divided by column 1 plus 100.

Chart 13

## Percentage Federal Income Taxes Are of Income Receipts Excluding Taxes Bașic Variant, Total Population, 1914-1947

a Federal income taxes as \% of income receipts excluding taxes, given percentage band
b Ratio of share before taxes to share after taxes, given percentage bond
c Federal income taxes as \% of total income receipts excluding taxes, countrywide



expressed as a multiple of the average per capita income (including taxes) for the country, to income excluding taxes paid, also expressed as a multiple of the average per capita income (excluding taxes) for the country, it should equal the share of the given percentage band in the basic variant divided by its share after income taxes have been deducted. And it does indeed. To use a numerical illustration: for 1917 the entry in column 5, 1.10 , equals 1.1192 (from col. 2) divided by 1.0163 (from col. 1); and it equals also the share of the top 1 percent in the basic variant, 14.16 percent (Table 118, col. 1), divided by its share adjusted to exclude federal income taxes, 12.86 percent (Table 118, col. 4).

Only for the top 1 percent does the proportion of taxes in income consistently exceed the countrywide proportion; and even for this top 1 percent, it is quite high only for 1918,1919 , and 1936. But it rises spectacularly in the years beginning with 1940 . For the 2nd and 3rd, and 4th and 5th percentage bands, the proportion of taxes in income is lower in most years than the countrywide proportion; and so, obviously, would be the proportion for percentage bands further down the scale. The recent years again constitute a striking exception.

Chart 13 reveals an aspect of the relation not evident so far: annual changes in the proportion of taxes in income for the top 1 percent and for the country as a whole are quite similar, except that the former are of much wider amplitude. Because of this close similarity in pattern and consistent difference in relative amplitude, the ratios for the top 1 percent (Table 86, col. 5), which measure the relative reduction in the share effected by deducting taxes, move in close correlation with the proportion of taxes for the country as a whole. The reason is that tax payments by the top 1 percent constitute an overwhelming proportion of total tax payments, never, except in 1920 and the years since 1940, less than 85 percent and often more than 90 percent. As long as the share of the top 1 percent in total income receipts varies so much less than its share in taxes - as it does up to 1940 - the proportions in columns 1 and 2 of Table 86 are similar to percentages of one and the same numerator (i.e., taxes) in two denominators, one of which (the share of the top 1 percent in the basic variant, say, about 14.3 percent) is consistently about a seventh of the other (individuals' total income receipts, i.e., 100 percent).

This is not true of the shares of the 2 nd and 3 rd, and 4th and 5th percentage bands whose federal income taxes are only small fractions of the countrywide total. Thus even though their shares in the basic variant also vary within narrow limits, the proportion of their income they pay in taxes does not necessarily move like the countrywide proportion of taxes in income (Chart 13, Panels B and C). The difference is notable during the
late 1920's: from 1926 to 1929 the latter rises and the former declines. In consequence, the ratios for the two percentage bands below the top (Table 86, col. 6 and 7) fail to show the close or consistent conformity to the movement of the countrywide tax proportion that the ratio for the top 1 percent shows. Their movement is similar to that for the top 1 percent only in a few years associated with an over-all high proportion of taxes, 1917-21 and 1940-47.

The analysis of the effects of deducting federal income taxes on shares of upper groups in the nonfarm variant is along parallel lines except that it is extended down through the 6th and 7th percentage band (Table 87 and Chart 14). The effects too are similar: their concentration in the share of the top 1 percent; the close correlation between annual changes in the latter and in the countrywide proportion of federal income taxes in income; the minor effect on the shares of the lower percentage bands; and the absence of a consistent correlation between annual changes in their shares and in the countrywide proportion of taxes.

In conclusion, we stress one aspect of the analysis that has not been noted explicitly. As explained in Chapter 7, in deriving economic income we exclude gains on sales of assets which are treated under the law as parts of net income, tax definition, include certain items that have been omitted, and reinclude certain deductions. The proportion of income taxes in economic income is, therefore, quite different from that of taxes in net income, tax definition: the former is larger as far as the income base excludes gains on sales of assets, and smaller as far as the income base is widened by reincluding deductions.

We draw two inferences from this consideration. First, as far as at least some of the deductions should not be reincluded in economic income, our income base is too wide and the calculated proportion of taxes in income too low. What is more important, this underestimate of the proportion of taxes in income may be relatively larger in the upper income brackets than in the lower because, as noted in Chapter 7, the proportion of all deductions in economic income is larger for the former. To the degree that this is true, the proportion in Tables 86 and 87 of taxes in the income of the top 1 percent is underestimated; correspondingly, the relative reduction of the share of the top 1 percent (whether of total or nonfarm population) due to deducting federal income taxes must be underestimated.

Second, the rise in the proportion of taxes in income during the late 1920's for the countrywide totals and for the top 1 percent but missing for the 2 nd and 3 rd and lower percentage bands is presumably due to gains on sales of assets. As will be seen presently, this item is of major importance for the top 1 percent alone. It is subject to federal income
Table 87
Ratios of Shares of Upper Income Groups Before to Shares After Deduction of Federal Income Taxes
Basic Variant, Nonfarm Population, 1914-1947

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Column

| given percentage band adjusted to exclude federal income |
| :--- |
| taxes (Table 119, col. 4); (c) the product calculated in |
| (b) is subtracted from that calculated in (a) to yield |
| federal incomes taxes for the given percentage band; (d) |
| the amount in (c) is divided by that derived in (b). |

$6-9$

| Columns 2-5 respectively plus 100, divided by column 1 |
| :--- |
| plus 100. |



Chart 14
Percentage Federal Income Taxes Are of Income Receipts Excluding Taxes Basic Variant, Nonfarm Population, 1914-1947
a Federal income taxes as \% of income receipts excluding taxes, given percentage band
b Ratio of share before taxes to share after taxes, given percentage band
c Federal income taxes as \% of income of nonfarm population excluding taxes, countrywide




Chart 14 (concl.)
a Federal income taxes as \% of income receipts excluding toxes, given percentage band
b Ratio of share before taxes to share after taxes, given percentage band
5 Federal income taxes as \% of income of nonfarm population excluding taxes, countrywide

taxes yet not included in the income base we use in calculating the proportion of taxes in income. The marked rise in gains from sales of assets in the late 1920's meant a substantial increase in federal income taxes, both countrywide and particularly concentrated in its incidence in the top 1 percent; yet neither individuals' total income receipts nor the economic income of the top 1 percent includes these gains. Partly as a result of this difference in the numerator and denominator, Charts 13 and 14 show bulges in the proportion of taxes in income in the late 1920's, both countrywide and for the top 1 percent; but not in the proportion for the 2nd and 3 rd , and lower percentage bands.

## 4 Gains and Losses on Sales of Assets

The coverage of this, the second of the two available items in the transition from economic to disposable income, is incomplete in two major respects. First, gains and losses on sales of assets may be incurred by persons who are not required to file tax returns. An adjustment for such omission is impossible. Although in the very low brackets of the tax return population extremely low or zero gains or losses are typical, there are so many persons in these and lower brackets that they may account for a substantial proportion of aggregate net gains and losses in some years. ${ }^{6}$ Hence

[^68]it seems likely that persons with incomes so small as to be exempt from filing may, in some years, have realized substantial net gains or losses. But usable estimates of these amounts cannot be obtained. ${ }^{7}$

Second, capital gains realized since, but representing appreciation before, March 1, 1913, have not been taxed and are not reported (even though depreciation sustained before that date can be included in capital losses realized subsequently). Moreover, for years beginning with 1934, the law provides for differential taxation of gains, exempting a fraction of gains from sales of assets held for a given period; and from 1932 on, limiting the claiming of losses as offsets to income subject to tax. For these years the amounts reported for the tax return population are decidedly incomplete; and Seltzer's adjustment, which we used, may be incomplete. In general, Seltzer tried to get complete data by supplementing the partial totals published in Statistics of Income by unpublished Treasury tabulations of total realized gains and losses. ${ }^{8}$

Thus, in including capital gains and losses we add to the income of the upper groups as complete an estimate as is possible but can add to the income receipts of the entire population only an incomplete total of the net balance of gains over losses. The resulting shares of upper income groups in the variant including capital gains are, therefore, overestimated when groups outside the tax return population enjoy an over-all net balance of gains over losses and underestimated when they suffer a net balance of losses over gains. That the effect of such variable shortages in the denominator upon the estimated shares of upper income groups is not fatal is due to two factors. First, the denominator covers the income of all individuals, compared to which even the countrywide net balance of gains

[^69]over losses is a small fraction and the omitted part of that net balance, a minor fraction indeed. Second, the capital gain (and loss) items are of much greater weight, relative to other income, at the top income brackets than elsewhere in the income size distribution, and they are items that swing widely in the short term changes associated with business cycles. Consequently, the changes in the shares reflecting the inclusion of the capital gain items are largely determined by the numerator, especially those for the top groups, and only in much less degree by the denominator.

The calculation of effects of including in income the excess of gains over losses (positive or negative, i.e., the algebraic difference) from sales of assets on the shares of upper groups is parallel to the calculation of effects of deducting federal income taxes. We take economic income for each net income class; add to it the algebraic difference between gains and losses on sales of assets; recalculate per capita income, now including this item; rearray, if necessary, the classes in descending order of per capita income and interpolate, computing the shares in terms of countrywide income including the excess of aggregate gains over losses from sales of assets. An illustrative calculation is provided for 1929 in Section D of Appendix 4. The resulting changes in the shares of the upper percentage bands in the basic variant for the total population can be summarized from Table 88 and Chart $15 .{ }^{9}$

First, the effect is almost exclusively on the share of the top 1 percent because of its overwhelming share of the excess of gains over losses in most years. Its share cannot be stated simply in percentage terms because combining plus and minus signs makes a relative apportionment erratic in some years. However, in years when the countrywide net balance is quite large (whether positive or negative), the percentage accounted for by the top 1 percent tends to be large, often over 80 or 90 percent; and it is not much less in a good many of the years when the countrywide net balance is small. Only in $1919,1930,1931,1933,1934$, and $1938-42$ is it not sufficiently large to dominate the countrywide total.

Second, inclusion of gains and losses affects the share of the top 1 percent more than any other adjustment or modification of the income concept so far discussed. The effects range from relatively large additions to

[^70]Table 88
Effect of Including Excess of Gains over Losses from Sales of Assets Basic Variant, Total Population, 1917-1946


Because of rounding, columns may not add to total.

## Column

1-4 Table 118: column 5 minus column 1.
5 Column 8 of Table 115 divided by column 12 of Table 114.

Chart 15
Effect of Including Excess of Gains over Losses from Sales of Assets
Basic Variant, Total Population, 1917-1946
a Excess of gains over losses from sales of assets as \% of total income receipts
$b, c, d, \&$ e Change in share of given percentage band due to adjustment (\% of total income receipts)

relatively large deductions. For example, in the peak gains of 1928 the addition of 4.34 percent of countrywide income increases the share of the top 1 percent almost three-tenths from its level in the basic variant; and the relative reduction of the share in 1932, the year of the maximum proportion of losses in income, is almost a fifth.

Third, annual changes in the adjustment of the share of the top 1 percent and in the countrywide proportion of the item in total income are closely correlated (Chart 15, lines band a) - a natural consequence of the tendency for capital gains and losses to be concentrated in the top 1 percent together with the relatively invariable level of the top 1 percent's share in total income receipts.

Fourth, the effects on the shares of the 2nd and 3rd, and 4th and 5th percentage bands do not display the same consistent correlation with fluctuations in the proportion of gains and losses in individuals' total income receipts (Chart 15, lines cand d). Positive correlation in both bands is chiefly in 1918-24 and 1938-46. But during 1925-37, when both the countrywide proportion of the item in total income and the share of the top 1 percent go through a violent cycle with a peak in 1928, a trough in 1932, and a second, less conspicuous, peak in 1936, the changes in shares of the 2 nd and 3 rd , and 4 th and 5 th percentage bands, especially the latter, tend to be inversely correlated with changes in the countrywide proportion of capital gains and losses in income.

The procedure for calculating the effects on the shares of the upper groups in the nonfarm variant is parallel to that employed for the basic variant for the total population except that it is extended down through the 6th and 7th percentage band (Table 89 and Chart 16). And the results resemble those observed in Table 88 and Chart 15: here again the effect is chiefly on the share of the top 1 percent, and the marked year to year fluctuations in its adjustment and in the countrywide proportion of capital gains and losses in income are similar. The adjustment of the shares of the lower percentage bands is minor, although somewhat larger than in the corresponding percentage bands of the basic variant for the total population: the percentage bands of the smaller total, the nonfarm population, lie within higher reaches of the country's income distribution and include relatively more tax returns that report gains and losses from sales of assets. Here too annual variations in the adjustment of the shares of the percentage bands below the top 1 percent are inversely correlated with those in the countrywide proportion of capital gains and losses in income during part of the period. Those for the 2 nd and 3 rd percentage band are inversely correlated only in 1920 and 1927-34 (except 1929); those for the 4th and 5th percentage band, in 1920, 1922-38, and 1940; and those

Table 89
Effect of Including Excess of Gains over Losses from Sales of Assets
Basic Variant, Nonfarm Population, 1917-1946


Because of rounding, columns may not add to total.

* Less than $\pm 0.005$.


## Column

1-5 Table 119: column 5 minus column 1.
6 Table 115: column 8 divided by column 2 .

Chart 16
Effect of Including Excess of Gains over Losses from Sales of Assets Basic Variant, Nonfarm Population, 1917-1946
a Excess of gains over losses from sales of assets as \% of income of nonfarm population
b, c, d, e, \& f Change in share of given percentage band due to adjustment (\% of income of nonfarm population)

for the 6th and 7th percentage band, during a somewhat longer period. Obviously, had our analysis reached to lower percentage bands, the inverse correlation would have been more clear-cut and extended over the full period covered.

As in the calculation of the effects of deducting federal income taxes, the procedure used to calculate the effects of including gains and losses on sales of assets does not shift net income classes among the upper percentage bands. Consequently, we can repeat the analysis based on comparing: (a) the proportion of gains and losses in total income for each percentage band with (b) the proportion of gains and losses in income for the total population; and deriving (c) - the ratio of (a) plus 100 to (b) plus 100 , which at the same time measures (d) - the ratio of the share of the given percentage band after adjustment for the inclusion of gains and losses to its share in the basic variant (Table 90 and Chart 17).

As in the case of the deduction of federal income taxes, the effect is chiefly on the share of the top 1 percent, and there is close correlation between the proportion of gains and losses in countrywide income, their proportion in the income of the top 1 percent, and the ratio of the latter's share after the inclusion of gains and losses to its share before their inclusion (Chart 17, Panel A).

The new evidence revealed by Table 90 and Chart 17 is that the proportion of gains and losses in the income of the 2nd and 3rd, and 4th and 5th percentage bands is also closely correlated with the countrywide proportion. In Chart 17, Panels B and C, the proportion of gains and losses for these percentage bands describes the same clear-cut cycles as in Panel A: peaks in 1919 or 1920, troughs in 1921 or 1922; minor troughs from 1924 to 1925 or 1926 to 1927; major peaks in 1927 or 1928; major troughs in 1932; another peak in 1936, and so on. But their amplitude is not consistently wider or narrower than that of the countrywide proportion. It is wider in the 1918-21-22 cycle; narrower in the long sweep from 1921 to 1932; wider again in the shorter cycle superimposed upon this long sweep, with a peak about 1924-25 and a trough about 1925 or 1927, and so on. This variability in relative amplitude produces cycles in the ratio of the shares of the 2 nd and 3 rd , and 4th and 5th percentage bands after including gains and losses to their shares in the basic variant that sometimes run with and at other times counter to the cycles in the countrywide proportion of gains and losses in income; and thus also to the cycles in the adjustment in the share of the top 1 percent.

A parallel analysis of the changes in the basic variant for the nonfarm population yields similar results (Table 91 and Chart 18). The tendency for gains and losses to be incurred chiefly by the top 1 percent together

Table 90: Ratios of Shares of Upper Income Groups After to Shares Before Inclusion of Excess of Gains over Losses from Sales of Assets Basic Variant, Total Population, 1917-1946

|  | Excess of Gains over Losses from Sales of Assets as \% of Income Receipts 2nd \& 3rd 4th \& 5th |  |  |  | Ratio | $\begin{array}{r} \text { of } \\ 2 n d \& 3 r d \end{array}$ | ares $4 t h \& 5 t h$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | per- | per- |  | per- | per- |
|  | Country- | Top 1 | centage | centage | Top 1 | centage | centage |
|  | wide <br> (1) | percent (2) | band (3) | band (4) | percent (5) | band (6) | band (7) |
| 1917 | 0.56 | 2.24 | 2.31 | 0.89 | 1.02 | 1.02 | 1.00 |
| 1918 | -0.12 | -1.27 | 0.50 | 0.02 | 0.99 | 1.01 | 1.00 |
| 1919 | 0.42 | 0.87 | 2.90 | 1.21 | 1.00 | 1.02 | 1.01 |
| 1919 | 0.41 | 0.87 | 2.90 | 1.21 | 1.00 | 1.02 | 1.01 |
| 1920 | -0.02 | -2.59 | 3.82 | 1.57 | 0.97 | 1.04 | 1.02 |
| 1921 | -1.20 | -6.69 | 1.51 | -5.14 | 0.94 | 1.03 | 0.96 |
| 1922 | 0.40 | 2.67 | 0.86 | -0.01 | 1.02 | 1.00 | 1.00 |
| 1923 | 0.29 | 1.22 | 1.26 | 0.94 | 1.01 | 1.01 | 1.01 |
| 1924 | 1.55 | 8.84 | 3.11 | 1.93 | 1.07 | 1.02 | 1.00 |
| 1925 | 3.63 | 23.05 | 5.20 | 1.51 | 1.19 | 1.02 | 0.98 |
| 1926 | 2.94 | 17.76 | 4.59 | 1.67 | 1.14 | 1.02 | 0.99 |
| 1927 | 3.54 | 21.12 | 4.05 | 2.52 | 1.17 | 1.00 | 0.99 |
| 1928 | 5.93 | 36.72 | 5.64 | 1.94 | 1.29 | 1.00 | 0.96 |
| 1929 | 3.60 | 30.65 | 3.01 | -0.10 | 1.26 | 0.99 | 0.96 |
| 1930 | -1.90 | 0.87 | -1.45 | -1.29 | 1.03 | 1.00 | 1.01 |
| 1931 | -4.57 | -8.29 | -2.50 | -2.26 | 0.96 | 1.02 | 1.02 |
| 1932 | -5.84 | -22.95 | -3.36 | -2.30 | 0.82 | 1.03 | 1.04 |
| 1933 | -3.13 | -9.22 | -1.58 | -1.36 | 0.94 | 1.02 | 1.02 |
| 1934 | -1.22 | -3.43 | -2.56 | -2.02 | 0.98 | 0.99 | 0.99 |
| 1935 | -0.16 | 2.83 | -0.94 | -0.96 | 1.03 | 0.99 | 0.99 |
| 1936 | 0.92 | 8.52 | 0.75 | -0.32 | 1.08 | 1.00 | 0.99 |
| 1937 | -0.15 | 2.41 | -0.49 | -0.52 | 1.03 | 1.00 | 1.00 |
| 1938 | $-0.54$ | 2.68 | -1.05 | -0.66 | 1.03 | 1.00 | 1.00 |
| 1929 | 3.64 | 30.65 | 3.01 | -0.11 | 1.26 | 0.99 | 0.96 |
| 1930 | -1.94 | 0.86 | -1.44 | -1.30 | 1.03 | 1.00 | 1.01 |
| 1931 | -4.58 | -8.28 | -2.51 | -2.26 | 0.96 | 1.02 | 1.02 |
| 1932 | -6.00 | -22.94 | -3.36 | -2.32 | 0.82 | 1.03 | 1.04 |
| 1933 | -3.22 | -9.22 | -1.57 | -1.36 | 0.94 | 1.02 | 1.02 |
| 1934 | -1.26 | -3.45 | -2.56 | -2.01 | 0.98 | 0.99 | 0.99 |
| 1935 | -0.16 | 2.82 | -0.95 | -0.96 | 1.03 | 0.99 | 0.99 |
| 1936 | 0.91 | 8.52 | 0.77 | -0.33 | 1.08 | 1.00 | 0.99 |
| 1937 | -0.15 | 2.42 | -0.49 | -0.53 | 1.03 | 1.00 | 1.00 |
| 1938 | -0.53 | 2.68 | $-1.05$ | -0.66 | 1.03 | 1.00 | 1.00 |
| 1939 | -0.39 | 1.44 | -0.29 | -0.27 | 1.02 | 1.00 | 1.00 |
| 1940 | -0.59 | 0.73 | $-0.54$ | -0.36 | 1.01 | 1.00 | 1.00 |
| 1941 | -0.98 | -0.51 | -2.29 | -0.98 | 1.00 | 0.99 | 1.00 |
| 1942 | -0.32 | 0.68 | -1.41 | -0.46 | 1.01 | 0.99 | 1.00 |
| 1943 | 0.74 | 6.50 | 1.53 | 0.74 | 1.06 | 1.01 | 1.00 |
| 1944 | 1.02 | 8.19 | 3.02 | 1.63 | 1.07 | 1.02 | 1.01 |
| 1945 | 2.65 | 17.39 | 7.24 | 4.09 | 1.14 | 1.04 | 1.01 |
| 1946 | 3.86 | 20.42 | 9.58 | 7.16 | 1.16 | 1.06 | 1.03 |

## Column

1 Table 88, column 5.

> 2-4 (a) Total income receipts (Table 114, col. 12) are multiplied by the share of the given percentage band of the basic variant (Table 118, col. 1); (b) total income receipts including excess of gains over losses from sales of assets (col. 12 of Table 114 plus col. 8 of Table 115) are multiplied by the share of the given percentage band adjusted to include excess of gains over losses from sales of assets (Table 111, col. 5); (c) the product calculated in (a) is subtracted from that in (b) to yield the excess of gains over losses for the given percentage band; (d) the amount in (c) is divided by that derived in (a).

5-7 Columns 2-4 respectively plus 100, divided by column 1 plus 100.

Chart 17
Percentage Excess of Gains over Losses from Sales of Assets Is of Income Receipts, Basic Variant, Total Population, 1917-1946
a Excess af goins over losses from sales of assets as \% af income receipts, given percentage band
$b$ Ratio af share after to share before inclusion of excess of goins over losses from sales of assets, given percentage band
c Excess of gains over losses from sales of assets as \% of total incame receipts, countrywide




pe
$2 n d \& 3 r d$
percentage

percentage

percentage






Chart 18
Percentage Excess of Gains over Losses from Sales of Assets is of Income Receipts, Basic Variant, Nonfarm Population, 1917-1946
a Excess of gains over losses from sales of assets as \% of income receipts, given percentage band
b Ratio of share after to share before inclusion of excess of gains over losses from sales of assets, given percentage band
c Excess of gains over losses from sales of assets as of income of nonfarm population, countrywide



Panel C: 4th and 5th Percentage Band


with variations in the proportion of gains and losses in its income that overshadow variations in its share of economic income assure the close correlation of the proportions in Panel A of Chart 18; and the continued excess of its proportion of gains and losses in income over the countrywide proportion imposes a similar pattern on the year to year changes in the ratios. In the lower percentage bands changes in the proportion of gains and losses in income show, on the whole, the same cycles as do those in the countrywide proportion; but as in the case of the basic variant for the total population, the relative amplitude of these cycles in the intra-band proportions (2nd and 3rd, 4th and 5th, and here, also, the 6th and 7th percentage band) changes from cycle to cycle. Hence the changes in the shares of these lower percentage bands produced by including gains and losses do not conform closely to annual changes in the countrywide proportion of gains and losses in total income.

However, any changes in the shares of the lower percentage bands produced by including gains and losses on sales of assets are minor. As in the deduction of federal income taxes, consideration of gains and losses from sales of assets is important for the share of the top 1 percent alone.

## Appendix 4

Section A
Sample Calculation of Adjustment to Include Compensation of State and Local Government Employees, 1929
Section B
Adjustment to Include Imputed.Rent
Section CSample Calculation of Adjustment to
Exclude Federal Income Taxes, 1929
Section D
Sample Calculation of Adjustment to
Include Excess of Gains over Lossesfrom Sales of Assets, 1929
Section A：Sample Calculation of Adjustment to Include Compensation of State and Local Government Employees， 1929
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| $\begin{array}{ll} \text { n } & \stackrel{9}{6} \\ \text { A } \\ \text { z } \\ \text { z } \\ \text { 9 } \end{array}$ | $\begin{aligned} & \text { O} \\ & \hline \text { n } \end{aligned}$ | $\begin{aligned} & \dot{O} \\ & \underset{M}{\prime} \end{aligned}$ | $\stackrel{\rightharpoonup}{0}$ | $\underset{\substack{\mathrm{N}}}{\substack{\text { N}}}$ | $\stackrel{N}{7}$ | $\begin{aligned} & n \\ & n \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & 7 \\ & \text { a } \\ & i \end{aligned}$ | $\begin{aligned} & \text { 멪 } \\ & \text { ※ } \\ & \text { 훙 } \end{aligned}$ | $\xrightarrow{\text { N }}$ | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { O} \\ & \text { 人 } \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \underset{\infty}{\infty} \\ & \stackrel{1}{7} \\ & ? \end{aligned}$ | $\stackrel{m}{\underset{n}{n}}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \stackrel{0}{1} \\ & 0 \end{aligned}$ | $$ | $\begin{aligned} & \vec{Z} \\ & \underset{N}{n} \end{aligned}$ |  | $\pm$ $\cdots$ $\cdots$ | $\stackrel{\infty}{\sim}$ |
|  | $\begin{aligned} & \mathrm{B} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \text { N } \end{aligned}$ | $\stackrel{\infty}{\underset{\sim}{\infty}}$ | $\begin{aligned} & \pm \\ & i n \\ & i \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{0}{2} \end{gathered}$ | $\begin{aligned} & \text { ò } \\ & \underset{i}{2} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{N}}$ | $\begin{aligned} & \text { 5 } \\ & \text { ※ } \\ & \text { 霜 } \end{aligned}$ | $\stackrel{N}{N}$ | $\stackrel{\infty}{\square}$ |
|  | $\begin{aligned} & 8 \\ & 0 \\ & \mathbf{N} \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { Si } \\ & \text { N. } \end{aligned}$ | $\begin{aligned} & \hat{O} \\ & \infty \\ & 0 \end{aligned}$ |  | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { 寸 } \\ & \mathbf{~} \end{aligned}$ | $\begin{aligned} & \overrightarrow{7} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{e}{n} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \text { 믄 } \\ & \text { ※ } \\ & \text { 르N } \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | ＋ |

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I Adjustment of Basic Variant for Total Population


cent（col．3－6，line $10 \div$ col． 7 ，line 10 ）
$13 \%$ of state \＆local gov．empl．correspond－ ing to percentage bands in line 9 （col．

empl．received by percentage band in line 13 （col． 1 ，line $11 \times$ col．3－6，
line 12 ）
$\%$ of income received per percentile of
lower 99 percent of pop．（col．3－6，line
$12 \div$ col． $3-6$ ，line 9 ）
$\%$ of income received per percentile of pop．，state \＆local gov．empl．（col．
Percentage band of basic variant whose per capita is nearest that in line 16
Line 12 adj ．to incl．compensation of
Line 10 adj ．to incl．compensation of



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Notes to Section A, Part 1
Line
1, 4 Table 115, columns 4 and 5 respectively.
2 Table 69, column 5.
5 Table 114, column 12.
8 It is assumed that: (a) compensation paid by nonfederal governments is the sole income of the population in line 1 ; (b) the size distribution of this income parallels that of the lower 99 percent of the population as shown by the basic variant.
10 Table 116, column 1.
17 The allocation of line 16 is determined by comparing it with line 15: an entry in line 16 is assigned to the class whose per capita income in line 15 is next below it in size.
18 Calculated as follows:
Adjustment of Line 12


| $\begin{aligned} & \text { Wo } \\ & \text { Bon } \\ & 0 \end{aligned}$ | \% Oid Oid |
| :---: | :---: |


|  | \% | $\begin{aligned} & 0 \\ & 0 \\ & \text { in } \end{aligned}$ | $\stackrel{n}{\underset{\sim}{n}}$ | $\frac{0}{n}$ | $\frac{0}{5}$ | $\begin{aligned} & \vec{o} \\ & \underset{\sim}{0} \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\circ} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \text { Ờ } \\ & \text { í } \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\overrightarrow{\vec{n}}$ | $\stackrel{\infty}{\text { + }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \infty \underset{\approx}{\ddagger} \\ & \text { ※n } \\ & 0 \\ & 0 \end{aligned}$ | 8 | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{O}} \\ & \text { in } \end{aligned}$ | $\begin{aligned} & \text { No } \\ & \underset{\sim}{\circ} \end{aligned}$ | $\begin{aligned} & \text { n } \\ & \underset{\sim}{0} \end{aligned}$ | $\frac{\sqrt{3}}{0}$ |  | $\underset{\sim}{\underset{N}{N}}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \text { 믛 } \\ & \stackrel{1}{t} \\ & \stackrel{\rightharpoonup}{\infty} \end{aligned}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\text { O}}{\dot{\sim}}$ |
|  | $\begin{aligned} & \text { O} \\ & \text { i } \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { O} \\ & \text { in } \end{aligned}$ |  | $\stackrel{\infty}{\stackrel{\infty}{i}}$ | $\stackrel{N}{7}$ | N | $\stackrel{\text { Ǹ }}{\text { N}}$ | $\stackrel{\substack{\infty \\ \underset{\sim}{\infty}}}{ }$ | $\begin{aligned} & \text { 큼 } \\ & \text { ※ } \\ & \text { 50 } \end{aligned}$ | $\underset{\text { N }}{\substack{\text { N }}}$ | $\stackrel{\infty}{\stackrel{\circ}{+}}$ |
|  | $\begin{aligned} & \text { O} \\ & \text { i } \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { O} \\ & \text { in } \end{aligned}$ | $\stackrel{\infty}{\underset{o}{\circ}}$ | $\frac{\underset{\sim}{\infty}}{\infty}$ | $\stackrel{i}{7}$ | $$ | $\begin{aligned} & \text { त్రे } \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \circ \\ & \stackrel{\circ}{\circ} \\ & \text { in } \end{aligned}$ |  | $\underset{\sim}{\stackrel{\sim}{\infty}}$ | فِ |



|  | Pop. dependent on compensation of state \& local gov. empl. (000) |
| :---: | :---: |
|  | Nonfarm population (000) |
|  | Line 1 as \% |
|  | Compensation of state \& local gov. empl. $(000,000)$ |
|  | Income of nonfarm pop. (000,000) |
|  | Line 4 as \% of line 5 |
|  | \% of nonfarm pop. in given percentage band |
| 8 | Line 1 as $\%$ of lower 99 percent (col. 1, line $3 \div$ col. 7, line 7) |
|  | Line 7 as $\%$ of lower 99 percent (col. $3-6$, line $7 \div$ col. 7 , line 7 ) |
| 10 | $\%$ of line 5 received by given percentage band of nonfarm pop. |
|  | Line 4 as $\%$ of income of lower 99 percent (col. 1 , line $6 \div$ col. 7 , line 10 ) |
| 12 | Line 10 as $\%$ of income of lower 99 percent (col. 3-6, line $10 \div$ col. 7, line 10) |
| 13 | $\%$ of state \& local gov. empl. corresponding to percentage bands in line 9 (col. 1 , line $8 \times$ col. 3-6, line 9 ) |
| 14 | $\%$ of compensation of state \& local gov. empl. received by percentage bands in line 13 (col. 1, line $11 \times$ col. 3-6, line 12) |
| 15 | $\%$ of income received per percentile of lower 99 percent of pop. (col. 3-6, line $12 \div$ col. 3-6, line 9) |
| 16 | $\%$ of income received per percentile of pop., state \& local gov. empl. (col. 3-6, line $14 \div$ col. 3-6, line 13 ) |
| 17 | Percentage band of basic variant whose per capita is closest to that in line 16 |
| 18 | Line 12 adj . to incl. compensation of state \& local gov. empl. |
| 19 | Line 10 adj . to incl. compensation of state \& local gov. empl. (line $18 \times$ col. 7, line 10) |

Notes to Section A, Part II
Line
1, 4 Table 115, columns 4 and 5 respectively.
2,5 Table 115, columns 1 and 2 respectively.
8 It is assumed that: (a) compensation paid by nonfederal governments is the sole income of the population in line 1 ; (b) the size distribution of this income parallels that of the lower 99 percent of nonfarm population as shown by the basic variant.
10 Table 116, column 4.
17 See Part I, note to line 17.
18 Calculated as follows:
Adjustment of Line 12


Section B: Adjustment to Include Imputed Rent

## I Estimate of Percentage of Imputed Rent in Total Income, Upper Percentage Bands

1) Consumer Expenditures in the United States (National Resourceś Committee, 1939) Table 6A, p. 78, shows for 1935-36 by income class the percentage imputed rent constitutes of the total income of families. Imputed rent in each family income class is the product of total family income (ibid., Table 24A, p. 86) and this percentage.
2) Total imputed rent of families and single individuals is shown for 1935-36 in ibid., Table 7, p. 46. Its ratio to total imputed rent of families (the sum of the estimates in step 1 ) is applied to the class by class estimates of imputed rent of families calculated in step 1. The products are cumulated from the highest income level down.
3) Total income, including imputed rent, of families, single individuals, and institutional residents (Consumer Incomes in the United States, National Resources Committee, 1938, Tables 1 and 2 , pp. 4 and 6) is cumulated from the highest income level down, income for institutional residents being placed at the lowest level. The number of consuming units (ibid.) is likewise cumulated.
4) The percentage of imputed rent (step 2) in total income (step 3) is computed for each income level and interpolated at the top 1 , $3,5,7$, etc., percent of consuming units.
5) The percentage of imputed rent (step 2) in total income (step 3) for all income levels combined is computed.
6) The ratio of the percentage in step 4 for the given percentage band to that in step 5 for the total is calculated.

## II Adjustment of Basic Variant for Total Population

1) The countrywide total of imputed rent (Table 115, col. 6) is added to total income receipts (Table 114, col. 12) annually, 1913-47.
2) The percentage of imputed rent in the total calculated in step 1 is computed annually, 1913-47.
3) The percentage of imputed rent in the income of the top $1,3,5,7$, etc., percent of total population is the product of the annual countrywide series (step 2) and the 1935-36 ratio for the respective percentage band derived in Part I, step 6.
4) The percentage shares of income received by the upper percentage bands of total population, basic variant, are recomputed as shares
of total income including imputed rent by dividing by the ratio of total income receipts excluding to total income receipts including imputed rent.
5) To the share of income for the given percentage band thus adjusted (step 4) is added the percentage of income accounted for by imputed rent as estimated in step 3.

## III Adjustment of Basic Variant for Nonfarm Population

1) Imputed rent on nonfarm dwellings is added to the income of the nonfarm population (Table 115, col. 2) annually, 1913-47. The imputed rent series is that in Table 115, column 6, adjusted for the early years, 1913-19, and for the later years, 1929-47, to exclude imputed rent on owner-occupied farm dwellings. The adjustment for 1913-19 is from unpublished estimates by W. I. King; that for 1929-47, from unpublished estimates by the Department of Commerce, National Income Division. The rent series for 1919-38 in Table 115, column 6, already excludes imputed rent on owner-occupied farm dwellings.
2) The percentage of imputed rent in the total calculated in step 1 is computed annually, 1913-47.
3) The percentage of imputed rent in the income of the top $1,3,5$, 7, etc., percent of the nonfarm population is the product of the annual countrywide series (step 2) and the 1935-36 ratio for the respective percentage band derived in Part I, step 6.
4) The percentage shares of income received by the upper percentage bands of the nonfarm population, basic variant, are recomputed as shares of income including imputed rent on nonfarm dwellings by dividing by the ratio of the income of the nonfarm population excluding to income of the nonfarm population including imputed rent.
5) To the share of income for the given percentage band thus adjusted (step 4) is added the percentage of income accounted for by imputed rent as estimated in step 3.
Section C: Sample Calculation of Adjustment to Exclude Federal Income Taxes, 1929
I Adjustment of Basic Variant for Total Population
Col. 11
as $\%$ of
Total
Income
Receipts
Rxal.
Federal
Income
Taxes
(12)
12.144
12.975
13.923
15,089
16.508
18.366
21.483
24.420
27.991
30.352
30.784 Income in
Col.
Cumbed
by Rank
in Conk
( $\$ 000)^{7}$
(11)
$9,621,313$
$10,279,723$
$11,031,074$
$11,955,103$
$13,079,462$
$14,551,615$
$17,021,182$
$19,347,642$
$22,177,002$
$24,047,909$
$24,389,974$ Log of
Col. 9
$(10)$
-0.11407 -0.03905
0.04100 0.13226 0.23477
0.35965 0.54270 0.67228
0.79546 0.86753
0.88116
 Tax
Return
Popultion
Cumplated
by Rank
in Col. 7
(8)
937,223
$1,113,976$
$1,338,991$
$1,651,943$
$2,092,211$
$2,788,157$
$4,250,843$
$5,727,942$
$7,607,108$
$8,979,719$
$9,265,975$ Rank
of Per
Capitas
from
Highest
to
towest
Lo
(7)
1
2
3
4
5
6
7
7
9
8
10
11 Column
2, 3 Appendix 3, Section A, columns 3 and 4 respectively. Statistics of Income, 1929, Basic Table 3. For total population see Table 69, column 5. 12 For total income receipts and federal income taxes see Table 114,
column 12, and Table 115 , column 7, respectively. joxG ©dod wnay xeI
jo auooul ग!uouoog


| Federal |
| :---: |
| Income |
| Taxes |
| $(\$ 000)$ |

$(4)$
988,000
2,338
2,027
1,867
1,754
1,565
1,368
1,045
1,403
554
17

| Tax ReturnPopulation <br> Economic <br> income <br> (\$000) |  |
| :---: | :---: |
| Number | $(3)$ |
| (2) | $10,609,313$ |
| 1767,223 | 660,748 |
| 225,015 | 753,378 |
| 312,952 | 925,896 |
| 440,268 | $1,126,113$ |
| 695,946 | $1,473,718$ |
| $1,462,686$ | $2,470,935$ |
| $1,879,166$ | $2,830,406$ |
| $1,477,099$ | $2,327,864$ |
| $1,372,611$ | $1,871,461$ |
| 286,256 | 342,082 |

Calculation of Adjusted Income Share of Top 1 Percent Log 1 is zero, falling between lines 2 and 3 of column 10
a Log 1 minus line 2 , column $10=0.03905$
b Line 3 , column 10 , minus $\log 1=0.04100$
c $a+b=0.08005$
uon!uyad
xeI
'SSElว
วwoวuI
ววN

80
0.8
0
0
0
0.
0.
0.
0 7,000-8,000 8
0
O
o
0 5,000-6,000 8
i
i
0
0 8
$\stackrel{8}{0}$
응

in | $\circ$ |
| :--- |
| 8 |
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| ì |
| iे |

 e Difference betwe Difference between lines 2 and 3 of column $13=0.03062$ $\mathrm{d} \times \mathrm{e}=0.01494$
Log of percentage of income corresponding to $\log _{\text {of }}$ of top 1 percent of
total population
$=$
line 2 of column $13+f$
Antilog of $\mathrm{g}=13.429 \%$

jo วшovil Nonfarm
Pop. Excl, Federal
Income Taxes 웅
 Income
in Col. 3
Cumulated
by Rank of
Per Capita茷


> Columns 2 ancome class separately.
> Columns 2 and 5 of Part I extended to show the $\$ 10,000$ -
> Column Nivig II Adjustment of Basic Variant for Nonfarm Population

|  |  | T a ${ }^{\text {x }}$ | urn | n |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Economic | Cumulated |
|  | Net |  | income excl. | by rank of per |
|  | Income |  | federal | capita |
|  | Class, |  | income | income |
|  | Tax |  | taxes | excl. |
|  | Definition | Number | (\$000) | taxes |
|  | (1) |  | (3) | (4) |
| 1 | \$11,000 \& over | 810,525 | 9,095,034 | 810,525 |
| 2 | 10,000-11,000 | 126,698 | 526,279 | 937,223 |
| 3 | 9,000-10,000 | 176,753 | 658,410 | 1,113,976 |
| 4 | 8,000-9,000 | 225,015 | 751,351 | 1,338,991 |
| 5 | 7,000-8,000 | 312,952 | 924,029 | 1,651,943 |
| 6 | 6,000-7,000 | 440,268 | 1,124,359 | 2,092,211 |
| 7 | 5,000-6,000 | 695,946 | 1,472,153 | 2,788,157 |
| 8 | 4,000-5,000 | 1,462,686 | 2,469,567 | 4,250,843 |
| 9 | 3,000-4,000 | 1,879,166 | 2,829,360 | 5,727,942 |
| 10 | 2,000-3,000 | 1,477,099 | 2,326,460 | 7,607,108 |
| 11 | 1,000-2,000 | 1,372,611 | 1,870,907 | 8,979,719 |
| 12 | Under 1,000 | 286,256 | 342,065 | 9,265,975 | Calculation of Adjusted Income Share of Top 1 Percent Log 1 is zero, falling between lines 1 and 2 of column 6 a Log 1 minus line 1 , column $6=0.05306$ b Line 2, column 6, minus $\log 1=0.00988$ $a+b=0.06294$

$$
\mathrm{a} \div \mathrm{c}=8430
$$

Difference betwee
Log of percentage of income corresponding to log of top

h Antilog of $\mathrm{g}=13.563 \%$
Section D: Sample Calculation of Adjustment to Include Excess of Gains over Losses from Sales of Assets, 1929


$\qquad$ 윽



[^71]Tax
Return Pop.
Cumulated
by Rank of
Per Capitas
Incl. Excess
of Gains
over Losses
from Sales
of Assets
$(4)$
810,525
937,223
$1,113,976$
$1,338,991$
$1,651,943$
$2,092,211$
$2,788,157$
$4,250,843$
$5,727,942$
$7,607,108$
$8,979,719$
$9,265,975$

> | Log of percentage of income corresponding to $\log$ of top |
| :--- |
| 1 percent of nonfarm population $=$ line 1 of column $9+f=$ | h Antilog of $\mathrm{g}=18.882 \%$



## Net Income Class, Tax Definition

$$
\begin{array}{rr}
1 & \$ 11,000 \& \text { over } \\
2 & 10,000-11,000 \\
3 & 9,000-10,000 \\
4 & 8,000-9,000 \\
5 & 7,000-8,000 \\
6 & 6,000-7,000 \\
7 & 5,000-6,000 \\
8 & 4,000-5,000 \\
9 & 3,000-4,000 \\
10 & 2,000-3,000 \\
11 & 1,000-2,000 \\
12 & \text { Under } 1,000
\end{array}
$$

## Calculation of Adjusted Income Share of Top 1 Percent

 $\log 1$ is zero, falling between lines 1 and 2 of column 6 Log 1 minus line 1 , column $6=0.05306$ Line 2, column 6, minus $\log 1=0.00988$ $a+b=0.06294$Difference between lines 1 and 2 of column $9=0.01799$ $\begin{array}{ll}\mathrm{f} & \mathrm{d} \times \mathrm{e}=0.01517 \\ \mathrm{~g} & \text { Log of percentage of income corresponding to } \log \text { of }\end{array}$ a

Chapter 10

## Adjustments for Unit and Basis of Classification

In calculating the basic variant and the adjustments for scope of income we use the net income classes in the published tabulations. True, for each class, originally by net income per return, we calculate economic income per capita, and rearray the classes. But the original class is treated throughout as a whole, and differences in economic income per capita among the reporting units within each class are disregarded.

We now deal with the problems caused by the fact that in the published classification the unit is a return, not an individual or family; and the base is net income, tax definition, not economic income. To adjust for the effects of the inappropriate unit and income base on our estimates of shares of upper income groups is more difficult than to adjust for scope of income, and the results are short of what is wanted. Nevertheless, the problems must be explored as far as possible, and solutions, in the way of approximate adjustments, sought.

## 1 Adjustment for Family Status, Preliminary

The classification of income by size used in the basic variant, whether or not adjusted for scope of income, is net income, tax definition, per return, modified by arraying the income classes by average economic income per person. Consequently, some returns, reporting large incomes because they represent several persons, may be placed too high in the distribution, and returns for single persons with moderate incomes, too low. To overcome this defect we would have had to retabulate the returns by size of income per person. For obvious practical reasons, that was impossible.

However, the fact that returns are classified by family status gives a clue to a possible adjustment. For each 'nonhead of family' return the number of persons is just one, ${ }^{1}$ whereas for each joint return it is at least two, and for each 'head of family' return, at least above one. We can calculate for the head of family group, on the one hand, and the nonhead, on the other, the number per return for each net income class, tax definition.

[^72]The difficulty lies in ascertaining the economic income of these two family status groups for each net income class, tax definition, because the published data do not provide the necessary detail by type of income. But we can make a rough approximation, then compute per capita income for each net income class, separately for head and nonhead returns, rearray the classes from top to bottom according to these per capitas and draw the partition lines. The only point at which this procedure differs from that for the basic variant is that instead of a single estimate of per capita income for all returns in a given net income class, tax definition, we now have two - one for head of family returns, the other for nonhead. ${ }^{2}$

This crude adjustment for number of persons per return has three effects on the basic variant for total population (Table 92 and Chart 19).

First, it increases the shares of the upper groups: whereas in the basic variant the upper income groups contain a mixture of returns with large total income but a fairly low income per capita (i.e., returns representing several persons) and returns with both a large total income and a fairly high income per capita (i.e., returns representing a small number of persons), the proportion of the former is reduced in the adjustment. Some head of family returns, ranked in the basic variant at upper income levels because they happened to be in a class with a high income per capita, drop down in the array and are replaced by nonhead return cells originally ranked at a lower income level. In general, the adjustment yields a better approximation to the basis upon which the distribution by income per capita is constructed, and thus necessarily shows larger shares for the upper percentage bands, since a pure array based on any classification will reveal more fully the spread than an array based on a mixed classification.

The second effect is somewhat less expected. The average addition to the share of the 2 nd and 3rd percentage band is significantly larger than that to the share of the top 1 percent: for 1919-46 the former averages 0.78 percentage points and the latter only 0.52 . Relatively, the difference in favor of the 2 nd and 3 rd percentage band is even larger, since its average share is 6.4 percent, and that of the top 1 percent, 12.3 percent of individuals' total income receipts. This differential effect of the adjustment is, however, easily explained: the per capita income of the top 1 percent is so much larger than that of the percentage band just below it that the adjustment does not produce as much reshuffling as takes place in the 2nd

[^73]Table 92





Chart 19

## Preliminary Adjustment for Family Status

## Basic Variant, Total Population, 1917-1946

Panel A
a Change in share of top 1 percent due to adjustment (\% of total income receipts)
b Nonhead returns as \% of all returns, \$5,000-8,000 net income classes, tax definition


Panel 8
a Change in share of top 1 percent due to adjustment (\% of total income receipts)
b Excess of share of top 1 percent over that of 2 nd and 3 rd percentage band, basic variant, a signs reversed (\% of total income receipts)


Panel C
a Chonge in shore of 2nd and 3rd percentoge bond due to adjustment (\% of total income receipts)
b Nonhead returns as \% of all relurns, $\$ 5,000-8,000$ net income classes, tax definition,


Panel D
a Change in share of 2 nd and 3 rd percentage band due to adjustment (\% of total income receipts)
b Excess of share of top 1 percent over that of 2 nd and 3 rd percentage band, basic variant


Panel E
a Change in share of 2nd and 3rd percentage band due to adjustment (\% of total income receipts)
b Average number of persons per family return, $\$ 5,000-8,000$ net income classes, tax definition


Panel F
a Change in share of 2nd and 3rd percentage band due to adjustment (\% of total income receipts)
$b$ Excess of share of 2 nd and 3 rd percentage band over that of 4 th and 5 th percentage band,


and 3rd percentage band, i.e., fails to do as much replacing by bringing into the top percentage band returns from below with larger per capita incomes. Also, when there is an upward shift into the top percentage band, the addition to its share is not likely to be large relative to the mean if the excess of its share over that of the 2nd and 3rd percentage band is large. The income per capita of the 2nd and 3rd percentage band, on the contrary, is much nearer that of the band just below it and a substantial number of head of family returns that drop down from that band in the rearray are replaced by returns with higher income per capita shifted either downward from the top 1 percent or upward from the 4th and 5th, and lower percentage bands.

The third effect concerns the short term variations in the adjustment of the share of the top 1 and of the 2 nd and 3rd percentage band. While they are fairly small, their causes are not without interest.

The adjustment in the share of the top 1 percent must always be positive: if shifts occur because we treat head of family and nonhead returns separately, returns that move down are replaced by returns with larger economic income per capita that move up. Nevertheless it need not be the same from year to year. It would vary (a) positively, with variations in the proportion of nonhead returns in the income classes below the top 1
percent line since the more there are of such returns, the greater may be the upward shift into the top percentage band; (b) negatively, with the excess of the share of the top 1 percent in the basic variant over the share of the 2nd and 3rd percentage band since the larger such excess, the greater the distance between the percentage bands, and the smaller the upward shift and the gain it is likely to contribute.

In Table 92 we measure factor (a) by the proportion that the nonhead returns are of all the returns in the $\$ 5,000-8,000$ net income classes, tax definition (col. 4); and (b) by the absolute excess of the share of the top 1 percent in the basic variant over the share of the 2nd and 3rd percentage band (col. 5). Short term fluctuations in the adjustment of the share of the top 1 percent for family status (Chart 19, Panel A) move in fair agreement with factor (a). Factor (b), on the contrary, does not seem to have exercised the expected effect on those fluctuations (Panel B). The reason may well be that it is important only when its average level is not high, so that variations in it can exercise a marked effect on shifts from one band to another. When it is as large as it is in column 5, variations in it have little effect on the extent of shifting from the 2nd and 3rd to the top 1 percent.

Fluctuations in the adjustment for family status in the 2 nd and 3 rd percentage band are more complex. This band is intermediate in the sense that there may be upward shifts out of it and upward shifts from below into it, downward shifts out of it, and downward shifts from above into it. It always 'loses' from an upward shift out of it, which terminates in the top 1 percent, since the downward shift into it can never be fully compensatory. It always 'gains' from a downward shift out of it, since the upward shift into it must always be larger. The adjustment of its share thus equals the gain produced by the excess of the upward shift into it over the downward shift out of it minus the difference between the downward shift into it and the upward shift out of it.

If we can assume that the upward shift into the top 1 percent is entirely from the 2 nd and 3 rd percentage band, the two factors that influence fluctuations in the adjustment of the former's share perhaps might be expected, with signs reversed, to be positively correlated with those of the latter's share. This provides the rationale for Panels $C$ and $D$ of Chart 19: here the two factors used in Panels A and $B$ to explain variations in the adjustment of the top 1 percent's share are used, with signs reversed, to explain variations in the adjustment for the 2nd and 3rd percentage band. On the whole, neither 'loss' factor shows significant association with the adjustment for family status in the 2nd and 3rd percentage band, probably because the adjustment is both large and positive.

The size of the adjustment depends upon the two 'gain' factors. That in Panel E is the average number per family return in the $\$ 5,000-8,000$ net income classes. The larger the number, the larger is the downward shift out of the 2 nd and 3 rd percentage band likely to be; hence the larger the addition brought in by upward shifts into that band. ${ }^{3}$ On the whole, the major swings in the adjustment follow those in this gain factor. The important exceptions occur in 1938-44.

The other gain factor, shown in Panel F, is measured by the excess of the share of the 2 nd and 3rd percentage band over that of the 4th and 5th. The correlation is close, not for the major swings but for the year to year fluctuations. There is a strong suggestion in Panels E and F that some weighted combination of these two gain factors would yield an index whose changes would be closely correlated with, and thus account for, the short term fluctuations in the adjustment for the 2nd and 3rd percentage band.

A complete accounting for the fluctuations in the adjustment for family status, in both the top 1 and the 2 nd and 3 rd percentage bands, is a problem in multiple correlation. It did not seem worth while to make the laborious calculations that would be called for. But it is clear that, in general, in shifts between some pairs of bands the varying proportions of head of family and nonhead returns or some other family characteristic, such as size, may dominate; while for other pairs of bands variations in the income differential in the underlying basic variant may be more important.

We come finally to the most puzzling conclusion yielded by Table 92 the low average level of the adjustment in the share of the 4th and 5th percentage band and its negative sign in several years. On the average the addition to the share is only 0.36 percentage points; yet its per capita income is so near that of the bands just above and below it in the basic variant that we would expect the displacement and consequent additions to its share would be at least as large relatively as those for the 2nd and 3rd percentage band. Even more puzzling is the fact that for some years the adjustment, which involves a ' 'purer' array and hence should yield larger shares of the upper percentage bands than the basic variant, yields smaller shares.

The explanation is that the adjustment involves the reshuffling of a limited population; consequently, as the process reaches groups near the bot-

[^74]tom of the distribution there may be shifts upward out of a given percentage band that are not sufficiently compensated by shifts into it from below. Shifts out of the 4th and 5th percentage band into the 2nd and 3rd or top 1 percent cannot be fully compensated by shifts down into it: the basis for the shift lies in the excess of the income of the groups shifted upward over the income of the groups shifted downward. Hence, the loss to the 4th and 5th percentage band can be compensated only by shifts upward into it from the 6th and 7th percentage band. But in several years the tax return population is so small that there is no 6th and 7th percentage band. For lack of such a 'pool' beneath the 4th and 5th percentage band from which a compensating upward movement can occur, the adjustment necessarily reduces its share.

In Table 92, columns 3 and 8, and Chart 19, Panel G, the adjustment in the share of the 4th and 5th percentage band is compared with the 'pool' below it, measured by the excess of the population covered on all tax returns over that in the upper income bands ( 5 percent, in this case) all expressed as percentages of total population. When it is small, few returns can be expected, upon adjustment, to rise above it. Clearly, since the size of the pool and the adjustment are closely correlated, the former can reasonably be accepted as a factor that dominates and explains the latter.

Consequently, had the tax return population been sufficiently large in all years, relatively to the upper percentage bands, the adjustment for family status would not have caused reductions in their shares. The present adjustment in the share of at least the 4th and 5th percentage band reflects the small size of the tax return population, and must, therefore, be further modified.

Before discussing this modification, let us consider the adjustment for family status of the shares in the nonfarm variant (Table 93 and Chart 20). The conclusions and explanations parallel those in the adjustment of the basic variant for total population. Here, also, separating head and nonhead returns increases the share of the top 1 percent; even more so, that of the 2 nd and 3 rd percentage band; and, on the average, that of the 4th and 5th percentage band. Here also, short term fluctuations in the addition to the share of the top 1 percent are associated more closely with those in the proportion of nonhead returns in the income classes below the top 1 percent line - in this case, those of the $\$ 6,000-10,000$ net income classes, tax definition - than with the other factors, whereas those in the addition to the share of the 2nd and 3rd percentage band are accounted for largely in terms of variations in the average number per family return in the $\$ 6,000-10,000$ net income classes and in the excess of the share of
Share of Top 1 Percent Factors Producing Gain in 2nd \& 3rd Percentage Band Av. No.
per
Family
Return,
86,000-
10,000
Net
Income
Classes,
Tax
 Return Population in Nonfarm Population (\% of nonfarm pop.)

 Basic Variant, Nonfarm Population, 1917-1946

[^75]| 1934 | 0.55 | 0.66 | 0.24 | -0.11 | 14.23 | 5.59 | 3.42 | 1.70 | 4.70 | 2.70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1935 | 0.51 | 0.56 | 0.46 | -0.06 | 14.07 | 5.76 | 3.35 | 1.88 | 5.37 | 3.37 |
| 1936 | 0.51 | 0.35 | 0.77 | -0.17 | 14.44 | 6.95 | 3.29 | 2.46 | 6.83 | 4.83 |
| 1937 | 0.48 | 0.35 | 0.70 | 0.11 | 13.67 | 6.65 | 3.24 | 2.41 | 8.41 | 6.41 |
| 1938 | 0.44 | 0.42 | 0.21 | 0.16 | 12.74 | 5.10 | 3.22 | 1.42 | 7.99 | 5.99 |
| 1929 | 0.49 | 0.76 | 0.62 | -0.32 | 13.92 | 7.89 | 3.25 | 2.61 | 5.11 | 3.11 |
| 1930 | 0.53 | 0.66 | 0.35 | -0.51 | 13.90 | 7.32 | 3.29 | 2.25 | 4.05 | 2.05 |
| 1931 | 0.57 | 0.98 | -0.13 | -0.88 | 14.25 | 6.41 | 3.34 | 1.55 | 2.90 | 0.90 |
| 1932 | 0.71 | 1.06 | -0.02 | -0.18 | 15.93 | 6.27 | 3.39 | 1.30 | 4.44 | 2.44 |
| 1933 | 0.64 | 1.01 | -0.04 | -0.17 | 15.18 | 5.82 | 3.41 | 1.15 | 4.21 | 2.21 |
| 1934 | 0.55 | 0.66 | 0.24 | -0.11 | 14.23 | 5.65 | 3.42 | 1.72 | 4.70 | 2.70 |
| 1935 | 0.51 | 0.56 | 0.46 | -0.06 | 14.07 | 5.80 | 3.35 | 1.89 | 5.37 | 3.37 |
| 1936 | 0.50 | 0.34 | 0.74 | -0.16 | 14.44 | 6.70 | 3.29 | 2.37 | 6.83 | 4.83 |
| 1937 | 0.47 | 0.34 | 0.70 | 0.11 | 13.67 | 6.60 | 3.24 | 2.39 | 8.41 | 6.41 |
| 1938 | 0.44 | 0.42 | 0.21 | 0.16 | 12.74 | 5.06 | 3.22 | 1.41 | 7.99 | 5.99 |
| 1939 | 0.50 | 0.53 | 0.82 | 0.08 | 12.71 | 5.14 | 3.19 | 2.41 | 10.29 | 8.29 |
| 1940 | 0.45 | 0.68 | 0.73 | 0.83 | 12.76 | 5.48 | 3.16 | 2.23 | 26.18 | 24.18 |
| 1941 | 0.38 | 0.68 | 0.68 | 0.68 | 13.00 | 5.23 | 3.07 | 2.13 | 51.53 | 49.53 |
| 1942 | 0.30 | 0.76 | 0.73 | 0.52 | 12.43 | 4.83 | 3.06 | 2.05 | 75.12 | 73.12 |
| 1943 | 0.23 | 0.67 | 0.75 | 0.63 | 12.42 | 4.31 | 3.02 | 2.10 | 83.73 | 81.73 |
| 1944 | 0.26 | 0.73 | 0.76 | 0.60 | $12.78{ }^{\text {a }}$ | 3.68 | $3.15{ }^{\text {a }}$ | 1.94 | 93.58 | 91.58 |
| 1945 | 0.19 | 0.59 | 0.70 | 0.61 | $13.50{ }^{\text {b }}$ | 3.45 | $3.18{ }^{\text {b }}$ | 2.19 | 96.14 | 94.14 |
| 1946 | 0.33 | 0.33 | 0.58 | 0.52 | $13.00^{\text {c }}$ | 3.22 | $3.24{ }^{\text {c }}$ | 2.32 | 102.28 | 100.28 |
| Column | Column |  |  |  |  |  |  |  |  |  |
| 1-4 | Table 121: column 2 minus column 1. |  |  |  |  | 9,10 The percentage of the non |  |  | populati | Table 115, |
| 5 | Table 111: column 5 divided by column 3. |  |  |  |  | col. 1) accounted for by the tax return population (Table 69, col. 3) minus 5 and 7 percent respectively. |  |  |  |  |
| 6 | Table 121: column 1, Section A, minus column 1 of Section B. |  |  |  |  | ${ }^{\text {a }}$ For \$7,000-11,000 net income classes, tax definition. |  |  | definit |  |
| 7 | Table 111: column 6 divided by column 4. |  |  |  |  | ${ }^{\text {b }}$ For \$7,000-12,000 net income classes, tax definition. |  |  |  |  |
| 8 | Table 121: column 1, Section B, minus column 1 of Section C. |  |  |  |  | ${ }^{\text {c }}$ For \$9,000-15,000 net income classes, tax definition. |  |  |  |  |

Chart 20

## Preliminary Adjustment for Family Status

Basic Variant, Nonfarm Population, 1917-1946

## Panel A

a Change in share of top 1 percent due to adjustment (\% of income of nonfarm population)
a $b$ Nonhead returns as $\%$ of all returns, $\$ 6,000-10,000$ net income classes, tax definition


Panel B
a Change in share of top 1 percent due to adjustment (\% of income of nonfarm population)
b Excess of share of top 1 percent over that of 2nd and 3rd percentage band, basic variant, signs reversed (\% of income of nonfarm population)


Panel C
a Change in share of 2nd and 3rd percentage band due to adjustment (\% of income of nonfarm population)
b Nonhead returns as \% of all returns, \$6,000-10,000 net income classes, tax definition,


## Chart 20 (cont.)

Panel D
a Change in share of 2 nd and 3 rd percentage band due to adjustment ( $\%$ of income of nonform population)
b Excess of share of top 1 percent over that of 2 nd and 3 rd percentage band, basic variant (\% of income of nonfarm population)


Panel E
a Change in share of 2nd and 3rd percentage band due to adjustment ( $\%$ of income of nonfarm population) b Average number of persons per family return, $\$ 6,000-10,000$ net income classes, tax definition


Panel F
a Change in share of 2 nd and 3 rd percentage band due to adjustment ( $\%$ of income of nonfarm population)
b Excess of share of 2 nd and 3 rd percentage band over that of 4 th and 5 th percentage band, basic variant, signs reversed (\% of income of nonfarm population)


Chart 20 (concl.)
Panel G
a Change in share of 4 th and 5 th percentage band due to adjustment (\% of income of nonform population)
b Coverage of tax return population in excess of $5 \%$ of nonfarm population


Panel $H$
a Change in share of 6 th and 7 th percentage band due to adjustment (\% of income of nonfarm population)
b Coverage of tax return population in excess of $7 \%$ of nonfarm population

the 2nd and 3rd percentage band over that of the 4th and 5th. Finally, the smallness of the tax return population, i.e., the smallness of the 'pool' from
which returns can rise into the upper percentage bands, dominates the size of the adjustment for the 4th and 5th percentage band, and particularly that for the 6th and 7th percentage band.

## 2 Adjustment for Family Status, Final

Here we are concerned with the effect of the smallness of the tax return population on the adjustment for family status. Obviously, even a rough modification is indispensable if we are to use the adjustment for lower percentage bands - the 4th and 5th percentage band in the basic variant for total population, and the 4th and 5th, and 6th and 7th percentage bands in the nonfarm variant.

As already indicated, the adjustment for family status in these bands varies in close conformity with fluctuations in the excess of the tax return population over the lower percentage line of the bands. This suggests a modification procedure. We can calculate the regression of year to year deviations from the average level of the adjustment for family status, the dependent variable, upon the year to year deviations in the excess of the tax return population over that covered by the lower partition line of a given percentage band, the independent variable. Then, using the regression equation, we can 'correct' the dependent variable for the effects of the independent variable on it. These modified or 'corrected' fluctuations in the adjustment for family status can then be added to an estimated average level of the adjustment, an average not affected by the smallness of the tax return population.

Conversion of the adjustment for family status from preliminary to final consists, therefore, of two steps (App. 5, Sec. B). First, we modify year to year changes (deviations from the average) by regression analysis to eliminate the effect of the small tax return population on the annual value taken as a deviation from the average. Then we estimate a correct average level for the period affected by the small tax return population and add the corrected annual deviations. The modification was applied to the adjustment for family status for the 4th and 5th percentage band in the basic variant for total population for 1925-39; the 4th and 5th percentage band for the nonfarm variant for $1930-35$ and the 6th and 7th percentage band for 1925-39. There was no apparent need to modify the adjustment for the top 1 or 2 nd and 3rd percentage band for any year or for some of the lower bands in some years (notably before 1925 and after 1939) because the coverage of the tax return population provided an adequate pool below the critical partition line.

The results are subject to error on two counts - the regression line itself and the estimates of the average level for the period. Yet the final adjust-

Table 94
Change in Shares of 4th and 5th, and 6th and 7th Percentage Bands Produced by Final Adjustment for Family Status
Basic Variant, Total and Nonfarm Population, 1917-1946

ment is definitely to be preferred to the preliminary. It is shown in Table 94 and Chart 21. As will be seen at a glance, the big dip shown by the preliminary estimates, reflecting the narrowing of the tax return population in the depressed 1930's, is eliminated.

To explain the short term fluctuations that still persist we use the model employed above in dealing with the short term changes in the adjustment for the top 1 and the 2 nd and 3rd percentage bands. Of the several 'loss' and 'gain' factors discussed in Section 1, the excess of the share of one band over the next is most relevant here: Thus in Chart 21, Panel A, we compare the final adjustment in the 4 th and 5 th percentage band, basic variant for total population, with the excess of the share of the 2nd and 3rd percentage band over that of the 4th and 5th percentage band. In general, when the excess is large, especially when its average level is low, there is less shifting out of the 4 th and 5th band into the 2nd and 3rd, and less loss from such shifting as does occur. Bearing this in mind, one cannot fail to be impressed by the close correlation in Panel A.

This correlation is present also in the similar comparison for the 4th and 5th percentage band in the nonfarm variant (Panel B), but it is not as close. The reason is not far to seek. In the variant for total population the 4th and 5th percentage band is near the bottom of the tax return population in many years, and in these years only a downward shift into it could have affected year to year changes - there could not be any short term effects of an upward shift from below. But in the nonfarm variant a lower percentage band, the 6th and 7th, is continuously present; and the year to year changes in the final adjustment for the 4th and 5th percentage band thus reflect the upward shift from it as well as the downward shift from the 2 nd and 3 rd percentage band. ${ }^{4}$

The bearing of this explanation can be seen by comparing the year to year changes in the final adjustment for family status in the 4th and 5th

[^76]Notes to Table 94:
Column
1 1918-24 and 1940-46: Table 92, column 3;
1925-39: Table 120, columns 1 and 3.
2 1917-29 and 1936-46: Table 93, column 3;
1930-35: Table 121, columns 1 and 3.
3 1919-24 and 1940-46: Table 93, column 4;
1925-39: Table 121, columns 1 and 3.
4 Table 121: column 1, Section C, minus column 1 of Section E.

Chart 21
Final Adjustment for Family Status, Lower Percentage Bands Basic Variant, Total and Nonfarm Population, 1917-1946

Panel A: 4th and 5th Percentage Band of Total Population
a Change in share due to adjustment ( $\%$ of total income receipts)
b Excess of share of 2nd and 3rd percentage band over that of 4 th and 5 th percentage band,


Panel B: 4th and 5th Percentage Band of Nonfarm Population
a Change in share due to adjustment ( $\%$ of income of nonfarm population)
b Excess of share of 2nd and 3rd percentage band over that of 4 th and 5 th percentage band,


Panel C: 6th and 7th Percentage Band of Nonfarm Population
a Change in share due to adjustment (\% of income of nonfarm population)
b Excess of share of 4 th and 5 th percentage band over that of 6 th and 7 th percentage band,

percentage band for the nonfarm variant (Panel $B$, solid line) with the excess of its share over that of the 6th and 7th percentage band (Panel C, dash line). This excess affects the 'gain' in the adjustment for the 4th and 5th percentage band. The closeness of their negative correlation reduces the positive correlation of the two lines in Panel B.

In Panel C, showing the comparison between the final adjustment for family status in the share of the 6th and 7th percentage band and the excess of the share of the 4th and 5th percentage band over that of the 6th and 7th, all in the nonfarm variant, the correlation is again quite close. The reason is obvious: since the 6th and 7th percentage band lies near the bottom of the tax return population in many years, the adjustment in its share tends to reflect largely annual variations in the downward shift from higher percentage bands, not in any upward shift from lower percentage bands.

## 3 Incompleteness of the Adjustment for Family Status

While the adjustment for family status is valid, it is manifestly incomplete as a measure of the effect of using the return as the unit of classification in a distribution that should use the person. In other words, the adjustment we want is for differences in the number per return. But that for family status gauges differences in the number per return only as far as they emerge when we separate head from nonhead returns.

It would have been desirable to refine the procedure even further: for example, by calculating per capita income separately for the joint returns subgroup, the male family head subgroup, the female family head subgroup, and so on. But the published data for most years do not provide a basis for calculating the number of dependents separately for each family status subgroup. More important, estimating economic income for each subgroup within each net income class, tax definition, would be very difficult. We deplored above our inability to derive more than a crude approximation to economic income even in the simple distinction between the large group of all family head returns on the one hand, and all nonhead returns, on the other. Any attempt to do so for the subgroups might introduce an error into economic income that would make the estimate of doubtful value.

As an adjustment for the number per return, that for family status is thus unavoidably incomplete. We can only hope that it accounts for a major part of the change that would be produced by a full adjustment. A special calculation for 1942, when Statistics of Income for the first time shows returns classified by both family status and number of dependents, provides some ground for this hope. We rearrayed the distribution, not

Table 95
Shares of Upper Income Groups Calculated for 1942 for Joint Returns and Returns of Men, Nonheads, Based on Net Income as Reported


Columns 1-3 are calculated from Statistics of Income, 1942, Part 1, pp. 50-1, 64-5, 125-6, and 139-40; for procedure see text.
only distinguishing between head of family and nonhead returns but also taking into account their classification by number of dependents. Since this calculation is possible for only two or three years and can thus be of merely experimental value, we confined it to two major family status groups - joint returns and returns of men not heads of families - accounting in 1942 for about 25.6 million of 36.5 million returns; and dealt with the distribution by size of statutory net instead of economic income. For this large tax return universe we derived the shares of the upper groups in three ways: the first paralleled the procedure used for the basic variant except that income and population totals were those of the tax coverage, not of the country; the second paralleled that used to adjust the basic variant for family status - distinguishing between head of family (in this case, joint) and nonhead returns; the third took account also of the number of dependents classification, yielding a variant fully adjusted for differences in the number per return (Table 95).

For the top 7 percent the adjustment for the difference between head
and nonhead returns accounts for over seven-tenths of the total adjustment; and that for the top 5 percent is even more efficient (col. 6). But the efficiency varies among the percentage bands, being least for the top 1 and greatest for the 2 nd and 3 rd . Thus, the experimental calculation suggests, though it does not prove, that our procedure which takes into account the twofold family status division, yields the major portion of the adjustment called for by differences in the number per return; but that it is incomplete, i.e., it still understates the shares of the upper groups in comparison with what they would be in a distribution in which per capita economic income was established for each return and made directly the basis of classification.

## 4 Adjustment for Income Base - Unwarranted Inclusions

To adjust the distribution by size of net income, tax definition, so as to approximate a distribution by size of economic income is very difficult. One attempt, based on interpolations within each published statutory net income class of subclasses, yielding number of persons and economic income for each subclass, was completely unsuccessful. We finally had recourse to assumptions designed to give the disparity between net income, tax definition, and economic income the maximum weight in its possible effect on the distribution by size, and thus yield the upper limit of the adjustment that would result could we actually base it on specific data.

As already indicated, net income, tax definition, includes gains on sales of assets which, in terms of economic income, are unwarranted inclusions. To adjust for them, we assume that they are: (a) concentrated on a few returns within each net income class for which gains are shown; (b) not offset even partly for any return that shows them by deductions we later reinclude as items properly belonging to economic income (designated 'unwarranted deductions'); (c) not combined with any other element of economic income, i.e., the units that report them do not have any other income. To determine the maximum number of returns in each net income class whose income could be assumed to consist solely of gains from sales of assets and that would account for all the gains reported, the total gains for each net income class were divided by its lower income limit. These returns were then dropped from the distribution. The remaining returns were converted to population equivalents, cumulated by the usual procedure, and new partition lines drawn to determine the income shares (see App. 5, Sec. C).

This assumption allows for the maximum effect of unwarranted inclusions because it stipulates that they be concentrated on a few returns rather than spread proportionately among all returns within each net income
class. With such a proportionate spread, the size distribution of income would be the same as in the basic variant. By assuming both that the unwarranted inclusions are concentrated and that they are not offset by any unwarranted deductions or combined with any genuine economic income, we in fact cause the economic income of any net income class to be distributed among fewer returns, thus raising the per return and per capita economic income and allowing a purer gradation by per capita economic income than is possible in the basic variant.

From the annual changes produced by the assumption of maximum effect of unwarranted inclusions in the basic variant for total population (Table 96 and Chart 22), we conclude:

First, the adjustment, as would be expected, tends to increase the shares of upper percentage bands. Since its purpose is to get a distribution that conforms better to the basis of classification, the spread is of course less diluted, and larger shares are assigned to the upper bands.

Second, the increase in the shares is appreciable only for the top 1 percent, where it averages about a third of 1 percent. In the lower percentage bands the adjustments are quite small on the average. The reason lies in the differences among income classes in the proportion of unwarranted inclusions in economic income. This proportion, in the net income classes $\$ 10,000$ and over, tax definition, was in some years more than 33 percent of net income; and in 10 years, over 10 percent of economic income (Table 71 , col. 2, related to col. 4). In the $\$ 5,000-10,000$ classes it was below 10 percent in all years and below 5 percent during two-thirds of the period; in the $\$ 3,000-5,000$ classes it exceeded 5 percent in only one year. Naturally, the adjustment is significant only for the share of the top 1 percent, which is ordinarily dominated by the net income classes over $\$ 9,000$ or $\$ 10,000$.

Third, annual variations in the adjustment for unwarranted inclusions require explanation. As was to be expected, those in the share of the top 1 percent are closely associated with annual variations in the proportion of unwarranted inclusions in net income in the income classes over $\$ 10,000$ (Chart 22, Panel A). Somewhat less expected is the effect of the adjustment on the share of the 2 nd and 3rd percentage band. The exclusion from the distribution of a sizeable number of upper level returns, all assumed to report capital gains alone, moves up a corresponding number of returns from what in the basic variant was the 2nd and 3rd percentage band. Obviously, the loss in the latter is not compensated by replacements from the lower percentage bands; nor in some years, even by the adjustment within the band itself. As a result, fluctuations in the adjustment for this band are almost exactly inverted to those for the top 1 percent; and

Table 96
Changes in Shares of Upper Income Groups Produced by Adjustment for Maximum Effect of Unwarranted Inclusions
Basic Variant, Total Population, 1919-1947

|  | Change in Share of Given Percentage Band Due to Adjustment <br> Top 1 2nd \& 3rd 4th \& 5th |  |  | \% Unwarranted Inclusions Are of Net Income, Tax Definition, Net Income Classes of |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \& over | 3,000 |
|  | (1) | (2) | (3) | (4) | (5) |
| 1919 | 0.38 | 0.14 | 0.07 | 7.97 | 1.84 |
| 1920 | 0.41 | 0.21 |  | 6.28 | 1.47 |
| 1921 | 0.22 | 0.44 | 0.02 | 3.81 | 0.90 |
| 1922 | 0.38 | 0.06 | 0.17 | 11.43 | 1.23 |
| 1923 | 0.32 | 0.11 | 0.08 | 11.05 | 2.06 |
| 1924 | 0.50 | 0.04 | 0.05 | 14.11 | 1.61 |
| 1925 | 0.90 | -0.09 | 0.14 | 25.19 | 2.19 |
| 1926 | 0.69 | -0.09 | 0.15 | 20.02 | 1.82 |
| 1927 | 0.75 | -0.10 | 0.22 | 22.93 | 3.05 |
| 1928 | 1.12 | -0.27 | 0.14 | 33.27 | 2.30 |
| 1929 | 0.95 | -0.10 | 0.17 | 33.28 | 2.77 |
| 1930 | 0.34 | -0.02 | 0.04 | 13.96 | 1.26 |
| 1931 | 0.15 | 0.06 | 0.06 | 7.54 | 2.48 |
| 1932 | 0.08 | 0.02 | 0.02 | 3.80 | 0.46 |
| 1933 | 0.28 | 0.04 | 0.02 | 13.90 | 1.22 |
| 1934 | 0.12 | 0.01 | 0.01 | 3.96 | 0.50 |
| 1935 | 0.24 | -0.02 | 0.04 | 8.13 | 1.00 |
| 1936 | 0.41 | -0.04 | 0.05 | 10.89 | 1.21 |
| 1937 | 0.17 | 0.01 | 0.03 | 4.27 | 0.68 |
| 1938 | 0.15 | * | 0.04 | 8.18 | 0.66 |
| 1929 | 0.96 | -0.10 | 0.17 | 33.28 | 2.77 |
| 1930 | 0.34 | -0.02 | 0.04 | 13.96 | 1.26 |
| 1931 | 0.15 | 0.06 | 0.06 | 7.54 | 2.48 |
| 1932 | 0.08 | 0.02 | 0.02 | 3.80 | 0.46 |
| 1933 | 0.29 | 0.04 | 0.02 | 13.90 | 1.22 |
| 1934 | 0.12 | 0.01 | 0.01 | 3.96 | 0.50 |
| 1935 | 0.24 | -0.02 | 0.04 | 8.13 | 1.00 |
| 1936 | 0.40 | -0.04 | 0.05 | 10.89 | 1.21 |
| 1937 | 0.17 | 0.01 | 0.03 | 4.27 | 0.68 |
| 1938 | 0.15 | * | 0.04 | 8.18 | 0.66 |
| 1939 | 0.16 | -0.01 | 0.04 | 4.88 | 0.56 |
| 1940 | 0.13 | 0.01 | -0.01 | 4.50 | 0.27 |
| 1941 | 0.12 | 0.02 | * | 4.69 | 0.20 |
| 1942 | 0.06 | * | 0.00 | 2.54 | 0.15 |
| 1943 | 0.13 | * | * | 4.57 | 0.23 |
| 1944 | 0.14 | 0.02 | 0.01 | 4.63 | 0.36 |
| 1945 | 0.28 | 0.03 | 0.00 | 8.25 | 0.63 |
| 1946 | 0.32 | 0.07 | 0.03 | 8.58 | 0.97 |
| 1947 | 0.19 | 0.05 | 0.03 | 5.84 | 0.68 |

* Less than $\pm 0.005$.


## Column

1, 2 Table 120: column 3 minus column 1.
3 Table 120: column 4 minus column 1.
4, 5 Table 71: columns 2 and 14 respectively.

Chart 22
Adjustment for Maximum Effect of Unwarranted Inciusions Basic Variant, Total Population, 1919-1947

Panel A: Top 1 Percent
a Change in share due to adjustment ( $\%$ of total income receipts)
b Unwarranted inclusions as \% of net income, tax definition, $\$ 10,000$ and over net Income classes


Panel B: 2nd and 3rd Percentage Band
Change in share due to adjustment (\% of total income receipts)


Panel C: 4th and 5th Percentage Band
a Change in share due to adjustment (\% of total income receipts)
b Unwarranted inclusions as \% of net income, tax definition, \$2,000-3,000 net income elass


Table 97
Changes in Shares of Upper Income Groups Produced by Adjustment for Maximum Effect of Unwarranted Inclusions
Basic Variant, Nonfarm Population, 1919-1947

|  | Change in Share of Given PercentageBand Due to Adjustment |  |  |  | \% Unwarranted Inclusions Are of Net Income, Tax Definition, Net Income Classes of \$2,000-5,000 (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  | Top 1 <br> (1) | 2nd \& 3rd <br> (2) | 4 th \& 5th <br> (3) | 6 th \& 7 th <br> (4) |  |
| 1919 | 0.44 | 0.13 | 0.07 | 0.06 | 3.03 |
| 1920 | 0.42 | 0.22 | 0.10 |  | 3.17 |
| 1921 | 0.23 | 0.10 | 0.40 | 0.04 | 1.58 |
| 1922 | 0.39 | 0.09 | 0.01 | 0.19 | 1.97 |
| 1923 | 0.35 | 0.09 | 0.12 | 0.02 | 2.84 |
| 1924 | 0.57 | 0.05 | 0.06 | -0.01 | 2.55 |
| 1925 | 1.09 | -0.11 | 0.01 | 0.09 | 3.35 |
| 1926 | 0.77 | -0.08 | 0.09 | 0.06 | 3.18 |
| 1927 | 0.82 | -0.11 | 0.15 | 0.13 | 3.54 |
| 1928 | 1.32 | -0.26 | 0.02 | 0.04 | 2.90 |
| 1929 | 1.11 | -0.17 | 0.12 | 0.11 | 3.51 |
| 1930 | 0.38 | -0.05 | 0.02 | 0.06 | 1.42 |
| 1931 | 0.17 | 0.02 | 0.10 | 0.01 | 1.58 |
| 1932 | 0.09 | -0.01 | 0.03 | 0.02 | 0.54 |
| 1933 | 0.32 | 0.04 | -0.01 | 0.02 | 1.77 |
| 1934 | 0.13 | -0.01 | 0.02 | $0: 01$ | 0.71 |
| 1935 | 0.27 | -0.01 | 0.05 | 0.02 | 1.40 |
| 1936 | 0.45 | -0.02 | 0.04 | -0.02 | 1.87 |
| 1937 | 0.18 | 0.02 | -0.01 | 0.05 | 0.97 |
| 1938 | 0.17 | 0.01 | 0.03 | 0.02 | 0.89 |
| 1929 | 1.12 | -0.18 | 0.13 | 0.11 | 3.51 |
| 1930 | 0.38 | -0.05 | 0.02 | 0.06 | 1.42 |
| 1931 | 0.17 | 0.02 | 0.10 | 0.01 | 1.58 |
| 1932 | 0.09 | -0.01 | 0.03 | 0.02 | 0.54 |
| 1933 | 0.32 | 0.04 | -0.01 | 0.03 | 1.77 |
| 1934 | 0.13 | -0.01 | 0.02 | 0.01 | 0.71 |
| 1935 | 0.28 | -0.01 | 0.05 | 0.02 | 1.40 |
| 1936 | 0.44 | -0.02 | 0.04 | -0.02 | 1.87 |
| 1937 | 0.18 | 0.02 | -0.01 | 0.05 | 0.97 |
| 1938 | 0.16 | 0.01 | 0.03 | 0.02 | 0.89 |
| 1939 | 0.17 | 0.01 | 0.03 | 0.01 | 0.80 |
| 1940 | 0.14 | 0.01 | * | 0.02 | 0.43 |
| 1941 | 0.13 | 0.01 | 0.01 | -0.01 | 0.37 |
| 1942 | 0.07 | * | * | -0.01 | 0.22 |
| 1943 | 0.15 | * | * | -0.01 | 0.34 |
| 1944 | 0.16 | 0.02 | 0.01 | 0.01 | 0.44 |
| 1945 | 0.31 | 0.02 | 0.01 | 0.01 | 0.79 |
| 1946 | 0.35 | 0.07 | 0.04 | 0.03 | 1.32 |
| 1947 | 0.21 | 0.05 | 0.03 | 0.02 | 0.83 |

## Column

1, 2 Table 121: column 3 minus column 1.
3, 4 Table 121: column 4 minus column 1.
5 Weighted mean of columns 10 and 14 of Table 71.

Chart 23
Adjustment for Maximum Effect of Unwarranted Inclusions Basic Variant, Nonfarm Population, 1919-1947

Panel A: Top 1 Percent


Panel B: 2nd and 3rd Percentage Band
Change in share due to adjustment (\% of income of nonfarm population)


Panel C: 4 th and 5th Percentage Band
a Change in share due to adjustment (\% of income of nonfarm population)
b Unwarranted inclusions as \% of net income, tax definition, \$2,000-5,000 net income classes


in some years its adjustment is negative (cf. Chart 22, Panel B, with the solid line of Panel A). Finally, in the 4th and 5th percentage band the adjustment is closely associated with the proportion of unwarranted inclusions in net income in the $\$ 2,000-3,000$ net income class - the one that dominates this band in the basic variant for total population. ${ }^{5}$

An exactly parallel set of assumptions concerning the distribution of unwarranted inclusions was employed in connection with the nonfarm variant (Table 97 and Chart 23), yielding the same conclusions, somewhat accentuated. Again, the adjustment adds significantly to the share of the top 1 percent alone, even though its population is a narrower and more selective group. Again, annual fluctuations in the adjustment for the share of the top 1 percent follow closely changes in the proportion of unwarranted inclusions in net income in the $\$ 10,000$ and over net income classes, tax definition; whereas those in the adjustment for the 2 nd and 3rd per-

[^77]centage band are negatively correlated with those in the adjustment for the top 1 percent. Changes in the adjustment for the 4 th and 5 th percentage band follow fluctuations in the proportion of unwarranted inclusions in net income in the $\$ 2,000-5,000$ net income classes (Chart 23, Panel $C$ : somewhat higher income classes are used in this comparison than in that for the 4th and 5th percentage band in the basic variant for total population in Chart 22, Panel C-for obvious reasons). Finally, for the 6th and 7th percentage band, fluctuations in the adjustment follow those in the proportion of unwarranted inclusions in net income in the \$2,000-3,000 net income class (Chart 23, Panel D).

## 5 Adjustment for Income Base - Unwarranted Deductions

We turn now to the discrepancy between net income, tax definition, and economic income arising from unwarranted deductions (tax exempt interest, losses on sales of assets, taxes, interest, etc.) from the former that have to be included to obtain the latter. These items loom much larger than unwarranted inclusions, at least for the lower income classes in most years. We must make an assumption concerning their distribution within each net income class of a type that will yield the upper limit of the adjustment that would be obtained were specific data available.

We assumed that all unwarranted deductions are concentrated in a tenth of the returns (and population) remaining in each net income class after returns assumed to receive all gains on sales of assets (unwarranted inclusions) have been excluded. The selection of a tenth was arbitrary. Had we assumed ten-tenths, i.e., the entire number in each class, no change from the basic variant (adjusted for unwarranted inclusions) would ensue. Had we assumed a hundredth, the adjustment would be more marked. But it seemed that assigning all the deductions of a net income class to only a tenth of its returns implied a sufficient degree of concentration and that there was no need to make the assumption so extreme as to verge on the absurd.

For this tenth of returns (and population) in each net income class we then assumed an average net income per capita equal to that of the given class (gains on sales of assets having already been removed); and total economic income equal to the sum of net income (calculated as the product of the number and the per capita net income) and all the unwarranted deductions for the given class. This in fact split the returns (and population) in each net income class, after the adjustment for unwarranted inclusions, into two parts: nine-tenths, whose economic income equaled net income, excluding gains on sales of assets; and one-tenth, whose economic income equaled net income, also excluding gains on sales of assets, plus
all unwarranted deductions. The population on whose returns the unwarranted deductions were assumed to be concentrated was removed from its original net income classes and redistributed among the income classes whose economic income per capita most nearly approximated its own. The distribution was then recumulated on the basis of per capita income, the usual partition lines drawn, and the shares of the upper percentage bands calculated. ${ }^{6}$

From the annual adjustments of the basic variant for total population thus derived (Table 98 and Chart 24), we conclude:
First, the shares of the top 1 and 2nd and 3rd percentage bands are increased - an average of 0.8 and 0.5 percentage points respectively, about a fifteenth of the former and about a thirteenth of the latter.

Second, the adjustment of the top 1 percent's share fluctuates roughly with the proportion of unwarranted deductions in net income in the $\$ 5,000-10,000$ net income classes, tax definition, the classes from which a tenth of the returns - those to which total unwarranted deductions are assigned - are likely to shift into the top 1 percent. The larger the proportion of unwarranted deductions in net income, the larger the contribution these returns, shifting upward, are likely to make to the top 1 percent.

Third, since some returns are shifted from the bottom of the distribution to the top, the smallness of the tax return population affects the adjustment for lower percentage bands much as it does their adjustment for family status. In this case, however, it affects not only the adjustment for the share of the 4th and 5th percentage band, as is revealed in Panel C of Chart 24, but also that of the 2nd and 3rd percentage band, as is indicated by the marked dip in the 1930's in Panel B reflecting the drastic contraction of the tax return population in the depression years. For this reason we did not attempt to associate the fluctuations in the adjustment for the 2nd and 3rd percentage band with any factor similar to that used in Panel A.

Because of the effects of the small tax return population, the adjustment for unwarranted deductions for the 2nd and 3rd percentage band in 1925-38, and for the 4th and 5th percentage band in 1919-39, as given in Table 98, are preliminary and have to be modified. Before dealing with

[^78]Table 98
Changes in Shares of Upper Income Groups Produced by Preliminary Adjustment for Maximum Effect of Unwarranted Deductions Basic Variant, Total Population, 1919-1943
\% Unwarranted Deductions Are of Net Income, Tax Definition, Net Income Classes of \$5,000-10,000 (4)
18.47
18.19
21.04
19.05
17.89
17.71
17.29
17.52
16.59
16.14
17.50
21.22
25.08
28.67
26.09
20.89
18.20

1935
1936
1937
1938
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943

| Change in Share of Given Percentage |  |  |
| :---: | :---: | :---: |
| Band Due to Adjustment |  |  |
| Top 1 | 2nd \& 3rd | 4th \& th |
| $(1)$ | $(2)$ | $(3)$ |
| 0.44 | 0.17 | -0.01 |
| 0.46 | -0.05 | 0.17 |
| 1.88 | 0.48 | -0.28 |
| 1.36 | 0.41 | 0.13 |
| 0.90 | 1.57 | -0.02 |
| 0.74 | 0.97 | 0.11 |
| 0.69 | 0.50 | -0.54 |
| 0.73 | 0.51 | -0.50 |
| 0.88 | 0.61 | -0.6 .7 |
| 0.68 | 0.55 | -0.60 |
| 1.24 | 0.61 | -0.83 |
| 1.00 | 0.34 | -0.69 |
| 1.61 | -0.07 | -0.97 |
| 1.60 | 0.14 | -0.72 |
| 1.41 | 0.06 | -0.62 |
| 0.88 | 0.41 | -0.56 |
| 0.76 | 0.61 | -0.54 |
| 0.51 | 0.64 | -0.35 |
| 0.59 | 0.76 | -0.29 |
| 0.77 | 0.91 | -0.37 |
| 1.25 | 0.62 | -0.84 |
| 1.02 | 0.35 | -0.70 |
| 1.61 | -0.07 | -0.98 |
| 1.65 | 0.14 | -0.74 |
| 1.45 | 0.06 | -0.64 |
| 0.92 | 0.43 | -0.58 |
| 0.76 | 0.61 | -0.54 |
| 0.50 | 0.63 | -0.34 |
| 0.58 | 0.74 | -0.28 |
| 0.77 | 0.90 | -0.37 |
| 0.70 | 0.88 | -0.31 |
| 0.44 | 0.53 | 0.81 |
| 0.46 | 0.42 | 0.80 |
| 0.29 | 0.58 | 0.79 |
| 0.20 | 0.25 | 0.79 |
|  |  |  |14.93

17.13
18.74
17.50
21.22
25.08
28.67
26.09
20.89
18.20
14.93
17.13
18.74
16.08
15.41
15.68
12.75
9.94

## Column

1, 2 Table 120: column 4 minus column 3.
3 Table 120: column 5 minus column 4.
4 Table 71, column 7.
this modification, we review the adjustment as applied to the shares of the upper percentage bands in the nonfarm variant (Table 99 and Chart 25).

Chart 24
Preliminary Adjustment for Maximum Effect of Unwarranted Deductions Basic Variant, Total Population, 1919-1943

Panel A: Top 1 Percent
a Change in share due to adjustment (\% of total Income receipts)
b Unwarranted deductions as \% of net income, tax definition, $\$ 5,000-10,000$ net income classes


Panel B: 2nd and 3rd Percentage Band
Change in share due to adjusiment ( $\%$ of total income receipts)


Chart 24 (concl.)
Panel $C$ : 4th and 5th Percentage Band
a Change in share due to adjustment (\% of total income receipts)
b Coverage of tax return population in excess of $5 \%$ of total population (as \% of total population)


The assumption is identical with that employed in adjusting the basic variant for total population. The reshuffling of the classes in the tax return population is therefore the same. The difference lies in the size of the denominators: as nonfarm population is smaller than total population, the percentage partition lines are drawn at higher levels in the tax return population. As might be expected, the biggest additions on the average are still to the share of the top 1 percent, and they fluctuate from year to year roughly with the proportion of unwarranted deductions in net income in the \$5,000-10,000 net income classes, tax definition (Chart 25, Panel A). Additions to the share of the 2nd and 3rd percentage band are significantly larger on the average than those to the share of the corresponding band in the basic variant for the total population: the former band, occupying a

Table 99
Changes in Shares of Upper Income Groups Produced by Preliminary Adjustment for Maximum Effect of Unwarranted Deductions Basic Variant, Nonfarm Population, 1919-1943

|  | Change in Share of Given Percentage BandDue to Adjustment |  |  |  | \% Unwarranted Deductions Are of Net Income, Tax Definition, Net Income |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{gathered} \text { Classes of } \\ \$ 3,000-5,000 \end{gathered}$ |
|  | (1) | (2) | (3) | (4) | (5) |
| 1919 | 0.63 | -0.05 | 0.15 | 0.02 | 10.07 |
| 1920 | 0.56 | -0.13 | 0:05 | 0.19 | 9.29 |
| 1921 | 1.99 | 0.46 | 0.24 | -0.33 | 14.37 |
| 1922 | 1.43 | 0.38 | 0.41 | -0.06 | 13.29 |
| 1923 | 0.67 | 1.60 | 0.52 | -0.03 | 16.16 |
| 1924 | 0.65 | 0.88 | 0.48 | 0.04 | 13.60 |
| 1925 | 0.63 | 0.73 | -0.20 | -0.46 | 13.74 |
| 1926 | 0.76 | 0.66 | -0.30 | -0.34 | 15.46 |
| 1927 | 0.90 | 0.84 | -0.39 | -0.50 | 13.73 |
| 1928 | 0.70 | 0.71 | -0.31 | -0.46 | 13.76 |
| 1929 | 1.03 | 1.22 | -0.53 | -0.71 | 19.76 |
| 1930 | 0.96 | 0.71 | -0.43 | -0.61 | 15.97 |
| 1931 | 1.41 | 0.59 | -0.85 | -0.66 | 18.31 |
| 1932 | 1.33 | 1.02 | -0.71 | -0.63 | 19.18 |
| 1933 | 1.23 | 0.83 | -0.63 | -0.56 | 19.02 |
| 1934 | 0.77 | 0.85 | -0.42 | -0.44 | 15.08 |
| 1935 | 0.69 | 0.84 | -0.34 | -0.33 | 13.81 |
| 1936 | 0.54 | 0.61 | 0.06 | -0.34 | 11.88 |
| 1937 | 0.64 | 0.65 | 0.27 | -0.41 | 12.43 |
| 1938 | 0.82 | 0.91 | -0.20 | -0.25 | 12.98 |
| 1929 | 1.04 | 1.24 | -0.53 | -0.71 | 19.76 |
| 1930 | 0.98 | 0.72 | -0.44 | -0.62 | 15.97 |
| 1931 | 1.41 | 0.59 | -0.85 | -0.66 | 18.31 |
| 1932 | 1.36 | 1.04 | -0.73 | -0.64 | 19.18 |
| 1933 | 1.26 | 0.85 | -0.64 | -0.58 | 19.02 |
| 1934 | 0.77 | 0.86 | -0.42 | -0.44 | 15.08 |
| 1935 | 0.70 | 0.85 | -0.34 | -0.34 | 13.81 |
| 1936 | 0.52 | 0.59 | 0.05 | -0.33 | 11.88 |
| 1937 | 0.64 | 0.65 | 0.27 | -0.41 | 12.43 |
| 1938 | 0.82 | 0.90 | -0.20 | -0.25 | 12.98 |
| 1939 | 0.74 | 0.52 | 0.46 | -0.31 | 11.08 |
| 1940 | 0.49 | 0.32 | 0.69 | 0.49 | 10.72 |
| 1941 | 0.50 | 0.35 | 0.55 | 0.63 | 11.14 |
| 1942 | 0.32 | 0.33 | 0.72 | 0.81 | 10.27 |
| 1943 | 0.21 | 0.11 | 0.71 | 0.60 | 8.70 |

Column
1,2 Table 121: column 4 minus column 3.
3, 4 Table 121: column 5 minus column 4.
5 Table 71, column 11.
higher position in the tax return population, comprises classes in which the proportion of unwarranted deductions in net income is larger. For the same reason, the adjustment of its share does not reflect the small tax

Chart 25
Preliminary Adjustment for Maximum Effect of Unwarranted Deductions Basic Variant, Nonfarm Population, 1919-1943

Panel A: Top 1 Percent
a Change in share due to adjustment (\% of income of nonfarm population)
b Unwarranted deductions as \% of net income, tax definition, $\$ 5,000-10,000$ net income classes


Panel B: 2 nd and 3rd Percentage Band
a Change in share due to adjustment (\% of income of nonfarm population)
b Unwarranted deductions as \% of net income, tax definition, $\$ 3,000-5,000$ net income classes


Chart 25 (concl.)
Panel C: 4th and 5th Percentage Band
a Change in share due to adjustment ( $\%$ of income of nonfarm population)

- Coverage of tax return population in excess of $5 \%$ of nonfarm population (as \% of nonfarm population)


Panel D: 6th and 7th Percentage Band
a Change in share due to adjustment ( $\%$ of income of nonfarm population)
b Coverage of tax return population in excess of $7 \%$ of nonfarm population (as \% of nonfarm population)

return population as does that of the corresponding band in the basic variant for total population. Hence we can see the association between additions to its share and variations in the proportion of unwarranted deductions in net income in the $\$ 3,000-5,000$ net income classes, tax definition (Panel B). The effects of the small tax return population are conspicuous in the adjustments for the 4th and 5th, and 6th and 7th percentage bands (Panels C and D).

The procedure by which the adjustment for unwarranted deductions was modified for the effects of the small tax return population resembles that by which the adjustment for family status was modified: (a) the deviations from the average level were 'corrected' by a regression equation that associates them with those in the excess of the tax return population over a given percentage of the entire population; and (b) a corrected average level was estimated for the period for which it is affected in the preliminary adjustment by the small tax return population. It was applied to the adjustment for the 2 nd and 3 rd percentage band in the basic variant for total population for 1925-38, the 4th and 5th percentage band for 1919-39; and the 4th and 5th percentage band in the nonfarm variant for 1925-38, and the 6th and 7th percentage band for 1925-39 (App. 5, Sec. D).

The effectiveness of the modification is revealed by the disappearance of the dip so conspicuous in the preliminary adjustment in the 1930's (Table 100 and Chart 26). In consequence, the amplitude of fluctuations in the final adjustment is much smaller. In the 2nd and 3rd percentage band of the basic variant for total population for the years after 1924, and in the 4th and 5th percentage band throughout the period (Chart 26, first 2 lines), fluctuations are relatively minor, as they are also for the 4th and 5th, and 6th and 7th percentage bands in the nonfarm variant (last 2 lines).

Year to year fluctuations remain, however, because of the factors discussed above in connection with the adjustment for family status: differing magnitudes of the factors in the various net income classes that determine the movement upward and downward, in and out of given percentage bands. To attempt a complete analysis of these fluctuations as the complex result of varying combinations of such factors as the proportion of unwarranted deductions in economic income in the various net income classes and the excess of average economic income per capita in a given percentage band over that in a higher or lower band did not seem worth while since the procedure is based upon hypothetical assumptions whose main purpose is to give some idea of the maximum adjustment, not its exact size.

Table 100
Changes in Shares of 2nd and 3rd, and Lower Percentage Bands Produced by Final Adjustment for Maximum Effect of Unwarranted Deductions: Basic Variant, Total and Nonfarm Population, 1919-1943

|  | total Change | Lation hare of | NONFARM Change | ulation Share of |
| :---: | :---: | :---: | :---: | :---: |
|  | 2nd \& 3rd | 4th \& 5th | 4 th \& 5 th | $6 t h$ \& 7th |
|  | percentage | percentage | percentage | percentage |
|  | band | band | band | band |
|  | (1) | (2) | (3) | (4) |
| 1919 | 0.17 | 0.55 | 0.15 | 0.02 |
| 1920 | -0.05 | 0.57 | 0.05 | 0.19 |
| 1921 | 0.48 | 0.21 | 0.24 | -0.33 |
| 1922 | 0.41 | 0.61 | 0.41 | -0.06 |
| 1923 | 1.57 | 0.37 | 0.52 | -0.03 |
| 1924 | 0.97 | 0.56 | 0.48 | 0.04 |
| 1925 | 0.65 | 0.60 | 0.86 | 0.62 |
| 1926 | 0.68 | 0.64 | 0.80 | 0.75 |
| 1927 | 0.88 | 0.54 | 0.83 | 0.63 |
| 1928 | 0.85 | 0.62 | 0.94 | 0.67 |
| 1929. | 0.88 | 0.38 | 0.70 | 0.42 |
| 1930 | 0.85 | 0.66 | 1.01 | 0.58 |
| 1931 | 0.79 | 0.56 | 0.83 | 0.60 |
| 1932 | 0.56 | 0.59 | 0.65 | 0.54 |
| 1933 | 0.56 | 0.72 | 0.78 | 0.67 |
| 1934 | 0.79 | 0.72 | 0.89 | 0.71 |
| 1935 | 0.84 | 0.64 | 0.84 | 0.78 |
| 1936 | 0.65 | 0.68 | 1.00 | 0.69 |
| 1937 | 0.70 | 0.63 | 0.99 | 0.54 |
| 1938 | 0.86 | 0.57 | 0.57 | 0.72 |
| 1929 | 0.88 | 0.38 | 0.70 | 0.42 |
| 1930 | 0.85 | 0.66 | 1.01 | 0.58 |
| 1931 | 0.79 | 0.56 | 0.83 | 0.60 |
| 1932 | 0.56 | 0.59 | 0.65 | 0.54 |
| 1933 | 0.56 | 0.72 | 0.78 | 0.67 |
| 1934 | 0.79 | 0.72 | 0.89 | 0.71 |
| 1935 | 0.84 | 0.64 | 0.84 | 0.78 |
| 1936 | 0.65 | 0.68 | 1.00 | 0.69 |
| 1937 | 0.70 | 0.63 | 0.99 | 0.54 |
| 1938 | 0.86 | 0.57 | 0.57 | 0.72 |
| 1939 | 0.88 | 0.56 | 0.46 | 0.55 |
| 1940 | 0.53 | 0.81 | 0.69 | 0.49 |
| 1941 | 0.42 | 0.80 | 0.55 | 0.63 |
| 1942 | 0.58 | 0.79 | 0.72 | 0.81 |
| 1943 | 0.25 | 0.79 | 0.71 | 0.60 |

## Column

1 1919-24 and 1939-43: Table 98, column 2; 1925-38: Table 120, columns 5 and 3.
2 1919-39: Table 120, columns 6 and 4; 1940-43: Table 98, column 3.
3 1919-24 and 1939-43: Table 99, column 3; 1925-38: Table 121, columns 6 and 4.
4 1919-39: Table 121, columns 6 and 4; 1940-43: Table 99, column 4.

Chart 26
Changes in Shares Due to Final Adjustment for Maximum Effect of Unwarranted Deductions, Lower Percentage Bands
Basic Variant, Total and Nonfarm Population, 1919-1943


6 Adjustment for Income Base Suggested by Other Data
The adjustments for unwarranted inclusions and deductions discussed in Sections 4 and 5 are obviously hypothetical, being based on somewhat extreme assumptions, not on specific data. The correction for the dispar-
ity in the classification bases between the published distributions and those by economic income is not likely to be larger than that calculated. But we still do not know the degree to which our adjustments may have exaggerated the true correction. While compelled to retain those based on maximum assumptions because they are the only ones possible on a continuous basis throughout the period, we should at least know by how much their average level is likely to exceed the true level.

An approximation to the true adjustments is possible with data in which a classification of one and the same income universe is carried through on two bases: the size of economic income (or of income close to that concept) and of income defined otherwise, preferably similar to net income, tax definition. By comparing two such distributions we can observe the effect of using a base for classification by size that differs from the income total that is being distributed.

Using the special tabulation of federal tax returns for 1936 we compare the distribution of one and the same income total on a base identical with the total being distributed, net income excluding capital gains and losses, and on a base identical with that underlying the distribution in Statistics of Income, net income including capital gains and losses. Neither concept is identical with our economic income. But the two totals for 1936 differ by about 4 percent of net income excluding capital gains and losses. Using Wisconsin tax returns for 1929 and 1934-36, we compare the distribution of an income total that is quite close to our concept of economic income on two bases: 'income bracket' income ${ }^{7}$ and net taxable income, the latter concept being close to that of net income, tax definition, in the federal returns. These two totals differ by percentages of net taxable income that vary, through the years covered, from about 7 to 10.

For both bodies of data we compare the distributions cumulated from the top down, estimating the proportion of income on all tax returns accounted for by the upper percentage bands of the tax return population (Table 101). The percentage lines were drawn to approximate those for the basic variant for total population. Thus, the line for the top 1 percent of total population cuts off roughly the top 9 percent of returns; hence column 1 for the federal tax data comparison shows the share of income received by the top 9 percent of returns. Since there are at least twice as many state tax returns for Wisconsin as there are federal returns, the top 3 percent of the former suffices to approximate the top 1 percent of the state's population. Hence columns $1-3$ represent the three upper percent-

[^79]Table 101
Distribution of Income by Different Income Bases: Federal Tax Returns for 1936 and Wisconsin Tax Returns for 1929, 1934-36

1936 Federal Tax Returns


Line
1a Calculated from Statistics of Income Supplement Compiled from Income Tax Returns for 1936, Section I, Table 1.
1b Calculated from Statistics of Income, 1936, Basic Tables 5 and 7, and data for net income classes under $\$ 5,000$ from the Source Book.
2a, 3a, 4a, 5a Calculated from Wisconsin Individual Income Tax Statistics (Wiscon$\sin$ Tax Commission, mimeo: 1929, 1934, 1935, and 1936, Vol. One, Table 2). From total income are subtracted capital gains, interest paid, business losses, and partnership losses.
$2 \mathrm{~b}, \mathbf{3 b}, 4 \mathrm{~b}, 5 \mathrm{~b}$ Calculated from ibid., Table 1 . See note to lines 2 a , etc.
age bands of the basic variant for total population in that they show shares of income for the upper percentage bands of returns that are roughly equivalent to the top 1, 2nd and 3rd, and 4th and 5th percentage bands of total population; and column 4 represents the share of the top 5 percent of the population of each area. But the entries are shares of income re-
corded on all tax returns, not of income flow to the whole population of the area.

The adjustment for maximum effects of unwarranted inclusions or deductions cannot be compared precisely with the change in the shares of upper percentage bands due to the shift in the income base. The special study of 1936 federal tax returns shows only the effect of excluding statutory net capital gains and losses, whereas our corresponding adjustment is for maximum effects of the unwarranted inclusion of statutory net capital gains alone. ${ }^{8}$ In the Wisconsin state income tax data comparison, where we try to test our combined adjustment for the maximum effects of both unwarranted inclusions and deductions, there is even more dissimilarity. The Wisconsin definition of tax income differs from the federal; and the concept of 'income bracket' income, while on the whole close to ours of economic income differs from it in several respects. Most important, the size of unwarranted inclusions and deductions, relative to net taxable or net statutory income, may be appreciably different for the Wisconsin state data and for the countrywide federal data. ${ }^{9}$ Nevertheless, we make the comparisons, using our adjustments in their final form for maximum effects of unwarranted inclusions and deductions for the basic variant for total population. In all these comparisons the differences are expressed as ratios to the shares that are being adjusted or are affected by the shifts in the income base (Table 102).

The results for the separate percentage bands are rough indeed, and are to be given less weight than those for the top 5 percent as a whole. The sole definite conclusion is that our maximum assumptions do exaggerate the adjustments that would have been obtained with specific data. Our adjustment for unwarranted inclusions is almost double that derived from the special study of 1936 federal data. This excess can hardly be due to the fact that our adjustment takes account of statutory net capital gains alone, inasmuch as the special federal study, reflecting both statutory net

[^80]Table 102
Adjustments for Maximum Effect of Unwarranted Inclusions and Deductions, Basic Variant, Total Population, and Those Suggested by Other Data, Selected Years (Ratios to Unadjusted Shares)


Comparison with Special Federal Data for 1936
1 Adjustment for statutory capital gains $\begin{array}{lllll}\text { \& losses, Treasury Study } & 0.013 & 0.006 & * & 0.009\end{array}$
2 Adjustment for max. effect of unwarranted inclusions, basic variant, $\begin{array}{llllll}\text { total population } & - & 0.030 & -0.007 & 0.010 & 0.017\end{array}$

Comparison with Wisconsin Data (using our final adjustment for unwarranted inclusions \& deductions, basic variant, total population)

1929

| 3 | Wisconsin data | 0.109 | -0.003 | -0.007 | 0.049 |
| ---: | :--- | ---: | ---: | ---: | ---: |
| 4 | Our adjustments | 0.151 | 0.116 | 0.115 | 0.135 |
|  | 1934 |  |  |  |  |
| 5 | Wisconsin data | 0.074 | 0.013 | 0.006 | 0.037 |
| 6 | Our adjustments | 0.083 | 0.120 | 0.136 | 0.105 |
|  | $\quad 1935$ |  |  |  |  |
| 7 | Wisconsin data | 0.059 | 0.011 | 0.005 | 0.030 |
| 8 | Our adjustments | 0.083 | 0.127 | 0.131 | 0.106 |
|  | $\quad 1936$ |  |  |  |  |
| 9 | Wisconsin data | 0.060 | 0.008 | 0.002 | 0.030 |
| 10 | Our adjustments | 0.068 | 0.092 | 0.153 | 0.091 |
|  | Av. for Given Years |  |  |  |  |
| 11 | Wisconsin data | 0.076 | 0.007 | 0.002 | 0.036 |
| 12 | Our adjustments | 0.096 | 0.114 | 0.134 | 0.109 |

* Less than 0.0005 .

Line
$1 \quad$ Table 101: line 1c divided by line 1 b .
2 Table 96, columns 1-3 divided by column 1 of Table 118.
$3,5,7,9$ Table 101: lines $2 \mathrm{c}, 3 \mathrm{c}, 4 \mathrm{c}$, and 5 c divided by lines $2 \mathrm{~b}, 3 \mathrm{~b}, 4 \mathrm{~b}$, and 5 b .
4, 6, 8, 10 Table 120: difference between column 4 (or 5 or 6 ) and column 1 , divided by column 1.
gains and losses, should have yielded a 'purer' array and hence more of an increase in the share of upper percentage bands. Comparison of our adjustments with that derived from the Wisconsin data yields similar conclusions, even allowing for the difference in the income structure between the state and the country. Our adjustments for maximum effects of unwarranted inclusions and deductions combined are, on the whole, about three times that based on Wisconsin data. One may reasonably conclude, therefore, that in contrast to our adjustment for family status, which manifestly underestimates the necessary correction for number of persons per
return, our adjustments for the income base quite definitely overestimate the correction for unwarranted inclusions and deductions.

From Table 102 it appears that at least in the case of unwarranted deductions, the relative exaggeration in our adjustment is larger for the 2nd and 3 rd , and 4 th and 5 th percentage bands than for the top 1 percent, and this can be accepted as plausible. In the adjustment for family status the shortage was biggest in the top 1 percent (Sec. 3). Consequently, if we combine the adjustment for family status with those for maximum effects of unwarranted inclusions and deductions, the error in the estimated share of the top 5 percent (basic variant for total population) or of the top 7 percent (nonfarm variant) is likely to be quite minor; but there may be a slight underestimate in the top 1 percent's share and a slight overestimate in the shares of the percentage bands between the 1st and the 7th. ${ }^{10}$

[^81]
## Appendix 5

Section A<br>Sample Calculation of Adjustment for Family Status, 1929<br>\section*{Section B}<br>Modification of Adjustment for Family Status for Limited Size of Tax Return Population

Section C
Adjustments for the Maximum Effect of. Unwarranted Inclusions and Deductions

Section D
Modification of Adjustment for Unwarranted
Deductions for Limited Size of Tax Return Population
Section A: Sample Calculation of Adjustment for Family Status, 1929 I Adjustment of Basic Variant for Total population
a Tax Return Population and Its Income by Family Status Groups

|  | NETINCOMBCLASS,TAXDEFINITION(1) | FAMILY RETURNS |  | INCOME TO NET INCOME, TAX | FAMILY RETURNS Economic Income |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Population |  |  |  |  |
|  |  | No. | Repre- | DEFINITION, ALL RETURNS | Income | $\begin{aligned} & \text { Total } \\ & (\$ 000) \end{aligned}$ | $\underset{\$}{\text { capita }}$ |
|  |  | (2) | (3) | (4) | (5) | (6) | (7) |
| 1 | \$10,000 \& over | 269,408 | 870,046 | 0.8686 | 9,691,090 | 8,417,635 | 9,675 |
| 2 | 9,000-10,000 | 51,064 | 167,769 | 1.0809 | 526,083 | 568,650 | 3,389 |
| 3 | 8,000-9,000 | 65,443 | 214,021 | 1.0916 | 597,025 | 651,699 | 3,045 |
| 4 | 7,000-8,000 | 92,075 | 298,458 | 1.0980 | 734,871 | 806,858 | 2,703 |
| 5 | 6,000-7,000 | 129,865 | 419,986 | 1.1059 | 887,356 | 981,369 | 2,337 |
| 6 | 5,000-6,000 | 202,635 | 666,323 | 1.1176 | 1,156,863 | 1,292,970 | 1,940 |
| 7 | 4,000-5,000 | 410,968 | 1,399,553 | 1.1454 | 1,876,764 | 2,149,711 | 1,536 |
| 8 | 3,000-4,000 | 539,700 | 1,744,152 | 1.1718 | 1,953,360 | 2,289,006 | 1,312 |
| 9 | 2,000-3,000 | 346,357 | 1,027,521 | 1.1885 | 895,372 | 1,064,223 | 1,036 |
| 10 | 1,000-2,000 | 222,351 | 709,321 | 1.2477 | 389,540 | 486,056 | 685 |
| 11 | Under 1,000 | 63,375 | 235,399 | 4.6389 | 44,662 | 207,186 | 880 |

I Adjustment of Basic Variant for Total Population (concl.)
b Cumulation of Tax Return Population and Its Income Taking Account of Family Status

|  | Pop. in Part a, Col. 3 \& 10, Cumulated by Rank in Col. 8 \& 13 <br> (1) | Col. 1 as \% of Total Pop. (2) | Log of Col. 2 (3) | Income in Part a, Col. 6 \& 11, Cumulated by Rank in Col. 8 \& 13 (\$000) <br> (4) | Col. 4 <br> as \% of Individuals' Total Income Receipts (5) | Log of Col. 5 <br> (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 67,177 | 0.055 | -1.25964 | 2,191,676 | 2.732 | 0.43648 |
| 2 | 76,161 | 0.063 | -1.20066 | 2,283,774 | 2.846 | 0.45423 |
| 3 | 946,207 | 0.777 | -0.10958 | 10,701,409 | 13.338 | 1.12509 |
| 4 | 957,201 | 0.786 | -0.10458 | 10,803,087 | 13.465 | 1.12921 |
| 5 | 971,695 | 0.798 | -0.09800 | 10,922,125 | 13.613 | 1.13395 |
| 6 | 991,977 | 0.814 | -0.08938 | 11,066,870 | 13.794 | 1.13969 |
| 7 | 1,021,600 | 0.839 | -0.07624 | 11,247,618 | 14.019 | 1.14672 |
| 8 | 1,084,733 | 0.890 | -0.05061 | 11,568,843 | 14.419 | 1.15894 |
| 9 | 1,219,747 | 1.001 | 0.00043 | 12,110,243 | 15.094 | 1.17880 |
| 10 | 1,387,516 | 1.139 | 0.05652 | 12,678,893 | 15.803 | 1.19874 |
| 11 | 1,601,537 | 1.315 | 0.11893 | 13,330,592 | 16.615 | 1.22050 |
| 12 | 2,051,115 | 1.684 | 0.22634 | 14,594,232 | 18.190 | 1.25983 |
| 13 | 2,349,573 | 1.929 | 0.28533 | 15,401,090 | 19.196 | 1.28321 |
| 14 | 2,400,430 | 1.970 | 0.29447 | 15,535,987 | 19.364 | 1.28700 |
| 15 | 2,820,416 | 2.315 | 0.36455 | 16,517,356 | 20.587 | 1.31359 |
| 16 | 3,483,706 | 2.859 | 0.45621 | 17,902,762 | 22.314 | 1.34858 |
| 17 | 4,150,029 | 3.406 | 0.53224 | 19,195,732 | 23.925 | 1.37885 |
| 18 | 5,549,582 | 4.555 | 0.65849 | 21,345,443 | 26.605 | 1.42496 |
| 19 | 7,293,734 | 5.987 | 0.77721 | 23,634,449 | 29.458 | 1.46920 |
| 20 | 8,321,255 | 6.830 | 0.83442 | 24,698,672 | 30.784 | 1.48833 |
| 21 | 8,556,654 | 7.023 | 0.84652 | 24,905,858 | 31.042 | 1.49195 |
| 22 | 9,265,975 | 7.606 | 0.88116 | 25,391,914 | 31.648 | 1.50035 |

## Calculation of Adjusted Income Share of Top 1 Percent

Log 1 is zero, falling between lines 8 and 9 of column 3
a $\log 1$ minus line 8 , column $3=0.05061$
b Line 9, column 3, minus $\log 1=0.00043$
c $\mathrm{a}+\mathrm{b}=0.05104$
d $a \div c=.9916$
e Difference between lines 8 and 9 of column $6=0.01986$
f $\mathrm{d} \times \mathrm{e}=0.01969$
g Log of percentage of income corresponding to $\log$ of top 1 percent of total population $=$ line 8 of column $6+f=1.17863$
h Antilog of $\mathrm{g}=15.088 \%$

For notes see page 416.
II Adjustment of Basic Variant for Nonfarm Population

II Adjustment of Basic Variant for Nonfarm Population (concl.)
b Cumulation of Tax Return Population and Its Income Taking Account of Family Status

|  | Population in Part a, Col. 2 \& 6, Cumulated by Rank in Col. 5 \& 9 <br> (1) | Col. 1 as \% of Nonfarm Population <br> (2) | Log of Col. 2 <br> (3) | Income in Part a, Col. 3 \& 7 , Cumulated by Rank in Col. 5 \& 9 (\$000) <br> (4) | Col. 4 as $\%$ of Income of Nonfarm Population (5) | Log of Col. 5 <br> (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 60,209 | 0.066 | -1.18046 | 2,113,449 | 2.964 | 0.47188 |
| 2 | 67,177 | 0.073 | -1.13668 | 2,191,676 | 3.073 | 0.48756 |
| 3 | 817,493 | 0.892 | -0.04964 | 10,158,693 | 14.245 | 1.15366 |
| 4 | 826,477 | 0.902 | -0.04479 | 10,250,791 | 14.374 | 1.15758 |
| 5 | 837,471 | 0.914 | -0.03905 | 10,352,469 | 14.517 | 1.16188 |
| 6 | 851,965 | 0.930 | -0.03152 | 10,471,507 | 14.683 | 1.16681 |
| 7 | 872,247 | 0.952 | -0.02136 | 10,616,252 | 14.886 | 1.17278 |
| 8 | 901,870 | 0.984 | -0.00700 | 10,797,000 | 15.140 | 1.18013 |
| 9 | 965,003 | 1.053 | 0.02243 | 11,118,225 | 15.590 | 1.19285 |
| 10 | 1,100,017 | 1.201 | 0.07954 | 11,659,625 | 16.349 | 1.21349 |
| 11 | 1,219,747 | 1.331 | 0.12418 | 12,110,243 | 16.981 | 1.22996 |
| 12 | 1,387,516 | 1.515 | 0.18041 | 12,678,893 | 17.779 | 1.24991 |
| 13 | 1,601,537 | 1.748 | 0.24254 | 13,330,592 | 18.693 | 1.27168 |
| 14 | 2,051,115 | 2.239 | 0.35005 | 14,594,232 | 20.464 | 1.31099 |
| 15 | 2,349,573 | 2.565 | 0.40909 | 15,401,090 | 21.596 | 1.33437 |
| 16 | 2,400,430 | 2.620 | 0.41830 | 15,535,987 | 21.785 | 1.33816 |
| 17 | 2,820,416 | 3.079 | 0.48841 | 16,517,356 | 23.161 | 1.36476 |
| 18 | 3,483,706 | 3.803 | 0.58013 | 17,902,762 | 25.104 | 1.39974 |
| 19 | 4,150,029 | 4.530 | 0.65610 | 19,195,732 | 26.917 | 1.43003 |
| 20 | 5,549,582 | 6.058 | 0.78233 | 21,345,443 | 29.931 | 1.47612 |
| 21 | 7,293,734 | 7.962 | 0.90102 | 23,634,449 | 33.141 | 1.52037 |
| 22 | -8,321,255 | 9.083 | 0.95823 | 24,698,672 | 34.633 | 1.53949 |
| 23 | 8,556,654 | 9.340 | 0.97035 | 24,905,858 | 34.924 | 1.54312 |
| 24 | 9,265,975 | 10.114 | 1.00492 | 25,391,914 | 35.605 | 1.55151 |

## Calculation of Adjusted Income Share of Top 1 Percent

Log 1 is zero, falling between lines 8 and 9 of column 3
a Log 1 minus line 8 , column $3=0.00700$
b Line 9, column 3, minus $\log 1=0.02243$
c $\mathrm{a}+\mathrm{b}=0.02943$
d $\mathrm{a} \div \mathrm{c}=.2379$
e Difference between lines 8 and 9 of column $6=0.01272$
f $\mathrm{d} \times \mathrm{e}=0.00303$
g Log of percentage of income corresponding to $\log$ of top 1 percent of nonfarm population $=$ line 8 of column $6+f=1.18316$
h Antilog of $\mathrm{g}=15.246 \%$
For notes see page 416.

## Notes to Section A

## I Adjustment of Basic Variant for Total Population

Column
Part a
2, 3, 9, 10 Table 111: columns 4, 6, 5, and 7 respectively.
4 Table 112: column 9 divided by column 2.
5 From Statistics of Income, 1929, Basic Table 5.
6 Column 4 multiplied by column 5.
7 Column 6 divided by column 3.
11 Column 9 of Table 112 minus column 6.
12 Column 11 divided by column 10.
Part b
2 For total population see Table 69, column 5.
5 For total income receipts of individuals see Table 114, column 12.

## II Adjustment of Basic Variant for Nonfarm Population

 ColumnPart a
2-4, 6-8 Columns 3, 6, 7, 10-12 of Part Ia extended to show the $\$ 10,000-11,000$ net income class separately.
Part b
2,5 For nonfarm population and its income see Table 115, columns 1 and 2.




 Theoretical ${ }^{-}$





 Actual Adjustment
 Percentage
Band
Percentage
Band

 For notes see page 421.












I Adjustment of Basic Variant for Total Population (concl.) Modification for 6th and 7th Percentage Band

 Coverage of Excess of 7 Percent of Total Pop.
(\% of
total pop.) total pop.)






0.707


$\begin{array}{cc}\text { Actual Adjustment } \\ \text { for Family Status } \\ \text { 2nd \& 3rd } & 4 t h \& 5 t \\ \text { Percentage } & \text { Percentag } \\ \text { Band } & \text { Band }\end{array}$




 osjnnn to mont

9
0
0

II Adjustment of Basic Variant for Nonfarm Population (concl.)

## Modification for 6th and 7th Percentage Band

 Coverage ofTax Return
Population





## Notes to Section B

I - Adjustment of Basic Variant for Total Population

## Column

Part a
1, 2 Table 120: column 2 minus column 1. For 1919-38 the NBER series is used; for 1939-44, the Department of Commerce series.
3 Column 6 of Table 69 minus 5 percent.
5 Derived from the curve: $y=a+b x+c x^{2}$, where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1925-39. The regression equation, fitted by least squares, is $y=0.09430+0.24592 x-$ $0.04422 x^{2}$.
8 The arithmetic mean of column 1 for 1925-39 (0.779) multiplied by column 7.

## Part b

1, 2 See notes to Part a, columns 1 and 2.
3. Column 6 of Table 69 minus 7 percent.

4 Derived from the straight line: $y=a+b x$ where $y$ is the value in column 2 and $x$ is the value in column 3 for 1919-24. The regression equation, fitted by least squares, is $y=-0.54558+0.08474 x$.
7 Derived from the curve: $y=a+b x+c x^{2}$, where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1925-39. The regression equation, fitted by least squares, is $y=0.20069+0.44078 x-$ $0.10703 x^{2}$.
9 . The arithmetic mean of column 1 for 1919-24 (0.837) and for 1925-39 ( 0.768 ) respectively, multiplied by the average ratio of column 2 to column 1 for 1940-44 (0.53455).

## II Adjustment of Basic Variant for Nonfarm Population <br> Column

Part a
1, 2 Table 121: column 2 minus column 1. For 1919-38 the NBER series is used; for 1939-44, the Department of Commerce series.
3 The percentage that the tax return population (Table 69, col. 3) constitutes of the nonfarm population (Table 115, col. 1) minus 5 percent.
4 Derived from the straight line: $y=a+b x$ where $y$ is the value in column 2 and $x$ is the value in column 3 for 1930-35. The regression equation, fitted by least squares, is $y=-0.75336+0.20967 x$.
6 The arithmetic mean of column 1 for 1930-35 ( 0.80933 ) multiplied by the average ratio of column 2 to column 1 for 1919-29 and 1936-44 (0.87370).

Part b
1,2 See notes to Part a, columns 1 and 2.
3 The percentage that the tax return population (Table 69, col. 3) constitutes of the nonfarm population (Table 115 , col. 1) minus 7 percent.
5 Derived from the curve: $y=a+b x+c x^{2}$ where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1925-39. The regression equation, fitted by least squares, is $y=0.07473+0.14383 x-$ $0.02172 x^{2}$.
7 The arithmetic mean of column 1 for $1925-39$ ( 0.68880 ) multiplied by the average ratio of column 2 to column 1 for 1919-24 and 1940-44 (0.89924).

## Section C: Adjustments for the Maximum Effect of Unwarranted Inclusions and Deductions

Statistics of Income classifies returns by net income, defined to include gains from sales of capital assets and of other property, which are excluded from economic income. It excludes contributions, interest and taxes paid, bad debts, and other items that are included in economic income. To determine what the distribution would be had the returns been classified by income excluding gains from sales and including unwarranted deductions, two estimates were prepared.

The first measures the maximum effect of the inclusion of gains from sales of assets. These gains are assumed to be concentrated in a limited number of returns in each net income class, are not offset, even partly, by unwarranted deductions, and are not combined with any economic income. To determine the maximum number of returns in each income class whose income could be assumed to consist of gains from sales alone and whose income could be assumed to account for all the gains reported, the gains for each class are divided by the lower income limit of the respective class. These returns are then dropped from the distribution. The remaining returns are converted to population and cumulated by the usual procedure. The estimate for 1929 is presented in detail in Part I, below.

The second estimate combines the results of the first with an estimate of the maximum effect of unwarranted deductions. The maximum number of persons on whose returns these deductions can reasonably be assumed to be concentrated is estimated arbitrarily as a tenth of the population remaining in each net income class after the exclusion of returns whose income represents gains from sales alone. These persons and their net income - the latter estimated to be the same per return as that for all returns reporting net income - are then removed from their respective net income classes. Their removal on top of the removal of those whose income represents gains from sales alone makes it possible to assume that the economic income of those remaining in the distribution is identical with net income, tax definition. The persons on whose returns unwarranted deductions are assumed to be concentrated are then shifted to the net income classes whose economic income per capita most closely approximates their own (the sum of net income and unwarranted deductions). Corresponding shifts are made in the income distribution. The estimate for 1929 is presented in detail in Part II, below.

I Sample Calculation of Adjustment for Maximum Effect of Unwarranted Inclusions, 1929
a Adjustment of Returns to Exclude Those Assumed to Report Capital Gains Alone

|  | NET GAINS |
| :---: | :---: |
|  | FROM SALES |
| NET | OF CAPITAL |
| INCOME |  |
| CLASS, | OTHER |
| TAX | PROPERTY |
| DEFINITION | $(\$ 000)$ |


| NUMBER | OF | RETURNS |
| :---: | :---: | :---: |
| Excl. Those <br> Assumed <br> to Report |  | Assumed <br> Ga Report |
| Alone | Total | Gains Alone |

(2)
$\$ 5,000,000 \&$ over
$4,000,000-5,000,000$
$3,000,000-4,000,000$
$2,000,000-3,000,000$
$1,500,000-2,000,000$
$1,000,000-1,500,000$
$750,000-1,000,000$
$500,000-750,000$
291,430
56,478
(1)
*

| $14,000-$ | 15,000 | 45,912 |
| ---: | ---: | ---: |
| $13,000-$ | 14,000 | 49,542 |
| $12,000-$ | 13,000 | 52,267 |
| $11,000-$ | 12,000 | 55,157 |
| $10,000-$ | 11,000 | 57,359 |
| $9,000-$ | 10,000 | 65,272 |
| $8,000-$ | 9,000 | 64,137 |
| $7,000-$ | 8,000 | 66,293 |
| $6,000-$ | 7,000 | 67,023 |
| $5,000-$ | 6,000 | 63,107 |
| $4,000-$ | 5,000 | 94,991 |
| $3,000-$ | 4,000 | 79,865 |
| $2,000-$ | 3,000 | 54,184 |
| $1,000-$ | 2,000 | 35,658 |
| Under | 1,000 | 27,144 |

132,317
197,803
(5)
(3)
(4)

38 0

5

| 73,472 | 24 | 32 | 8 |
| :--- | :--- | :--- | :--- |


| 107,885 | 53 | 67 | 14 |
| :--- | :--- | :--- | :--- |

88
$123 \quad 35$

| 161,211 | 197 | 234 | 37 |
| :--- | :--- | :--- | :--- |
|  | 214 | 289 | 75 |


| 243,014 | 486 | 687 | 201 |
| :--- | :--- | :--- | :--- |


| 3,279 | 21,216 | 17,937 |
| :--- | :--- | :--- |

17,937

| 3,810 | 26,114 | 22,304 |
| :--- | :--- | :--- |


| 4,355 | 31,060 | 26,705 |
| :--- | :--- | :--- |
| 5,014 | 38,114 | 33,100 |


| 5,735 | 47,239 | 41,504 |
| :--- | :--- | :--- |


| 7,252 | 64,393 | 57,141 |
| :--- | :--- | :--- |
| 8,017 | 81,454 | 73,437 |


| 9,470 | 112,812 | 103,342 |
| ---: | ---: | ---: |
| 11,170 | 157,784 | 146,614 |


| 11,170 | 157,784 | 146,614 |
| :--- | :--- | :--- |
| 12,621 | 241,596 | 228,975 |

23,747 485,822 462,075

| 26,621 | 686,833 | 660,212 |
| ---: | ---: | ---: |

$\begin{array}{lll}27,091 & 810,347 & 783,256\end{array}$

| 35,658 | 903,082 | 867,424 |
| :--- | ---: | ---: |
| 54,288 | 126,172 | 71,884 |

$\begin{array}{lll}\mathbf{5 4 , 2 8 8} & \mathbf{1 2 6 , 1 7 2} & 71,884\end{array}$

* Each net income class was covered but it would be too space consuming to show all here; hence the gap between the $\$ 500,000-750,000$ and the $\$ 14,000-15,000$ class.
For notes see pages 428-9.
I Sample Calculation for Adjustment for Maximum Effect of Unwarranted Inclusions, 1929 (concl.)
b Adjustment of Tax Return Population and of Income Shares of Upper Groups

| Net | Returns Excl. Those |  | Tax Return Population | Economic of Tax R Popula | acome urn n | Rank of Per Capitas | Tax Retur | Economic Income | Total Selecte | Basic Varia Population devel in Col. 9 as $\%$ of | nt, Adjus <br> Nonfar Selected | ted <br> m Pop. Level in Col 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Income | Assumed to |  | Excl. Persons | in Co |  | in Col. 6 | Population | in Col. 5 | Col. 8 | ividuals, | Col | \%. 9 |
| Class, | Report | Av. No. per | Assumed to |  | Per | from | in Col. 4 | (\$000) | as \% of | total |  |  |
| Tax <br> Definition | Gains | Return, All Returns | Report <br> Gains Alone | Total (\$000) | capita | Highest to Lowest | Cumula | by Rank |  |  | nonfarm | nonfarm |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |  | (11) | (12) | pop. <br> (13) |
| \$10,000 \& over | 298,798 | 2.506 | 748,698 | 10,609,311 | 14,170 | 1 | 748,698 | 10,609,311 |  |  |  |  |
| 9,000-10,000 | 57,141 | 2.745 | 156,846 | 660,749 | 4,213 | 2 | 905,544 | 11,270,060 |  |  | 0.988 | 15.803 |
| 8,000-9,000 | 73,437 | 2.762 | 202,870 | 753,377 | 3,714 | 3 | 1,108,414 | 12,023,437 | 0.910 | 14.986 | 1.210 | 16.860 |
| 7,000-8,000 | 103,342 | 2.774 | 286,681 | 925,896 | 3,230 | 4 | 1,395,095 | 12,949,333 | 1.145 | 16.140 |  | 16.860 |
| 6,000-7,000 | 146,614 | 2.790 | 409,097 | 1,126,113 | 2,753 | 5 | 1,804,192 | 14,075,446 |  |  |  |  |
| 5,000-6,000 | 228,975 | 2.881 | 659,585 | 1,473,718 | 2,234 | 6 | 2,463,777 | 15,549,164 |  |  |  |  |
| 4,000-5,000 | 462,075 | 3.011 | 1,391,169 | 2,470,936 | 1,776 | 8 | 2,626,867 | 15,891,247 | 2.156 | 19.807 | 2.867 | 22.283 |
| 3,000-4,000 | 660,212 | 2.736 | 1,806,340 | 2,830,406 | 1,567 | 10 | 4,018,036 | 18,362,183 | 3.298 | 22.886 | 4.386 | 25.748 |
| 2,000-3,000 | 783,256 | 1.823 | 1,427,719 | 2,327,864 | 1,630 | 9 | 5,445,755 | 20,690,047 | 4.470 | 25.788 | 5.944 | 29.012 |
| 1,000-2,000 | 867,424 | 1.520 | 1,318,398 | 1,871,461 | 1,419 | 11 | 7,252,095 | 23,520,453 | 5.953 | 29.316 | 7.916 | 32.981 |
| Under 1,000 | 71,884 | 2.269 | 163,090 | 342,083 | 2,098 | 7 | 8,570,493 | 25,391,914 | 7.035 | 31.648 |  |  |
| The adjusted income share of a given upper percentage band is calculated from the logarithms of columns 10 and 11 or 12 and 13 in Section A, Part Ib. |  |  |  |  |  |  |  |  |  |  |  |  |
| For notes see pages 428-9. |  |  |  |  |  |  |  |  |  |  |  |  |

II Sample Calculation of Adjustment for Maximum Effect of Unwarranted Inclusions and Deductions, 1929 a Number and Income of Persons Assumed to Report All Unwarranted Deductions No. of
Persons

| Economic Income |  |
| :---: | :---: |
| of Persons in Col. 3 |  |
| Per |  |
| Total | Capita |
| $(\$ 000)$ | $(\$)$ |
| $(9)$ | $(10)$ |


II Sample Calculation of Adjustment for Maximum Effect of Unwarranted Inclusions (cont.)
b Reclassification of Persons Assumed to Report All Unwarranted Deductions
Shift of Persons in Col. 2 to
Income Class Whose Economic

|  | O N N N |  | n |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{n} \end{aligned}$ |  | $\begin{aligned} & \text { M } \\ & \infty \\ & \infty \\ & \text { wif } \end{aligned}$ |  <br> - No Ninio <br> -onNondo |

For notes see pages 428-9.

Notes to Section C
I Sample Calculation of Adjustment for Maximum Effect of Unwarranted Inclusions, 1929
Column

## Part a

1 Every net income class shown in Statistics of Income.
2. Statistics of Income, 1929, Basic Table 7, supplemented by data for net income classes under $\$ 5,000$ from the Source Book.
3 The lowest number of whole returns calculated by dividing column 2 by the lower limit of the income class. For the top income class, when this procedure yields an entry larger than that in column 4, the figure in column 4 is used. For the lowest income class, where the lower limit is zero, the computations were carried through assuming it to be $\$ 500$.
4 Statistics of Income, 1929, Basic Table 2.
5 Column 4 minus column 3.
Part b
$1 \$ 1,000$ intervals up to $\$ 10,000$, and all over $\$ 10,000$ treated as a unit. For 1939 and later years all the intervals under $\$ 10,000$ shown in Statistics of Income are used.
2 From Part a, column 5.
3 Table 111: ratio of column 8 to column 2.
4 Column 2 multiplied by column 3.
5 Table 112, last column.
6 Column 5 divided by column 4.
10 For total population see Table 69, column 5.
12 For total income receipts of individuals see Table 114, column 12.
14 For nonfarm population see Table 115, column 1.
16 For income of nonfarm population see Table 115, column 2.
II Sample Calculation of Adjustment for Maximum Effect of Unwarranted Inclusions and Deductions, 1929
Column

## Part a

1 \$1,000 intervals up to $\$ 15,000$, and all over $\$ 15,000$ treated as a unit. For 1939 and later years all the intervals under $\$ 10,000$ shown in Statistics of Income are used.
2 Part Ib, column 4, extended to show each net income class from $\$ 10,000$ to $\$ 15,000$.
$3 \quad 10 \%$ of column 2.
4 Table 112, columns 5-8.
5 Column 4 divided by column 3.
6 Part Ib, column 3, the figure for $\$ 10,000$ and over being used for each income class over $\$ 10,000$.
7 The midpoint of the net income class, $\$ 14,500, \$ 13,500$, etc., divided by column 6.
8 Column 3 multiplied by column 7.
9 Column 4 plus column 8.
10 Column 5 plus column 7, or column 9 divided by column 3.

## Notes to Section C concluded:

## Column

## Part b

1 Same as for Part a.
2 Part a, column 3.
3 Part a: column 2 minus column 3.
4 Table 112, column 2, extended to show each net income class from $\$ 10,000$ to $\$ 15,000$.
5 Part Ia, column 2.
6 Part a, column 8.
7 Column 4 minus columns 5 and 6. For $\$ 15,000$ and over, unwarranted deductions (Part a, col. 4) are added.
8 Column 7 divided by column 3.
9 Per capita in Part a, column 10, shifted to the net income class whose economic income per capita (col. 8) most closely approximates it, account being taken of the per capitas of the classes just above $\$ 15,000$, which, if shown class by class instead of in combination with all over $\$ 15,000$, would be close to that for the $\$ 14,000-15,000$ class.
10 Number of persons in column 2 having.the per capita income in column 9 (see Part a, col. 3 and 10).
11 Column 10 multiplied by column 9.
12 Column 3 plus column 10.
13 Column 7 plus column 11 .
Part c
1 Same as for Part b.
2 Part b, column 12.
3 Part b, column 13.
4 Column 3 divided by column 2.
8 For total population see Table 69, column 5.
9 For individuals' total income receipts see Table 114, column 12.
10 For nonfarm population see Table 115, column 1.
11 For income of nonfarm population see Table 115 , column 2.

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Section D: Modification of Adjustment for Unwarranted Deductions for Limited Size of Tax Return Population

$\qquad$




centage Band
Coverage of Tax Return
Population
in Excess of in Excess of
3 Percent Population
(\% of total
population)
$1925-38$ (3)

 Actual Adj. for Max. Effect of Unwarranted Deductions Top 1 (1) 0.435 0.170
-0.050 O 0.476
0.408
1.571 1.571
0.969
0.501 0.501
0.512
0.612 0.612
0.551 0.612 $\stackrel{m}{m}$ $-0.071$ 0.140
0.061 0.061
0.411 0.613 onn 0.755
0.907 0.885 0.527
0.419 0.576
0.254



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For notes see page 434.


[^82]
## Notes to Section D <br> I Adjustment of Basic Variant for Total Population <br> Column

## Part a

1,2 Table 120: column 4 minus column 3. For 1919-38 the NBER series is used; for 1939-43, the Department of Commerce series.
3 Column 6 of Table 69 minus 3 percent.
5 Derived from the curve: $y=a+b x+c x^{2}$ where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1925-38. The regression equation, fitted by least squares, is $y=0.06892+0.23993 x-$ $0.05407 x^{2}$.
7 The arithmetic mean of column 1 for 1925-38 (0.954) multiplied by the ${ }^{5}$ average ratio of column 2 to column 1 for 1919-24 and 1939-43 (0.79004).
Part b
1 Part a, column 2.
2 Table 120: column 5 minus column 4. See notes to Part a, columns 1 and 2.
3 Column 6 of Table 69 minus 5 percent.
4 Derived from the straight line: $y=a+b x$ where $y$ is the value in column 2 and $x$ that in column 3 for 1919-24. The regression equation, fitted by least squares, is $y=-0.32283+0.03557 x$.
7 Derived from the curve: $y=a+b x+c x^{2}$ where $y$ is the deviation from the arithmetic mean for column 2 and $x$ that for column 3 for 1925-38. The regression equation, fitted by least squares, is $y=0.02413+0.15402 x-$ $0.01893 x^{2}$.
9 The arithmetic mean of column 1 for 1919-24 (0.591) and for 1925-38 ( 0.754 ) multiplied by the average ratio of column 2 to column 1 ( 0.80942 ) for $1920,1923,1924$, and $1940-43$, the years for which tax coverage is highest. 1939 is estimated by substituting the appropriate values of $x$ in the equation in the notes to column 7.

## II Adjustment of Basic Variant for Nonfarm Population

Column

## Part a

1 Table 121: column 4 minus column 3. For 1919-38 the NBER series is used; for 1939-43, the Department of Commerce series.
2 Table 121: column 5 minus column 4. See note to column 1.
3 The percentage that the tax return population (Table 69, col. 3) constitutes of the nonfarm population (Table $115, \mathrm{col} .1$ ) minus 5 percent.
5 Derived from the curve: $y=a+b x+c x^{2}$ where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1925-38. The regression equation, fitted by least squares, is $y=0.01800+0.17784 x-$ $0.00850 x^{2}$.
7 The arithmetic mean of column 1 for 1925-38 (0.798) multiplied by the average ratio of column 2 to column 1 for 1919-24 and 1939-43 (1.04661). Part b
1 Part a, column 2.
2 See note to Part a, column 2.
3 The percentage that the tax return population (Table 69, col. 3) constitutes of the nonfarm population (Table 115, col. 1) minus 7 percent.
5 Derived from the curve: $y=a+b x+c x^{2}$ where $y$ is the deviation from the arithmetic mean of column 2 and $x$ that of column 3 for 1919-39. The regression equation, fitted by least squares, is $y=0.02702+0.049352 x-$ $0.00475 x^{2}$.
7 The average adjustment for the 4th and 5th percentage band for 1919-39 ( 0.667 , calculated from Part a: col. 2 for 1919-24 and 1939; col. 8 for 1925-38) multiplied by the average ratio of column 2 to column 1 for 1940-43 (.95120).

Chapter 11
Reliability of Estimates

We cannot measure the probable errors in our estimates directly because our basic data are either byproducts of tax administration or products of censuses, subject to all the imperfections of social records. Some defects are obvious and the adjustments discussed in preceding chapters were designed to correct for them as far as possible. But after all these adjustments, errors inevitably remain, and we are faced with the difficult task of appraising them. This discussion of the reliability of our estimates must necessarily be incomplete and inconclusive. It can be handled under two heads. First, the published data for returns with net income under $\$ 5,000$ are estimates based upon samples, not actual tabulations of returns. Second, as noted repeatedly, returns with net income, whether over or under $\$ 5,000$, may be subject to biases due to underreporting or evasion. It is this second problem that will occupy us through most of this chapter. We do not consider here the possible errors in our income denominators, i.e., the countrywide totals, for they are discussed in the publications dealing with national income estimates.

## 1 Errors in Sampling Returns with Net Income under $\$ 5,000$

The sampling process by which returns with net income under $\$ 5,000$ are estimated has varied, the most important change being in 1928 from drawing a fairly constant number of Form 1040 and Form 1040A returns filed in each Collector's District to drawing a constant proportion of returns (with a fixed absolute number as the minimum). ${ }^{1}$ While the sample throughout was large enough to reduce purely random errors to very narrow limits, it may be worth while to refer to the two published checks which indicate their size and character.

Form 1040A returns filed for 1928 were treated by two methods: first, the items were estimated from the samples in the usual way, i.e., the Bureau of Internal Revenue weighted the samples reported by Collectors' Districts; second, some items were tabulated directly from the returns. For net income the sample estimate exceeded the tabulated total by 4.2 percent;

[^83]Table 103
Estimates from Samples Compared with Tabulations of Data from Returns Net Income Classes under $\$ 5,000,1934$
 Table 1.
for total income, by 2.5 percent; for dividends, by as much as 24.6 percent; and for wages and salaries, it fell 1.3 percent short. ${ }^{2}$

The large percentage discrepancy for dividends is due chiefly to the fact that persons qualified to file on Form 1040A because their income was chiefly from salaries and wages were not required to report their dividends. But all these percentage discrepancies are important for our analysis only

[^84]when placed in the more comprehensive picture of all returns and of the cumulated totals of income reported on them. A 10 percent error in income on Form 1040A returns may mean an error of less than 1 percent in the cumulated total of the top 5 or 7 percent of the population, and in the estimated share of the 4 th and 5 th percentage band merely a shifting of some returns and an improper inclusion of Mr. Jones' instead of Mr. Smith's return. We cannot illustrate the second part of this statement, but from the fact that in 1928 Form 1040A returns accounted for only a fifth of the net income reported on all returns, a fifth, too, of total income, less than a half of wages and salaries, and about a fortieth of dividends, it is evident that in terms of the cumulated total for the top 5 or 7 percent the sampling errors are negligible.

A more significant test can be made for 1934 when returns were tabulated by net income class. While the tabulations covered a somewhat smaller number of returns than the estimates made by the usual sampling procedure, we can assume that the returns not tabulated were, on the whole, similar to those tabulated and that the slightly smaller coverage does not seriously affect the comparison (Table 103).

For all net income classes combined (col. 6) the estimates and the tabulations agree fairly well, especially when we adjust for differences in coverage and thus in effect compare the percentage lines alone ( $3,6,9$, etc.). Interestingly enough, as in the comparison for 1928, the estimates are somewhat larger than the tabulations, the difference in the income items being larger on the average than the difference in the number of returns. The percentage differentials are not substantial, however, even for the separate income classes. Only in the case of items whose amounts are relatively small, such as dividends and interest in the lower net income classes, are they at all sizeable. And when we consider their effects on the cumulated totals or on the shares of countrywide totals established by the interpolated lines, it is hard to see how they can be anything but negligible.

## 2 Omissions from Income Tax Data - General Considerations

An important problem in using income tax data is the error caused by what is plausibly assumed to be a tendency for persons to evade reporting or to understate their income. For lack of specific information, we cannot do much about omissions but we can distinguish two types: cases in which a person fails to file a return, and the tax data do not cover him, his dependents, or his income; and cases in which a person files a return but understates his income, so that while he and his dependents are counted fully his income is understated.

In the first type of omission, designated here 'nonfiling', the failure to report may be legal or illegal. In either case it affects our estimates only if
the persons who do not report have a bigger per capita economic income than the lowest per capita income in our lowest percentage band. Thus, if Mr. Jones has a larger economic income than the lowest income person within the 4th and 5th (or 6th and 7th) percentage band but does not file a return, our estimates will be affected since the inclusion of Mr. Jones and his income would have raised the share of income assigned to that percentage band. But if Mr. Jones' income is equal to or less than the lowest under consideration, his failure to file does not affect our estimates.
While there is no evidence from which we could estimate even roughly the extent of nonfiling, we can assume on several grounds that its effect upon our analysis is small. First, since the law is inclusive in its listing of income sources subject to tax, there is little legal excuse for not filing when one receives genuine economic income. In fact, from the standpoint of income sources, the most obvious reason for nonfiling is the illegal character of the activity from which the income comes. But in such cases we could not consider the returns as representing economic income, even though it would be interesting to take them into account in any calculation of disposable income.

Second, in cases where net income is too small to be subject to tax, nonfiling is limited by the requirement since 1921 that gross income equal to or exceeding a specified amount (ranging from $\$ 5,000$ in 1921-39 to $\$ 500$ in 1947) be reported regardless how small net income is; and even more by the practice of Collectors' Offices of checking on a person who has once filed a return. Hence, only persons who have never filed or whose gross income is so small as to escape detection by tracing at the source are likely to get away with nonfiling.

Third, because the direct tax burden on the lower income classes is light, persons in these classes have little economic incentive for nonfiling. On the other hand, when the income is large and the income tax burden appreciable, the checking machinery is likely to be more active and the penalty for nonfiling heavier.

Finally, nonfiling affects our analysis only as far as incomes of nonfilers exceed those of filers in the upper percentage bands. Inasmuch as the very large income units are least likely to be among the nonfilers, the proportion of nonfilers will always be much higher than the proportion of income omitted, i.e., than the relative weight of the excess of economic income of nonfilers over the economic income of the lowest units within the upper percentage bands.

Almost all the factors mentioned as limiting nonfiling and its effects upon our estimates apply also to underreporting net income. Another factor is that underreporting may take the form of overstating deductions
rather than of understating gross income; and whenever this is the case, our reinclusion of these deductions fully removes the resulting bias.

However, returns have another source of bias (besides that of underreporting amounts that should be reported): the various items legally exempt both from tax and from reporting. Some of the more important (e.g., interest on certain government obligations, and prior to 1938, salaries of state and local government employees) were adjusted for (even though incompletely in the case of interest). But even a casual perusal of tax manuals or of advisory tax services will bring to notice many other exempt items. Some are exempt because while in a category that suggests current income flow, they are in fact distributions of capital, e.g., dividend distributions 'in liquidation'; others are genuine income flows, e.g., active service pay, up to a specified amount, of armed forces abroad (since 1942). Also, some of the transfers that we included in our countrywide total of employee compensation are, in part or in full, exempt from tax and from reporting. It would be difficult, and not very useful, to list all legal omissions. One need say merely that when exemptions are allowed because the items are not true income flows but capital distributions the items should not be included from our standpoint either; and exempted items included in our denominator for countrywide income are relatively so small at upper income levels as to be negligible.

All this does not mean that the tax data as used in our estimates are free from the downward bias due to nonfiling or understatement; but apparently it is circumscribed by various factors and is likely to be relatively much less among the upper income classes. Moreover, since the effect of nonfiling or underreporting equals the difference between the omitted or understated return and the first return just above our lowest partition line (or the first return, not included, just below the line), the larger the 'pool' of tax return population below the line, the more reliable are our estimates of the shares of the bands above it likely to be. If the pool is big it constitutes a large reserve for compensating or reducing errors of nonfiling or underreporting.

Since biases still remain in the data, even at the upper levels, we may ask what types of income are most likely to be affected, and how they are likely to change over time. The answers can be nothing more than conjectures but we should at least state them as leads to possible interpretation.

As among various types and sources of income one would assume that incomes reported at the source by the distributing agencies and incomes substantial enough not to be deemed negligible by either the recipients or the tax authorities would be those least likely to be nonreported or understated. This means that compensation of employees, particularly fulltime
employees, and large property incomes in the form of dividends and interest are likely to be reported fully. Net income of entrepreneurs, rent, and small amounts of dividends and interest are among the income categories most likely to be understated, or, when quite small, omitted. If for both entrepreneurial income and rent the understatement takes the form of exaggerating deductions, our estimates escape the bias. Nevertheless, all small receipts and incomes arising from individual enterprise, such as entrepreneurial income and rent, are likely to be most affected by nonfiling and underreporting. This conclusion reenforces the one already advanced, that omissions are likely to be relatively more important at the lower income levels, for it is here that subsidiary incomes, though small absolutely, constitute a larger proportion of total income; and here also that entrepreneurial income and rent are so small and recorded under such conditions - primitive bookkeeping, etc. - as to make underreporting easy, and checking by tax authorities difficult and expensive.

Perhaps more important is whether there are short term changes in the relative size of omissions. The answer is even more conjectural than the answer to the other questions but the following considerations seem relevant.

First, during cyclical expansions, when incomes increase, there is more incentive to understate incomes or not to file because the possible saving in tax payments is larger. This presumably would be true even though purchasing power and the marginal value of the dollar to income recipients declined. During contractions, on the contrary, incomes may fall well below the taxable point; then the incentive to understate or not to file is weaker. To the degree this observation is true, the size of omissions would fluctuate cyclically.

Second, according to the evidence for 1919-38, the proportion of employee compensation in aggregate payments (but not that of salaries, taken alone) and the proportion of dividends tend to move on the whole with business cycles. Positive conformity is somewhat less marked for the proportion of entrepreneurial income, and in even greater contrast, the proportions of rent and of interest tend to move counter to business cycles. ${ }^{3}$ The first two income types are least subject, the last three, most subject to nonreporting and understatement. Consequently, cyclical shifts in the composition of income by type would, in and of themselves, make the relative magnitude of omissions run counter to business cycles.

Third, the proportion of population covered by income tax returns varies greatly: it is higher during periods of expansion and high income levels and lower during periods of contraction and low income levels. In estimates

[^85]that cover a constant top proportion of the population, the lowest partition line would therefore be nearer the bottom of the tax return population 'pool' during contractions than during expansions. As pointed out above, the larger the pool of tax return population below the lowest partition line, the smaller is the effect of omissions on the estimates of shares above it. This size of the tax return population is, then, another factor that would, in and of itself, make the relative magnitude of omissions move counter to business cycles.

The net effect of these factors cannot be measured. We cannot tell whether, on balance, the bias in our estimates is larger or smaller during cyclical expansions than during contractions. All that can be said is that there are influences in both directions and that this might limit short term variations in the relative understatement in the estimates of the type made here. Until further information becomes available, we must leave the reader with this unsatisfactory uncertainty.

## 3 Omissions from Income Tax Data - Comparisons with Samples

Though the possible downward bias in the income tax data, and particularly in our estimates of the shares of upper income groups is probably small, it would be highly desirable to test our estimates against independent data and, by referring to some empirical observations, gain a somewhat more tangible idea of the size of the possible error.

Two bodies of data come to mind. The first would be supplied by the audit of income tax returns. If each and every type of return were equally represented in the audit, if returns in all income classes were checked with the same meticulousness, and if the results were available so that one could study the reported under- and overstatements by types of income and of deduction for a series of years, we would have an adequate basis for measuring the bias in the published unaudited data. But for obvious practical reasons, audits have been confined largely to returns reporting big incomes, have paid more attention to returns that on the surface gave some evidence of noncompliance, and their results have never been released to the public or summarized in enough detail or for a sufficient number of years to permit any satisfactory conclusions. Not until auditing is reorganized in accordance with plans projected for 1948 returns and has been continued for several years will its results be adequate to measure the bias. ${ }^{4}$

[^86]The second body of independent data comprises the sample studies of income by size. Obviously, for our purposes we need countrywide samples, or at least ones covering the nonfarm population, and ones that utilize information independent of tax returns. During the period under analysis there have been several such studies of income size distributions for the entire population. Had their coverage been adequate, comparison with them would test the accuracy of our estimates. Unfortunately, they suffer from three major defects. First, all, no matter how much effort has been devoted to this problem, underrepresent the top income levels - those with which we are most concerned. Second, almost all seem to miss a sizeable proportion of income in addition to the shortage at the top income levels, presumably because of the difficulty of getting accurate amounts by questionnaire or interview if considerable time has elapsed since the income was received. Third, the internal structure of their distribution is distorted in ways hard to gauge. In other words, we are uncertain whether, allowing for the shortage at the top levels, there is relative over- or underrepresentation below, and whether income shortages are bigger at the low, the intermediate, or the levels just below the top.

In view of these major defects of the samples and numerous minor ones, one might well doubt the wisdom of making any comparisons. Indeed, at some stages of preparing this book, I was inclined to discard those already made. They are nevertheless included partly because they do provide some rough check on our estimates, partly because if they were not, other researchers probably would make comparisons - with results that might well be misinterpreted. ${ }^{5}$

## a Comparison with NRC Distributions for 1935-36

The size distributions of the Study of Consumer Purchases for 1935-36 are available in three versions: the original, published by the NRC; a revision, confined to the distribution of money income, by the OPA, utilizing revised data on number of families, number of individuals, and the aggregate money income of each; and Rufus S. Tucker's modification of the original distributions.

All three versions combine federal income tax data with the consumers' field survey and other data. In calculating the full published version the NRC confronted directly the problem of nonfiling and underreporting.

[^87]On the basis of "tentative estimates advanced by several authorities who were consulted", it assumes that everyone at family income levels above $\$ 20,000$ filed a return, and makes an adjustment for failure to file ainounting to a 5 percent increase in the number of families with $\$ 15,000-20,000$ incomes; 15 percent in the number with $\$ 10,000-15,000$ incomes; and 25 percent in the number with $\$ 5,000-10,000$ incomes. There are adjustments also for understatement by families filing returns, yielding increases of 15 percent of their aggregate income in the income classes just listed, and of 10 and 5 percent respectively in the $\$ 20,000-25,000$ and $\$ 25,000-$ 50,000 classes. Similar adjustments were made for nonfiling and underreporting by single individuals. ${ }^{6}$

The reason the NRC allowed for nonfiling and underreporting by the upper income classes alone is that for the lower classes independent field sample and other data were available. Its report implies, in fact, that nonfiling and underreporting are likely to be relatively greater among the lower classes, and presumably the entire range is adjusted for possible omissions. Comparison will therefore indicate the understatement in our estimates attributable to the biases due to nonfiling and underreporting.

The NRC distributions of single individuals and of families by income per unit and the number and income of the seven types of institutional resident (shown only in the aggregate, not by income class) had to be converted to one distribution by income per person. This involved converting income per family to income per capita for each size of family group in each size class of family income (App. 6, Sec. A) and calculating income per capita not only for single individuals for each income class but also for each type of institutional resident. Following the order of these per capitas, the income for the three groups was cumulated into one distribution, as was the number of persons. We then drew the upper percentage lines in the customary fashion and derived the shares of the upper groups (Table 104, line 3).

The total income accounted for by the NRC distributions is about 2.8 percent short of the total we used. If we were to assume that the income omitted is distributed proportionately to the income reported, the shares would remain as they are in line 3 . But as the shortages may well be largely in the income ranges below the top, we reduce the shares in line 3 by the relative shortage of the NRC income total (line 4).

In converting the OPA version to a per capita basis, we had to utilize
${ }^{6}$ Consumer Incomes in the United States, pp. 84 and 87. For a more detailed discussion, see article by Enid Baird and Selma Fine in Studies in Income and Wealth, Volume Three (NBER, 1939), pp. 149-203, and comments by A. J. Goldenthal, pp. 204-14.

Table 104
Percentage Shares of Upper Income Groups Based on Income Tax Data Compared with Those Based on NRC Distributions, 1935-1936


Figures in parentheses are calculated by multiplying line 1 by 1.20 , the ratio of line 2 to line 1 for the top 5 percent.
many of the detailed data for family size as published originally (App. 6, Sec. B). The results, unadjusted for the income base, appear in Table 104, line 5. The total income covered is 5.2 percent short of the total we used, largely because income in kind was omitted. Since the latter is received chiefly by the lower income groups, there is some reason to assume that almost all of the missing income is at levels below those covered in line 5, and line 6 is computed on this assumption.

Both the NRC and NRC-OPA distributions may well have allowed too much for nonfiling and underreporting, and other steps in their procedure may have led to an overstatement of the shares of upper income groups. Mr. Tucker has challenged the NRC distributions, and his argument that understatement usually takes the form of exaggerating deductions rather than of concealing or underreporting receipts is particularly telling in the present connection. ${ }^{7}$ If he is right, our reinclusion of deductions obviates the need of allowing for this particular element in understatement. Tucker

[^88]criticized the distributions on other grounds, and constructed a revised distribution of families and of single individuals in which most of the biases in the NRC estimates, as diagnosed by him, are eliminated.

To compare our estimates with those obtained by using Tucker's distributions (Table 104, line 7), we first converted his distribution of families to persons by multiplying by the number per family by income classes as given in the NRC study, then estimated total income, for families and for single individuals separately by multiplying the number of persons by their per capitas, the latter derived from the NRC distributions. Finally, number and income were cumulated from the top down by the order of the per capitas, and the upper percentages interpolated (App. 6, Sec. C). The adjustment for the difference in income bases, identical with that used in passing from line 3 to line 4 , yields line 8.

With the shares of upper income groups derived from these three versions of the size distributions for 1935-36 we compare those for the basic variant for total population (line 1) and those for the economic income variant, i.e., after the adjustments for imputed rent, compensation of nonfederal employees, family status, and the maximum effects of unwarranted inclusions and deductions (line 2). Since the adjustments were not, and for some items could not, be made for the bands below the top 5 percent, columns 5 and 6 , line 2 , are rough approximations and may well underestimate the shares. ${ }^{8}$

First, the shares in the basic variant are smaller than those estimated from the original NRC distributions; and, except that for the top 1 percent, somewhat smaller than the shares estimated from Tucker's distributions. However, the shares in the economic income variant, the latter conceptually more comparable with the original NRC estimates, are, on the whole, the same size as those based on the NRC distributions, and significantly larger than those based on Tucker's. If comparison with the NRC data is valid, the shares in our economic income variant apparently do not contain any significant underestimate even though we do not make any allowance for nonfiling or underreporting.

Second, this conclusion is, on the whole, true whether we adjust the shares estimated from the NRC distributions for a smaller income base, i.e., whether we use line 3 or 4,5 or 6 . However, the agreement is closer if we make the adjustment.

Third, the share of the 2 nd and 3 rd percentage band derived from the NRC distributions is distinctly larger, and that of the 6th and 7th per-

[^89]centage band somewhat smaller than that of the corresponding band of the basic and economic income variants. However, it is doubtful that these differences have much significance. ${ }^{9}$

## b Comparison with BLS-BHE Survey for 1941

For the full year 1941 and the first quarter of 1942 the Survey of Spending and Saving in Wartime, undertaken jointly by the BLS and the BHE, yields countrywide distributions by size that can be used in our comparisons. ${ }^{10}$ Since the data for the first quarter of 1942 may be subject to larger error, and besides cannot be compared with estimates for an entire year, the comparison is confined to 1941.

As in all other cases, the income distribution among consuming units (families and single individuals), had to be converted to a per capita basis (App. 6, Sec. D). Unlike the NRC distributions for 1935-36, the data used here exclude institutional residents, but the omission is not important for the analysis.

Much more important is the fact that the published distributions for 1941 present the sample results as they stand, adjusted for underrepresentation at the top income levels by means of a Pareto curve but not supplemented by income tax data. Hence, unlike the comparison in Table 104, that in Table 105 does not contain any element of spuriousness: the two bodies of data are independent in the sense that they come from completely different sources.

Since these sample data, as published, are unadjusted for income coverage, they are much more short of the totals employed in our analysis than the NRC distributions for 1935-36 - about 13 percent compared with 2.8 percent. The results of the comparison, therefore, depend in large degree upon assumptions concerning the effects of the shortage at different income levels.

[^90]Table 105
Percentage Shares of Upper Income Groups Based on Income Tax Data Compared with Those Based on the BLS-BHE Survey, 1941

| Percentage Band | Estimates Based on Income Tax Data |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Basic variant, total | Economicincome |  |  |
|  |  |  | Unadjusted | Adjusted |
|  |  | variant, total population | for income base | for income |
|  | (1) | (2) | (3) | (4) |
| Top 1 | 11.4 | 12.3 | 6.0 | 5.2 |
| 2nd \& 3rd | 6.3 | 7.5 | 7.6 | 6.6 |
| 4th \& 5th | 4.2 | 5.8 | 5.8 | 5.1 |
| Top 5 | 21.9 | 25.7 | 19.5 | 16.9 |
| 6th \& 7th | 3.5 | 4.4 | 4.9 | 4.3 |
| Top 7 | 25.4 | 30.1 | 24.4 | 21.2 |
| 8th-10th | 4.6 | 5.5 | 6.2 | 5.4 |
| Top 10 | 30.0 | 35.5 | 30.6 | 26.6 |
| 11th-15th | 7.0 | (8.3) | 9.2 | 8.0 |
| Top 15 | 37.0 | (43.9) | 39.9 | 34.7 |
| 16th-20th | 6.6 | (7.9) | 7.5 | 6.5 |
| Top 20 | 43.6 | (51.7) | 47.3 | 41.2 |

Figures in parentheses are calculated by multiplying column 1 by 1.18 , the ratio of column 2 to column 1 for the top 10 percent.

One possible assumption is that the shortage is distributed proportionately among all income levels. The shares in column 3 would then be the true shares of the successive groups from the top. But the share of the top 1 percent in column 3 is only 6.0 percent of total income; in our economic income variant (col. 2) it is over twice as large. There must obviously be underrepresentation at the top levels, which must be responsible in part for the over-all income shortage. The implication is that not enough units were included at the top levels, not that the filing units underreported their income. It is perhaps reasonable to assume that the rest of the shortage is due less to underrepresentation of units above the average (or, what is the same thing, overrepresentation of units below the average) than to understating of income by units that did report. In surveys conducted after the income year, which obviously can neither compel the reporting unit to provide full information nor minutely examine the preceding year's income of each covered unit, omissions are highly likely. The important question is whether such underreporting is more significant at upper than at lower income levels.

We assume that underreporting is both more prevalent and relatively more significant at lower income levels - for several reasons. First, underreporting is likely to be greatest among small independent entrepreneurs,
particularly farmers - units that are, on the whole, likely to be well below the lowest partition line, 20 percent, in Table 105. Second, casual and supplementary earnings or small property incomes are likely to be more prevalent at the lower levels - and these are the types of earnings most subject to underreporting. Third, the housewife or other household respondent at the lower levels in a survey is likely to be less informed and hence give less complete information than those reporting at the upper levels. Finally, small amounts are the ones most likely to be overlooked in reporting, and their relative weight in total income is greater at the lower levels. In short, at the upper levels the weakness of the survey tends to lie in underrepresentation, whereas underreporting is more likely at the lower levels.

If this reasoning is accepted, underreporting at the upper levels by units that did report is sufficiently small to be neglected. Hence we adjust column 3 for the full relative disparity between the income bases, getting shares that are a much better approximation to the true level (col. 4). These adjusted shares are, however, a bit on the low side, partly because there may be some underreporting at the upper levels but largely because correction for underrepresentation at the top 1 percent would move all the percentages about a half or three-quarters of a percentage down the population array. For example, if we allow for the omission of a top 0.5 percent, the percentage band now marked 2 nd and 3rd would become the 2.5 and 3.5 percentage band; and the new 2 nd and 3 rd percentage band would receive a share somewhat smaller than the present. Nevertheless, the entries in column 4, adjusted upward a couple of digits beyond the decimal, are probably the fairest approximation we can derive from the 1941 Survey.

With column 4 we compare columns 1 and 2 . Because the coverage of the tax return population is not wide enough to permit us to calculate the economic income variant below the 10 percent level the entries in column 2 for the percentage bands below that level are rough approximations.

On the whole, the conclusions are quite similar to those yielded by the comparison for 1935-36. Except for the top 1 percent, our estimates in the basic variant are on the low side, by from about one-tenth to three-tenths. However, the shares in the economic income variant are close to the properly adjusted shares from the Survey, beginning with the 2 nd and 3 rd percentage band and extending all the way down to the 16th-20th percentage band. One could hardly say that the Survey data confirm in any genuine sense our estimates based on income tax data: if our assumption that underreporting is more common at lower income levels is valid, one could just as fairly say that except for the top 1 percent our estimates confirm the Survey data. Perhaps what is most important, there is no evidence of any downward bias in the shares of upper percentage bands in the economic
income variant, and there is evidence of our much more complete coverage of the top 1 percent.

## c Comparison with Census Samples for 1944, 1945, and 1947

The third set of size distributions with which we compare our estimates is that by the Bureau of the Census for 1944, 1945, and 1947 based upon its sample studies of some $6,700,8,700$, and 12,000 households respectively. ${ }^{11}$ The Census data are for money income alone; they exclude members of the armed forces living on millitary reservations, institutional inmates, and, in some years, all other persons outside the regular household (residents of hotels, noninmate residents of institutions, etc.). The comparisons can, therefore, be made only by dint of some rough assumptions.

We converted the distributions of consuming units to a per capita basis in a manner analogous to that followed for the 1935-36 and the 1941 data (App. 6, Sec. E). A special problem arose because the Census size distributions have a bottom and a top open-end class -below $\$ 500$, and $\$ 10,000$ and over - and give neither class totals nor means. The absence of absolute data for the $\$ 10,000$ and over class was especially bothersome. We assumed two sets of class means. Assumption 1 uses arithmetic means of class intervals, $\$ 200$ for the bottom open-end class, and $\$ 12,500$ for the top open-end class. Assumption 2 uses geometric means of class intervals, the same mean ( $\$ 200$ ) for the lowest open-end class, but $\$ 25,000$ for the top open-end class, the figure suggested by the average income per family and per single person on tax returns with adjusted gross income of $\$ 10,000$ and over in 1944. For the Census distributions as given, without any attempt to correct for undercoverage of the upper income groups, Assumption 1 seems more reasonable than 2.

Assumption 2 compensates for the shortage in the income coverage at the top 1 percent level; but there remains a substantial shortage of income in the Census distributions as compared with the income totals we used. Part is explained by the Census exclusion of the armed forces, institutional population, and income in kind. In 1944 and 1945 these exclusions account

[^91]for large amounts. But even with allowances for these differences in scope, substantial shortages remain. ${ }^{12}$

Of the two sets of columns in Table 106 derived from the Census sample data, the entries adjusted for scope of both population and income coverage (col. 4 and 6) are better approximations to the true levels than the unadjusted (col. 3 and 5). Here again, for reasons indicated in discussing the comparison for 1941, we may assume that the shortages are due partly to underrepresentation at the very top levels and partly to underreporting at the low levels. In this particular case the assumption is strengthened by the omission of income in kind - most prevalent and important at the lower income levels - and by the exclusion of members of the armed forces whose per capita income is presumably mostly below that of the top 20 percent of the population. ${ }^{13}$

As might be expected, the shares in our basic variant run short of those derived from the Census samples, with the exception, as always, of that of the top 1 percent. However, the shares in our economic income variant (those for 1947 roughly estimated from the 1946 ratio of the shares in the economic income variant to those of the corresponding bands in the basic variant) about equal the shares derived from the Census samples on Assumption 1 - that assigning $\$ 12,500$ as the class mean of the top open-end class. Any overestimate of that mean would affect not only the share of the top 1 percent but also that of the 2 nd and 3rd percentage band, since the top open-end class is well over 1 percent ( 1.7 percent in 1944, 1.4 percent in 1945, and 3.0 percent in 1947) of the total population covered in the Census samples.

For 1944 the shares derived from the Census sample below the top 1 percent tend to run slightly above those in our economic income variant, beginning with the 2 nd and 3rd percentage band if we use the higher mean for the top open-end class, and beginning with the 4th and 5th percentage band if we use the lower and more reasonable mean. For 1945 the shares derived from the Census sample tend to run below those in our economic income variant for both the top 1 percent and the 2 nd and 3 rd percentage

[^92]Table 106
Percentage Shares of Upper Income Groups Based on Income Tax Data Compared with Those Based on the Census Samples, 1944, 1945, and 1947

|  | estimates based on |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | income tax data |  | estimates based on census sample |  |  |  |
|  |  |  |  |  |  |  |
|  | Basic variant, | income variant, | for pop. | Adj. | for pop. | for pop. |
| P | tal | tal | \& income | \& income | \& income | \& incom |
| band | pop. | рop. | base | base | bas | base |
|  | (1) | (2) | (3) | (4) | (5) | (6) |

1944

| Top 1 | 8.6 | 9.0 | 6.1 | 4.5 | 10.6 | 8.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2nd \& 3rd | 4.9 | 5.7 | 7.3 | 5.3 | 8.5 | 6.3 |
| 4th \& 5th | 3.2 | 4.0 | 5.8 | 4.1 | 5.6 | 4.3 |
| Top 5 | 16.6 | 18.7 | 19.2 | 13.8 | 24.7 | 18.6 |
| 6th \& 7th | 2.7 | 3.2 | 4.8 | 3.5 | 4.6 | 3.5 |
| Top 7 | 19.4 | 21.9 | 24.0 | 17.3 | 29.3 | 22.1 |
| 8th-10th | 3.7 | 4.2 | 6.5 | 4.7 | 6.1 | 4.6 |
| Top 10 | 23.1 | 26.0 | 30.5 | 22.0 | 35.3 | 26.7 |
| 11th-15th | 5.5 | 5.9 | 9.0 | 6.4 | 8.4 | 6.3 |
| Top 15 | 28.6 | 32.0 | 39.5 | 28.3 | 43.7 | 33.1 |
| 16th-20th | 5.1 | 5.2 | 7.8 | 5.6 | 7.2 | 5.5 |
| Top 20 | 33.7 | 37.2 | 47.3 | 34.0 | 50.9 | 38.6 |
| 1945 |  |  |  |  |  |  |
| Top 1 | 8.8 | 9.4 | 5.6 | 4.0 | 8.9 | 6.6 |
| 2nd \& 3rd | 5.3 | 5.9 | 6.7 | 4.8 | 7.6 | 5.6 |
| 4th \& 5th | 3.3 | 4.0 | 5.4 | 3.8 | 5.5 | 4.0 |
| Top 5 | 17.4 | 19.3 | 17.6 | 12.5 | 22.0 | 16.3 |
| 6th \& 7th | 2.7 | 3.3 | 4.7 | 3.4 | 4.5 | 3.3 |
| Top 7 | 20.1 | 22.5 | 22.4 | 15.9 | 26.5 | 19.6 |
| 8th-10th | 3.6 | 4.2 | 6.4 | 4.5 | 6.1 | 4.5 |
| Top 10 | 23.7 | 26.7 | 28.8 | 20.4 | 32.6 | 24.1 |
| 11th-15th | 5.3 | 5.8 | 8.6 | 6.1 | 8.2 | 6.1 |
| Top 15 | 29.0 | 32.5 | 37.4 | 26.5 | 40.8 | 30.1 |
| 16th 20th | 4.9 | 5.0 | 7.8 | 5.6 | 7.3 | 5.4 |
| Top 20 | 33.9 | 37.5 | 45.2 | 32.1 | 48.1 | 35.6 |
| 1947* |  |  |  |  |  |  |
| Top 1 | 8.5 | 9.1 | 5.5 | 4.1 | 9.2 | 7.5 |
| 2nd \& 3rd | 5.4 | 5.9 | 6.9 | 5.2 | 8.9 | 7.3 |
| 4th \& 5th | 3.5 | 4.1 | 5.4 | 4.1 | 5.8 | 4.7 |
| Top 5 | 17.4 | 19.1 | 17.8 | 13.5 | 23.9 | 19.6 |
| 6th \& 7th | 2.8 | 3.4 | 4.9 | 3.7 | 4.8 | 4.0 |
| Top 7 | 20.2 | 22.5 | 22.7 | 17.2 | 28.8 | 23.5 |
| 8th-10th | 3.7 | 4.4 | 6.2 | 4.7 | 6.0 | 4.9 |
| Top 10 | 24.0 | 26.9 | 28.9 | 21.8 | 34.8 | 28.4 |
| 11th-15th | 5.2 | 5.7 | 9.0 | 6.8 | 8.4 | 6.9 |
| Top 15 | 29.1 | 32.6 | 37.9 | 28.6 | 43.2 | 35.3 |
| 16th-20th | 4.9 | 5.2 | 7.8 | 5.9 | 7.1 | 5.8 |
| Top 20 | 34.0 | 37.8 | 45.7 | 34.5 , | 50.3 | 41.1 |

Because of rounding, details may not add to totals.

* Column 2 estimated from the 1946 ratio of the shares in the economic income variant to those of the corresponding bands in the basic variant.
band, even when we use the higher mean for the top open-end class; and the two sets of shares for the percentage bands from the 4th and 5th through the 11 th- 15 th are about the same. For 1947 only the share of the top 1 percent derived from the Census sample, and of the 2 nd and 3rd percentage band on Assumption 1, are smaller than in our estimates. But all these differences are minor and cannot be assigned much significance. The general conclusion, as from the preceding comparisons, is that no large biases can be detected in our shares in the economic income variant - at the top income levels and perhaps even down to the 11th-15th percentage band.


## d Comparison with Surveys of Consumer Finances for 1945-47

Finally, in the Surveys of Consumer Finances for 1945-47 we have size distributions of money income based on some 3,000 returns each year and carried through in connection with a study of liquid asset holdings. ${ }^{14}$ Like the other sample distributions, they were converted to a per capita basis, but in this case we had the assistance of those in charge of the Surveys (App. 6, Sec. F). And like all the sample distributions except the 1935-36, these suffer from a shortage of income. Moreover, as with the Census samples, we had to correct also for a shortage in population coverage, i.e., calculate the percentage bands in relation to total population instead of the sample universe (Table 107).

For reasons given repeatedly, the adjusted shares in column 4 are the ones to be compared with our estimates. The comparison shows the shortage in the share of the top 1 percent noted above as characteristic of sample distributions; but the shares of the lower percentage bands of the Survey distributions (except the 2 nd and 3 rd in 1945), even when reduced as in column 4, exceed our estimates, even those in the economic income variant. The excesses are absolutely small but fairly substantial relatively.

It is difficult to account for them. Perhaps our estimates are on the short side in the percentage bands below the top 1 . On the other hand, the trouble may well be in the Survey data; obviously it is not in the overreporting of income by the sample units but in their weights. Analysis suggests that urban families and individuals are overrepresented in the Survey for $1945,{ }^{15}$ and the effort to represent the upper income groups adequately may have resulted in overrepresenting the groups from the 2 nd percentage

[^93]Table 107
Percentage Shares of Upper Income Groups Based on Income Tax Data Compared with Those Based on the Surveys of Consumer Finances, 1945-1947

| Percentage Band | Estimates Based on Income Tax Data |  | Estimates Based on Survey of Consumer Finances |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Basic | Economic |  |  |
|  | variant, | income | Unadjusted | Adjusted |
|  | total | variant, | for population | for population |
|  | population | totalpopulation | \& income base | \& income base |
|  | (1) | (2) | (3) | (4) |
| 1945 |  |  |  |  |
| Top 1 | 8.8 | 9.4 | 5.9 | 4.5 |
| 2 nd \& 3rd | 5.3 | 5.9 | 7.1 | 5.4 |
| 4th \& 5th | 3.3 | 4.0 | 6.0 | 4.5 |
| Top 5 | 17.4 | 19.3 | 19.0 | 14.5 |
| 6th \& 7th | 2.7 | 3.3 | 5.0 | 3.8 |
| Top 7 | 20.1 | 22.5 | 23.9 | 18.3 |
| 8th-10th | 3.6 | 4.2 | 6.4 | 4.8 |
| Top 10 | 23.7 | 26.7 | 30.3 | 23.1 |
| 11th-15th | 5.3 | 5.8 | 9.0 | 6.9 |
| Top 15 | 29.0 | 32.5 | 39.3 | 30.0 |
| 16th-20th | 4.9 | 5.0 | 7.9 | 6.0 |
| Top 20 : | 33.9 | 37.5 | 47.3 | 36.0 |
| 1946 |  |  |  |  |
| Top 1 | 9.0 | 9.6 | 7.6 | 6.0 |
| 2nd \& 3rd | 5.7 | 6.2 | 8.2 | 6.5 |
| 4th \& 5th | 3.5 | 4.2 | 5.9 | 4.7 |
| Top 5 | 18.2 | '20.0 | 21.8 | 17.2 |
| 6 6th \& 7th | 2.8 | 3.4 | 5.1 | 4.0 |
| Top 7 | 21.0 | 23.4 | 26.8 | 21.2 |
| 8th-10th | 3.7 | 4.3 | 7.0 | 5.5 |
| Top 10 | 24.7 | 27.7 | 33.8 | 26.7 |
| 11th-15th | 5.3 | 5.9 | 8.8 | 6.9 |
| Top 15 | 30.0 | 33.6 | 42.5 | 33.6 |
| 16th-20th | 4.8 | 5.2 | 7.7 | 6.0 |
| Top 20 | 34.9 | 38.7 | 50.2 | 39.7 |
| 1947* |  |  |  |  |
| Top 1 | 8.5 | 9.1 | 7.9 | 6.7 |
| 2nd \& 3rd | 5.4 | 5.9 | 9.3 | 7.9 |
| 4th \& 5th | 3.5 | 4.1 | 6.9 | 5.8 |
| Top 5 | 17.4 | 19.1 | 24.1 | 20.4 |
| 6th \& 7th | 2.8 | 3.4 | 5.5 | 4.6 |
| Top 7 | 20.2 | 22.5 | 29.6 | 25.0 |
| 8th-10th | 3.7 | 4.4 | 6.8 | 5.8 |
| Top 10 | 24.0 | 26.9 | 36.4 | 30.8 |
| 11th-15th | 5.2 | 5.7 | 9.1 | 7.6 |
| Top 15 | 29.1 | 32.6 | 45.5 | 38.4 |
| 16th-20th | 4.9 | 5.2 | 7.1 | 6.0 |
| Top 20 | 34.0 | 37.8 | 52.7 | 44.4 |

Because of rounding, details may not add to totals.

* Column 2 estimated from the 1946 ratio of column 2 to column 1.
downward while still missing a good portion of the very top income units.
A relatively minor error in weighting at an upper income level would
have an effect all the way down. For example, if we assign a weight of 3 (instead of 2) to the 2nd and 3rd, and 4th and 5th percentage bands respectively, and assume that their true shares are as given in column 2 (rather than as in col. 3 or 4), the entries would be about the same or in excess of those in column 4. Yet, in weighting on the basis of a small sample, it is not difficult to overweight by about 2 percentage points, with consequent underweighting elsewhere in the distribution.

One could argue that Table 107 does suggest some shortages in our shares even in the economic income variant. But the evidence is far from impressive. The cumulative share of the upper bands does not fall short of that based on the Survey of Consumer Finances for 1945, and reaches the shortage point at the 20 percent line in 1946 and at the 5 percent line in 1947. In view of the crudity of the comparison, differences of 1 or 2 percentage points cannot be deemed significant. It is, therefore, fair to conclude that the comparison, as far as it goes, does not reveal any serious shortages in our estimates, at least in the top 5 percent range.

## 4 The Evidence for 1944-48

Unless otherwise explained, the smaller per capita income of the population represented on tax returns than of the total population noted in our estimates for 1944-48, when income tax coverage was extended to a high percentage of the total population, indicates serious shortages in income reported on tax returns. In appraising our estimates, therefore, we should pay particular attention to the evidence for these years. Since some earlier years may be affected and it is important to include a prewar year, we go back to 1941.

The puzzle is most manifest in Table 108 where the shares in our basic variant for total population are estimated for lower and lower percentage bands as the tax coverage is extended. If there are no errors in the numerators or denominators, i.e., tax return population and its income on the one hand and total population and its income on the other, the per percentile shares of the successive percentage bands, including those for the lowest group, derived by subtraction, should decline continuously. And this is what we find in Part B for 1941 and 1942. But in 1943 the per percentile share of the lowest group (the 66th-100th percentage band), 0.81 , exceeds that of the percentage band just above it, 0.66 . This reversal of the downward trend of the per percentile shares is even more striking in 1944-48 when the share of the lowest group (the 81st-100th percentage band) not only exceeds that of the percentage band above it, but exceeds 1, i.e., the average per capita income for the country as a whole, by a fairly wide margin. The reason this puzzling reversal is not evident in 1941 or 1942

Table 108
Percentage Shares of Upper Income Groups, Total and per Percentile, Basic
Variant, Total Population, 1941-1948

| Percentage Band | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A Total Shares |  |  |  |  |  |  |  |  |
| Top 1 | 11.39 | 10.06 | 9.38 | 8.58 | 8.81 | 8.98 | 8.49 | 8.38 |
| 2nd \& 3rd | 6.25 | 5.33 | 5.12 | 4.89 | 5.30 | 5.69 | 5.45 | 5.57 |
| 4th \& 5th | 4.24 | 3.55 | 3.25 | 3.16 | 3.28 | 3.53 | 3.48 | 3.68 |
| 6th \& 7th | 3.48 | 3.04 | 2.79 | 2.73 | 2.71 | 2.84 | 2.79 | 3.07 |
| 8th-10th | 4.60 | 4.02 | 3.74 | 3.71 | 3.61 | 3.66 | 3.75 | 4.08 |
| 11th-15th | 7.03 | 5.96 | 5.82 | 5.55 | 5.33 | 5.34 | 5.19 | 5.82 |
| 16th-20th | 6.63 | 5.45 | 5.33 | 5.08 | 4.88 | 4.84 | 4.89 | 5.05 |
| 21st-35th | 17.80 | 14.15 | 14.20 | 13.58 | 13.03 | 12.67 | 13.04 | 13.12 |
| 36th-50th |  | 12.40 | 12.14 | 11.87 | 11.60 | 11.09 | 11.90 | 11.53 |
| 51st-65th |  |  | 9.93 | 9.72 | 9.44 | 9.65 | 10.43 | 10.27 |
| 66th-80th | 38.58 | 36.04 \} | 28.30 | 5.56 | 5.44 | 7.07 | 7.64 | 7.91 |
| 81st-100th |  |  |  | 25.56 | 26.57 | 24.66 | 22.96 | 21.53 |

B Shares per Percentile
$\left.\begin{array}{lrrrrllll}\text { Top 1. } & 11.39 & 10.06 & 9.38 & 8.58 & 8.81 & 8.98 & 8.49 & 8.38 \\ \text { 2nd \& 3rd } & 3.13 & 2.67 & 2.56 & 2.45 & 2.65 & 2.84 & 2.72 & 2.79 \\ \text { 4th \& 5th } & 2.12 & 1.77 & 1.62 & 1.58 & 1.64 & 1.76 & 1.74 & 1.84 \\ \text { 6th \& 7th } & 1.74 & 1.52 & 1.40 & 1.37 & 1.35 & 1.42 & 1.40 & 1.54 \\ \text { 8th-10th } & 1.53 & 1.34 & 1.25 & 1.24 & 1.20 & 1.22 & 1.25 & 1.36 \\ \text { 11th-15th } & 1.41 & 1.19 & 1.16 & 1.11 & 1.06 & 1.07 & 1.04 & 1.16 \\ \text { 16th-20th } & 1.33 & 1.09 & 1.07 & 1.02 & 0.98 & 0.97 & 0.98 & 1.01 \\ \text { 21st-35th } & 1.19 & 0.94 & 0.95 & 0.91 & 0.87 & 0.84 & 0.87 & 0.87 \\ \text { 36th-50th } \\ \text { 51st-65th } \\ \text { 66th-80th } \\ \text { 81st-100th }\end{array}\right\}$

C Recapitulation of per Percentile Shares

| 16th-20th | 1.33 | 1.09 | 1.07 | 1.02 | 0.98 | 0.97 | 0.98 | 1.01 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 21st-100th | 0.70 | 0.78 | 0.81 | 0.83 | 0.83 | 0.81 | 0.82 | 0.80 |
| 21st-35th | 1.19 | 0.94 | 0.95 | 0.91 | 0.87 | 0.84 | 0.87 | 0.87 |
| 36th-100th | 0.59 | 0.75 | 0.77 | 0.81 | 0.82 | 0.81 | 0.81 | 0.79 |
| 36th-50th |  | 0.83 | 0.81 | 0.79 | 0.77 | 0.74 | 0.79 | 0.77 |
| 51st-100th |  | 0.72 | 0.76 | 0.82 | 0.83 | 0.83 | 0.82 | 0.79 |.

may be that the tax return population is not large enough for us to carry our calculations to the lower reaches of the distribution.

To attribute the reversal to underreporting and omissions in the tax data would be easy. But for at least one reason we suspect they are not the sole cause: the variant in Table 108 is the basic, i.e., unadjusted for family status and unwarranted deductions - two major sources of underestimates in that variant. For 1944,1945 , and 1946 the share of the top 20 percent in the economic income variant was $37.2,37.5$, and 38.7 percent respectively, that in the basic variant, $33.7,33.9$, and 34.9 percent respectively (Tables 106 and 107). We may reasonably assume that this difference between the shares in the two variants would be relatively the same for the top 80 percent also - especially since that for the top 20 percent would be much larger if we excluded the top 1 percent. On this assumption the share of the top 80 percent in the economic income variant would be 82.2 percent in 1944, 81.3 percent in 1945, and 83.5 percent in 1946; and applying the relative difference for 1946 to 1947 and 1948, the share for those years would be 85.4 and 87.0 percent respectively. For all five years then, the share of the top 80 percent would represent a per capita income larger than the countrywide per capita. With this one adjustment the puzzle noted in Chapter 7 would disappear. Consequently, the underestimate of the shares in the basic variant is probably largely due to the failure to make the adjustments called for in the economic income variant; moreover, while the range of these adjustments is only about a tenth, the failure to make them has an increasingly distorting effect on the share of the residual group the smaller the residual group.

Yet we must still consider the possibilities of shortages in the income tax data. Their existence is evident from the fact that even after raising the share of the top 80 percent to allow for the adjustments in the economic income variant, the residual 20 percent of the population has a per percentile share of almost 1 ( 0.89 in 1944, 0.94 in 1945, 0.82 in 1946, 0.73 in 1947, and 0.65 in 1948) - much larger than some of the bands between the 36 th and 80 th percentage lines are likely to have.

These shortages may come from three sources of underreporting. The first is failure to report items that are included in our income estimates, used as denominators, but are either not called for or are highly unlikely to appear on income tax returns; e.g., such 'other labor income' as employers' contributions to welfare and pension funds and compensation for injury; and a great deal of nonmoney income of which the economic income variant adjusts for imputed rent alone. Relatively, the total of all such items is not large - at most, 2 percent of countrywide income. But failure to report them produces an error that is relatively large in the residual group.

For example, if of the missing 2 percent, 1.5 percent is not reported on tax returns and the true share of the residual group (81st-100th percentage band) should be, say, 10 percent of countrywide income, 1.5 percent would be added to the true figure, exaggerating it by as much as $15 / 100$.

The second and quantitatively more important source of nonreporting in these years is military pay, as suggested by the big break in the per percentile shares in the lower groups between 1941 and 1942. Thus, for the residual group, 21st-100th percentage band, the income share per percentile which in 1941 is 0.70 , jumps to 0.78 in 1942, rises gradually to 1945, then declines slightly. The jump from 1941 to 1942 is even more striking for the per percentile share of the lower 65 percent group (36th100th percentage band) - from 0.59 to 0.75 , over a quarter; yet the rises in the following years are quite gradual and cease in 1945. Even if we did not know anything about the history of these years, Table 108 would make us aware that the break in the distribution, the change that may have caused substantial shortages in the income shares, occurred between 1941 and 1942 and remained.

It was obviously associated with this country's entrance into World War II which caused the withdrawal of a substantial proportion of the population into the armed forces. Noncommissioned personnel of the military or naval forces were allowed to exclude from gross income compensation received for active service during 1942 up to $\$ 250$ if single, or $\$ 300$ if married or head of a family, $\$ 1,500$ during 1943-44, and all service pay received during 1945-48. For 1943-48 commissioned officers were also allowed to exclude from gross income their active service pay up to $\$ 1,500$. For 1944 and thereafter, mustering-out payments with respect to service in the military or naval forces were also excluded from gross income. In addition, amounts contributed by the government to the serviceman's "monthly family allowance" were regarded as gifts and did not have to be reported as income. Finally, members of the armed forces serving abroad or on sea duty could postpone filing returns and paying taxes until the 15th day of the sixth month following the month in which they returned to the United States, but not beyond June 15, 1948.

To estimate exactly how much shortage to assign to this factor is difficult, but we made an experimental calculation for 1944 and 1945, the two years probably most affected. We had already excluded the government's contributions to military family allowances - $\$ 2.5$ billion in 1944 and $\$ 2.9$ billion in 1945 (Survey of Current Business, July 1947, National Income Supplement, Table VII, p. 14) - from individuals' total income receipts used as denominators in those years. But we had not excluded the balance of military pay which amounted to as much as $\$ 20.8$ billion in 1944 and
$\$ 22.4$ billion in 1945 (ibid., Table 1, p. 19). The total number in military service in these years was 11.4 million and 11.6 million respectively (Statistical Abstract, 1946, p. 220). Nonreporting by this group, whose income and numbers are included in the countrywide totals, would therefore seriously affect the completeness of the income tax data. Moreover, the resulting omission would not be in the very lowest brackets of the tax return population. Members of the armed services, particularly abroad, can be considered only as a group of single individuals; and their income, including nonmoney, was in 1944-45 well above $\$ 1,000$ per capita, i.e., about equal to the per capita income of the total population. This means, in terms of Table 108, that the omitted group should be in the 16th-20th percentage band. And if we assume, again moderately, that 5-7 million in the armed services were outside the country (or roughly $4-5$ percent of the total population), the adjustment to be made becomes somewhat clearer. In Table 108 members of the armed services abroad are in our residual group (81st100th percentage band) in 1944 and 1945, but should be several percentage bands higher. To adjust the residual group in those years we should: (a) subtract 5 percent of its population and income; (b) add 5 percent of the population and income of the lower levels of the band just above it. For (b) we assume that the per percentile share for the lowest third of the 66th-80th percentage band, i.e., the percentages just above the residual band, is 0.30 . Thus for 1944 the revised share of the lowest 20 percent would become $25.56-5.00+(0.30 \times 5)=22.06$; and for $1945,23.07$. This 3.5 percentage point reduction of the lowest band's share, on top of the reduction suggested in passing from the basic to the economic income variant, would bring its share down to 14.3 percent for 1944 and 15.2 percent for 1945. There may be similar if smaller adjustments in the later years. And if we add the possible effects of the other omissions mentioned, the percentage share of the lowest 20 percent of the population, estimated as a residual, would be down to $12-14$ percent, or 0.6-0.7 percent of income per percentile of the population.

A third source of underreporting is clearly defined money income by persons filing returns. There are bits of evidence that it too occurs chiefly at the levels well below our upper groups. The first bit is the sharp falling off in the per percentile shares as we pass from the 51st-65th to the 66th80th percentage band: in 1944 the drop is from 0.65 to 0.37 , in 1945 , from 0.63 to 0.36 , and it is still quite abrupt in the later years. No such break is apparent during equal intervals in passing from the 21st-35th or the 36th50th percentage band to the next. Indeed, the slope of the general decline strongly suggests that the entries for the 66th-80th percentage band in Table 108, Part B, should have been 0.5 or slightly above in 1944 and

1945; and about 0.6 in the later years. If so, the underreporting in this band is about three-tenths of the true value in 1944 and 1945, and from about a sixth to an eighth in the later years.

Another ground for assuming that underreporting is largely in the lower brackets is that the new entrants into the tax return population are here, and they are the ones most likely to understate their income. Likewise, the groups that have been among those notorious for noncompliance, farmers and small entrepreneurs, are the ones whose incomes perhaps rose most during the war. This combination of heavier weight of new entrants and larger income shares of groups that tend to evade taxation has increased understatement and underreporting largely in the lower income brackets.

Some confirmation comes from the per percentile shares in the various types of income (Table 109). The array for successive percentage bands is by total income per capita, not by income of a given type. Therefore, the shares per percentile in a given type of income may well rise at some point in the array as we descend the percentage bands. Table 109, particularly important for the question of the level at which the shortage in the income tax data is likely to be largest, contains four pieces of evidence:

First, in all types except entrepreneurial income there is the sharp break in the shares from 1941 to 1942, confirming World War II as a major factor in distorting the shares, primarily in the lower bands.

Second, the movement in the shares of employee compensation is not unlike that of total income, for the simple reason that the former accounts for over seven-tenths of the latter. The sharp break in the per percentile shares at the levels near the bottom of the tax return population (see the 36th-50th and 51st-65th percentage bands for 1943-45 and the 51st-65th and 66th-80th percentage bands for 1944-48) lead us to suspect large shortages at these low levels.

Third, for the next large type, entrepreneurial income, the shares at the upper levels (say, above the 5 percent line) rise to 1945 , and the shares that decline after 1941 are only those at the intermediate levels (between the 20th and 50th percentage bands). One cannot escape the suspicion that farm and other entrepreneurial incomes, which increased during the war and should have raised or at least held constant the shares at the intermediate levels, are appreciably underreported.

Fourth, in the case of both rent and pure property incomes (interest and dividends) some shares at the upper levels decline to 1944 or 1945. But the steeper declines are at the levels between the 5th percent line and the residual band, which is distorted by shortages. There is no particular reason to believe that the shares at these levels - from the 5th down to, say, the 50th percentage band - actually declined at all; and one suspects that the

Table 109
Percentage Shares per Percentile of Population in Various Types of Income Percentage Bands by Total Income, Basic Variant, Total Population, 1941-1948

| Percentage | 1941 | 1942 | 194 | 19 |  | 1946 | 1947 | 19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A Employee Compensation |  |  |  |  |  |  |  |  |
| Top 1 | 6.00 | 4.89 | 3.75 | 3.33 | 3.33 | 3.76 | 3.90 | 3.78 |
| 2nd \& 3rd | 2.57 | 2.19 | 1.85 | 1.68 | 1.66 | 1.77 | 1.80 | 1.87 |
| 4th \& 5th | 2.22 | 1.90 | 1.71 | 1.61 | 1.54 | 1.54 | 1.55 | 1.68 |
| 6th \& 7th | 1.97 | 1.74 | 1.57 | 1.54 | 1.48 | 1.45 | 1.46 | 1.63 |
| 8th-10th | 1.82 | 1.60 | 1.48 | 1.43 | 1.38 | 1.37 | 1.40 | 1.55 |
| 11th-15th | 1.77 | 1.41 | 1.40 | 1.33 | 1.27 | 1.27 | 1.29 | 1.39 |
| 16th-20th | 1.68 | 1.28 | 1.27 | 1.24 | 1.18 | 1.19 | 1.22 | 1.24 |
| 21st-35th | 1.34 | 1.13 | 1.11 | 1.10 | 1.06 | 1.06 | 1.11 | 1.10 |
| 36th-50th |  | 0.97 | 1.01 | 0.94 | 0.93 | 0.93 | 1.01 | 0.96 |
| 51st-65th | 0.58 |  | 0.80 | 0.75 | 0.74 | 0.80 | 0.87 | 0.83 |
| 66th-80th | 0.58 | 0.67 ) |  | 0.40 | 0.41 | 0.56 | 0.60 | 0.60 |
| 81st-100th |  |  | 0.70 | 1.10 | 1.19 | 1.00 | 0.80 | 0.78 |
| RECAPITULATION |  |  |  |  |  |  |  |  |
| 16th-20th | 1.68 | 1.28 | 1.27 | 1.24 | 1.18 | 1.19 | 1.22 | 1.24 |
| 21st-100th | 0.72 | 0.81 | 0.85 | 0.87 | 0.89 | 0.88 | 0.87 | 0.85 |
| 21st-35th | 1.34 | 1.13 | 1.11 | 1.10 | 1.06 | 1.06 | 1.11 | 1.10 |
| 36th-100th | 0.58 | 0.74 | 0.79 | 0.82 | 0.85 | 0.84 | 0.82 | 0.79 |
| 36th-50th |  | 0.97 | 1.01 | 0.94 | 0.93 | 0.93 | 1.01 | 0.96 |
| 51st-100th |  | 0.67 | 0.73 | 0.78 | 0.82 | 0.81 | 0.76 | 0.74 |

## B Entrépreneurial Income

$\left.\begin{array}{lrrrrrrrr}\text { Top 1 } & 16.88 & 18.84 & 23.35 & 22.00 & 23.00 & 18.28 & 15.16 & 15.16 \\ \text { 2nd \& 3rd } & 4.14 & 3.80 & 4.75 & 4.89 & 5.89 & 5.63 & 5.11 & 5.37 \\ \text { 4th \& 5th } & 1.68 & 1.41 & 1.41 & 1.53 & 2.08 & 2.43 & 2.33 & 2.42 \\ \text { 6th \& 7th } & 1.18 & 0.95 & 0.89 & 0.88 & 1.10 & 1.45 & 1.34 & 1.35 \\ \text { 8th-10th } & 0.84 & 0.75 & 0.65 & 0.61 & 0.72 & 0.91 & 0.82 & 0.88 \\ \text { 11th-15th } & 0.47 & 0.66 & 0.49 & 0.46 & 0.51 & 0.62 & 0.57 & 0.63 \\ \text { 16th-200th } & 0.47 & 0.63 & 0.52 & 0.39 & 0.43 & 0.49 & 0.44 & 0.48 \\ \text { 21st-35th } & 0.76 & 0.49 & 0.53 & 0.36 & 0.37 & 0.37 & 0.34 & 0.36 \\ \text { 36th-50th } \\ \text { 51st-6th } \\ \text { 66th-80th } \\ \text { 81st-100th }\end{array}\right\}$

RECAPITULATION

| 16th-20th | 0.47 | 0.63 | 0.52 | 0.39 | 0.43 | 0.49 | 0.44 | 0.48 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 21st-100th | 0.77 | 0.75 | 0.69 | 0.72 | 0.65 | 0.68 | 0.75 | 0.73 |
| 21st-35th | 0.76 | 0.49 | 0.53 | 0.36 | 0.37 | 0.37 | 0.34 | 0.36 |
| 36th-100th | 0.78 | 0.81 | 0.73 | 0.80 | 0.71 | 0.75 | 0.84 | 0.82 |
| 36th-50th |  | 0.43 | 0.26 | 0.38 | 0.35 | 0.31 | 0.32 | 0.32 |
| 51st-100th |  | 0.93 | 0.87 | 0.92 | 0.82 | 0.89 | 1.00 | 0.96 |

Table 109 concluded:

| Percentage <br> Band | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  | C | RENT |  |  |  |  |
| Top 1 | 11.35 | 9.96 | 9.76 | 8.94 | 9.11 | 10.16 | 10.98 | 12.77 |
| 2nd \& 3rd | 3.72 | 2.80 | 2.91 | 2.48 | 2.71 | 3.12 | 3.16 | 3.35 |
| 4th \& 5th | 2.03 | 1.33 | 0.95 | 0.95 | 1.14 | 1.41 | 1.54 | 1.56 |
| 6th \& 7th | 1.57 | 0.99 | 0.70 | 0.58 | 0.66 | 0.87 | 0.85 | 0.95 |
| 8th-10th | 1.27 | 0.82 | 0.59 | 0.47 | 0.42 | 0.59 | 0.55 | 0.63 |
| 11th-15th | 0.90 | 0.77 | 0.51 | 0.37 | 0.34 | 0.41 | 0.39 | 0.43 |
| 16th-20th | 0.87 | 0.74 | 0.54 | 0.31 | 0.29 | 0.33 | 0.32 | 0.31 |
| 21st-35th | 1.42 | 0.56 | 0.51 | 0.28 | 0.24 | 0.26 | 0.24 | 0.26 |
| 36th-50th |  |  |  |  |  |  |  |  |
| 51st-65th |  | 0.71 | 0.26 | 0.29 | 0.24 | 0.22 | 0.21 | 0.20 |
| 66th-80th | $0.62\}$ | 1.01 | 0.32 | 0.29 | 0.25 | 0.22 | 0.24 | 0.24 |
| 81st-100th |  |  | 1.65 | 0.35 | 0.29 | 0.31 | 0.33 | 0.36 |
|  |  |  |  | 3.00 | 3.11 | 2.92 | 2.87 | 2.70 |


| 16th-20th | 0.87 | 0.74 | 0.54 | 0.31 | 0.29 | 0.33 | 0.32 | 0.31 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 21st-100th | 0.77 | 0.87 | 0.93 | 0.98 | 0.97 | 0.92 | 0.91 | 0.87 |
| 21st-35th | 1.42 | 0.56 | 0.51 | 0.28 | 0.24 | 0.26 | 0.24 | 0.26 |
| 36th-100th | 0.62 | 0.94 | 1.02 | 1.14 | 1.14 | 1.07 | 1.06 | 1.02 |
| 36th-50th |  | 0.71 | 0.26 | 0.29 | 0.24 | 0.22 | 0.21 | 0.20 |
| 51st-100th |  | 1.01 | 1.25 | 1.40 | 1.41 | 1.33 | 1.32 | 1.26 |

D Dividends and Interest

| Top 1 | 44.14 | 41.55 | 40.19 | 38.88 | 37.80 | 37.59 | 37.46 | 38.56 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2nd \& 3rd | 5.13 | 4.48 | 4.75 | 5.07 | 5.44 | 5.54 | 4.93 | 5.09 |
| 4th \& 5th | 1.97 | 1.48 | 1.27 | 1.64 | 1.79 | 2.08 | 1.82 | 1.94 |
| 6th \& 7th | 1.31 | 0.94 | 0.77 | 0.91 | 0.82 | 1.21 | 1.00 | 1.10 |
| 8th-10th | 0.87 | 0.69 | 0.56 | 0.64 | 0.54 | 0.69 | 0.54 | 0.69 |
| 11th-15th | 0.53 | 0.57 | 0.53 | 0.43 | 0.40 | 0.44 | 0.36 | 0.45 |
| 16th-20th | 0.49 | 0.49 | 0.43 | 0.34 | 0.33 | 0.34 | 0.29 | 0.32 |
| 21st-35th | 0.74 | 0.39 | 0.38 | 0.29 | 0.28 | 0.26 | 0.22 | 0.23 |
| 36th-50th |  |  |  |  |  |  |  |  |
|  |  | 0.48 | 0.22 | 0.30 | 0.28 | 0.22 | 0.20 | 0.18 |
| 51st-65th | 0.31 |  |  |  |  |  |  |  |
| 66th-80th |  |  | 0.26 | 0.32 | 0.27 | 0.22 | 0.21 | 0.21 |
| 81st-100th |  |  |  |  |  |  |  |  |

RECAPITULATION

| 16th-20th | 0.49 | 0.49 | 0.43 | 0.34 | 0.33 | 0.34 | 0.29 | 0.32 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 21st-100th | 0.39 | 0.47 | 0.50 | 0.50 | 0.51 | 0.48 | 0.53 | 0.49 |
| 21st-35th | 0.74 | 0.39 | 0.38 | 0.29 | 0.28 | 0.26 | 0.22 | 0.23 |
| 36th-100th | 0.31 | 0.48 | 0.52 | 0.55 | 0.57 | 0.54 | 0.60 | 0.55 |
| 36th-50th |  | 0.48 | 0.22 | 0.30 | 0.28 | 0.22 | 0.20 | 0.18 |
| 51st-100th |  | 0.48 | 0.61 | 0.63 | 0.65 | 0.63 | 0.72 | 0.66 |

new entrants into these levels of the tax universe underreport their property incomes, especially as they are probably rather small.

For the years beginning with 1942 or 1943 the distributions could easily
be revised to eliminate the increase in the per percentile share of total income: by replacing the rates in Table 109 for employee compensation below the 35 percent line by estimated rates, based on an extrapolation of the decline in the shares of the percentage bands above that line with an allowance for its gradual retardation; and by substituting for the rates for each other income type below the 20 percent line a constant share per percentile based on the average share for the 21 st -100th percentage band. Such a calculation for 1943, 1944, and 1945 yields total income shares whose per percentile shares down through the residual group decline continuously. But there is little use in presenting it. We mention it as evidence of the ease with which the shares in Table 108 can be revised on the assumption - supported by the various bits of evidence mentioned above - that the chief shortages in the income tax data occur below the 20 percent line.

This naturally does not mean that there are no shortages above the 20 percent line. As we have seen, the shares in the basic variant for these years must be as short - by perhaps as much as a tenth - of the true shares as they were in other years and there may be other small biases. Also, as the audit study of 1948 returns discussed in the next section shows, income is underreported at upper as well as at lower income levels. But one may reasonably infer from the bits of evidence that the estimates for the top 5 percent in the economic income variant are not subject to much more serious biases for these recent years than they are throughout the period. The rise in the per percentile share of total income in the residual group in 1943-48 may be largely due to the bias in the basic as compared with the economic income variant, and perhaps even more, to the shortages in income tax data affecting the levels below the top, and most conspicuous in the bands near the bottom of the income tax universe.

## 5 Sample Audit Study of 1948 Tax Returns

After this report was written, some results of the sample audit study of 1948 returns, referred to in note 4 , became available. Since this is the first audit study that follows the random method of selecting returns for examination and hence permits an unbiased judgment of the errors on returns, it seems worth while to examine whatever general results are available.

The published and tabulated detail distinguishes between Agents' returns - Form 1040 returns with adjusted gross income of $\$ 7,000$ or more or with gross receipts of $\$ 25,000$ or more from business or profession - and Collectors' returns - Form 1040A returns, and Form 1040 returns with adjusted gross income of less than $\$ 7,000$, and with gross receipts of less than $\$ 25,000$ from business or profession. The failure to tabulate fully by

Table 109a
Summary of Results of Sample Audit Study of 1948 Returns


| Calculated Net Increase in Tax ${ }^{\text {c }}$ with Increase in Adjusted Gross Income adjusted gross income level of |  |  |  |
| :---: | :---: | :---: | :---: |
|  | \$7,000 | \$25,000 | 00,000 |
| Increase in Adjusted Gross Income | \% Net Increase in Tax |  |  |
| $5 \%$ of given income level | 9 | 8 | 7 |
| 10\% of given income level | 18 | 16 | 14 |
| 20\% of given income level | 37 | 33 | 29 |

${ }^{2}$ Form 1040 returns with $\$ 7,000$ or more of adjusted gross income or with gross receipts of $\$ 25,000$ or more from business or profession.
${ }^{\text {b }}$ Includes returns with $\$ 7,000$ to $\$ 25,000$ adjusted gross income; also business returns with less than $\$ 7,000$ adjusted gross income when gross receipts are $\$ 25,000$ or more. ${ }^{c}$ For joint return of husband and wife claiming two dependents and deductions of 10 percent of adjusted gross income.
size of income the audit sample results for Collectors' returns renders the available information of little value for the present purpose. Agents' returns are classified into three groups: those with adjusted gross income of $\$ 7,000$ to $\$ 25,000, \$ 25,000$ to $\$ 100,000$, and $\$ 100,000$ and over. As line 5 of Table 109a indicates, the population represented (calculated from exemptions as reported in the Preliminary Report of Statistics of Income for 1948 and adjusted to exclude extra exemptions for old age and blindness) is 5.1 percent of total population, returns with incomes over $\$ 25,000$ accounting for about 0.5 percent, those with incomes of $\$ 7,000$ to $\$ 25,000$, for 4.6 percent. It seemed best to study Agents' returns in these two percentage groups - the top 0.5 percent and the next 4.6 percent.

As might have been expected, the audit study disclosed some errors that underestimated and some that overestimated the correct tax liability -
with the former preponderating. The net tax increase for all Agents' returns (line 4) amounted to about half a billion dollars. As a percentage of total tax liability reported, this net underestimate of tax represented 3.8 percent for the top 0.5 percent of population, 11.6 percent for the next 4.6 percent of population, and 7.2 percent for all Agents' returns combined.

This, however, does not mean that income reported on the face of the returns was underestimated by these percentages. First, some of the increase in tax liability resulted from errors other than those in income of the total tax change (whether increase or decrease) over 10 percent was found on tax returns with the major source of error other than that in income (line 9). We must, therefore, reduce somewhat the relative tax error shown in line 8 if it is to reflect understatement of income voluntarily reported for tax purposes.

A much more important adjustment is involved when one considers that increasing the tax because of understatement of income discovered by auditing involves marginal tax rates whereas the total tax liability represents an average burden. As line 11 shows, if a joint return of husband and wife claiming two dependents and legitimate deductions amounting to 10 percent of adjusted gross income reported its income as $\$ 7,000$ whereas it was in fact 5 percent larger, $\$ 7,350$, the upward adjustment of tax is 9 percent, not 5 percent of the tax liability calculated on the face of the return. Similarly significant differences between assumed changes in adjusted gross income and resulting changes in tax are shown in lines 12 and 13 for income levels of $\$ 25,000$ and $\$ 100,000$. Consequently, in translating percentage adjustments in taxes into percentage adjustments in income, the former would have to be scaled down materially if they represent increases.

The underestimate of income can now be approximated from Table 109a. For the top 0.5 percent of population (col. 2) the average net tax increase is 3.8 percent of the reported tax liability and the number of errors per 100 returns about 70 . If we may interpret the latter as the percentage of incorrect returns, it is permissible to argue that the understatement of tax on incorrect returns is about 5.4 percent of the reported tax liability. In translating this into understatement of income, we should reduce the 5.4 percent about a seventh to allow for errors other than those in income, ${ }^{18}$

[^94]then perhaps scale down the resulting 4.6 percent at least a third to allow for the difference between marginal and average tax. Hence income on 70 percent of the returns in this group is underestimated about 3.1 percent; and for the group as a whole, probably somewhat over 2 percent. A similar calculation for the next 4.6 percent of the population yields a rough underestimate of income of somewhat less than 6 percent for the group as a whole, and for all Agents' returns, about 4.5 percent.

Underreporting of adjusted gross income can be estimated from the audit study by an alternative, and perhaps somewhat more precise method. ${ }^{17}$ We calculate first the average net tax increase per return with the major error in adjusted gross income for each of the three income classes of Agents' returns; then, from the Preliminary Report of Statistics of Income for 1948, the average adjusted gross income and tax liability reported per return, again for each of the three income classes of Agents' returns. If we can assume that returns with the major error in adjusted gross income are characterized by the average adjusted gross income and tax liability reported on all returns of the given income class, we can, using the assumptions concerning family status, number of dependents, and allowable deductions that were made in Table 109a, lines 11-13, calculate what the net tax increase per return disclosed by audit means in the way of net increase in adjusted gross income per return with the major error in the latter. Then, knowing the number of such returns in each income class, we can estimate the total net increase in adjusted gross income and the percentage it constitutes of adjusted gross income as reported. By this alternative method the increase in adjusted gross income on Agents' returns of $\$ 25,000$ and over is 2.2 percent; on those under $\$ 25,000,6.6$ percent; and on all Agents' returns, 5.0 percent.

These results convey too optimistic a picture of the accuracy of income reporting in the upper brackets, for several reasons. First, the audit study deals with errors on the returns that were received, and is not designed to cope with nonfiling. But the latter is, as already indicated, an exceedingly minor problem at upper income levels. Second, the audit study may not have succeeded in uncovering all missing sources of income: the possibility is always in that direction rather than in the direction of finding incomes that were not in fact received. Third, the year covered is one in which, unlike most years in our study, a substantial part of the tax was withheld at source and errors could, therefore, be made only in the tax voluntarily reported. Finally, the possible understatement of income of some types

[^95]may be much larger proportionately than that of total adjusted gross income. Indeed, the results already published indicate that the errors in reporting net income and loss from business tend to be particularly frequent and relatively sizeable.

Yet with all these qualifications, the results of the audit study do seem to bear out the main assumption of this investigation - that the underestimation of income at the upper income levels is within fairly narrow relative limits. The audit study, as far as the recent results go, warrants an inference that such underestimation is within a 5 percent margin for incomes at the top 1 percent level, and within a 10 percent margin for incomes in the 2nd through 5th percentage bands.

## 6 Comparison with Goldenthal's Estimates

Comparison with Goldenthal's estimates is not intended to shed any light on the reliability of our estimates, for he used the same data and a somewhat similar, if much cruder, procedure. The purpose is rather to show how different approaches may yield fairly similar sets of measures.

In his Concentration and Composition of Individual Incomes, 19181937 (TNEC Investigation of Concentration of Economic Power, Monograph 4, Washington, 1940) Goldenthal compares income on tax returns with countrywide income, both including gains and losses from sales of assets. Treating returns as comparable units, he compares them with income recipients, instead of with total population, distinguishing the upper group of returns as percentages of total recipients. With his share of the top 1 percent, adjusted roughly to exclude gains and losses on sales of assets (Table 110, col. 1), we compare our estimates in both the basic and economic income variants.

The agreement of the shares in our basic variant with Goldenthal's is striking. In only a few years do the two series differ by more than threetenths of a percent, especially if we exclude the years after the break in 1931. Why should the two sets of estimates be so close when Goldenthal does not adjust tax returns for the number of persons represented and deals with income recipients rather than total population?

The puzzle is solved when we scrutinize Goldenthal's totals of income recipients and our own data on total population and on the number per tax return in the upper brackets. For his total recipients Goldenthal takes the gainfully occupied (see his Table A-4, p. 80), without any allowance for unemployment or for recipients of property incomes who are not gainfully occupied. The number of recipients thus defined is a stable function of the total population. In fact, Goldenthal uses an almost constant percentage of total population as his base - roughly 0.4.

Table 110
Percentage Share of the Top 1 Percent, Our Estimates Compared with Goldenthal's, 1919-1936


Column
1 The shares of total individual income as shown in Concentration and Composition of Individual Incomes, 1918-1937 (TNEC Monograph 4, Washington, 1940), Table 1, p. 16, are reduced by the percentage accounted for by realized capital gains and losses (ibid., Table 13, p. 40) and increased by the percentage that realized capital gains and losses constitute of total individual income (ibid., Table 11, p. 38). For 1934-36 the shares are further reduced to take account of direct relief and adjusted service compensation not included in total income (ibid., Table 20, p. 67).
2, 3, 5 Tables 116 and 122.
4 Concentration and Composition of Individual Incomes, 1918-1937, Table 16, p. 60. The figures for 1935-36 are adjusted by the ratio of the first entry for 1934 to the second.

The upper brackets are dominated by family returns. The average number per family return ranges from 3 to 3.5 in the $\$ 10,000$ and over and the $\$ 5,000-10,000$ net income classes (Table 68). Hence, Goldenthal's 1 percent of income recipients is in fact significantly more than 1 percent of the population - roughly 0.4 multiplied by a constant ranging from 3 to 3.5 . His shares are, therefore, for a percentage of the population ranging from 1.2 to 1.4 but varying on the whole rather little. The equality of the level of the shares in the first two columns of Table 110 is therefore misleading: our shares for 1 percent of the population are compared with Goldenthal's shares for 1.2 to 1.4 percent. Substantially underestimating the share of the top 1 percent of the population, his estimates obviously have little meaning
as the share of the top 1 percent of recipients. This was to be expected, since failure to allow for number per return would cause an underestimate of the income share of the top percentage of the population.

The similarity of their short term changes despite this hidden substantial difference in the coverage of the two series can also be easily explained. In dealing with a relatively narrow and distinct group, such as that represented by 1.2 to 1.4 percent of the total population, Goldenthal's cruder procedure still manages to reflect the major changes in the income received by the top group as compared with the income of the total population. The differences between the income denominators of the two sets of estimates in Table 110 as well as between year to year changes in the income numerators are minor. The damping of such changes introduced by our reinclusion of deductions may well be roughly matched by the damping introduced by Goldenthal's coverage of a larger proportion of the tax return population for his top 1 percent. However, such offsetting of differences in year to year changes is in precarious balance, and would certainly vanish if the comparison were extended to somewhat wider groups or to different periods.

## Appendix 6

Section A<br>National Resources Committee Distributions, 1935-1936

Section B
OPA Revision of NRC Distributions for 1935-1936
Section C
Tucker Modification of NRC Distributions for 1935-1936
Section D
BLS-BHE SURVEY for 1941
Section E
Census Samples for 1944, 1945, 1947, and 1948
Section F
Surveys of Consumer Finances for 1945-1948
Section A: National Resources Committee Distributions, 1935-1936
a Number and Income of All Families by Income Level
Total
F FAMILY GROUP

| ESTIMATED PER CAPI2 Person |  |  | COME AND 3-4 Person |  |  | FOR EACH SIZE$5-6$ Person |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Per |  |  | Per |  |  | Per |  |  |  |
| $\underset{(\$)}{\text { capita }}$ (5) |  | $\begin{aligned} & k \text { of } \\ & \text { apitas } \end{aligned}$ | capita <br> (\$) <br> (7) |  | nk of capitas 8) | capita <br> (\$) <br> (9) | Rank of per capitas (10) | capita <br> (\$) <br> (11) | Rank of per capitas (12) |
| 11,319 |  | 2 | 6,658 |  | 4 | 4,192 | 9 | 2,795 | 13 |
| 4,292 |  | 7 | 2,525 |  | 15 | 1,590 | 25 | 1,060 | 36 |
| 2,942 |  | 12 | 1,731 |  | 22 | 1,090 | 35 | 726 | 50 |
| 2,356 |  | 17 | 1,386 |  | 26 | 873 | 43 | 582 | 60 |
| 2,097 |  | 19 | 1,234 |  | 30 | 777 | 49 | 518 | 65 |
| 1,854 |  | 21 | 1,091 |  | 34 | 687 | 53 | 458 | 7 |
| 1,604 |  | 24 | 944 |  | 39 | 594 | 59 | 396 | 79 |
| 1,358 | 28 \& | 29 | 799 | 47 \& | \& 48 | 503 | 66 \& 67 | 335 | 85 \& 86 |
| 1,184 | 31 \& | 32 | 696 | 518 | \& 52 | 439 | 72 \& 73 | 292 | 93 \& 94 |
| 1,056 | 37 \& | 38 | 621 | 57 | \& 58 | 391 | 80 \& 81 | 261 | 95 \& 96 |
| 914 | 40 \& | 41 | 538 | 63 | \& 64 | 339 | 83 \& 84 | 226 | 101\& 102 |
| 806 | 45 \& | 46 | 474 | 698 | \& 70 | 299 | 91 \& 92 | 199 | 105 \& 106 |
| 682 | 54 \& | 55 | 401 | 778 | \& 78 | 253 | 99 \& 100 | 168 | 113 \& 114 |
| 560 | 61 \& | 62 | 329 | 87 \& | \& 88 | 207 | 103 \& 104 | 138 | 120 \& 121 |
| 437 | 74 \& | 75 | 257 | 978 | \& 98 | 162 | 116 \& 117 | 108 | 126 \& 127 |
| 314 | 89 \& |  | 185 | 1108 | \& 111 | 116 | 122 \& 123 | 78 | 128 \& 129 |
| 194 | 108 \& | 109 | 114 | 1248 | \& 125 | 72 | 130 \& 131 | 48 | 134 \& 135 |
| 58 | 132 \& | 133 | 34 | 1368 | \& 137 | 22 | 138 \& 139 | 14 | 140 \& 141 | |  | I N C o m M |
| :---: | :---: | :---: |
| $\begin{array}{c}\text { No. OF } \\ \text { Per }\end{array}$ |  |
| FAMILIES |  | \(\begin{gathered}Aggregate <br>

(\$ 000)\end{gathered} $$
\begin{gathered}\text { Family } \\
(\$)\end{gathered}
$$\)

Column
the number in nonrelief families by income level and the Column respectively. These differences were disregarded, however, since they have only a minor effect on the shares of the income groups distinguished.

Rank from highest to lowest in the array of per capitas for all persons covered by the NRC distributions: members of
 institutional residents. Since the per capita income for nonrelief and for relief families is assumed to be the same family size (see notes to col. 5, 7; 9, and 11) - the levels up to $\$ 3,000$, which cover both family types, have two
ranks.
b Estimated Number of Persons in Each Size of Family Group, Nonrelief Families, by Income Level
NUMBER OF PERSONS


| (Sum of <br> col. 3, <br> $5,7,9)$ | Pub- <br> lished |
| :---: | :---: |
| $(10)$ | $(11)$ |
| $1,141,001$ | $1,100,592$ |
| $2,021,682$ | $2,130,147$ |
| $1,664,205$ | $1,704,022$ |
|  |  |
| $4,732,497$ | $4,830,903$ |
| $5,217,639$ | $5,241,194$ |
| $9,181,038$ | $9,225,848$ |
| $7,044,987$ | $7,094,148$ |
| $8,704,643$ | $8,717,073$ |
| $10,410,175$ | $10,414,060$ |
| $12,467,839$ | $12,525,006$ |
| $12,891,817$ | $12,827,050$ |
| $10,794,785$ | $10,746,041$ |
| $9,371,901$ | $9,342,916$ |


S I Z

)299,473
180,180
43,932

$$
x^{2}
$$

$$
\begin{gathered}
n \\
w
\end{gathered}
$$


3-4 Person
I N EAC HG R O
7 or more P
Families
(8)
29,883
11,654 NONRELIEP
FAMILIES 16L.E8Z 24,913,177
1,2,4, 6, 8 Consumer Incomes in the United States, Table 8B, p. 97. 3,5,7,9 Number of families in preceding column multiplied by the average
INCOME LEVEL

$$
5,7,9 \text {, and } 11 \text { of Part a. }
$$




 Total
Column
$1,2,4,6,8$
Familie

$$
\begin{gathered}
\text { Column } \\
10 \\
11
\end{gathered}
$$

$$
\begin{aligned}
& \text { © }
\end{aligned}
$$

$$
\begin{aligned}
& \text { - }
\end{aligned}
$$

National Resources Committee Distributions, 1935-1936 (cont.)


| Estimated <br> in Each Size of | Number |  |  |
| :---: | :---: | :---: | ---: |
| of Relief <br> Family <br> Group |  |  |  |
| Families |  |  |  |

d Estimated Number of Relief Families in Each Size of Family Group by Income Level Estimated \% Distribution of Relief | Families by Size of Family |  |  |  |
| :---: | :---: | :---: | :---: |
| $\begin{array}{ccc}\text { Group }\end{array}$ |  |  |  |
| $\begin{array}{c}\text { Person } \\ \text { Person }\end{array}$ | $\begin{array}{c}5-6 \\ \text { Person }\end{array}$ | $\begin{array}{c}\text { or } \\ \text { more }\end{array}$ |  |
| (5) | (6) | $(7)$ | $(8)$ |
| 9.888 | 25.549 | 32.857 | 31.706 |
| 9.786 | 20.731 | 31.134 | 38.349 |
| 9.748 | 20.394 | 30.478 | 39.379 |
| 10.813 | 23.047 | 31.454 | 34.687 |
| 11.598 | 22.641 | 45.197 | 20.564 |
| 12.152 | 22.285 | 44.566 | 20.997 |
| 15.153 | 24.702 | 40.986 | 19.159 |
| 19.733 | 29.402 | 33.611 | 17.254 |
| 25.759 | 35.026 | 25.015 | 14.200 |
| 27.604 | 29.238 | 28.189 | 14.970 |
| 34.002 | 34.281 | 21.540 | 10.177 |

| Income Level | Number of Fa |  | milies |
| :---: | :---: | :---: | :---: |
|  |  |  | $\text { (col. } 2^{-}$ |
|  | Total <br> (2) | Nonrelief (3) | col. 3) (4) |
| \$2,500-3,000 | 1,314,199 | 1,304,010 | 10,189 |
| 2,250-2,500 | 1,043,977 | 1,006,568 | 37,409 |
| 2,000-2,250 | 1,420,883 | 1,361,403 | 59,480 |
| 1,750-2,000 | 1,897,037 | 1,829,835 | 67,202 |
| 1,500-1,750 | 2,343,358 | 2,255,358 | 88,000 |
| 1,250-1,500 | 2,865,472 | 2,689,634 | 175,838 |
| 1,000-1,250 | 3,882,444 | 3,277,862 | 604,582 |
| 750-1,000 | 4,277,048 | 3,337,160 | 939,888 |
| 500-750 | 3,799,215 | 2,818,654 | 980,561 |
| 250- 500 | 3,015,394 | 1,950,545 | 1,064,849 |
| Under 250 | 1,162,890 | 703,765 | 459 |

[^96]Notes to Section A, Part d
 Column
1 No relief families are shown in Consumer Incomes in the United States at income levels above $\$ 3,000$.
2 Part a, column 2 .
3 Part b, column 1 .
5-8 Each income level calculated by the procedure indicated below for the $\$ 2,500-3,000$ income level.
I Preliminary Estimate of Weights for Size of Family Groups Column
1 No relief families are shown in Consumer Incomes in the United States at income levels above $\$ 3,000$.
2 Part a, column 2 .
3 Part b, column 1 .
5-8 Each income level calculated by the procedure indicated below for the $\$ 2,500-3,000$ income level.
I Preliminary Estimate of Weights for Size of Family Groups
 Weight
(\%) of


 Column
1 No relief families are shown in Consumer Incomes in the United States at income levels above $\$ 3,000$.
2 Part a, column 2 .
3 Part b, column 1 .
5-8 Each income level calculated by the procedure indicated below for the $\$ 2,500-3,000$ income level.
I Preliminary Estimate of Weights for Size of Family Groups Column
1 No relief families are shown in Consumer Incomes in the United States at income levels above $\$ 3,000$.
2 Part a, column 2 .
3 Part b, column 1 .
5-8 Each income level calculated by the procedure indicated below for the $\$ 2,500-3,000$ income level.

I Preliminary Estimate of Weights for Size of Family Groups $\begin{array}{ll}\text { Column } \\ 1 & \text { No relief families are shown in Consumer Incomes in the United States at income levels above } \$ 3,000 . \\ 2 & \text { Part a, column 2. } \\ 3 & \text { Part b, column 1. } \\ 5-8 & \text { Each income level calculated by the procedure indicated below for the } \$ 2,500-3,000 \text { income level. } \\ & \text { I Preliminary Estimate of Weights for Size of Family Groups }\end{array}$
II Final Estimate of Weights for Size of Family Groups

| Size of Family Group | Average per F Nonrelief Families All Income Levels <br> (1) | Number amily <br> Relief <br> Families \$2,500-3,000 Income Level <br> (2) | Prelim. <br> (\%) of Given Group, Relief Families \$2,500-3,000 Income Level (3) |
| :---: | :---: | :---: | :---: |
| a 2 person | 2.0 |  | 11.818 |
| b 3-4 person | 3.4 |  | 30.535 |
| c 5-6 person | 5.4 |  | 39.251 |
| d 7 or more person | 8.1 |  | 18.396 |
| e All size groups |  | 5.409 |  |
| f All size groups, signs disregarded |  |  |  |
| $g$ Line $e$ as \% of line $f$ |  |  |  |
| Column . Colun |  |  |  |
| 1 Column 1 of Part 1. |  |  | 6 |
| 2 Column 3 of Part I. |  |  |  |
| 3 Column 12 of Part I. |  |  |  |

Column 4 multiplied by columns 5-8 respectively.
National Resources Committee Distributions, 1935-1936 (cont.)
e Estimated Number of Persons and Aggregate Income by Size of Family Group, Relief Families, by Income Level

| Income Level | Number of Persons in Each Size of Family Group All Size Groups |  |  |  |  |  | Estimated Aggregate Income ( $\$ 000$ ) by Size of Family Group |  |  |  | Rank of per Capita Income, <br> All Size Groups |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | 3-4 | 5-6 | 7 or more | Estimated |  | 2 | 3-4 | 5-6 | 7 or more | 2 | 3-4 | 5-6 | 7 or mor |
|  | Person <br> (1) | Person <br> (2) | Person <br> (3) | Person <br> (4) | $\begin{gathered} (\text { col. 1-4) } \\ (5) \end{gathered}$ | Published <br> (6) | Person <br> (7) | Person <br> (8) | Person <br> (9) | Person (10) | Person <br> (11) | Person <br> (12) | Person (13) | Person (14) |
| \$2,500-3,000 | 2,014 | 8,850 | 18,079 | 26,171 | 55,114 | 55,116 | 2,734 | 7,067 | 9,090 | 8,772 | 29 | 48 | 67 | 86 |
| 2,250-2,500 | 7,322 | 26,367 | 62,894 | 116,203 | 212,786 |  | 8,669 | 18,364 | 27,580 | 33,972 | 32 | 52 | 73 | 94 |
| 2,000-2,250 | 11,596 | 41,242 | 97,891 | 189,726 | 340,455 |  | 12,251 | 25,631 | 38,305 | 49,492 | 38 | 58 | 81 | 96 |
| 1,750-2,000 | 14,534 | 52,659 | 114,145 | 188,811 | 370,149 | 370,179 | 13,291 | 28,327 | 38,661 | 42,634 | 41 | 64 | 84 | 102 |
| 1,500-1,750 | 20,412 | 67,742 | 214,774 | 146,578 | 449,506 | 449,495 | 16,452 | 32,118 | 64,114 | 29,170 | 46 | 70 | 92 | 106 |
| 1,250-1,500 | 42,736 | 133,229 | 423,166 | 299,060 | 898,191 | 898,194 | 29,146 | 53,449 | 106,887 | 50,362 | 55 | 78 | 100 | 114 |
| 1,000-1,250 | 183,224 | 507,770 | 1,338,088 | 938,239 | 2,967,321 | 2,967,027 | 102,605 | 167,265 | 277,533 | 129,730 | 62 | 88 | 104 | 121 |
| 750-1,000 | 370,936 | 939,576 | 1,705,892 | 1,313,561 | 4,329,965 | 4,330,199 | 162,099 | 241,527 | 276,099 | 141,733 | 75 | 98 | 117 | 127 |
| 500-750 | 505,166 | 1,167,733 | 1,324,550 | 1,127,844 | 4,125,293 | 4,124,829 | 158,622 | 215,692 | 154,045 | 87,442 | 90 | 111 | 123 | 129 |
| 250-500 | 587,882 | 1,058,559 | 1,620,918 | 1,291,205 | 4,558,564 |  | 113,755 | 120,485 | 116,171 | 61,694 | 109 | 125 | 131 | 135 |
| Under 250 | 312,224 | 535,136 | 534,038 | 378,472 | 1,759,870 |  | 18,265 | 18,414 | 11,573 | 5,465 | 133 | 137 | 139 | 141 |

> groups (see notes to Part d, col. 5-8). Family Expenditures in the United States, Table 335, p. 108; see notes 7-10 to columns $1-4$.
 11-14 Part a, columns 6, 8, 10, and 12 respectively. 1-4 Number of families in the given size of family group, Part d, columns 9-12 respectively, multiplied by the average number of persons in
that group as shown for all nonrelief families in Consumer Incomes in
the United States, Table 4, p. 21. As in Part a, columns 5, 7 , 9, and the United States, Table 4, p. 21. As in Part a, columns 5, 7, 9, and is assumed to be the same for relief and nonrelief families and at all income levels. Whatever error is introduced by this assumption is
concealed by the nature of the estimates of the weights for the size

National Resources Committee Distributions, 1935-1936 (cont.)
f Number and Income of Single Individuals by Income Level


## Column

1 Each income level distinguished up to $\$ 10,000$ in Consumer Incomes in the United States, all levels over $\$ 10,000$ being treated as a unit.
2, 3 Ibid., Table 15, p. 30.
4 Column 3 divided by column 2.
5 Rank from highest to lowest in array of per capitas for all persons covered by the NRC distributions: members of families (relief and nonrelief), single individuals, and institutional residents.

National Resources Committee Distributions, 1935-1936 (cont.) .
g Number and Income of Institutional Residents
$\left.\begin{array}{lcccc} & \text { In c o m e } \\ & \text { Number } & \begin{array}{c}\text { Rank of } \\ \text { Aggregate } \\ \text { (\$000) }\end{array} & \begin{array}{c}\text { Capita } \\ \text { (\$) }\end{array} & \begin{array}{c}\text { per } \\ \text { Capita } \\ \text { Income }\end{array} \\ & (1) & (2) & (3) & (4)\end{array}\right]$

## Column

1, 2 Consumer Incomes in the United States, Table 16, p. 32.
3 Column 2 divided by column 1.
4 See note to column 5 of Part f. For the distributions taking account of the OPA revisions, Section B, and of Tucker's modifications, Section C, the rank of the per capitas is as follows (reading down): for Section B, 109; 73, $108,98,101,63$, and 39 ; for Section C, 44, 34, 43, 40, 41, 32, and 24.


[^97]Column
\[

$$
\begin{aligned}
& \text { The number of persons, Parts } b, e, f \text {, and } g \text {, whose per } \\
& \text { capita rank is that indicated in column } 1 \text {. } \\
& \text { From Parts } c, e, f, \text { and } g \text {. }
\end{aligned}
$$
\]


$\begin{array}{rr}0.971 & -0.01278 \\ 1.056 & 0.02366\end{array}$


46,949
164,495
193,077
656,331
713,347
738,838
822,828
858,933
$1,117,382$
$1,241,113$
$1,349,473$
$1,473,297$
$1,715,349$
$1,876,624$
$2,196,023$
$2,406,122$
$2,472,538$
$2,756,190$
$2,848,946$
$3,247,931$
$3,408,725$
$3,928,316$
$4,474,862$ 378,472 127,769,423


する
11,946
28,582
462,954
57,316
25,491
83,990
3,105
318,449
63,731
108,360
123,824
242,052
161,275
319,399
210,099
66,416
283,652
92,756
398,985
160,794
519,591
546,546
0.42619
0.48785
2.668
3.075
n U M BER Of
For the procedure by which the income share of a given upper percentage band is calculated see Appendix 3, Section A.

* Each order class up to 141 was covered but it would be too space
consuming to show all here; hence the gap between the 23 rd and the 141st class.

Section B: OPA Revision of NRC Distributions for 1935-1936

## I Outline of OPA Procedure based on description supplied by Hildegarde Kneeland, Office of Price Administration, Division of Research, Consumer Income and Demand Branch

Four types of adjustment of the NRC distributions were required: modification of the estimates for income levels above $\$ 5,000$ on the basis of Treasury income tax data not available when the study was made; removal of imputed income at each income level under $\$ 5,000$; adjustment to the revised estimates of population; and adjustment to the revised estimates of aggregate income.

## Revision of Distributions above $\$ 5,000$

The NRC distributions for the higher income levels were based on federal income tax returns for 1935 and 1936. When the estimates were prepared, however, tabulations of tax returns for 1936 were incomplete. The subsequent publication by the Treasury of the 1936 Statistics of Income and especially of the 1936 Supplement (Sec. I and II) presenting the results of a special analysis of returns for that year, made possible a more accurate estimate of the number of consumer units and their income at the higher income levels. ${ }^{1}$

The major improvements in the original distributions were made by using two special tabulations of the 1936 returns - one combining the separate returns of husbands and wives into pairs of matched returns, and the other classifying returns by net income excluding capital gains or losses. Otherwise, the procedures closely approximated those used in the original NRC study.

A smooth (Pareto) curve was then fitted to the resulting distributions above $\$ 5,000$ to facilitate later attachment to the lower portions of the distributions. In the case of families the curve was extended and the attachment finally made at the $\$ 3,000$ level. The curve fitted to the single consumer distributions was modified to allow for the fact that the types of tax returns used in the analysis (covering men and women 'not heads of families') included some returns from persons who are here classified as family members.

## Removal of Imputed Income

To convert the NRC distributions for income levels below $\$ 5,000$ to a
${ }^{2}$ Unpublished data from the special 1936 study on file at the Bureau of Internal Revenue were also used.
money income basis, data on imputed income from its study of consumer expenditures were utilized.

For families these data show at each income level the percentage derived from the imputed value of food, housing, fuel, and ice - the major nonmoney items covered by the study. ${ }^{2}$ These percentages were plotted at the averages of the income levels to which they corresponded, and the percentages of imputed income at the class limits of each level up to $\$ 5,000$ and at the limits of smaller intervals of $\$ 50$ were read off. The number of families at each income level up to $\$ 5,000$ as shown in the original distribution was also plotted in a cumulative frequency curve, and readings were made at each $\$ 50$ interval. Each class limit of this basic frequency distribution was then reduced by the corresponding percentage of imputed income. This adjustment was equivalent to shifting families down the income scale to levels roughly approximating their money incomes.

For single consumers a relatively small amount of imputed income was included in the NRC estimates, and the conversion of the distribution to a money income basis was therefore cared for as part of the final adjustment.

## Adjustment to Revised Population Estimates

Estimates of the civilian population for 1935-36 based on the 1940 Census showed slightly more families than the original NRC figure, and an appreciably smaller number of single consumers. The revised total of families was adjusted by raising the frequencies in the basic distribution proportionately but only the frequencies below the original $\$ 5,000$ consumer income level since the 'tail' had already been revised. The reduction in the frequencies for single consumers was applied throughout the income scale, the adjustment for the higher levels being carried out in conjunction with the modification of the income tax data mentioned above.

## Adjustment to Revised Estimates of Aggregate Income

The first step was to determine the total income received by civilians from various sources. Here it was possible to draw upon Department of Commerce estimates of monthly income payments to individuals in 1935 and 1936. Since the original Consumer Purchases Study had about twice as many cases covering the first half of 1935 as the last half of 1936, the income totals for the first 6 months of 1935 were given a weight of 2 with respect to the totals for the last 6 months of 1936 . And since all the items of income included in the Commerce series do not represent money income paid to families and single consumers, it was necessary to make several deductions to adapt the Commerce totals to this study: income received

[^98]by members of the armed forces and institutional residents and retained by them for personal use; interest payments to banks, insurance companies, and other savings institutions and to government corporations and trust funds which, though included for technical reasons in the Commerce series, are not actually paid to individual consumers; and the imputed value of wages in kind, relief in kind, and food and other products retained by farm operators for home consumption. Several minor items of civilian income not covered by the Commerce figures - earnings from odd jobs and net family income from boarders and lodgers and other work in the household - were added.

Total income received by civilians in each year was divided between families and single consumers on the basis of the ratio of the average income of the two groups. To determine the difference between the two averages, data in the NRC files on the average income of families and single men and women in various occupational groups were used. The final weighted averages obtained by combining the occupational data showed a ratio of 175 for families to 100 for single consumers. Total civilian income was then easily divided between families and single consumers by applying the appropriate population weights.

The final step was to bring the distributions into line with the revised estimates of aggregate money income. The income received at each level in the higher brackets had already been estimated. To determine the aggregate income inherent in the basic frequency distributions, the number of consumer units in each small interval was multiplied by the midpoint of the income range - assuming that the midpoint corresponded to the average (mean) income of the interval. The sum of the products was then adjusted to the 'correct' figure, the difference between the revised aggregate for all consumer units in the group and the aggregate for the 'tail' of the distribution.

For families the income for the basic distribution fell short of the 'correct' figure, since the revised estimate of total money income was higher than the NRC original estimate. The difference was distributed proportionately throughout the basic distribution by raising the class limits and the average and aggregate income of each basic interval the same percentage. The distribution for the lower income groups was then attached to the 'tail' of the distribution, and the results adjusted somewhat from the point of attachment down to the $\$ 3,000$ level to give a smooth curve.

For single consumers the adjustment was more extensive. The average income of the group as a whole had been appreciably reduced in revising the NRC original estimates. Hence a considerable shifting of consumers down the income scale was required to bring the income for the basic
distribution into line with the 'correct' figure. After tentatively reducing the class limits of the basic intervals a flat percentage, the resulting distribution was modified in the directions indicated by the analysis of the NRC occupational estimates mentioned above and by data available from several other studies. These adjustments were necessarily a matter of judgment and cannot be claimed accurate; the final distributions, however, are thought to be as reliable as can be obtained without extensive further study.

## II Conversion of OPA Distributions to a per Capita Basis

a Number and Money Income of All Families by Income Level

| income level |  | DISTRIBUTION Money Income |  | PRELIM. ESTIMATE, PER CAPITA INCOME (\$) FOR EACH SIZE OF FAMILY GROUP |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. of Families (000) | Aggregate $(\$ 000,000)$ | Per family |  |  |  |  |
|  |  |  |  | $\underset{2}{\text { FOR E }}$ | $\begin{gathered} \text { CH SIZE } \\ 3-4 \end{gathered}$ | $\begin{aligned} & \text { F FAMILY } \\ & 5-6 \end{aligned}$ | 7 GROUP 7 or more |
|  |  |  | (\$) | Person | Person | Person | Person |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| \$10,000 \& over | 309 | 7,094 | 22,958 | 11,479 | 6,752 | 4,251 | 2,834 |
| 7,500-10,000 | 206 | 1,764 | 8,563 | 4,282 | 2,519 | 1,586 | 1,057 |
| 5,000-7,500 | 541 | 3,257 | 6,020 | 3,010 | 1,771 | 1,115 | 743 |
| 4,500-5,000 | 217 | 1,026 | 4,728 | 2,364 | 1,391 | 876 | 584 |
| 4,000-4,500 | 295 | 1,249 | 4,234 | 2,117 | 1,245 | 784 | 523 |
| 3,500-4,000 | 420 | 1,569 | 3,736 | 1,868 | 1,099 | 692 | 461 |
| 3,000-3,500 | 778 | 2,506 | 3,221 | 1,610 | 947 | 596 | 398 |
| 2,500-3,000 | 1,393 | 3,793 | 2,723 | 1,362 | 801 | 504 | 336 |
| 2,000-2,500 | 2,510 | 5,589 | 2,227 | 1,114 | 655 | 412 | 275 |
| 1,750-2,000 | 1,752 | 3,279 | 1,872 | 936 | 551 | 347 | 231 |
| 1,500-1,750 | 2,239 | 3,632 | 1,622 | 811 | 477 | 300 | 200 |
| 1,250-1,500 | 2,657 | 3,633 | 1,367 | 684 | 402 | 253 | 169 |
| 1,000-1,250 | 3,713 | 4,166 | 1,122 | 561 | 330 | 208 | 139 |
| 750-1,000 | 3,992 | 3,492 | 875 | 438 | 257 | 162 | 108 |
| 500-750 | 3,803 | 2,382 | 626 | 313 | 184 | 116 | 77 |
| Under 500 | 5,385 | 1,657 | 308 | 154 | 91 | 57 | 38 |
| Total | 30,210 | 50,088 |  |  |  |  |  |

## Column

1-3 Special tabulation supplied by Hildegarde Kneeland, OPA, Division of Research, Consumer Income and Demand Branch.
4 Column 3 divided by column 2.
5-8 Column 4 divided by the average number of persons in the given size of family group as shown for all nonrelief families in the NRC distributions (Consumer Incomes in the United States, Table 4, p. 21).
Conversion of OPA Distributions to a per Capita Basis (cont.)

| $\begin{aligned} & \text { Number of } \\ & (000) \\ & O P_{A} \end{aligned}$ | Families NRC | $\underset{\text { Col. } 2}{\text { Col }} \times$ | Num OPA | ber per nily NRC | Ratio: Col. 4 to Col. | $\underset{\substack{\text { Factor } \\ \text { (col. } 3 \times \\ \text { Adj. }}}{\text {. }}$ | ${ }_{2}^{\text {Estimate }}$ | Number | $\begin{aligned} & \text { a Nonrelie } \\ & \text { 5-6 } \end{aligned}$ | ef Families of 7 ormore | Estimate 2 | $\begin{aligned} & \text { ted Numbe } \\ & 3-4 \end{aligned}$ | $\begin{aligned} & \text { in Relief } \\ & 5-6 \end{aligned}$ | Families of 7 ormore |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | (2) | (3) | (4) | NRC <br> (5) | Col. 5 <br> (6) | col. 6) (7) | Persons <br> (8) | Persons <br> (9) | Persons <br> (10) | Persons <br> (11) | Persons <br> (12) | Persons <br> (13) | Persons (14) | Persons <br> (15) |
| 309 | 283,791 | 1.0888 |  |  |  | 1.0739 | 126,233 | 497,166 | 341,982 | 259,940 |  |  |  |  |
| 206 | 187,060 | 1.1013 |  |  |  | 1.0863 | 91,238 | 346,963 | 231,532 | 102,543 |  |  |  |  |
| 541 | 322,950 | 1.6752 |  |  |  | 1.6523 | 204,594 | 858,520 | 691,372 | 411,279 |  |  |  |  |
| 217 | 152,647 | 1.4216 |  |  |  | 1.4022 | 93,129 | 331,731 | 243,708 | 200,704 |  |  |  |  |
| 295 | 249,948 | 1.1802 |  |  |  | 1.1641 | 107,977 | 430,878 | 432,442 | 244,339 |  |  |  |  |
| 420 | 438,428 | 0.9580 |  |  |  | 0.9449 | 151,934 | 696,045 | 527,875 | 290,220 |  |  |  |  |
| 778 | 743,559 | 1.0463 |  |  |  | 1.0320 | 308,322 | 1,265,887 | 921,975 | 568,099 |  |  |  |  |
| 1,393 | 1,314,199 | 1.0600 |  |  |  | 1.0455 | 524,916 | 2,305,629 | 1,599,692 | 1,024,804 | 2,106 | 9,253 | 18,902 | 27,362 |
| 2,510 | 2,464,860 | 1.0183 |  |  |  | 1.0044 | 1,089,886 | 3,897,132 | 2,664,319 | 1,570,097 | 19,001 | 67,906 | 161,492 | 307,275 |
| 1,752 | 1,897,037 | 0.9235 |  |  |  | 0.9109 | 765,936 | 2,775,650 | 1,821,483 | 1,054,210 | 13,239 | 47,967 | 103,975 | 171,988 |
| 2,239 | 2,343,358 | 0.9555 |  |  |  | 0.9424 | 1,034,435 | 3,432,873 | 2,224,832 | 1,511,116 | 19,236 | 63,840 | 202,403 | 138,135 |
| 2,657 | 2,865,472 | 0.9272 |  |  |  | 0.9145 | 1,233,770 | 3,846,089 | 2,647,146 | 1,793,099 | 39,082 | 121,838 | 386,985 | 273,490 |
| 3,713 | 3,882,444 | 0.9564 |  |  |  | 0.9433 | 1,704,934 | 4,725,515 | 3,103,940 | 2,226,524 | 172,835 | 478,979 | 1,262,218 | 885,041 |
| $-3,992$ | 4,277,048 | 0.9334 |  |  |  | -0.9206 | 1,741,838 | 4,412,433 | 3,208,766 | 2,505,170 | 341,484 | 864,974 | 1,570,444 | 1,209,264 |
| 3,803 | 3,799,215 | 1.0010 |  |  |  | 0.9873 | 1,689,016 | 3,904,421 | 2,669,330 | 2,394,924 | 498,750 | 1,152,903 | 1,307,728 | 1,113,520 |
| 5,385 | 4,178,284 | 1.2888 |  |  |  | 1.2712 | 2,680,412 | 4,282,987 | 2,642,544 | 2,307,618 | 1,144,215 | 2,025,905 | 2,739,380 | 2,122,493 |
| 30,210 | 29,400,300 | 1.0275 | 3.8905 | 3.9444 | . 986335 |  |  |  |  |  |  |  |  |  |

Income Level
$\$ 10,000$ \& over
 Total

Family population (Family Expenditures in the United States, Table
8-11 Number in nonrelief families, NRC distribution (Sec. A, Part b, col. of families between relief and nonrelief is assumed to be propor-
 12-15 Number in relief families, NRC distribution (Sec. A, Part e, col. $1-4$ respectively), multiplied by column 7. See preceding note for
assumptions. assumptions.
b Estimated Number of Persons in Each Size of Family Group by Income Level
$3.89053 .9444 \quad .986335$
c Final Estimate of per Capita Income and its Rank for Each Size of Family Group by Income Level
Column
1,
3,
of
of
to family group is assumed to be reduced
the reduction for all groups combined.
 Part a, columns 5-8 respectively, divided by column 6
Part b. The average number of persons in each size uo!̣ıodord u! parnpas aq ol paunsse si dnoss Kiluef 's

Column persons covered by the distributions: members of families (relief and nonrelief), single consumers, and institutional residents. Since the per capita income for relief and non-
Rank from highest to lowest in array of per capitas for al
‘9

## relief families is assumed to be identical, the levels up to $\$ 3,000$, which cover both family types, have two ranks.



[^99]


92


Income Level

\$10,000 \& over $7,500-10,000$
$5,000-7,500$ $5,000-7,500$
$4,500-5,000$ 4,000-4,500 3,500-4,000 $3,000-3,500$
$2,500-3,000$
$2,500-3,000$
$2,000-2,500$ $2,000-2,500$
$1,750-2,000$ $1,750-2,000$
$1,500-1,750$ 1,250-1,500 1,000-1,250 $1,000-1,250$
$750-1,000$ $750-1,000$
$500-750$ Under 500

## Conversion of OPA Distributions to a per Capita Basis (cont.)

d Estimated Money Income of Persons in Each Size of Family Group by Income Level

| Income Level | Estimated Money Income (\$000), Families of |  |  |  | Rank of per Capita 2 3-4 |  | Income, F 5-6 | Families of |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Persons | Persons | Persons | Persons |  |  | $\stackrel{\text { Persons }}{ }$ | Persons |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| nontelief families |  |  |  |  |  |  |  |  |
| \$10,000 \& over | 1,469,103 | 3,403,549 | 1,474,072 | 746,961 | 2 | 4 | 8 | 13 |
| 7,500-10,000 | 396,048 | 885,942 | 372,236 | 109,907 | 7 | 15 | 24 | 35 |
| 5,000-7,500 | 624,360 | 1,541,146 | 781,423 | 309,903 | 12 | 21 | 30 | 47 |
| 4,500-5,000 | 223,207 | 467,694 | 216,337 | 118,775 | 16 | 25 | 40 | 55 |
| 4,000-4,500 | 231,754 | 544,001 | 343,761 | 129,490 | 18 | 29 | 46 | 60 |
| 3,500-4,000 | 287,745 | 775,422 | 370,273 | 135,713 | 19 | 33 | 48 | 66 |
| 3,000- 3,500 | 503,431 | 1,215;846 | 557,555 | 229,035 | 22 | 36 | 54 | 74 |
| 2,500-3,000 | 724,573 | 1,872,125 | 817,843 | 349,284 | 26 | 44 | 61 | 77 |
| 2,000-2,500. | 1,230,405 | 2,587,968 | 1,114,005 | 437,665 | 31 | 51 | 69 | 86 |
| 1,750-2,000 | 726,850 | 1,549,423 | 640,197 | 247,012 | 37 | 58 | 75 | 92 |
| 1,500-1,750 | 850,554 | 1,660,378 | 677,528 | 306,787 | 42 | 64 | 83 | 96 |
| 1,250-1,500 | 854,966 | 1,567,781 | 679,416 | 306,817 | 49 | 71 | 90 | 102 |
| 1,000-1,250 | 969,715 | 1,581,016 | 653,876 | 312,693 | 56 | 79 | 94 | 110 |
| 750-1,000 | 772,610 | 1,151,292 | 527,136 | 274,366 | 67 | 88 | 104 | 114 |
| - .500- 750 | 535,992 | 728,838 | 313,753 | 187,642 | 81 | 99 | 112 | 118 |
| Under 500 | 418,493 | 393,392 | 152,818 | 88,959 | 106 | 116 | 120 | 122 |
| relief families |  |  |  |  |  |  |  |  |
| \$2,500-3,000 | 2,907 | 7,513 | 9,664 | 9,326 | 27 | 45 | 62 | 78 |
| 2,000-2,500 | 21,451 | 45,094 | 67,523 | 85,653 | 32 | 52 | 70 | 87 |
| 1,750-2,000 | 12,563 | 26,776 | 36,544 | 40,299 | 38 | 59 | 76 | 93 |
| 1,500-1,750 | 15,817 | 30,877 | 61,638 | 28,044 | 43 | 65 | 84 | 97 |
| 1,250-1,500 | 27,083 | 49,665 | 99,324 | 46,797 | 50 | 72 | 91 | 103 |
| 1,000-1,250 | 98,303 | 160,252 | 265,899 | 124,295 | 57 | 80 | 95 | 111 |
| 750-1,000 | 151,469 | 225,689 | 257,993 | 132,439 | 68 | 89 | 105 | 115 |
| 500-750 | 158,273 | 215,212 | 153,710 | 87,244 | 82 | 100 | 113 | 119 |
| Under 500 | 178,646 | 186,079 | 158,418 | 81,822 | 107 | 117 | 121 | 123 |
| Column Column |  |  |  |  |  |  |  |  |
| 1-4 Numbe | rsons in g | ze of $f$ | group, P | 5-8 | olumns 2 | 6 , and 8 r | pectively. |  |

e Number and Money Income of Single Consumers by Income Level

|  |
| :---: |
|  |  |


Income Level
 consumers, and institutional residents.
Total
Conversion of OPA Distributions to a per Capita Basis (concl.)
$f$ Number of Persons and Their Money Income Cumulated by the Order Class of Their per Capita Income


 a Number and Income of All Families by Economic Income Class


| Av.per Prelim. <br> Capita, Estimate of$\quad$ Final Estimate |  |  |  |
| :---: | :---: | :---: | :---: |
| NRC (\$) | Aggregate <br> (\$000,000) | Aggregate (\$000,000) | Percapita (\$) |
| (5) | (6) | (7) | (8) |
| 10,736 | 2,845 | 2,721 | 10,268 |
| 4,444 | 747 | 714 | 4,250 |
| 2,911 | 1,327 | 1,269 | 2,783 |
| 2,044 | 1,304 | 1,247 | 1,955 |
| 1,401 | 2,571 | 2,459 | 1,340 |
| 1,122 | 891 | 852 | 1,07: |
| 999 | 885 | 846 | 955 |
| 904 | 1,831 | 1,751 | 865 |
| 783 | 3,169 | 3,031 | 749 |
| 674 | 4,502 | 4,305 | 644 |
| 592 | 3,154 | 3,016 | 566 |
| 528 | 3,793 | 3,627 | 505 |
| 465 | 4,256 | 4,070 | 445 |
| 412 | 4,136 | 3,955 | 394 |
| 345 | 3,917 | 3,746 | 330 |
| 281 | 4,255 | 4,069 | 269 |
| 218 | 3,280 | 3,137 | 208 |
| 160 | 1,948 | 1,863 | 153 |
| 83 | 1,045 | 999 | 79 |
|  | 49,856 | 47,679 |  |

Column
$\begin{array}{ccc}\begin{array}{c}\text { Number of } \\ \text { Families, } \\ \text { Tucker }\end{array} & \begin{array}{c}\text { Number } \\ \text { Av.per Persons } \\ \text { Family, } \\ \text { Est.Total } \\ \text { in All } \\ \text { Families } \\ \text { (000) }\end{array} & \text { (3) }\end{array}$
Total
8 -0
$-00 S$
$-0 S L$
$-000^{6}$
$-0 S Z^{‘}$
$-00 S^{6}$

$\$ 20,000 \&$ over
$15,000-20,000$
$10,000-15,000$
$7,500-10,000$


Each level shown in 'Distribution of Income in 1935-36' Association, December 1942, Vol. 37, pp. 489-95), Table
II. II.

2 Family Expenditures in the United States (National Re-
sources Planning Board, 1941), Table 18, p. 6.
4 Column 2 multiplied by column 3. Column Colima
$-$


Tucker Modification of NRC Distributions for 1935-1936 (cont.)
b Number and Income of Single Individuals by Economic Income Class

| Economic | Number, | Av.per | Inc Prelim. Estimate of | $\mathrm{ome}$ |  | Rank of Per |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Per | Capitas |
| Income | Tucker | Capita, | Aggregate | Aggregate | capita |  |
| Class | (000) | NRC | (\$000,000) | $(\$ 000,000)$ | (\$) | Col. 6 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| \$20,000 \& over | 14 | 43,884 | 614 | 606 | 43,286 | 1 |
| 15,000-20,000 | 8 | 17,052 | 136 | 134 | 16,750 | 2 |
| 10,000-15,000 | 19 | 11,999 | 228 | 225 | 11,842 | 3 |
| 7,500-10,000 | 24 | 8,473 | 203 | 201 | 8,375 | 5 |
| 5,000-7,500 | 68 | 6,007 | 408 | 403 | 5,926 | 6 |
| 4,500-5,000 | 25 | 4,799 | 120 | 119 | 4,760 | 7 |
| 4,000-4,500 | 30 | 4,278 | 128 | 126 | 4,200 | 9 |
| 3,500-4,000 | 64 | 3,727 | 239 | 236 | 3,688 | 10 |
| 3,000-3,500 | 109 | 3,225 | 352 | 348 | 3,193 | 11 |
| 2,500-3,000 | 178 | 2,704 | 481 | 475 | 2,669 | 13 |
| 2,250- 2,500 | 210 | 2,367 | 497 | 491 | 2,338 | 14 |
| 2,000-2,250 | 284 | 2,118 | 602 | 595 | 2,095 | 15 |
| 1,750-2,000 | 399 | 1,868 | 745 | 736 | 1,845 | 17 |
| 1,500-1,750 | 535 | 1,617 | 865 | 854 | 1,596 | 18 |
| 1,250-1,500 | 893 | 1,368 | 1,222 | 1,207 | 1,352 | 19 |
| 1,000-1,250 | 1,524 | 1,119 | 1,705 | 1,684 | 1,105 | 21 |
| 750-1,000 | 1,542 | 873 | 1,346 | 1,329 | 862 | 26 |
| 500-750 | 1,834 | 623 | 1,143 | 1,129 | 616 | 29 |
| 0- 500 | 2,298 | 300 | 689 | 681 | 296 | 37 |
| Total | 10,058 |  | 11,723 | 11,579 |  |  |

## Column

1,2 See notes to columns 1 and 2, Part a.
3 Calculated from Consumer Incomes in the United States, Table 15, p. 30.
4 Column 2 multiplied by column 3.
5 Column 4 multiplied by 0.98771645 , the ratio of aggregate income for single individuals in ibid., Table 1, p. 4, to the total of column 4.
6 Column 5 divided by column 2.
7 See note to column 9 of Part a.
c Number of Persons and Their Aggregate Income Cumulated by the Order Class of Their Per Capita Income

| Of Persons Cumulated <br> in Order <br> by Order  <br> Class Class |  | Inco Selected Level in |  |
| :---: | :---: | :---: | :---: |
|  |  | \% of Total, Col. 7 | Log of Col. 8 |
| (6) | (7) | (8) | (9) |
| 606 | 606 |  |  |
| 134 | 740 |  |  |
| 225 | 965 |  |  |
| 2,721 | 3,686 |  |  |
| 201 | 3,887 |  |  |
| 403 | 4,290 |  |  |
| 119 | 4,409 |  |  |
| 714 | 5,123 |  |  |
| 126 | 5,249 |  |  |
| 236 | 5,485 |  |  |
| 348 | 5,833 |  |  |
| 1,269 | 7,102 | 11.841 | 1.07339 |
| 475 | 7,577 | 12.633 | 1.10151 |
| 491 | 8,068 |  |  |
| 595 | 8,663 |  |  |
| 1,247 | 9,910 |  |  |
| 736 | 10,646 |  |  |
| 854 | 11,500 | 19.173 | 1.28269 |
| 1,207 | 12,707 | 21.185 | 1.32603 |
| 2,459 | 15,166 |  |  |
| 999 | 59,980 |  |  |

Representing the ranks of the per capitas as shown in Parts $a$ and $b$, and in the note to Section A, Part $g$, column 4.

The number of persons in Parts a and $b$, above, and in Part $g$ of Section A whose per capita rank is that indicated in column 1.

Same sources as column 1. Individuals, and Institutional Residents ${ }^{\text {a }}$
Number of $\mathbf{f}$ er sonn

14
22
22
41
306
$0 \varepsilon \varepsilon$
$90 \varepsilon$
EZた
$86 \varepsilon$
591


$99600^{\circ} 0^{-}$
For the procedure by which the income share of a given upper percentage band is calculated, see Appendix 3, Section A.

- The NRC estimates of institutional residents are assumed to be unaffected by Tucker's modification of the distribution of families and of single individuals. For their number, income, and per capita
rank, see Section A, Part g.
${ }^{b}$ Each order class up to 45 was covered but it would be too space consuming to show all here; hence the gap between the 20 th and
the 45 th class.

Section D: BLS-BHE Survey for 1941
a Number of Consuming Units by Size of Unit and by Income Class (thousands)

| Money |  | Number of Families in Each Size of Family Group |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Income | Single | 2 | 3 | 4 | 5 | 6 | Over 6 | All |
| Class | Persons | Person | Person | Person | Person | Person | Person | Families |


| \$5,000 \& over | 23 | 147 | 176 | 474 | 1222 | 120 | 183 | 1,322 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3,000-5,000 | 41 | 860 | 1,032 | 706 | 330 | 178 | 278 | 3,384 |
| 2,500-3,000 | 120 | 670 | 663 | 879 | 319 | 165 | 121 | 2,816 |
| 2,000-2,500 | 222 | 1,133 | 1,120 | 723 | 262 | 135 | 99 | 3,472 |
| 1,500-2,000 | 374 | 1,203 | 1,265 | 477 | 457 | 187 | . 146 | 3,735 |
| 1,000-1,500 | 772 | 1,294 | 637 | 405 | 232 | 77 | 57 | 2,703 |
| 500-1,000 | 1,358 | 1,033 | 593 | 230 | 172 | 115 | 95 | 2,237 |
| Under 500* | 1,134 | 558 | 58 | 38 | 58 | 19 | 19 | 750 |


|  | RURAL |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | :---: | ---: | ---: | ---: | ---: |
|  | N O NFA | R M |  |  |  |  |  |  |
| $\$ 3,000 \&$ over | 28 | 130 | 141 | 106 | 106 | 28 | 53 | 564 |
| $2,000-3,000$ | 28 | 208 | 255 | 293 | 227 | 47 | 76 | 1,106 |
| $1,500-2,000$ | 8 | 220 | 296 | 152 | 110 | 110 | 91 | 979 |
| $1,000-1,500$ | 117 | 529 | 420 | 285 | 235 | 176 | 33 | 1,678 |
| $500-1,000$ | 226 | 578 | 335 | 326 | 151 | 117 | 217 | 1,724 |
| Under 500 | 592 | 765 | 296 | 157 | 70 | 61 | 70 | 1,419 |
|  |  |  | F A R M |  |  |  |  |  |
| $\$ 3,000 \&$ over | 0 | 25 | 75 | 92 | 75 | 25 | 49 | 341 |
| $2,000-3,000$ | 8 | 133 | 142 | 117 | 117 | 17 | 8 | 534 |
| $1,500-2,000$ | 17 | 159 | 108 | 134 | 83 | 83 | 92 | 659 |
| $1,000-1,500$ | 0 | 135 | 142 | 294 | 109 | 34 | 212 | 926 |
| $500-1,000$ | 50 | 356 | 356 | 324 | 248 | 75 | 192 | 1,551 |
| Under 500 | 151 | 653 | 410 | 377 | 176 | 134 | 251 | 2,001 |

* Including units with negative income which are not shown separately in the source material.


## Column

## URBAN

1 BLS Bulletin 822, Table 1 A, p. 69.
2,7 Ibid. The procedure by which the $\$ 2,000-3,000$ and the $\$ 3,000$ and over income classes are distributed parallels that shown in Appendix 6, Section A, Part d, notes to columns 5-8, Part II.
8 Ibid., Table 1, p. 68.
RURAL NONFARM AND FARM
1, 8 Ibid., Table 1 A, p. 69.
b Total Number of Persons by Size of Unit and by Income Class (thousands)

| Money Income Class | Single Persons (1) | $\stackrel{2}{\text { Person }}$ <br> (2) | Total Number of Persons in Each Size of Family Group |  |  |  | Over 6 Person (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  | (3) | (4) | (5) | (6) |  |
| URBAN |  |  |  |  |  |  |  |
| \$5,000 \& over | 23 | 294 | 528 | 1,896 | 1,110 | 720 | 1,454 |
| 3,000-5,000 | 41 | 1,720 | 3,096 | 2,824 | 1,650 | 1,068 | 2,197 |
| 2,500-3,000 | 120 | 1,340 | 1,989 | 3,516 | 1,595 | 990 | 993 |
| 2,000-2,500 | 222 . | 2,266 | 3,360 | 2,892 | 1,310 | 810 | 820 |
| 1,500-2,000 | 374 | 2,406 | 3,795 | 1,908 | 2,285 | 1,122 | 1,146 |
| 1,000-1,500 | 772 | 2,588 | 1,911 | 1,620 | 1,160 | 462 | 500 |
| 500-1,000 | 1,358 | 2,066 | 1,779 | 920 | 860 | 690 | 779 |
| Under 500 | 1,134 | 1,116 | 174 | 152 | 290 | 114 | 134 |
| RURAL nonfarm |  |  |  |  |  |  |  |
| \$3,000 \& over | 28 | 260 | 423 | 424 | 530 | 168 | 423 |
| 2,000-3,000 | 28 | 416 | 765 | 1,172 | 1,135 | 282 | 588 |
| 1,500-2,000 | 8 | 440 | 888 | 608 | 550 | 660 | 780 |
| 1,000-1,500 | 117 | 1,058 | 1,260 | 1,140 | 1,175 | 1,056 | - 285 |
| 500-1,000 | 226 | 1,156 | 1,005 | 1,304 | 755 | 702 | 1,698 |
| Under 500 | 592 | 1,530 | 888 | 628 | 350 | 366 | 523 |
| FARM |  |  |  |  |  |  |  |
| \$3,000 \& over | 0 | 50 | 225 | 368 | 375 | 150 | 356 |
| 2,000-3,000 | 8 | 266 | 426 | 468 | 585 | 102 | 54 |
| 1,500-2,000 | 17 | 318 | 324 | 536 | 415 | 498 | 802 |
| 1,000-1,500 | 0 | 270 | 426 | 1,176 | 545 | 204 | 1,768 |
| 500-1,000 | 50 | 712 | 1,068 | 1,296 | 1,240 | 450 | 1,640 |
| Under 500 | 151 | 1,306 | 1,230 | 1,508 | 880 | 804 | 2,156 |

## Column

1 Column 1 of Part a.
2-6 Columns 2-6 of Part a multiplied by the number per family in the given size of family group.
7 Difference between the number in all families (the product of the average number per family in BLS Bulletin 822, Table 2, p. 70, and the total number of families in col. 8 of Part a) and the number in 2-6 person families (col. 2-6).
BLS-BHE Survey for 1941 (cont.)
c Total Income per Consuming Unit and per Capita, by Size of Unit and by Income Class (dollars)

| Money Income Class | Total Income per Consuming Unit |  |  |  |  |  |  | Total Income per Capita |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SINGLE(1) | 2 ormore persons (2) | $\begin{gathered} \text { FAMILIES } \\ 2 \\ 2 \\ \text { persons persons } \\ \text { (3) (4) } \end{gathered}$ |  | $\stackrel{4}{4}$ <br> (5) | 5 or more persons (6) | SINGLE PERSONS <br> (7) | $\underset{\text { persons }}{2}$ (8) | ${ }_{\text {persons }}^{3}$ (9) | $\begin{gathered} \text { A MII L } \\ 4 \\ \text { persons } \\ (10) \end{gathered}$ | $\begin{gathered} \text { IES } \\ \text { sersons } \\ (11) \end{gathered}$ | $\begin{gathered} 6 \\ \text { persons } \\ (12) \end{gathered}$ | Over 6 persons (13) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | URBAN |  |  |  |  |  |  |  |  |  |  |  |  |
| \$5,000\& over | 13,501 | 10,620 | 10,457 | 11,014 | 10,845 | 10,335 | 13,501 | 5,228 | 3;671 | 2,711 | 2,067 | 1,722 | 1,300 |
| 3,000-5,000 | 3,764 | 3,940 | 3,764 | 3,979 | 4,010 | 4,002 | 3,764 | 1,882 | 1,326 | 1,002 | 800 | 667 | 507 |
| 2,500-3,000 | 2,816 | 2,936 | 2,907 | 2,948 | 2,948 | 2,927 | 2,816 | 1,454 | 983 | 737 | 585 | 488 | 357 |
| 2,000-2,500 | 2,300 | 2,393 | 2,326 | 2,450 | 2,452 | 2,375 | 2,300 | 1,163 | 817 | 613 | 475 | 396 | 287 |
| 1,500-2,000 | 1,814 | 1,885 | 1,895 | 1,860 | 1,959 | 1,864 | 1,814 | 948 | 620 | 490 | 373 | 311 | 237 |
| 1,000-1,500 | 1,340 | 1,389 | 1,397 | 1,380 | 1,411 | 1,375 | 1,340 | 698 | 460 | 353 | 275 | 229 | 157 |
| 500-1,000 | 849 | 889 | 882 | 944 | 801 | 880 | 849 | 441 | 315 | 200 | 176 | 147 | 107 |
| Under 500 | 433 | 515 | 531 | 457 | 457 | 488 | 433 | 266 | 152 | 114 | 98 | 81 | 69 |
|  |  |  |  |  | R | L No | FARM |  |  |  |  |  |  |
| \$3,000 \& over | 4,133 ${ }^{-}$ | -4;563 |  |  |  |  | 4,133 | 2,282 | 1,521 | 1,141 | 913 | 760 | 572 |
| 2,000-3,000 | 2,840 | 2,638 |  |  |  |  | 2,840 | 1,319 | 879 | 660 | 528 | 440 | 341 |
| 1,500-2,000 | 2,189 | 1,942 |  |  |  |  | 2,189 | 971 | 647 | 486 | 388 | 324 | 227 |
| 1,000-1,500 | 1,354 | 1,446 |  |  |  |  | 1,354 | 723 | 482 | 362 | 289 | 241 | 167 |
| 500-1,000 | 912 | 990 |  |  |  |  | 912 | 495 | 330 | 248 | 198 | 165 | 127 |
| Under 500 | 374 | 517 |  |  |  |  | 374 | 258 | 172 | 129 | 103 | 86 | 69 |
|  |  |  |  |  |  | FAR |  |  |  |  |  |  |  |
| \$3,000 \& over |  | 5,781 |  |  |  |  |  | 2,890 | 1,927 | 1,445 | 1,156 | 964 | 795 |
| 2,000-3,000 | 2,597 | 3,071 |  |  |  |  | 2,597 | 1,536 | 1,024 | 768 | 614 | 512 | 455 |
| 1,500-2,000 | 1,880 | 2,317 |  |  |  |  | 1,880 | 1,158 | 772 | 579 | 463 | 386 | 266 |
| 1,000-1,500 |  | 1,783 |  |  |  |  |  | 892 | 594 | 446 | 357 | 297 | 214 |
| 500-1,000 | 1,090 | 1,274 |  |  |  |  | 1,090 | 637 | 425 | 318 | 255 | 212 | 149 |
| Under 500 | 435 | 707 |  |  |  |  | 435 | 354 | 236 | 177 | 141 | 118 | 82 |

Notes to Section D, Part c
Column
URBAN
1, 7 BLS Bulletin 822, Table 18, pp. 95-100. For the $\$ 3,000-5,000$ and $\$ 5,000$ and over classes, for which the source does not show data, the entries are for 2 person families with $\$ 3,000-5,000$ incomes, and 3 person families with $\$ 10,000$ and over incomes, respectively.
2 Ibid. Since the figure for the $\$ 10,000$ and over class in the source is larger than that used for any size group, it was disregarded. The entry is calculated by dividing total income for the $\$ 5,000$ and over class (Part e) by the number of families (Part a).
3 Ibid. For the $\$ 5,000$ and over class the entry is a weighted average of the income of 2 person families with $\$ 5,000-10,000$ incomes, and 3 person families with $\$ 10,000$ and over incomes, the weights being those in ibid., Table 10, p. 34.
4 Ibid. For the under $\$ 500$ class the entry for 4 person families is used. For the $\$ 5,000$ and over class the entry is a weighted average of the $\$ 5,000-10,000$ and $\$ 10,000$ and over classes, the weights being those in ibid., Table 10, p. 34 .
5, 6 Ibid . For the $\$ 5,000$ and over class the entry is a weighted average, derived as for column 4.
8-10 Columns 3-5 divided by the number per family in the given size of family group.
11-13 Column 6 divided by the number per family in the given size of family group. The average number in families of over 6 is calculated by dividing column 7 of Part b by column 7 of Part a.

## RURAL NONFARM AND FARM

1,7 Calculated from the per unit and the per family income data in Department of Agriculture Miscellaneous Publication 520, Tables 4 and 49, pp. 25 and 156-7, respectively, and the weights in BLS Bulletin 822, Table 10, p. 33. From the total income of families and single persons (the product of the number of units and per unit income) is deducted the total income of families (the product of the number of families and per family income). The residual, divided by the number of single persons, yields their per capita income. For rural nonfarm the entry for the $\$ 3,000$ and over class is that for the $\$ 3,000-5,000$ class, since the sample does not have units in classes over $\$ 5,000$. For farm the entries for the under $\$ 500$ and $\$ 500-1,000$ classes are weighted averages of those for their component classes.
2 Department of Agriculture Miscellaneous Publication 520, Table 49, pp. 156-7. For rural nonfarm the entry for the $\$ 3,000$ and over class is a weighted average of those for the $\$ 3,000-5,000$ and the $\$ 5,000$ and over classes. Total income for the latter is the difference between the total income for all income classes (the product of the per family income in BLS Bulletin 822, Table 3, p. 71 , and the number of families, ibid., Table 1, p. 68) and the total income of families with incomes under $\$ 5,000$ (see notes to col. 1). Dividing the total income of the $\$ 5,000$ and over class by the number of families (ibid.) yields per family income.

For farm, the entries for the under $\$ 500, \$ 500-1,000$, and $\$ 3,000$ and over classes are weighted averages of those for their component classes. For the $\$ 5,000$ and over component classes, per family income for urban families is used (see above).
8-13 Column 2 divided by the number per family in the given size of family group. The average number in families of over 6 is calculated by dividing column 7 of Part b by column 7 of Part a.

BLS-BHE Survey for 1941 (cont.)

| MONEY <br> INCOME CLASS | SINGLE PERSONS <br> (1) | $2$ <br> Persons <br> (2) | $3^{F A}$ <br> Persons <br> (3) | $\mathrm{M}_{\underset{4}{\mathrm{I}} \mathrm{~L}}$ <br> Persons <br> (4) | E S 5 <br> Persons <br> (5) | F $6$ <br> Persons <br> (6) | Over 6 Persons <br> (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| URBAN |  |  |  |  |  |  |  |
| \$5,000 \& over | 1 | 2 | 5 | 9 | 14 | 19 | 28 |
| 3,000-5,000 | 4 | 16 | 26 | 35 | 46 | 54 | 67 |
| 2,500-3,000 | 8 | 22 | 36 | 51 | 62 | 70 | 90 |
| 2,000-2,500 | 11 | 29 | 45 | 60 | 73 | 83 | 101 |
| 1,500-2,000 | 18 | 39 | 58 | 69 | 87 | 98 | 109 |
| 1,000-1,500 | 25 | 53 | 75 | 92 | 102 | 111 | 122 |
| 500-1,000 | 44 | 78 | 97. | 115 | 118 | 125 | 131 |
| Under 500 | 81 | 104 | 123 | 130 | 133 | 136 | 138 |
| RURAL NONFARM |  |  |  |  |  |  |  |
| \$3,000 \& over | 3 | 12 | 21 | 32 | 40 | 50 | 64 |
| 2,000-3,000 | 7 | 27 | 43 | 55 | 65 | 79 | 93 |
| 1,500-2,000 | 13 | 37 | 56 | 71 | 84 | 95 | 112 |
| 1,000-1,500 | 24 | 52 | 72 | 88 | 100 | 108 | 120 |
| 500-1,000 | 41 | 68 | 94 | 107 | 116 | 121 | 128 |
| Under 500 | 86 | 105 | 119 | 127 | 132 | 134 | 137 |
|  |  |  | F A R M | 1 |  |  |  |
| \$3,000 \& over | . | 6 | 15 | 23 | 31 | 38 | 47 |
| 2,000-3,000 | 10 | 20 | 34 | 49 | 59 | 66 | 76 |
| 1,500-2,000 | 17 | 30 | 48 | 63 | 74 | 85 | 103 |
| 1,000-1,500 |  | 42 | 61 | 77 | 89 | 99 | 113 |
| 500-1,000 | 33 | 57 | 82 | 96 | 106 | 114 | 124 |
| Under 500 | 80 | 91 | 110 | 117 | 126 | 129 | 135 |

Rank of per capitas in columns 7-13 of Part c from highest to lowest.
BLS-BHE Survey for 1941 (cont.)

BLS-BHE Survey for 1941 (concl.)


Section E: Census Samples for 1944, 1945, 1947, and 1948
Because our procedure differs in merely minor respects from sample to sample, only that for 1948 is shown. For 1944, 1945, and 1947 the basic material is from Bureau of the Census releases, Series P-S, No. 22, Series P-60, No. 2, and Series P-60, No. 5, supplemented for 1944 and 1945 by data provided for our confidential use by A. Ross Eckler, Bureau of the Census.

## Survey of 1948 Consumer Income

a Number of Consuming Units by Size of Unit and by Income Level

| TOTAL MONEY INCOME LEVEL | INDIVIDUALS <br> (1) | $2$ <br> Persons <br> (2) |  | $\text { A M }{ }_{4}^{I L}$ <br> Persons <br> (4) | $\begin{array}{lll} \mathrm{E} & \mathrm{~S}_{5} & 0 \\ \hline \end{array}$ <br> Persons* <br> (5) | 6 Persons* <br> (6) | 7 or more Persons <br> (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| UR B A N |  |  |  |  |  |  |  |
| \$10,000 \& over | 18,243 | 139,806 | 187,230 | 199,424 | 101,523 | 72,912 | 64,898 |
| 6,000-9,999 | 48,648 | 574,758 | 649,064 | 734,464 | 403,731 | 275,184 | 201,710 |
| 5,000-5,999 | 66,891 | 598,059 | 692,751 | 505,856 | 306,930 | 110,544 | 98,224 |
| 4,500-4,999 | 79,053 | 450,486 | 430,629 | 325,888 | 151,104 | 76,440 | 57,882 |
| 4,000-4,499 | 109,458 | 566,991 | 630,341 | 481,536 | 238,461 | 101,136 | 57,882 |
| 3,500-3,999 | 152,025 | 730,098 | 674,028 | 549,632 | 254,988 | 116,424 | 64,898 |
| 3,000-3,499 | 352,698 | 970,875 | 830,053 | 578,816 | 304,569 | 123,480 | 98,224 |
| 2,500-2,999 | 425,670 | 722,331 | 692,751 | 535,040 | 212,490 | 104,664 | 53,497 |
| 2,000-2,499 | 674,991 | 854,370 | 611,618 | 408,576 | 167,631 | 88,200 | 70,160 |
| 1,500-1,999 | 638,505 | 652,428 | 299,568 | 233,472 | 89,718 | 43,512 | 41,219 |
| 1,000-1,499 | 863,502 | 590,292 | 268,363 | 155,648 | 70,830 | 38,808 | 42,973 |
| 500-999 | 1,325,658 | 497,088 | 174,748 | 97,280 | 33,054 | 9,408 | 18,417 |
| Under 500 | 1,319,577 | 411,651 | 93,615 | 58,368 | 25,971 | 15,288 | 7,016 |
| Total | 6,074,919 | 7,759,233 | 6,234,759 | 4,864,000 | 2,361,000 | 1,176,000 | 877,000 |



* Not shown separately for 1944 and 1945.

Calculated from Current Population Report, Series P-60, No. 6, Table 3, p. 17.

Survey of 1948 Consumer Income (cont.)

## b Total Number of Persons by Size of Consuming Unit and by Income Level

| TOTAL MONEY income level | individuals <br> (1) | $2$ <br> S Persons <br> (2) | Persons <br> (4) |  | $\begin{array}{lll} \mathrm{E} & \mathrm{~S}_{5} & \mathrm{O} \end{array}$ <br> Persons <br> (5) | $6$ <br> Persons <br> (6) | 7 or more Persons (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  | U R B A | A |  |  |  |
| \$10,000 \& over | 18,243 | 279,612 | 561,690 | 797,696 | 507,615 | 437,472 | 525,674 |
| 6,000-9,999 | 48,648 | 1,149,516 | 1,947,192 | 2,937,856 | 2,018,655 | 1,651,104 | 1,633,851 |
| 5,000-5,999 | 66,891 | 1,196,118 | 2,078,253 | 2,023,424 | 1,534,650 | 663,264 | 795,614 |
| 4,500-4,999 | 79,053 | 900,972 | 1,291,887 | 1,303,552 | 755,520 | 458,640 | 468,844 |
| 4,000-4,499 | 109,458 | 1,133,982 | 1,891,023 | 1,926,144 | 1,192,305 | 606,816 | 468,844 |
| 3,500-3,999 | 152,025 | 1,460,196 | 2,022,084 | 2,198,528 | 1,274,940 | 698,544 | 525,674 |
| 3,000-3,499 | 352,698 | 1,941,750 | 2,490,159 | 2,315,264 | 1,522,845 | 740,880 | 795,614 |
| 2,500-2,999 | 425,670 | 1,444,662 | 2,078,253 | 2,140,160 | 1,062,450 | 627,984 | 433,326 |
| 2,000-2,499 | 674,991 | 1,708,740 | 1,834,854 | 1,634,304 | 838,155 | 529,200 | 568,296 |
| 1,500-1,999 | 638,505 | 1,304,856 | 898,704 | 933,888 | 448,590 | 261,072 | 333,874 |
| 1,000-1,499 | 863,502 | 1,180,584 | 805,089 | 622,592 | 354,150 | 232,848 | 348,081 |
| 500-999 | 1,325,658 | 994,176 | 524,244 | 389,120 | 165,270 | 56,448 | 149,178 |
| Under 500 | 1,319,577 | 823,302 | 280,845 | 233,472 | 129,855 | 91,728 | 56,830 |
| Total | 6,074,919 | 15,518,466 | 18,704,277 | 19,456,000 | 11,805,000 | 7,056,000 | 7,103,700 |


| \$10,000 \& over | 5,935 | 66,040 | 73,590 | 240,108 | 116,955 | 97,014 | 146,254 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6,000-9,999 | 7,122 | 299,720 | 528,510 | 502,044 | 584,775 | 194,028 | 308,318 |
| 5,000-5,999 | 7,122 | 289,560 | 367,950 | 698,496 | 330,525 | 207,138 | 320,177 |
| 4,500-4,999 | 5,935 | 152,400 | 301,050 | 458,388 | 300,015 | 173,052 | 233,215 |
| 4,000-4,499 | 13,057 | 243,840 | 575,340 | 582,080 | 457,650 | 314,640 | 205,546 |
| 3,500-3,999 | 30,862 | 335,280 | 682,380 | 727,600 | 411,885 | 207,138 | 454,572 |
| 3,000-3,499 | 48,667 | 406,400 | 943,290 | 1,004,088 | 584,775 | 335,616 | 454,572 |
| 2,500-2,999 | 37,984 | 477,520 | 943,290 | 785,808 | 655,965 | 270,066 | 411,091 |
| 2,000-2,499 | 62,911 | 599,440 | 863,010 | 865,844 | 711,900 | 314,640 | 525,722 |
| 1,500-1,999 | 92,586 | 609,600 | 535,200 | 487,492 | 366,120 | 217,626 | 292,507 |
| 1,000-1,499 | 112,765 | 523,240 | 454,920 | 487,492 | 411,885 | 162,564 | 320,177 |
| 500-999 | 331,173 | 579,120 | 254,220 | 283,764 | 111,870 | 44,574 | 249,026 |
| Under 500 | 434,442 | 497,840 | 167,250 | 160,072 | 55,935 | 86,526 | 27,670 |
| Total | 1,190,561 | 5,080,000 | 6,690,000 | 7,283;276 | 5,100,255 | 2,624,622 | 3,948,847 |


| \$10,000 \& over | 3,476 | 74,932 | 70,920 | 142;576 | 109,590 | 107,136 | 199,940 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6,000-9,999 | 1,738 | 91,962 | 132,384 | 274,968 | 320,340 | 279,936 | 375,646 |
| 5,000-5,999 | 3,476 | 64,714 | 198,576 | 208;772 | 181,245 | 183,168 | 260,528 |
| 4,500-4,999 |  | 51,090 | 156,024 | 157,852 | 101,160 | 65,664 | 157,529 |
| 4,000-4,499 | 3,476 | 78,338 | 151,296 | 239,324 | 210,750 | 152,064 | 218,117 |
| 3,500-3,999 | 13,035 | 194,142 | 189,120 | 330,980 | 265,545 | 214,272 | 230,234 |
| 3,000-3,499 | 21,725 | 211,172 | 420,792 | 555,028 | 400,425 | 345,600 | 448,351 |
| 2,500-2,999 | 18,249 | 214,578 | 482,256 | 499,016 | 455,220 | 321,408 | 617,998 |
| 2,000-2,499 | 25,201 | 282,698 | 557,904 | 641;592 | 585,885 | 387,072 | 478,645 |
| 1,500-1,999 | 46,926 | 316,758 | 614,640 | 514,292 | 345,630 | 397,440 | 848,232 |
| 1,000-1,499 | 83,424 | 514,306 | 704,472 | 641,592 | 400,425 | 355,968 | 720,997 |
| 500-999 | 175,538 | 585,832 | 567,360 | 514,292 | 501,585 | 345,600 | 823,997 |
| Under 500 | 473,605 | 728,884. | 482,256 | 376,808 | 337,200 | 300,672 | 678,586 |
| Total | 869,869 | 3,409,406 | 4,728,000 | 5,097,092 | 4,215,000 | 3,456,000 | 6,058,800 |

## Column

1 Column 1 of Part a.
2-7 Columns 2-7 of Part a multiplied by the number of persons in the given size of family group. For families of 7 or more, the average size is assumed to be 8.1, that of nonrelief families in the NRC study for 1935-36 (Consumer Incomes in the United States, Table 4, p. 21).
c Estimated Money Income per Capita and Its Rank by Size of Unit and by Income Level, Two Assumptions



## Survey of 1948 Consumer Income (cont.)

d Estimated Total Money Income by Size of Unit and by Income Level (\$000), Two Assumptions

| total money INCOME LEVEL | individuals <br> (1) | Persons <br> (2) | $\stackrel{3}{3}$ <br> (3) | $\mathrm{A}_{4} \mathrm{I} \mathrm{L}$ Persons (4) | $\mathrm{E} \mathrm{S}_{5} \mathrm{O}$ <br> Persons <br> (5) | $\stackrel{6}{\text { Persons }}$ <br> (6) | 7 or more Persons (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Assumption: 1 |  |  |  |  |  |  |  |
| \$10,000 \& over | 228,038 | 1,747,575 | 2,340,377 | 2,492,800 | 1,269,038 | 911,399 | 811,225 |
| 6,000-9,999 | 389,184 | 4,598,064 | 5,192,518 | 5,875,712 | 3,229,848 | 2,201,466 | 1,613,673 |
| 5,000-5,999 | 367,900 | 3,289,324 | 3,810,124 | 2,782,208 | 1,688,115 | 607,994 | 540,230 |
| 4,500-4,999 | 375,502 | 2,139,808 | 2,045,483 | 1,547,968 | 717,744 | 363,092 | 274,939 |
| 4,000-4,499 | 465,196 | 2,409,712 | 2,678,956 | 2,046,528 | 1,013,459 | 429,826 | 245,998 |
| 3,500-3,999 | 570,094 | 2,737,868 | 2,527,605 | 2,061,120 | 956,205 | 436,590 | 243,366 |
| 3,000-3,499 | 1,146,268 | 3,155,344 | 2,697,664 | 1,881,152 | 989,849 | 401,312 | 319,224 |
| 2,500-2,999 | 1,170,592 | 1,986,410 | 1,905,072 | 1,471,360 | 584,348 | 287,824 | 147,119 |
| 2,000-2,499 | 1,518,730 | 1,922,332 | 1,376,140 | 919,296 | 377,170 | 198,450 | 157,861 |
| 1,500-1,999 | 1,117,384 | 1,141,749 | 524,241 | 408,576 | 157,006 | 76,147 | 72,133 |
| 1,000-1,499 | 1,079,378 | 737,865 | 335,456 | 194,560 | 88,538 | 48,509 | 53,716 |
| 500-999 | 994,244 | 372,816 | 131,061 | 72,960 | 24,790 | 7,056 | 13,812 ${ }^{\text {. }}$ |
| Under 500 | 263,915 | 82,330 | 18,724 | 11,674 | 5,194 | 3,057 | 1,403 |
| RURAL NONPARM |  |  |  |  |  |  |  |
| \$10,000 \& over | 74,188 | 412,750 | 306,625 | 750,338 | 292,388 | 202,112 | 225,701 |
| 6,000-9,999 | 56,976 | 1,198,880 | 1,409,362 | 1,004,088 | 935,640 | 258,703 | 304,510 |
| 5,000-5,999 | 39,171 | 796,290 | 674,574 | 960,432 | 363,578 | 189,877 | 217,403 |
| 4,500-4,999 | 28,191 | 361,950 | 476,661 | 544,336 | 285,014 | 137,000 | 136,762 |
| 4,000-4,499 | 55,492 | 518,160 | 815,067 | 618,460 | 389,002 | 222,869 | 107,848 |
| 3,500-3,999 | 115,732 | 628,650 | 852,975 | 682,125 | 308,914 | 129,461 | 210,449 |
| 3,000-3,499 | 158,168 | 660,400 | 1,021,894 | 815,822 | 380,104 | 181,793 | 182,388 |
| 2,500-2,999 | 104,456 | 656,590 | 864,686 | 540,243 | 360,781 | 123,779 | 139,570 |
| 2,000-2,499 | 141,550 | 674,370 | 647,258 | 487,037 | 320,355 | 117,990 | 146,035 |
| 1,500-1,999 | 162,026 | 533,400 | 312,198 | 213,278 | 128,142 | 63,475 | 63,196 |
| 1,000-1,499 | 140,956 | 327,025 | 189,552 | 152,341 | 102,971 | 33,867 | 49,410 |
| 500-999 | 248,380 | 217,170 | 63,555 | 53,206 | 16,780 | 5,572 | 23,057 |
| Under 500 | 86,888 | 49,784 | 11,151 | 8,004 | 2,237 | 2,884 | 683 |
| RURAL FARM |  |  |  |  |  |  |  |
| \$10,000 \& over | 43,450 | 468,325 | 295,500 | 445,550 | 273,975 | 223,200 | 308,549 |
| 6,000-9,999 | 13,904 | 367,848 | 353,024 | 549,936 | 512,544 | 373,247 | 371,007 |
| 5,000-5,999 | 19,118 | 177,964 | 364,055 | 287,062 | 199,370 | 167,905 | 176,901 |
| 4,500-4,999 |  | 121,339 | 247,037 | 187,449 | 96,102 | 51,984 | 92;378 |
| 4,000-4,499 | 14,773 | 166,468 | 214,337 | 254,282 | 179,138 | 107,711 | 114,444 |
| 3,500-3,999 | 48,881 | 364,016 | 236,400 | 310,294 | 199,159 | 133,920 | 106,589 |
| 3,000-3,499 | 70,606 | 343,154 | 455,857 | 450,960 | 260,276 | 187,201 | 179,892 |
| 2,500-2,999 | 50,185 | 295,045 | 442,070 | 343,074 | 250,371 | 147,311 | 209,817 |
| 2,000-2,499 | 56,702 | 318;035 | 418,428 | 360,896 | 263,648 | 145,152 | 132,958 |
| 1,500-1,999 | 82,120 | 277,163 | 358,538 | 225,003 | 120,970 | 115,921 | 183,261 |
| 1,000-1,499 | 104,280 | 321,441 | 293,532 | 200,498 | 100,106 | 74,159 | 111,264 |
| 500-999 | 131,654 | 219,687 | 141,840 | 96,430 | 75,238 | 43,200 | 76,294 |
| Under 500 | 94,721 | 72,888 | 32,152 | 18,840 | 13,488 | 10,021 | 16,754 |

Number of persons in given size of unit group, Part $b$, multiplied by the per capita income for that group, Part c.

| TOTAL MONEY INCOME LEVEL | INDIVIDUALS <br> (1) |  | 3 Persons (3) | $\text { A } \underset{4}{\mathrm{M}_{4} \mathrm{~L}}$ <br> Persons <br> (4) | $\begin{array}{lll}\mathrm{E}_{5} & 0\end{array}$ Persons <br> (5) | 6 Persons <br> (6) | 7 or more Persons <br> (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | A s | $\begin{gathered} S U M P T \\ U R B A \end{gathered}$ | $\begin{array}{llll} \text { I O } & \mathrm{N} & 2 \\ \mathrm{~N} & & \end{array}$ |  |  |  |
| \$10,000 \& over | 456,075 | 3,495,150 | 4,680,748 | 4,985,600 | 2,538,075 | 1,822,801 | 1,622,451 |
| 6,000-9,999 | 376,827 | 4,452,075 | 5,027,650 | 5,689,158 | 3,127,300 | 2,131,575 | 1,562,452 |
| 5,000-5,999 | 366,362 | 3,275,569 | 3,794,204 | 2,770,573 | 1,681,056 | 605,447 | 537,970 |
| 4,500-4,999 | 374,948 | 2,136,655 | 2,042,473 | 1,545,687 | 716,686 | 362,555 | 274,536 |
| 4,000-4,499 | 464,321 | 2,405,176 | 2,673,907 | 2,042,676 | 1,011,552 | 429,019 | 245,534 |
| 3,500-3,999 | 568,726 | 2,731,297 | 2,521,539 | 2,056,173 | 953,910 | 435,542 | 242,783 |
| 3,000-3,499 | 1,142,742 | 3,145,635 | 2,689,372 | 1,875,364 | 986,804 | 400,075 | 318,246 |
| 2,500-2,999 | 1,165,484 | 1,977,742 | 1,896,759 | 1,464,940 | 581,798 | 286,568 | 146,473 |
| 2,000-2,499 | 1,509,280 | 1,910,371 | 1,367,572 | 913,576 | 374,823 | 197,217 | 156,878 |
| 1,500-1,999 | 1,105,891 | 1,130,005 | 518,849 | 404,374 | 155,392 | 75;364 | 71,392 |
| 1,000-1,499 | 1,056,926 | 722,517 | 328,476 | 190,513 | 86,696 | 47,501 | 52,599 |
| 500-999 | 937,240 | 351,441 | 123,549 | 68,777 | 23,369 | 6,651 | 13,020 |
| Under 500 | 263,915 | 82,330 | 18,724 | 11,674 | 5,194 | 3,057 | 1,403 |
| RURAL NONFARM |  |  |  |  |  |  |  |
| \$10,000 \& over | 148,375 | 825,500 | 613,250 | 1,500,675 | 584,775 | 404,225 | 451,401 |
| 6,000-9,999 | 55,167 | 1,160,816 | 1,364,613 | 972,208 | 905,933 | 250,490 | 294,845 |
| 5,000-5,999 | 39,007 | 792,960 | 671,755 | 956,416 | 362,057 | 189,082 | 216,494 |
| 4,500-4,999 | 28,150 | 361,417 | 475,960 | 543,534 | 284,594 | 136,798 | 136,561 |
| 4,000-4,499 | 55,388 | 517,185 | 813,531 | 617,296 | 388,270 | 222,450 | 107,644 |
| 3,500-3,999 | 115,455 | 627,141 | 850,928 | 680,488 | 308,172 | 129,151 | 209,944 |
| 3,000-3,499 | 157,681 | 658,368 | 1,018,753 | 813,311 | 378,934 | 181,233 | 181,829 |
| 2,500-2,999 | 104,000 | 653,725 | 860,912 | 537,886 | 359,206 | 123,239 | 138,957 |
| 2,000-2,499 | 140,669 | 670,174 | 643,227 | 484,007 | 318,362 | 117,257 | 145,126 |
| 1,500-1,999 | 160,359 | 527,914 | 308,987 | 211,084 | 126,824 | 62,822 | 62,547 |
| 1,000-1,499 | 138,024 | 320,223 | 185,607 | 149,173 | 100,829 | 33,163 | 48,382 |
| 500-999 | 234,139 | 204,719 | 59,912 | 50,155 | 15,818 | 5,252 | 21,735 |
| Under 500 | 86,888 | 49,784 | 11,151 | 8,004 | 2,237 | 2,884 | 683 |
| R U R A L F F A R M |  |  |  |  |  |  |  |
| \$10,000 \& over | 86,900 | 936,650 | 591,000 | 891,100 | 547,950 | 446,400 | 617,099 |
| 6,000-9,999 | 13,463 | 356,169 | 341,815 | 532,476 | 496,271 | 361,397 | 359,230 |
| 5,000-5,999 | 19,038 | 177,219 | 362,534 | 285,861 | 198,536 | 167,201 | 176,161 |
| 4,500-4,999 |  | 121,160 | 246,674 | 187,173 | 95,960 | 51,907 | 92,243 |
| 4,000-4,499 | 14,745 | 166,155 | 213,933 | 253,803 | 178,800 | 107,509 | 114,228 |
| 3,500-3,999 | 48,764 | 363,143 | 235,833 | 309,549 | 198,681 | 133,599 | 106,334 |
| 3,000-3,499 | 70,389 | 342,099 | 454,455 | 449,573 | 259,475 | 186,624 | 179,340 |
| 2,500-2,999 | 49,966 | 293,757 | 440,141 | 341,576 | 249,278 | 146,668 | 208,896 |
| 2,000-2,499 | 56,349 | 316,056 | 415,823 | 358,650 | 262,008 | 144,250 | 132,130 |
| 1,500-1,999 | 81,276 | 274,312 | 354,850 | 222,688 | 119,726 | 114,729 | 181,377 |
| 1,000-1,499 | 102,111 | 314,755 | 287,425 | 196,327 | 98,024 | 72,617 | 108,950 |
| 500-999 | 124,105 | 207,092 | 133,710 | 90,901 | 70,924 | 40,722 | 71,918 |
| Under 500 | 94,721 | 72,888 | 32,152 | 18,840 | 13,488 | 10,021 | 16,754 |

Survey of 1948 Consumer Income (concl.)
Number of Persons and Their Total Money Income Cumulated by the Order Class of Their per Capita Income, Two Assumptions


For the procedure by which the income share of a given upper percentage band is calculated, see Appendix 3, Section A. For 1944 and 1945, the years for which we have countrywide totals of population (Table 69, col. 5) and of economic income (col. 12 of Table 114 plus col. 6 of Table 115), columns 3 and 7 were related to these totals also. In relating column 3 to total population, it is assumed that all or nearly all of the persons not covered by the Census Survey (residents of hotels, YMCA's, members of armed forces and civilian personnel living on military reservations, inmates and noninmate residents of institutions, etc.) would be in income classes below the upper groups and would not, therefore, affect our estimates of the shares of those groups. In relating column 7 to total economic income it is further assumed that comparison of

## Section F: Surveys of Consumer Finances for 1945-1948

The samples on which the Survey distributions are based are small. Their subdivision by size of unit often yields cells of very few cases, sometimes only 1 each. These cells are, therefore, subject to large error. The size of the sampling errors is discussed in Methods of the Survey of Consumer Finances, Federal Reserve Bulletin, July 1950, pp. 795-809. We, however, cumulate the cells, which greatly reduces the sampling error attached to any one cell. The tables in this section are presented solely to illustrate our procedure, not to provide cell by cell data for use as such.

Because our procedure differs in merely minor respects from Survey to Survey, only that for 1948 is shown. For 1945, 1946, and 1947 the basic material is from the Federal Reserve Bulletin, July 1947 and June 1948, supplemented by data provided for our confidential use by Ralph A. Young and Duncan McC. Holthausen of the Board of Governors of the Federal Reserve System, and George Katona of the Survey Research Center, University of Michigan.
1949 Survey of Consumer Finances, Covering 1948 Income
a Number of Spending Units by Size of Unit and by Income Group (thousands)

$$
\begin{array}{cccc} 
& & \text { UN I T S } & \text { O F } \\
2 & 3 & 4 & 5 \\
\text { Persons } & \text { Persons } & \text { Persons } & \text { Persons } \\
(2) & (3) & (4) & (5) \\
817 & 637 & 685 & 322 \\
1,943 & 1,388 & 775 & 401 \\
1,943 & 1,491 & 1,008 & 500 \\
3,054 & 2,468 & 1,919 & 723 \\
3,316 & 2,447 & 1,186 & 795 \\
2,452 & 1,244 & 973 & 476 \\
1,897 & 607 & 308 & 209 \\
15,422 & 10,282 & 6,854 & 3,427
\end{array}
$$

INCOME GROUP


1-7 Calculated from line 8 by a percentage distribution supplied

$$
\begin{array}{cc}
6 & 7 \\
\text { Persons }^{\mathrm{a}} & \text { Persons }^{\mathrm{a}} \\
(6) & (7) \\
84 & 11 \\
153 & 136 \\
181 & 172 \\
395 & 219 \\
409 & 236 \\
187 & 140 \\
152 & 94 \\
1,562 & 1,008
\end{array}
$$

TOTAL,
Col.
$1-8$
(9)
2,677
5,144
5,802
10,134
11,557
8,928
6,154
50,396
3 person unit class, the class closest in size to the average for all spending units. The figure in column $9,50.4$ million, estimated originally from Bureau of the Census and Survey data,
 of later Census data to 50.6 million.
${ }^{\mathrm{n}}$ Not shown separately for 1946 and 1947.
For 1945 units of 8 persons are also shown separately.

The total number of spending units in column 9 is from
Federal Reserve Bulletin, June 1949 , p. 644 . Its distribution was supplied by the Survey Research Center. We assumed the units whose distribution was not ascertained, 0.2 percent of the total, to be of average size and assigned them to the
b Total Number of Persons in Each Size of Unit Class by Income Group (thousands)

Columns 1-8 of Part a multiplied by the number of persons per unit. For column 8 the average number per unit is assumed to be 8.5 on
the advice of the Survey Research Center.




示

U N I T S


5
Persons
$(5)$
1,610
2,005
2,500
3,615
3,975
2,380
1,045

Persons
$\underset{\sim}{\circ}$

N
OT
3,892
1,232

3
Persons
$(3)$
1,911
4,164
4,473
7,404
7,341
3,732
1,821

2

$\stackrel{1}{\text { Person }}$
(1)

109
306
361
1,127
2,997
3,314
2,723
1949 Survey of Consumer Finances, Covering 1948 Income (cont.)

c Estimated Money Income per Capita by Size of Unit and by Income Group (dollars) | U N I T S | O F |
| :---: | :---: |
| 4 | 5 |
| Persons |  |
| $(4)$ | Persons |
| 3,780 | $(5)$ |
| 1,454 | 3,024 |
| 1,062 | 1,163 |
| 868 | 849 |
| 609 | 695 |
| 394 |  |
| 143 |  | Column


 $\angle 9$
98 I
$\angle 8 Z$
$60 \downarrow$
00 S
789
$6 \angle L^{6} \mathrm{I}$
$(8)$
suOs.IOd
oIow Io 8
all groups, supplied by the Survey Research Center, by the






边

ค莗 ○

| UNITTS | $\mathrm{O}_{5}$ |  |
| :---: | :---: | :---: |
| 4 | 5 | 6 |
| Persons | Persons | Persons |
| $(4)$ | $(5)$ | $(6)$ |
| 6 | 8 | 10 |
| 18 | 21 | 24 |
| 23 | 26 | 30 |
| 25 | 31 | 35 |
| 33 | 40 | 42 |
| 43 | 45 | 48 |
| 52 | 53 | 54 |


d Rank of per Capita Income, All Units

e Estimated Total Money Income by Size of Unit and by Income Group (thousands of dollars)

$$
{ }_{4} \mathrm{UNIT}
$$

Number of persons, Part b, multiplied by their per capita income, Part $c$.
$\begin{aligned} & \text { n } \\ & \stackrel{n}{n} \\ & \end{aligned}$
1949 Survey of Consumer Finances, Covering 1948 Income (concl.)


## Part V

## Basic Reference Tables

Table 111: Number of and Population Represented by Returns with Net Income, Tax Definition, by Net Income Classes, 1916-1948


For notes see page 523.

Table 111 (cont.)

|  |  | UMBER OF RE Adj. for Separate Returns of | TURNS (000 |  | population (000) repreSENTED BY |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NET |  | Wives | Distri | ted by |  |  | All |
| INCOME |  | \& for | Fami | Status |  |  | Returns |
| CLASS, |  | Community |  | Single |  | Single | with |
| TAX |  | Property | Family | person | Family | Person | Net |
| DEPINITION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1921 |  |  |  |  |  |  |  |
| \$10,000 \& over | 172 | 160 | 131 | 29 | 403 | 29 | 432 |
| 9,000-10,000 | 31 | 29 | 25 | 4.4 | 81 | 4.4 | 85 |
| 8,000-9,000 | 40 | 38 | 32 | 5.6 | 106 | 5.6 | 112 |
| 7,000-8,000 | 59 | 56 | 48 | 7.7 | 160 | 7.7 | 167 |
| 6,000-7,000 | 86 | 82 | 71 | 11 | 238 | 11 | 249 |
| 5,000-6,000 | 137 | 131 | 113 | 118 | 393 | 18 | 411 |
| 4,000-5,000 | 369 | 360 | 317 | 43 | 1,000 | 43 | 1,043 |
| 3,000-4,000 | 703 | 691 | 602 | 90 | 2,004 | 90 | 2,094 |
| 2,000-3,000 | 2,222 | 2,208 | 1,841 | 368 | 5,518 | 368 | 5,885 |
| 1,000-2,000 | 2,441 | 2,422 | 666 | 1,756 | 1,839 | 1,756 | 3,595 |
| Under 1,000 | 402 | 382 | 161 | 222 | 481 | 222 | 703 |
| Total | 6,662 | 6,560 | 4,007 | 2,554 | 12,222 | 2,554. | 14,776 |
| 1922 |  |  |  |  |  |  |  |
| \$10,000 \& over | 203 | 187 | 152 | 35 | 481 | 35 | 516 |
| 9,000-10,000 | 35 | 32 | 27 | 5.2 | 89 | 5.2 | 95 |
| 8,000-9,000 | 45 | 42 | 36 | - 6.4 | 119 | 6.4 | 125 |
| 7,000-8,000 | 64 | 60 | 52 | + 8.5 | 176 | 8.5 | 184 |
| 6,000-7,000 | 94 | 90 | 78 | 12 | 264 | 12 | 276 |
| 5,000-6,000 | 154 | 148 | 127 | 21 | 460 | 21 | 481 |
| 4,000-5,000 | 405 | 395 | 349 | 47 | 1,119 | 47 | 1,166 |
| 3,000-4,000 | 785 | 772 | 671 | 102 | 2,222 | 102 | 2,324 |
| 2,000-3,000 | 2,130 | 2,115 | 1,755 | 360 | 5,672 | 360 | 6,032 |
| 1,000- 2,000 | 2,471 | 2,449 | 730 | 1,719 | 2,133 | 1,719 | 3,852 |
| Under 1,000 | 402 | 381 | 132 | 249 | 425 | 249 | 675 |
| Total | 6,787 | 6,672 | 4,108 | 2,564 | 13,162 | 2,564 | 15,726 |
| 1923 |  |  |  |  |  |  |  |
| \$10,000 \& over | 227 | 208 | 170 | 38 | 534 | 38 | 571 |
| 9,000-10,000 | 38 | 35 | 30 | 5.4 | 99 | 5.4 | 105 |
| 8,000-9,000 | 48 | 46 | 39 | 6.6 | 129 | 6.6 | 136 |
| 7,000-8,000 | 67 | 64 | 55 | 8.9 | 185 | 8.9 | 194 |
| 6,000-7,000 | 97 | 93 | 81 | 12 | 268 | 12 | 280 |
| 5,000-6,000 | 137 | 131 | 114 | 17 | 395 | 17 | 412 |
| 4,000-5,000 | 593 | 573 | 502 | 71 | 1,743 | 71 | 1,814 |
| 3,000-4,000 | 1,126 | 1,102 | 984 | 118 | 3,271 | 118 | 3,389 |
| 2,000- 3,000 | 2,473 | 2,446 | 2,102 | 344 | 6,637 | 344 | 6,980 |
| 1,000-2,000 | 2,523 | 2,480 | 890 | 1,590 | 2,533 | 1,590 | 4,124 |
| Under 1,000 | 369 | 334 | 122 | 211 | 394 | 211 | 605 |
| Total | 7,698 | 7,510 | 5,088 | 2,422 | 16,188 | 2,422 | 18,610 |
| 1924 |  |  |  |  |  |  |  |
| \$10,000 \& over | 260 | 238 | 196 | - 42 | - 640 | 42 | 682 |
| 9,000-10,000 | 43 | 41 | . 35 | 5.8 | 115 | 5.8 | 121 |
| 8,000-9,000 | 55 | 52 | 45 | 16.9 | 146 | 6.9 | 153 |
| 7,000-8,000 | 76 | 72 | 63 | - 9.3 | 207 | 9.3 | 217 |
| 6,000-7,000 | 108 | 103 | 90 | 13 | 296 | 13 | 309 |
| 5,000-6,000 | 156 | 149 | 131 | 18 | 435 | 18 | 453 |
| 4,000-5,000 | 620 | 600 | 517 | 83 | 1,697 | 83 | 1,779 |
| 3,000-4,000 | 1,181 | 1,159 | 1,005 | 155 | 3,354 | 155 | 3,509 |
| 2,000-3,000 | 2,113 | 2,086 | 1,639 | 447 | 5,145 | 447 | 5,593 |
| 1,000-2,000 | 2,414 | 2,373 | 707 | 1,666 | 2,118 | 1,666 | 3,784 |
| Under 1,000 | 345 | 313 | 121 | 193 | 388 | 193 | 580 |
| Total | 7,370 | 7,187 | 4,549 | 2,639 | 14,540 | 2,639 | 17,179 |

For notes see page 523.

Table 111 (cont.)


For notes see page 523.

Table 111 (cont.)


Table 111 (cont.)

|  |  | UMBER OF RE <br> Adj. for Separate Returns of | URNS |  | POPUL | $\begin{aligned} & \text { ION (000) } \\ & \text { BNTED BY } \end{aligned}$ | REPRE- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NET |  | Wives | Distri | ted by |  |  | All |
| INCOME |  | \& for | Fami | Status |  |  | Returns |
| Class, TAX |  | Community Property | mily | Single person | Family | Single Person | with Net |
| DEFINITION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1933 |  |  |  |  |  |  |  |
| \$10,000 \& over | 102 | 92 | 12 | 20 | 243 | 20 | 262 |
| 9,000-10,000 | 19 | 18 | 15 | 3.1 | 50 | 3.1 | 53 |
| 8,000-9,000 | 25 | 23 | 20 | 3.8 | 67 | 3.8 | 71 |
| 7,000-8,000 | 37 | 34 | 29 | 5.1 | 100 | 5.1 | 105 |
| 6,000-7,000 | 56 | 52 | 45 | 7.4 | 152 | 7.4 | 160 |
| 5,000-6,000 | 93 | 88 | 76 | 11 | 260 | 11 | 271 |
| 4,000-5,000 | 163 | 156 | 136 | 20 | 467 | 20 | 488 |
| 3,000-4,000 | 436 | 427 | 384 | 43 | 1,351 | 43 | 1,393 |
| 2,000-3,000 | 914 | 903 | 764 | 139 | 2,303 | 139 | 2,442 |
| 1,000-2,000 | 1,481 | 1,462 | 583 | 879 | 1,812 | 879 | 2,691 |
| Under 1,000 | 398 | 380 | 163 | 217 | 459 | 217 | 676 |
| Total | 3,724 | 3,636 | 2,288 | 1,349 | 7,265 | 1,349 | 8,613 |
| 1934 |  |  |  |  |  |  |  |
| \$10,000 \& over | 132 | 118 | 93 | 25 | 318 | 25 | 343 |
| 9,000-10,000 | 25 | 23 | 19 | 3.6 | 66 | 3.6 | 69 |
| 8,000-9,000 | 33 | 30 | 25 | 4.7 | 87 | 4.7 | 92 |
| 7,000-8,000 | 47 | 44 | 38 | 6.3 | 130 | 6.3 | 136 |
| 6,000-7,000 | 72 | 68 | 59 | 8.8 | 200 | 8.8 | 209 |
| 5,000-6,000 | 114 | 108 | 94 | 13 | 321 | 13 | 334 |
| 4,000-5,000 | 229 | 222 | 197 | 25 | 661 | 25 | 685 |
| 3,000-4,000 | 533 | 524 | 471 | 52 | 1,603 | 52 | 1,656 |
| 2,000-3,000 | 981 | 968 | 789 | 178 | 2,346 | 178 | 2,524 |
| 1,000-2,000 | 1,608 | 1,588 | 582 | 1,006 | 1,571 | 1,006 | 2,577 |
| Under 1,000 | 320 | 303 | 133 | 170 | 364 | 170 | 534 |
| Total | 4,094 | 3,995 | 2,502 | 1,493 | 7,666 | 1,493 | 9,159 |
| 1935 |  |  |  |  |  |  |  |
| \$10,000 \& over | 160 | 143 | 113 | 30 | 366 | 30 | 396 |
| 9,000-10,000 | 29 | 26 | 22 | 4.3 | 74 | 4.3 | 78 |
| 8,000-9,000 | 39 | 35 | 30 | 5.5 | 101 | 5.5 | 106 |
| 7,000-8,000 | 55 | 51 | 44 | 7.2 | 148 | 7.2 | 156 |
| 6,000-7,000 | 85 | 79 | 69 | 10 | 229 | 10 | 239 |
| 5,000-6,000 | 133 | 125 | 110 | 15 | 367 | 15 | 382 |
| 4,000-5,000 | 258 | 249 | 220 | 28 | 724 | 28 | 752 |
| 3,000-4,000 | 615 | 602 | 542 | 60 | 1,794 | 60 | 1,854 |
| 2,000-3,000 | 1,124 | 1,107 | 884 | 224 | 2,531 | 224 | 2,755 |
| 1,000-2,000 | 1,778 | 1,754 | 572 | 1,182 | 1,510 | 1,182 | 2,692 |
| Under 1,000 | 300 | 281 | 116 | 165 | 320 | 165 | 485 |
| Total | 4,575 | 4,454 | 2,723 | 1,731 | 8,165 | 1,731 | 9,896 |
| 1936 |  |  |  |  |  |  |  |
| \$10,000 \& over | 236 | 208 | 165 | 42 | 527 | 42 | 570 |
| 9,000-10,000 | 39 | 35 | 30 | 5.8 | 98 | 5.8 | 103 |
| 8,000-9,000 | 52 | 47 | 40 | 7.4 | 130 | 7.4 | 138 |
| 7,000-8,000 | 73 | 67 | 57 | 9.8 | 191 | 9.8 | 201 |
| 6,000-7,000 | 110 | 102 | 89 | 13 | 290 | 13 | 304 |
| 5,000-6,000 | 167 | 156 | 137 | 19 | 448 | 19 | 467 |
| 4,000-5,000 | 299 | 287 | 250 | 37 | 808 | 37 | 844 |
| 3,000-4,000 | 730 | 714 | 636 | 78 | 2,071 | 78 | 2,149 |
| 2,000-3,000 | 1,318 | 1,299 | 1,016 | 283 | 2,869 | 283 | 3,152 |
| 1,000-2,000 | 2,112 | 2,083 | 617 | 1,466 | 1,609 | 1,466 | 3,075 |
| Under 1,000 | 278 | 255 | 98 | 157 | 276 | 157 | 433 |
| Total | 5,413 | 5,253 | 3,135 | 2,118 | 9,317 | 2,118 | 11,435 |

For notes see page 523.

Table 111 (cont.)

|  | Adj. for Separate |  |  |  | population (000) repreSENTED BY |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NET |  | Wives | Distr | ted by |  |  | All |
| INCOME |  | \& for | Fami | Status |  |  | Returns |
| CLASS, |  | Community |  | Single |  | Single | with |
| TAX |  | Property | Family | person | Family | Person | Net |
| DEFINTIION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1937 |  |  |  |  |  |  |  |
| \$10,000 \& over | 234 | 206 | 166 | 40 | 518 | 40 | 558 |
| 9,000-10,000 | 41 | 37 | 31 | 5.8 | 99 | 5.8 | 105 |
| 8,000-9,000 | 54 | 49 | 42 | - 7.3 | 135 | 7.3 | 143 |
| 7,000-8,000 | 77 | 71 | 61 | 19.7 | 201 | 9.7 | 211 |
| 6,000-7,000 | 117 | 108 | 95 | 13 | 305 | 13 | 319 |
| 5,000-6,000 | 183 | 171 | 151 | 20 | 486 | 20 | 506 |
| 4,000-5,000 | 366 | 347 | 309 | 39 | 980 | 39 | 1,018 |
| 3,000-4,000 | 885 | 863 | 782 | 82 | 2,521 | 82 | 2,603 |
| 2,000-3,000. | 1,572 | 1,549 | 1,242 | 308 | 3,425 | 308 | 3,733 |
| 1,000- 2,000 | 2,525 | 2,491 | 653 | 1,838 | 1,649 | 1,838 | 3,488 |
| Under 1,000 | 297 | 272 | 97 | 175 | 268 | 175 | 443 |
| Total | -6,350 | 6,165 | 3,627 | 2,538 | 10,588 | 2,538 | 13,126 |
| 1938 |  |  |  |  |  |  |  |
| \$10,000 \& over | 177 | 158 | 129 | 28 | 402 | 28 | 430 |
| 9,000-10,000 | 34 | 31 | 27 | 14.7 | 85 | 4.7 | 90 |
| 8,000-9,000 | 46 | 42 | 36 | 5.8 | 117 | 5.8 | 123 |
| 7,000-8,000 | 67 | 61 | 54 | 7.7 | $175{ }^{\prime}$ | 7.7 | 182 |
| 6,000-7,000 | 103 | 96 | 85 | 11 | 272 | 11 | 283 |
| 5,000-6,000 | 165 | 155 | 138 | 17 | 450 | 17 | 467 |
| 4,000-5,000 | 318 | 302 | 271 | 31 | 865 | 31 | 896 |
| 3,000-4,000 | 855 | 835 | 765 | 70 | 2,461 | 70 | 2,531 |
| 2,000-3,000 | 1,615 | 1,592 | - 1,326 | 266 | 3,628 | 266 | 3,894 |
| 1,000-2,000 | 2,434 | 2,398 | 690 | 1,708 | 1,714 | 1,708 | 3,421 |
| Under 1,000 | 390 | 357 | 126 | 231 | 340 | 231 | 571 |
| Total | 6,204 | 6,028 | 3,647 | 2,381 | 10,507 | 2,381 | 12,889 |
| 1939 |  |  |  | - |  |  |  |
| \$10,000 \& over | 209 | 186 | 153 | 34 | 470 | 34 | 503 |
| 9,000-10,000 | 40 | 36 | 31 | ; 5.2 | 98 | 5.2 | 104 |
| 8,000-9,000 | 53 | 49 | 42 | 6.8 | 133 | 6.8 | 140 |
| 7,000-8,000 | 77 | 71 | 62 | - 9.0 | 201 | 9.0 | 210 |
| 6,000-7,000 | 120 | 112 | 99 | -13 | 315 | 13 | 328 |
| 5,000-6,000 | 194 | 182 | 163 | 19 | 516 | 19 | 535 |
| 4,000-5,000 | 423 | 400 | 355 | 45 | 1,080 | 45 | 1,125 |
| 3,000-4,000 | 1,045 | 1,017 | 912 | 105 | 2,903 | 105 | 3,008 |
| 2,500-3,000 | 1,180 | 1,167 | 1,038 | 128 | 2,938 | 128 | 3,066 |
| 2,000-2,500 | 881 | 866 | 568 | 298 | 1,379 | 298 | 1,677 |
| 1,000-2,000 | 3,036 | 2,998 | 792 | 2,206 | 1,919 | 2,206 | 4,125 |
| Under 1,000 | 374 | 344 | 111 | 232 | 298 | 232 | 530 |
| Total | 7,633 | 7,427 | 4,326 | 3,101 | 12,251 | 3,101 | 15,351 |
| 1940 |  |  |  |  |  |  |  |
| \$10,000 \& over | 241 | 215 | 178 | 37 | 544 | 37 | 581 |
| 9,000-10,000 | 45 | 41 | 36 | 5.8 | 111 | 5.8 | 117 |
| 8,000-9,000 | 59 | 54 | 47 | - 7.5 | 147 | 7.5 | 154 |
| 7,000-8,000 | 84 | 78 | 68 | + 9.8 | 214 | 9.8 | 224 |
| 6,000-7,000 | 130 | 121 | 107 | 14 | 339 | 14 | 353 |
| 5,000-6,000 | 220 | 206 | 184 | 22 | 576 | 22 | 598 |
| 4,000-5,000 | 403 | 386 | 342 | 44 | 1,059 | 44 | 1,103 |
| 3,000-4,000 | 1,250 | 1,224 | 1,104 | 120 | 3,541 | 120 | 3,661 |
| 2,500-3,000 | 1,802 | 1,787 | 1,624 | 163 | 5,198 | 163 | 5,361 |
| 2,000-2,500 | 3,463 | 3,443 | 3,047 | '396 | 8,809 | 396 | 9,205 |
| 1,000-2,000 | 5,027 | 4,971 | 1,912 | 3,059 | 4,818 | 3,059 | 7,877 |
| Under 1,000 | 1,941 | 1,891 | 335 | 1,556 | 921 | 1,556 | 2,476 |
| Total | 14,665 | 14,418 | 8,983 | 5;434 | 26,276 | 5,434 | 31,710 |

For notes see page 523.

Table 111 (cont.)

|  | NUMBER OF RETURNS (000) Adj. for |  |  |  | POPULATION (000) REPRESENTED BY |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross |  | Separate |  |  |  |  | All |
| OR |  | Returns of |  |  |  |  | Returns |
| NET |  | Wives | Distri | ibuted by |  |  | with |
| INCOME |  | \& for | Family | ily Status |  |  | Gross |
| CLASS, |  | Community |  | Single |  |  | or |
| TAX DEFINITION | Total | Property Returns | Family <br> returns | person <br> returns | Family <br> Returns | Person <br> Returns | Net Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1941 |  |  |  |  |  |  |  |
| Gross |  | A FO | R M 10 | 040 A |  |  |  |
| \$2,500-3,000 | 952 | 946 | 778 | 168 | 2,622 | 168 | 2,790 |
| 2,000-2,500 | 2,233 | 2,218 | 1,785 | 433 | 6,488 | 433 | 6,921 |
| 1,500-2,000 | 3,463 | 3,421 | 2,477 | 944 | 8,167 | 944 | 9,111 |
| 1,000-1,500 | 2,341 | 2,280 | 642 | 1,637 | 1,409 | 1,637 | 3,046 |
| 750-1,000 | 1,171 | 1,150 | 191 | 959 | 462 | 959 | 1,422 |
| Under 750 | 92 | 89 | 15 | 74 | 38 | 74 | 112 |
| Total | 10,253 | 10,104 | 5,889 | 4,216 | 19,186 | 4,216 | 23,402 |
| Net | B | FORMS | 1040 | AND 1041 |  |  |  |
| \$10,000 \& over | 312 | 280 | 236 | 43 | 710 | 43 | 754 |
| 9,000-10,000 | 57 | 52 | 45 | 7.1 | 136 | 7.1 | 143 |
| 8,000-9,000 | 73 | 67 | 58 | 8.9 | 178 | 8.9 | 187 |
| 7,000-8,000 | 104 | 95 | 82 | 12 | 252 | 12 | 264 |
| 6,000-7,000 | 152 | 139 | 122 | 18 | 376 | 18 | 393 |
| 5,000-6,000 | 251 | 233 | 206 | 27 | 630 | 27 | 657 |
| 4,000-5,000 | 518 | 490 | 424 | 66 | 1,275 | 66 | 1,342 |
| 3,000-4,000 | 1,681 | 1,633 | 1,451 | 182 | 4,363 | 182 | 4,545 |
| 2,500-3,000 | 1,847 | 1,819 | 1,668 | 151 | 4,980 | 151 | 5,131 |
| 2,000- 2,500 | 2,875 | 2,836 | 2,576 | 260 | 7,304 | 260 | 7,564 |
| 1,500-2,000 | 3,153 | 3,105 | 2,508 | 597 | 6,480 | 597 | 7,077 |
| 1,000-1,500 | 2,602 | 2,548 | 1,288 | 1,260 | 3,002 | 1,260 | 4,262 |
| . 750-1,000 | 1,051 | 1,022 | 232 | 790 | 601 | 790 | 1,392 |
| Under 750 | 926 | 881 | 225 | 656 | 583 | 656 | 1,239 |
| Total | 15,602 | 15,199 | 11,121 | 4,078 | 30,870 | 4,078 | 34,949 |
| Total, All Forms | 25,855 | 25,304 | 17,010 | 8,294 | 50,057 | 8,294 | 58,351 |
| 1942 |  |  |  |  |  |  |  |
| Gross | A FORM 1040A |  |  |  |  |  |  |
| \$2,750-3,000 | 684 | 679 | 576 | 103 | 1,920 | 103 | 2,024 |
| 2,500-2,750 | 914 | 906 | 764 | 142 | 2,600 | 142 | 2,742 |
| 2,250-2,500 | 1,272 | 1,258 | 1,053 | 205 | 3,681 | 205 | 3,886 |
| 2,000-2,250 | 1,596 | 1,572 | 1,295 | 277 | 4,551 | 277 | 4,828 |
| 1,750-2,000 | 1,964 | 1,915 | 1,493 | 422 | 5,169 | 422 | 5,591 |
| 1,500-1,750 | 2,189 | 2,108 | 1,483 | 625 | 4,794 | 625 | 5,419 |
| 1,250-1,500 | 2,193 | 2,121 | 1,240 | 881 | 3,723 | 881 | 4,605 |
| 1,000-1,250 | 2,003 | 1,915 | 676 | 1,239 | 1,701 | 1,239 | 2,940 |
| 750-1,000 | 1,816 | 1,740 | 339 | 1,401 | 845 | 1,401 | 2,246 |
| 500-750 | 1,319 | 1,279 | 143 | 1,137 | 376 | 1,137 | 1,512 |
| Under 500 | 157 | 153 | 22 | 131 | 60 | 131 | 191 |
| Total | 16,106 | 15,646 | 9,083 | 6,563 | 29,420 | 6,563 | 35,982 |
| Net | B Forms |  | 1040 | AND 1041 |  |  |  |
| \$10,000 \& over | 391 | 347 | 296 | 51 | 883 | 51 | 934 |
| 9,000-10,000 | 68 | 61 | 53 | 7.9 | 162 | 7.9 | 169 |
| 8,000-9,000 | 88 | 79 | 69 | 10 | 209 | 10 | 220 |
| 7,000-8,000 | 123 | 112 | 98 | 14 | 299 | 14 | 313 |
| 6,000-7,000 | 184 | 168 | 147 | 20 | 453 | 20 | 473 |
| 5,000-6,000 | 324 | 301 | 268 | 33 | 824 | 33 | 857 |
| 4,500-5,000 | 310 | 296 | 265 | 32 | 812 | 32 | 844 |
| 4,000-4,500 | 499 | 484 | 427 | 58 | 1,333 | 58 | 1,390 |
| 3,500-4,000 | 911 | 888 | 793 | 95 | 2,542 | 95 | 2,637 |
| 3,000-3,500 | 1,702 | 1,669 | 1,503 | 166 | 4,763 | 166 | 4,929 |
| 2,750-3,000 | 1,093 | 1,069 | 981 | 87 | 3,083 | 87 | 3,170 |
| 2,500-2,750 | 1,179 | 1,149 | 1,071 | 78 | 3,354 | 78 | 3,433 |
| 2,250-2,500 | 1,433 | 1,385 | 1,276 | 109 | 3,900 | 109 | 4,009 |
| 2,000-2,250 | 1,726 | 1,657 | 1,510 | 147 | 4,578 | 147 | 4,725 |
| 1,750-2,000 | 1,905 | 1,817 | 1,613 | 204 | 4,736 | 204 | 4,940 |
| 1,500-1,750 | 1,861 | 1,773 | 1,486 | 287 | 4,092 | 287 | 4,379 |
| 1,250-1,500 | 1,729 | 1,637 | 1,228 | 409 | 3,240 | 409 | 3,649 |
| 1,000-1,250 | 1,678 | 1,576 | 1,015 | 561 | 2,470 | 561 | 3,031 |
| 750-1,000 | 1,307 | 1,203 | 479 | 725 | 1,265 | 725 | 1,989 |
| 500-750 | . 1,066 | 978 | 256 | 722 | 708 | 722 | 1,430 |
| Under 500 | - 856 | 764 | 183 | 582 | 540 | 582 | 1,122 |
| Total | 20,432 | 19,415 | 15,019 | 4,396 | 44,247 | 4,396 | 48,643 |
| Total, All Forms | 36,538 | 35,061 | 24,102 | 10,959 | 73,666 | 10,959 | 84,625 |

For notes see page 523:

Table 111 (cont.)

|  | NUMBER OF RETURNS (000) Adj. for |  |  |  | POPULATION (000) SENTED BY |  | RBPRE- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROSS |  | Separate |  |  |  |  | All |
| OR |  | Returns of |  |  |  |  | Returns |
| NET |  | Wives | Distri | ited by |  |  | with |
| INCOME |  | \& for | Fami | Status |  |  | Gross |
| CLASS, |  | Community Property | Family | Single person | Family | Single Person | or Net |
| DEFINITION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1943 |  |  |  |  |  |  |  |
| Gross | A Form 1040A |  |  |  |  |  |  |
| \$2,750-3,000 | 1,069 | 1,049 | 909 | 139 | 3,072 | 139 | 3,211 |
| 2,500-2,750 | 1,289 | 1,255 | 1,045 | 210 | 3,509 | 210 | 3,719 |
| 2,250-2,500 | 1,556 | 1,500 | 1,204 | 296 | 3,998 | 296 | 4,294 |
| 2,000-2,250 | 1,842 | 1,745 | 1,310 | 435 | 4,287 | 435 | 4,722 |
| 1,750-2,000 | 2,135 | 1,993 | - 1,330 | 663 | 4,159 | 663 | 4,822 |
| 1,500-1,750 | 2,371 | 2,174 | 1,328 | 846 | 4,059 | 846 | 4,905 |
| 1,250-1,500 | 2,313 | 2,197 | 1.146 | 1,051 | 3,313 | 1,051 | 4,363 |
| 1,000-1,250 | 2,387 | 2,270 |  |  | 4,950* |  | $\{4,130$ |
| 750-1,000 | 2,111 $\}$ |  | 2,181* | 2,510* | 4,950 ${ }^{+}$ | 2,510 | $\{3,330$ |
| 500-750 | 1,668 | 3,599* |  | 1,178 | 1,120 | 1,178 | 2,299 |
| Under 500 | 1,601 | 1,541 | 269 | 1,272 | 669 | 1,272 | 1,941 |
| Total | 20,342 | 19,322 | 10,723 | 8,600 | 33,137 | 8,600 | 41,736 |
| Net | B | Forms | 1040 | N 10 |  |  |  |
| \$10,000 \& over | 509 | 436 | 375 | 61 | 1,104 | 61 | 1,165 |
| 9,000-10,000 | 96 | 84 | 73 | 11 | 221 | 11 | 232 |
| 8,000-9,000 | 121 | 107 | 92 | 14 | 277 | 14 | 291 |
| 7,000-8,000 | 167 | 149 | 130 | 19 | 395 | 19 | 413 |
| 6,000-7,000 | 251 | 228 | 201 | 27 | 609 | 27 | 636 |
| 5,000-6,000 | 472 | 438 | 393 | 45 | 1,211 | 45 | 1,256 |
| 4,500-5,000 | 510 | 487 | 446 | 41 | 1,402 | 41 | 1,443 |
| 4,000-4,500 | 904 | 872 | 799 | 73 | 2,599 | 73 | 2,672 |
| 3,500-4,000 | 1,687 | 1,643 | 1,505 | 137 | 4,883 | 137 | 5,020 |
| 3,000-3,500 | 2,994 | 2,910 | 2,649 | 262 | 8,399 | 262 | 8,661 |
| 2,750-3,000 | 1,682 | 1,616 | 1,482 | 134 | 4,588 | 134 | 4,722 |
| 2,500- 2,750 | 1,448 | 1,366 | 1,266 | 100 | 3,831 | 100 | 3,930 |
| 2,250-2,500 | 1,581 | 1,460 | 1,317 | 142 | 3,902 | 142 | 4,045 |
| 2,000-2,250 | 1,631 | 1,464 | 1,285 | 179 | 3,716 | 179 | 3,895 |
| 1,750-2,000 | 1,649 | 1,439 | 1,186 | 253 | 3,336 | 253 | 3,589 |
| 1,500-1,750 | 1,521 | 1,325 | 997 | 328 | 2,780 | 328 | 3,108 |
| 1,250-1,500 | 1,472 | 1,296 | 866 | 430 | 2,394 | 430 | 2,824 |
| 1,000-1,250 | 1,467 $\}$ | 2,382* | 1,325* | 1,057* | 3,808* | 1,057* | $\{2,715$ |
| 750-1,000 | 1,237 | 2,382 | 1,387 | 1,057 | 3,808 | 1,057* | $\{2,150$ |
| 500- 750 | 975 | 848 | 387 | 461 | 1,164 | 461 | 1,625 |
| Under 500 | 886 | 751 | 295 | 456 | 871 | 456 | 1,328 |
| Total | 23,261 | 21,302 | 17,070 | 4,231 | 51,490 | 4,231 | 55,721 |
| Total, all Forms | 43,602 | 40,624 | 27,793 | 12,831 | 84,627 | 12,831 | 97,458 |

For notes see page 523.

Table 111 (cont.)

|  | NUMBER OF RETURNS (000) |  |  |  | POPULATION (000) REPRESBNTED BY |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ADJUSTED |  | Adj. for |  |  |  |  | All |
| Gross |  | Separate |  |  |  |  | Returns |
| OR |  | Returns of |  |  |  |  | with |
| TOTAL |  | Wives | Distri | uted by |  |  | Adj. |
| INCOMB |  | \& for | Famil | Status |  |  | Gross |
| CLASS, |  | Community |  | Single |  | Single | or |
| TAX |  | Property | Fainily | person | Family | Person | Total |
| DEFINITION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1944 |  |  |  |  |  |  |  |
| \$11,000 \& over | 557 | 488 | 413 | 75 | 1,271 | 75 | 1,346 |
| 10,000-11,000 | 90 | 80 | 70 | 11 | 218 | 11 | 229 |
| 9,000-10,000 | 114 | 101 | 88 | 13 | 274 | 13 | 287 |
| 8,000- 9,000 | 153 | 137 | 119 | 18 | 376 | 18 | 395 |
| 7,000-8,000 | 223 | 202 | 178 | 24 | 566 | 24 | 590 |
| 6,000-7,000 | 421 | 395 | 355 | 41 | 1,145 | 41 | 1,185 |
| 5,000-6,000 | 937 | 900 | 828 | 73 | 2,718 | 73 | 2,791 |
| 4,500-5,000 | 1,042 | 1,013 | 935 | 78 | 3,108 | 78 | 3,186 |
| 4,000-4,500 | 1,781 | 1,737 | 1,612 | 126 | 5,405 | 126 | 5,530 |
| 3,500-4,000 | 2,789 | 2,723 | 2,512 | 210 | 8,348 | 210 | 8,559 |
| 3,000-3,500 | 4,137 | 4,010 | 3,588 | 422 | 11,781 | 422 | 12,203 |
| 2,750-3,000 | 2,517 | 2,403 | 2,079 | 324 | 6,810 | 324 | 7,134 |
| 2,500-2,750 | 2,802 |  |  | 439 | 7,163 | 439 | 7,602 |
| 2,250- 2,500 | 2,889 |  |  | 556 | 6,940 | 556 | 7,496 |
| 2,000-2,250 | 3,150 |  |  | 794 | 6,740 | 794 | 7,535 |
| 1,750-2,000 | 3,423 | 24,309** | 15,796 ${ }^{\text {¢ }}$ | 1,034 | 6,683 | 1,034 | 7,717 |
| 1,500-1,750 | 3,480 | 24,309 | 15,796 | 1,232 | 6,196 | 1,232 | 7,428 |
| 1,250-1,500 | 3,537 |  |  | 1,405 | 5,734 | 1,405 | 7,139 |
| 1,000-1,250 | 3,621 |  |  | 1,530 | 5,510 | 1,530 | 7,041 |
| 750-1,000 | 3,178 |  |  | 1,521 | 4,335 | 1,521 | 5,856 |
| 500-750 | 2,905 | 2,722 | 1,080 | 1,642 | 3,281 | 1,642 | 4,923 |
| Under 500 | 3,267 | 3,110 | 1,798 | 2,312 | 2,482 | 2,312 | 4,794 |
| Total | 47,012 | 44,332 | 30,451 | 13,881 | 97,084 | 13,881 | 110,965 |
| 1945 |  |  |  |  |  |  |  |
| \$14,000 \& over | 460 | 400 | 335 | 65 | 1,030 | 65 | 1,095 |
| 13,000-14,000 | 57 | 50 | 42 | 7.3 | 134 | 7.3 | 142 |
| 12,000-13,000 | 68 | 59 | 51 | 8.7 | 161 | 8.7 | 170 |
| 11,000-12,000 | 82 | 72 | 62 | 10 | 196 | 10 | 206 |
| 10,000-11,000 | 106 | 94 | 81 | 13 | 258 | 13 | 271 |
| 9,000-10,000 | 137 | 122 | 104 | 17 | 328 | 17 | 345 |
| 8,000-9,000 | 180. | 160 | 139 | 22 | 444 | 22 | 466 |
| 7,000-8,000 | 256 | 230 | 201 | 30 | 638 | 30 | 668 |
| 6,000-7,000 | 435 | 400 | 355 | 44 | 1,138 | 44 | 1,183 |
| 5,000-6,000 | 895 | 844 | 765 | 79 | 2,512 | 79 | 2,590 |
| 4,500-5,000 | . 986 | +946 | 877 | 69 | 2,914 | 69 | 2,983 |
| 4,000-4,500 | 1,633 | 1,584 | 1,477 | 107 | 4,954 | 107 | 5,061 |
| 3,500-4,000 | 2,717 | 2,639 | 2,439 | 200 | 8,291 | 200 | 8,491 |
| 3,000- 3,500 | 4,029 | 3,884 | 3,494 | 391 | 11,638 | 391 | 12,029 |
| 2,750- 3,000 | 2,487 | 2,364 | 2,054 | 310 | 6,828 | 310 | 7,138 |
| 2,500- 2,750 | 2,771 | 2,598 | 2,176 | 421 | 7,160 | 421 | 7,581 |
| 2,250- 2,500 | 3,061 |  |  | 614 | 7,333 | 614 | 7,947 |
| 2,000- 2,250 | 3,331 |  |  | 846 | 7,072 | 846 | 7,918 |
| 1,750-2,000 | 3,596 |  |  | 1,095 | 6,924 | 1,095 | 8,018 |
| $1,500-1,750$ $1,250-1,500$ | 3,626 3,668 | 19,324* | 12,736* | 1,243 | 6,521 | 1,243 | 7,764 |
| $1,250-1,500$ $1,000-1,250$ | 3,668 3,591 |  |  | 1,369 | 6,230 | 1,369 | 7,599 |
| 1,000-1,250 | 3,591 |  |  | 1,421 | 5,737 | 1,421 | 7.158 |
| 750-1,000 | 3,133 | 2,927 | 1,530 | 1,397 | 4,543 | 1,397 | 5,941 |
| 500- 750 | 3,098 | 2,904 | 1,261 | 1,643 | 3,770 | 1,643 | 5,412 |
| Under 500 | 5,459 | 5,276 | 1,769 | 3,507 | 4,060 | 3,507 | 7,567 |
| Total | 49,865 | 46,876 | 31,949 | 14,928 | 100,813 | 14,928 | 115,741 |

For notes see page 523.

Table 111 (cont.)

| ADJUSTED | NUMBER OF RETURNS (000) |  |  |  | POPULATION (000) SENTED BY |  | REPRE- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Adj. for |  |  |  |  | All |
| GROSS |  | Separate |  |  |  |  | Returns |
| OR |  | Returns of |  |  |  |  | with |
| total |  | Wives | Distri | uted by |  |  | Adj. |
| INCOME |  | \& for | Fami | Status |  |  | Gross |
| Class, |  | Community |  | Single |  | Single | or |
| TAX |  | Property | Family | person | Family | Person | Total |
| DEFINITION | Total | Returns | returns | returns | Returns | Returns | Income |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1946 |  |  |  |  |  |  |  |
| \$20,000 \& over | 306 | 267 | 223 | 44 | 684 | 44 | 728 |
| 15,000-20,000 | 197 | 172 | 148 | 24 | 477 | 24 | 501 |
| -4,000-15,000 | 60 | 53 | 46 | 7.0 | 147 | 7.0 | 154 |
| 13,000-14,000 | 72 | 63 | 55 | 8.2 | 176 | 8.2 | 184 |
| 12,000-13,000 | 87 | 77 | 67 | 10 | 216 | 10 | 227 |
| 11,000-12,000 | 105 | 92 | 80 | 12 | 260 | 12 | 272 |
| 10,000-11,000 | 136 | 120 | 105 | 15 | 342 | 15 | 357 |
| 9,000-10,000 | 170 | 151 | 132 | 20 | 425 | 20 | 444 |
| 8,000- 9,000 | 230 | 205 | 180 | 25 | 582 | 25 | 607 |
| 7,000-8,000 | 334 | 301 | 267 | 34 | 863 | 34 | 896 |
| 6,000-7,000 | 566 | 519 | 469 | 50 | 1,529 | 50 | 1,579 |
| 5,000-6,000 | 1,051 | 986 | 891 | 94 | 2,906 | 94 | 3,000 |
| 4,500-5,000 | 1,068 |  |  | 199* | 8,292* | 199* | $\{3,154$ |
| 4,000-4,500 | 1,736 |  |  | 199* | 8,292* | 199 | \{ 5,337 |
| 3,500-4,000 | 2,741 |  |  | 229 | 7,944 | 229 | 8,173 |
| 3,000- 3,500 | 4,306 |  |  | 441 | 12,162 | 441 | 12,603 |
| 2,750- 3,000 | 2,747 |  |  | 353 | 7,443 | 353 | 7,797 |
| 2,500-2,750 | 3,281 | 29,458* | 23,575* | 519 | 8,466 | 519 | 8,985 |
| 2,250- 2,500 | 3,552 |  |  | 706 | 8,556 | 706 | 9,262 |
| 2,000- 2,250 | 3,886 |  |  | 951 | 8,590 | 951 | 9,541 |
| 1,750- 2,000 | 3,965 | $\because$ |  | 1,154 | 7,964 | 1,154 | 9,118 |
| 1,500-1,750 | 3,939 |  |  | 1,331 | 7,286 | 1,331 | 8,617 |
| 1,250-1,500 | 3,744 | 3,505 | 2,094 | 1,411 | 5,205 | 1,411 | 7,615 |
| 1,000-1,250 | 3,529 | 3,313 | 1,863 | 1,451 | 5,376 | 1,451 | 6,827 |
| 750-1,000 | 3,171 | 2,992 | 1,461 | 1,531 | 4,125 | 1,531 | 5,656 |
| 500- 750 | 3,020 | 2,867 | 1,083 | 1,784 | 2,995 | 1,784 | 4,778 |
| Under 500 | 4,724 | 4,551 | 987 | 3,564 | 2,735 | 3,564 | 6,298 |
| Total | 52,722 | 49,690 | 33,725 | 15;965 | 106,746 | 15,965 | 122,712 |
| 1947 * |  |  |  |  |  |  |  |
| \$20,000 \& over | 308 |  |  |  |  |  | 737 |
| 15,000-20,000 | 205 |  |  |  |  |  | 530 |
| 14,000-15,000 | 64 |  |  |  |  |  | 167 |
| 13,000-14,000 | 74 |  |  | , |  |  | 194 |
| 12.000-13,000 | 94 |  |  |  |  |  | 246 |
| 11,000-12,000 | 114 |  |  |  |  |  | 298 |
| 10,000-11,000 | 148 |  |  |  |  |  | 395 |
| 9,000-10,000 | 193 |  |  |  | . |  | 516 |
| 8,000-9,000 | 263 |  |  |  |  |  | 708 |
| 7,000-8,000 | 385 |  |  |  |  |  | 1,057 |
| 6,000-7,000 | 671 |  |  |  |  |  | 1,878 |
| 5,000-6,000 | 1,343 |  |  |  |  |  | 3,932 |
| 4,000-5,000 | 3,893 |  |  |  |  |  | 11.919 |
| 3,500-4,000 | 3,685 |  |  |  |  |  | 10,982 |
| 3,000- 3,500 | 5,486 |  |  |  |  |  | 15,627 |
| 2,750-3,000 | 3,290 |  |  |  |  |  | 8,774 |
| 2,500- 2,750 | 3,563 |  | . | . |  |  | 8,963 |
| 2,250- 2,500 | 3,745 |  |  | , | . |  | 8,890 |
| 2,000- 2,250 | 3,868 |  |  |  |  |  | 8,754 |
| 1,750-2,000 | 3,772 |  |  |  |  |  | 8,100 |
| 1,500-1,750 | 3.595 |  |  | . |  |  | 7,491 |
| 1,250-1,500 | 3,242 |  |  | - |  |  | 6,419 |
| 1,000-1,250 | 3,133 |  |  |  |  |  | 5,891 |
| 750-1,000 | 2,804 |  |  |  |  |  | 4,821 |
| 500- 750 | 2,650 |  |  |  |  |  | 4,123 |
| Under 500 | 4,323 | . |  |  |  |  | 5,691 |
| Total | 54,910 |  |  |  |  |  | 127,102 |

Table 111 (concl.)

|  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ADJUSTED |  |  |
| GROSS |  |  |

Notes to Table 111
Because of rounding, details may not add to total,

* Basic data not available for the detailed income classes in column 1, or for columns 3-7 in 1947 and 1948.


## Column

1 For 1916-38, $\$ 1,000$ class intervals are used, all net income classes over $\$ 10,000$ being treated as a single class. For 1939-43, each income class up to $\$ 10,000$ distinguished in Statistics of Income is used, all income classes over $\$ 10,000$ being combined as for preceding years. For 1944 and later years when the top 1 percent line lies in an income class above $\$ 10,000$ the analysis is extended to cover each class up to and including that class.
Entries for Form 1040A (Part A for 1941, 1942, and 1943) are for gross income classes. For 1944 and later years individuals' returns are classified by adjusted gross income, taxable fiduciary returns, by total income.
2 1916-42: Statistics of Income, 1916, Basic Table 4; 1917-40, Basic Table 2; 1941, 1942, Basic Tables 2 and 12.
1943 and 1944: special tabulations supplied by the Bureau of Internal Revenue and Press Release, August 21, 1947. 1945-48: Statistics of Income, Part 1, Preliminary Report.
3 Column 4 plus column 5 , or column 2 minus the separate returns of wives and returns of women filing community property returns, as reported in the sources cited for column 2.

For 1917 the entry for the $\$ 1,000-2,000$ net income class (data for which are not shown in Statistics of Income) is the product of column 2 and the ratio of column 3 to column 2 for the $\$ 2,000-3,000$ net income class with allowance for the proportionate difference between the 1918 ratio of column 3 to column 2 for the $\$ 2,000-3,000$ net income class and that for the $\$ 1,000-2,000$ net income class.
4-8 For sources and methods see Appendix 2.
For 1917 the entry for the $\$ 1,000-2,000$ net income class (data for which are not shown in Statistics of Income) in column 4 is the difference between column 3 and column 5, which is identical with column 7; column 6 is the product of column 8 and the 1918 ratio of column 6 to column 8 with allowance for the proportionate difference between the 1917 and 1918 ratios of column 6 to column 8 for the $\$ 2,000-3,000$ net income class; column 7 is the difference between column 8 and column 6.
For 1944-46 column 6 is the difference between column 8 and column 7.

Table 112
Net Income, Tax Definition, and Economic Income on Net Income Returns, by Net Income Classes, 1916-1948


For notes see pages 544-5.

## Table 112 (cont.)

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| : |  | Profit from | Interest Received |  |  |
|  |  | Sales | on Tax |  |  |
| 5 |  | of Real | Exempt |  | Economic |
| Net | Net | Estate, | Gov. Ob- | N | Income |
| Income | Income, | Stocks, | ligations |  | (col. 2 - |
| Class, | Tax | Bonds, etc. | ${ }_{\text {not Incl.in }}^{\text {Col. } 2^{\text {d }}}$ | General Deductions | $\begin{gathered} \text { col. } 3 \\ \operatorname{col} 48 \end{gathered}+$ |
| Definition ${ }^{\text {a }}$ | ( m | 1 i o | s $\quad 0 \mathrm{f}$ | dollar | s ) |
| (1) | (2) | (3) | (4) | (5) | (6) |

1919
$\$ 10,000$ \& over 9,000-10,000 8,000-9,000 7,000-8,000 6,000-7,000 5,000-6,000 4,000-5,000 3,000-4,000 2,000-3,000 1,000-2,000
Total
1920
$\$ 10,000 \&$ over
$9,000-10,000$
$8,000-9,000$
$7,000-8,000$
$6,000-7,000$
$5,000-6,000$
$4,000-5,000$
$3,000-4,000$
$2,000-3,000$
$1,000-2,000$
Total
5,756
3660
427
549
704
913
1,960
2,553
3,807
2,829
19,859
5,393
381
434
557
726
970
1,973
3,067
6,185
4,050
23,736

| 339 | 250 | 1,367 | 6,672 |
| ---: | :---: | ---: | ---: |
| 36 | 2.3 | 74 | 421 |
| 41 | 3.1 | 81 | 477 |
| 51 | 2.2 | 96 | 604 |
| 67 | 2.1 | 130 | 791 |
| 90 | 1.4 | 166 | 1,047 |
| 133 |  | 206 | 2,046 |
| 132 |  | 262 | 3,198 |
| 91 |  | 345 | 6,438 |
| 41 |  | 228 | 4,237 |
| 1,021 | 261 | 2,955 | 25,931 |

## 1921

| \$10,000 \& over | 3,983 | 152 | 278 | 1,071 | 5,180 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9,000-10,000 | 295 | 14 | 3.4 | 71 | 355 |
| 8,000-9,000 | 340 | 15 | 3.8 | 67 | 396 |
| 7,000-8,000 | 439 | 20 | 3.7 | 92 | 514 |
| 6,000-7,000 | 556 | 24 | 3.5 | 112 | 647 |
| 5,000-6,000 | 749 | 29 | 4.1 | 140 | 864 |
| 4,000-5,000 | 1,650 | 50 |  | 265 | 1,864 |
| 3,000- 4,000 | 2,405 | 50 |  | 318 | 2,673 |
| 2,000-3,000 | 5,326 | 48 |  | 524 | 5,802 |
| 1,000-2,000 | 3,621 | 21 |  | 369 | 3,968 |
| Under 1,000 | 214 | 39 |  | 723 | 899 |
| Total | 19,577 | 463 | 296 | 3,752 | 23,162 |

For notes see pages 544-5.

Table 112 (cont.)



For notes see pages 544-5.

Table 112 (cont.)

|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Sales |  |  |  |  |  |
|  |  | of Real | Capital |  |  |  |  |
|  |  | Estate, | Net | Interest |  |  |  |
|  |  | Stocks, <br> Bonds, etc. | Gain <br> from | Received on Tax |  |  |  |
|  |  | other | Sales of | Onempt |  |  | Income |
|  | Net | than | Assets | Gov. Ob- |  |  | $\text { (col. } 2 \text { - }$ |
|  | Income, | Taxed as | Held more | ligations |  | Other | col. 3 \& $4+$ |
| Net Income | Tax | Capital | than 2 | not incl. | Contri- | Deduc- | col. 5 |
| Class, Tax | Definition | Net Gain | Years | in Col. $2^{\text {d }}$ | butions | tions ${ }^{\text {® }}$ | through 7) |
| Definitiona |  |  | (millio | ns of d | 11 ars ) |  |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1924 |  |  |  |  |  |  |  |
| \$10,000 \& over | 6,760 | 564 | 389 | 189 | 194 | 957 | 7,145 |
| 9,000-10,000 | 411 | 36 |  | 3.6 | 8.4 | 60 | 446 |
| 8,000-9,000 | 463 | 36 |  | 3.9 | 9.4 | 69 | 509 |
| 7,000-8,000 | 568 | 41 |  | 4.0 | 11 | 81 | 624 |
| 6,000-7,000 | 697 | 44 |  | 4.2 | 14 | 96 | 767 |
| 5,000-6,000 | 852 | 49 |  | 4.6 | 17 | 143 | 968 |
| 4,000-5,000 | 2,774 | 112 |  |  | 57 | 322 | 3,041 |
| 3,000-4,000 | 4,054 | 112 |  |  | 71 | 478 | 4,492 |
| 2,000-3,000 | 5,277 | 85 |  |  | 78 | 569 | 5,839 |
| 1,000-2,000 | 3,564 | 36 |  |  | 63 | 410 | 4,002 |
| Under 1,000 | 235 | 9.9 |  |  | 9.9 | 205 | 440 |
| Total | 25,656 | 1,125 | 389 | 209 | 533 | 3,390 | 28,274 |
| 1925 |  |  |  |  |  |  |  |
| \$10,000 \& over | 9,314 | 1,406 | 941 | 186 | 229 | 1,240 | 8,623 |
| 9,000-10,000 | 499 | 61 |  | 3.4 | 9.4 | 86 | 537 |
| 8,000-9,000 | 557 | 63 |  | 3.6 | 10 | 89 | 596 |
| 7,000-8,000 | 668 | 65 |  | 3.6 | 13 | 97 | 717 |
| 6,000-7,000 | 786 | 65 |  | 4.1 | 15 | 115 | 854 |
| 5,000-6,000 | 954 | 64 |  | 3.9 | 18 | 129 | 1,040 |
| 4,000-5,000 | 2,588 | 120 |  |  | 45 | 324 | 2,838 |
| 3,000-4,000 | 2,648 | 79 |  |  | 42 | 308 | 2,918 |
| 2,000-3,000 | 2,048 | 45 |  |  | 30 | 261 | 2,294 |
| 1,000-2,000 | 1,775 | 20 |  |  | 28 | 201 | 1,984 |
| Under 1,000 | 58 | 4.6 |  |  | 2.7 | 85 | 142 |
| Total | 21,895 | 1,992 | 941 | 205 | 442 | 2,936 | :2,545 |

For notes see pages 544-5.

Table 112 (cont.)


For notes see pages 544-5.

Table 112 (cont.)


For notes see pages 544-5.

Table 112 (cont.)

|  |  |  |  |  | Ne |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Profit |  |  | Los |  |  |  |  |  |  |
|  |  | from |  |  | from |  |  |  |  | , |  |
|  |  | Sales |  |  |  |  |  |  |  |  |  |
|  |  | Real |  | Inter- |  | eal |  |  |  |  |  |
| , |  | Estate, C | Capi- | est Re- | Stoc | ks, |  |  |  |  |  |
|  |  | Stocks, ta | tal Net | ceived | Bon | ds, |  |  |  |  |  |
|  |  | Bonds, | Gain | onTax. |  |  |  |  |  |  | Eco- |
|  |  | etc. f | from | Ex- | Cap |  |  |  |  |  | nomic |
|  |  | other S | Sales | empt | tal |  |  |  |  |  | Income |
|  |  | than | of | Gov. | Los |  |  |  |  |  | (col. 2 |
|  | Net Income, | Taxed | Assets Held | Obligations | $\underset{\text { port }}{\text { Re }}$ | ed | In- |  |  |  | $3 \& 4+$ |
|  | Tax | Capi- | more | not | as |  | ter- |  | Con- | Other | col. 5 |
| Net Income | Defini- | tal Net th | than 2 | incl. in | Ded | uc- | est | Taxes | tribu- | Deduc- | through |
| Class, Tax | tion | Gain Y | Years | Col. ${ }^{\text {d }}$ | tion |  | Paid | Paid | tions | tions ${ }^{\text {e }}$ | 10) |
| Definition ${ }^{\text {a }}$ |  |  |  | millio | n | of |  | 11 ar |  |  |  |
| (1) | (2) | (3) | (4) | (5) | (6) |  | (7) | (8) | (9) | (10) | (11) |
| 1933 |  |  |  |  |  |  |  |  |  |  |  |
| \$10,000 \& over | 2,610 | 229 | 134 | 176 | 60 |  | 122 | 126 | 74 | 161 | 2,965 |
| 9,000-10,000 | 182 | 12 |  | 4.2 | 12 |  | 10 | 8.9 | 4.5 | 11 | 220 |
| 8,000-9,000 | 215 | 13 |  | 4.3 | 15 |  | 12 | 11 | 5.3 | 13 | 261 |
| 7,000-8,000 | 275 | 16 |  | 4.9 | 18 |  | 15 | 13 | 6.6 | 15 | 332 |
| 6,000-7,000 | 359 | 18 |  | 6.5 | 22 |  | 20 | 17 | 8.6 | 19 | 436 |
| 5,000-6,000 | 507 | 21 |  | 6.6 | 26 |  | 29 | 24 | 12 | 27 | 610 |
| 4,000-5,000 | 723 | 23 |  |  | 32 |  | 37 | 33 | 17 | 39 | 857 |
| 3,000-4,000 | 1,485 | 29 |  |  | 41 |  | 65 | 59 | 29 | 68 | 1,718 |
| 2,000-3,000 | 2,296 | 28 |  |  | 48 |  | 89 | 91 | 39 | 114 | 2,649 |
| 1,000-2,000 | 2,093 | 21 |  |  | 47 |  | 64 | 77 | 44 | 111 | 2,417 |
| Under 1,000 | 265 | 11 |  |  | 45 |  | 44 | 45 | 11 | 84 | 484 |
| Total | 11,009 | 420 | 134 | 202 | 366 |  | 508 | 506 | 252 | 661 | 12,950 |
|  |  |  |  | - |  |  |  |  |  |  |  |
|  |  |  |  | Re - | et |  |  |  |  |  |  |
|  |  |  |  | ved C |  |  |  |  |  |  | Eco-' |
|  |  |  |  | Tax |  |  |  |  |  |  | nomic |
|  |  |  | Exe | mpt Lo | Ss |  |  |  |  |  | Income |
|  | Net | Net |  | Ob - A | I- |  |  |  |  |  | (col. $2-$ |
|  | Income, | Capital |  | tions low |  |  |  |  |  |  | $\begin{gathered} \text { col. } 3+ \\ \text { col. } 4 \end{gathered}$ |
| Net Income | Defini- | Incl. in |  | incl. Ded |  |  |  | Taxes | Con- tribu- | Other | col. 4 |
| Class, Tax | tion | Col. $2^{1}$ |  | $2^{\text {a }}$ tio |  | Paid |  | Paid | tions | tions ${ }^{\text {e }}$ | 9) |
| Definition ${ }^{\text {a }}$ |  |  |  | milli | 0 n | 0 f | f | ollar | ) |  |  |
| (1) | (2) | (3) | (4) |  |  | (6) |  | (7) | (8) | (9) | (10) |
| 1934 |  |  |  |  |  |  |  |  |  |  |  |
| \$10,000 \& over | 3,048 | 121 | 223 | - 48 |  | 130 |  | 146 | 88 | 180 | 3,742 |
| 9,000-10,000 | 233 | 5.8 |  | 5.85 | . 6 | 12 |  | 11 | 5.3 | 12 | 279 |
| 8,000-9,000 | 276 | 7.0 |  | $5.6 \quad 6.6$ | . 6 | 15 |  | 13 | 6.0 | 16 | 331 |
| 7,000-8,000 | 353 | 7.7 |  | 6.78 | . 2 | 19 |  | 16 | 7.5 | 19 | 421 |
| 6,000-7,000 | 468 | 8.9 |  | 6.510 |  | 24 |  | 21 | 9.8 | 24 | 555 |
| 5,000-6,000 | 622 | 10 |  | 8.413 |  | 31 |  | 27 | 13 | 32 | 735 |
| 4,000-5,000 | 1,018 | - 12 |  | 16 |  | 45 |  | 41 | 20 | 46 | 1,174 |
| 3,000-4,000 | 1,821 | 14 |  | 19 |  | 68 |  | 65 | 31 | 78 | 2,068 |
| 2,000-3,000 | 2,468 | 12 |  | 21 |  | 83 |  | 91 | 39 | 113 | 2,802 |
| 1,000-2,000 | 2,278 | 9.4 |  | 20 |  | 55 |  | 74 | 45 | 100 | 2,563 |
| Under 1,000 | 211 | 3.9 |  | 17 |  | 35 |  | 38 | 8.0 | 70 | 374 |
| Total | 12,797 | 211 | 256 | 6184 |  | 517 |  | 541 | 273 | 688 | 15,044 |
| 1935 |  |  |  |  |  |  |  |  |  |  |  |
| \$10,000 \& over | 3,812 | 310 | 207 | 737 |  | 142 |  | 171 | 103 | 209 | 4,370 |
| 9,000-10,000 | 273 | 14 |  | 5.94 | . 2 | 12 | 2 | 13 | 5.5 | 14 | 313 |
| 8,000-9,000 | 327 | 15 |  | 6.0 - 4.9 | . 9 | 15 | 5 | 14 | 6.7 | 16 | 374 |
| 7,000-8,000 | 413 | 18 |  | 5.8 6 | . 0 | 18 |  | 17 | 8.3 | 21 | 471 |
| 6,000-7,000 | 547 | 20 |  | 6.47 | . 6 | 24 |  | 23 | 11 | 26 | 624 |
| 5,000-6,000 | 724 | 23 |  | 7.49 | . 8 | 31 |  | 30 | 14 | 34 | 827 |
| 4,000-5,000 | 1,148 | 26 |  | 12 |  | 44 |  | 45 | 22 | 53 | 1,296 |
| 3,000-4,000 | 2,101 | 30 |  | 16 |  | 65 |  | 72 | 35 | 86 | 2,345 |
| 2,000-3,000 | 2,832 | 28 |  | 18 |  | 76 |  | 96 | 43 | 125 | 3,161 |
| 1,000-2,000 | 2,535 | 18 |  | 17 |  | 50 |  | 79 | 49 | 107 | 2,820 |
| Under 1,000 | 199 | 6.5 |  | 14 |  | 29 | 9 | 37 | 7.8 | 73 | 352 |
| Total | 14,910 | 510 | 239 | 9146 |  | 504 |  | 597 | 305 | 764 | 16,954 |

[^100]Table 112 (cont.)


For notes see pages 544-5.

Table 112 (cont.)


For notes see pages 544-5.

| Net |  |  |  |  |  | Economic |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Loss |  |  |  |  |  | Income |
| from |  |  |  |  | Amount | (col. $2-$ |
| Sales of |  |  |  |  | Distrib- | col. 3 |
| Property |  |  |  |  | utable | through |
| other |  |  |  |  | to Bene- | $5+$ |
| than |  |  |  | Other | ficiaries | col. 6 |
| Capital | Interest | Taxes | Contri- | Deduc- | (fiduciary | through |
| Assets | Paid | Paid | butions 0 f | $\begin{aligned} & \text { tions }{ }^{0} \\ & \mathrm{~d} \mathrm{o} \end{aligned}$ | returns) | 13) |
| (8) | (9) | (10) | (11) | (12) | (13) | (14) |
| 5.6 | 113 | 244 | 116 | 154 | 53 | 4,712 |
| 0.4 | 11 | 18 | 7.3 | 11 | 2.2 | 384 |
| 0.5 | 13 | 21 | 8.9 | 13 | 3.3 | 461 |
| 0.9 | 18 | 25 | 11 | 15 | 4.2 | 582 |
| 1.0 | 23 | 32 | 15 | 23 | 3.4 | 771 |
| 1.1 | 31 | 42 | 19 | 31 | 5.1 | 1,041 |
| 1.6 | 45 | 60 | 30 | 44 | 7.1 | 1,602 |
| 2.1 | 76 | 100 | 51 | 80 | 8.7 | 3,228 |
| 2.8 | 95 | 129 | 64 | 120 | 15 | 4,524 |
| 3.0 | 56 | 104 | 75 | 110 | 26 | 3,817 |
| 2.9 | 26 | 42 | 11 | 73 | 76 | 509 |
| 22 | 509 | 816 | 407 | 675 | 203 | 21,631 |

Table 112 (cont.)

|  |  |  |  |  | Interest |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Net | Received | Net |  |
|  |  |  |  | Gain | on Tax | Long | Loss |
|  |  | Net | Net | from | Exempt | Term | from |
|  |  | Short | Long | Sales of | Gov. | Capital | Sales of |
|  |  | Term | Term | Property | Obli- | Loss | Property |
| Net | Net | Capital | Capital | other | gations | Allowed | other |
| Income | Income, | Gain | Gain | than | not | as a | than |
| Class, | Tax | incl. in | incl. in | Capital | incl. in | Deduc- | Capital |
| Tax | Definition | Col. $2^{\text {n }}$ | Col. ${ }^{\text {m }}$ | Assets | Col. $2^{\text {d }}$ |  | Assets |
| Definition ${ }^{\text {a }}$ |  | $m$ i 1 | o n s | - f | d o 1 | r s |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1939 |  |  |  |  |  |  |  |
| \$10,000 \& over | 4,733 | 78 | 147 | 6.4 | 206 | 132 | 7.1 |
| 9,000-10,000 | 377 | 5.4 | 5.1 | 0.9 | 5.2 | 9.6 | 0.6 |
| 8,000-9,000 | 449 | 6.0 | 5.9 | 1.0 | 5.4 | 11 | 0.6 |
| 7,000-8,000 | 576 | 7.1 | 6.3 | 1.4 | 5.3 | 12 | 0.9 |
| 6,000-7,000 | 779 | 8.8 | 7.7 | 1.7 | 6.8 | 14 | 1.1 |
| 5,000-6,000 | 1,061 | 10 | 8.7 | 2.1 | 7.9 | 17 | 1.5 |
| 4,000- 5,000 | 1,884 | 12 | 10.7 | 3.1 |  | 21 | 2.0 |
| 3,000-4,000 | 3,550 | 14 | 11.4 | 4.1 |  | 25 | 2.9 |
| 2,500-3,000 | 3,219 | 7.4 | 5.9 | 2.4 |  | 14 | 1.6 |
| 2,000- 2,500 | 1,983 | 6.1 | 5.3 | 2.0 |  | 13 | 1.9 |
| 1,000-2,000 | 4,328 | 9.2 | 9.2 | 2.4 |  | 26 | 3.8 |
| Under 1,000 | 254 | 4.1 | 6.7 | 1.1 |  | 22 | 3.3 |
| Total | 23,192 | 168 | 229 | 29 | 237 | 317 | 27 |
| 1940 |  |  |  |  |  |  |  |
| \$10,000 \& over | 5,499 | 56 | 183 | 8.6 | 188 | 171 | 9.0 |
| 9,000-10,000 | 429 | 3.7 | 5.4 | 1.1 | 4.7 | 11 | 0.8 |
| 8,000-9,000 | 503 | 4.2 | 6.1 | 1.2 | 5.3 | 12 | 0.8 |
| 7,000- 8,000 | 630 | 4.8 | 6.6 | 1.4 | 5.1 | 13 | 1.0 |
| 6,000-7,000 | 842 | 5.6 | 7.7 | 2.1 | 6.5 | 15 | 1.5 |
| 5,000-6,000 | 1,200 | 7.2 | 9.3 | 2.8 | 6.9 . | 18 | 1.6 |
| 4,000-5,000 | 1,781 | 7.5 | 8.8 | 3.7 |  | 20 | 2.2 |
| 3,000-4,000 | 4,234 | 9.6 | 11 | 5.2 |  | 25 | 3.3 |
| 2,500-3,000 | 4,887 | 5.6 | 7.2 | 3.5 |  | 16 | 2.4 |
| 2,000- 2,500 | 7,697 | 6.0 | 7.6 | 3.6 |  | 18 | 3.3 |
| 1,000-2,000 | 7,361 | 8.1 | 11 | 6.0 |  | 35 | 6.5 |
| Under 1,000 | 1,525 | 4.5 | 7.5 | 2.1 |  | 32 | 5.7 |
| Total | 36,589 | 122 | 271 | 41 | 217 | 386 | 38 |

For notes see pages 544-5.
Economic

Table 112 (cont.)


| $\$ 2,500-3,000$ | 2,592 |
| ---: | ---: |
| $2,000-500$ | 4,940 |
| $1,500-2,000$ | 6,020 |
| $1,000-500$ | 2,899 |
| $750-1,000$ | 1,030 |
| Under 750 | 50 |
| Total | 17,531 |


| \$10,000 \& over ${ }^{\text {Net }}$ | B Forms 1040 AND 1041 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7,269 | 62 | 265 | 14 | 189 | 293 | 12 |
| 9,000-10,000 | 539 | 3.9 | 5.4 | 1.6 | 4.8 | 20 | 1.2 |
| 8,000-9,000 | 621 | 4.1 | 6.3 | 2.1 | 5.1 | 22 | 1.9 |
| 7,000-8,000 | 774 | 5.2 | 6.3 | 2.3 | 4.8 | 25 | 2.0 |
| 6,000-7,000 | 982 | 6.0 | 7.7 | 3.0 | 6.3 | 29 | 2.1 |
| 5,000-6,000 | 1,370 | 6.8 | 9.0 | 3.9 | 6.7 | 34 | 2.8 |
| 4,000-5,000 | 2,295 | 8.5 | 12 | 5.9 |  | 44 | 4.4 |
| 3,000-4,000 | 5,706 | 12 | 16 | 9.0 |  | 55 | 6.4 |
| 2,500-3,000 | 5,051 | 5.1 | 8.1 | 5.0 |  | 25 | 2.4 |
| 2,000-2,500 | 6,428 | 5.3 | 8.1 | 6.0 |  | 27 | 3.7 |
| 1,500-2,000 | 5,561 | 5.9 | 7.6 | 6.5 |  | 32 | 5.5 |
| 1,000-1,500 | 3,311 | 5.4 | 8.2 | 5.3 |  | 35 | 6.5 |
| 750-1,000 | 927 | 1.9 | 3.2 | 1.5 |  | 15 | 2.5 |
| Under 750 | 502 | 3.7 | 7.4 | 2.1 |  | 46 | 8.4 |
| Total | 41,337 | 136 | 369 | 68 | 217 | 702 | 62 |
| Total, All Forms | 58,868 | 136 | 369 | 68 | 217 | 702 | 62 |

For notes see pages 544-5.


A Form 1040 A
2,592
4,940
6,020
2,899
1,030
50
17,531

|  | B FORMS 1040 AND 10 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 130 | 302 | 187 | 7.6 | 43 | 109 | 69 | 8,270 |
| 12 | 22 | 12 | 0.8 | 2.7 | 9.0 | 4.4 | 616 |
| 15 | 26 | 13 | 0.9 | 2.9 | 11 | 3.5 | 711 |
| 19 | 31 | 17 | 1.1 | 3.9 | 14 | 6.2 | 885 |
| 25 | 39 | 21 | 1.4 | 4.8 | 19 | 5.4 | 1,119 |
| 35 | 54 | 30 | 2.2 | 6.0 | 26 | 7.2 | 1,554 |
| 51 | 85 | 48 | 3.4 | 8.1 | 37 | 9.6 | 2,559 |
| 116 | 191 | 115 | 6.8 | 15 | 80 | 16 | 6,270 |
| 118 | 180 | 115 | 5.4 | 5.2 | 63 | 7.5 | 5,554 |
| 157 | 237 | 145 | 6.8 | 7.1 | 85 | 11 | 7,088 |
| 133 | 218 | 136 | 7.2 | 7.5 | 94 | 14 | 6,189 |
| 73 | 147 | 103 | 7.5 | 7.8 | 86 | 22 | 3,780 |
| 18 | 46 | 35 | 2.3 | 3.1 | 31 | 15 | 1,087 |
| 28 | 65 | 20 | 3.5 | 6.2 | 56 | 93 | 814 |
| 932 | 1,641 | 997 | 57 | 123 | 722 | 282 | 46,498 |
| 932 | 1,641 | 997 | 57 | 123 | 722 | 282 | 64,029 |

Table 112 (cont.)


1942

Gross

| $\$ 2,750-3,000$ | 1,962 |
| ---: | ---: |
| $2,500-2,750$ | 2,391 |
| $2,250-2,500$ | 3,013 |
| $2,000-2,250$ | 3,379 |
| $1,750-2,000$ | 3,676 |
| $1,500-1,750$ | 3,544 |
| $1,250-1,500$ | 3,006 |
| $1,000-1,250$ | 2,259 |
| $750-1,000$ | 1,594 |
| $500-750$ | 833 |
| Under 500 | 58 |

Total

| \$10,000 \& over ${ }^{\text {Net }}$ | B Forms 1040 AND 1041 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9,181 | 221 | 12 | 197 | 53 | 20 | 133 |
| 9,000-10,000 | 643 | 6.4 | 1.2 | 5.3 | 5.4 | 1.5 | 13 |
| 8,000-9,000 | 744 | 7.0 | 1.4 | 5.7 | 6.3 | 1.7 | 15 |
| 7,000-8,000 | 919 | 8.2 | 1.9 | 5.9 | 7.6 | 1.5 | 19 |
| 6,000-7,000 | 1,187 | 9.8 | 2.3 | 7.1 | 9.1 | 2.1 | 25 |
| 5,000-6,000 | 1,762 | 12 | 3.0 | 7.7 | 12 | 2.6 | 37 |
| 4,500-5,000 | 1,464 | 6.7 | 1.1 |  | 7.9 | 1.2 | 26 |
| 4,000-4,500 | 2,111 | 8.1 | 2.1 |  | 8.8 | 1.4 | 37 |
| 3,500-4,000 | 3,389 | 7.7 | 3.1 |  | 10 | 2.0 | 60 |
| 3,000-3,500 | 5,489 | 10 | 3.9 |  | 12 | 4.7 | 101 |
| 2,750-3,000 | 3,142 | 5.7 | 1.9 |  | 7.8 | 1.6 | 70 |
| 2,500-2,750 | 3,090 | 5.8 | 2.3 |  | 8.8 | 3.0 | 79 |
| 2,250-2,500 | 3,399 | 7.2 | 3.8 |  | 9.3 | 3.0 | 91 |
| 2,000-2,250 | 3,664 | 6.3 | 3.5 |  | 9.2 | 3.9 | 99 |
| 1,750-2,000 | 3,568 | 7.2 | 3.8 |  | 12 | 3.5 | 98 |
| 1,500-1,750 | 3,022 | 6.5 | 3.3 |  | 10 | 4.5 | 76 |
| 1,250-1,500 | 2,383 | 6.0 | 3.9 |  | 11 | 4.4 | 58 |
| 1,000-1,250 | 1,897 | 6.3 | 2.8 |  | 12 | 4.4 | 46 |
| 750- 1,000 | 1,148 | 4.3 | 2.1 |  | 9.7 | 4.2 | 26 |
| 500-750 | 674 | 4.1 | 1.5 |  | 8.7 | 4.0 | 19 |
| Under 500 | 299 | 5.4 | 2.0 |  | 14 | 7.9 | 23 |
| Total | 53,173 | 362 | 63 | 229 | 244 | 83 | 1,149 |
| Total, All Forms | 78,889 | 362 | 63 | 229 | 244 | 83 | 1,149 |

For notes see pages 544-5.

| Taxes Paid (9) | Contributions <br> (10) | Medical and Dental Expenses ${ }^{4}$ mill (11) |  | $\underset{\text { Debts }}{ }{ }^{\mathrm{Bad}}$ 0 f <br> (13) | Other Deductions ${ }^{\circ}$ d o 11 <br> (14) | Amount Distributable to Beneficiaries (fiduciary returns) r s ) | Economic Income (col. 2 col. 3 \& 4 + col. 5 through 15) <br> (16) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (9) | A Form 1040A |  |  |  |  |  | $\begin{array}{r} 1,962 \\ 2,391 \\ 3,013 \\ 3,379 \\ 3,676 \\ 3,544 \\ 3,006 \\ 2,259 \\ 1,594 \\ 833 \\ 58 \end{array}$ |
|  |  |  |  |  |  |  | 25,716 |
| . | B FORMS 1040 And 1041 |  |  |  |  |  |  |
| 347 | 219 | 17 | 9.7 | 45 | 152 | 54 | 10,195 |
| 24 | 14 | 3.0 | 0.8 | 2.6 | 12 | 2.4 | 718 |
| 28 | 16 | 3.7 | 1.0 | 3.1 | 14 | 3.0 | 832 |
| 34 | 20 | 5.2 | 1.2 | 3.4 | 17 | 3.9 | 1,027 |
| 44 | 27 | 7.5 | 1.7 | 4.6 | 21 | 3.9 | 1,327 |
| 63 | 40 | 12 | 2.6 | 5.6 | 32 | 5.8 | 1,967 |
| 49 | 32 | 9.1 | 2.4 | 3.2 | 20 | 6.5 | 1,612 |
| 69 | 47 | 15 | 2.5 | 4.8 | 32 | 3.2 | 2,321 |
| 108 | 74 | 24 | 4.2 | 5.3 | 46 | 5.2 | 3,718 |
| 178 | 124 | 43 | 8.9 | 7.3 | 80 | 5.3 | 6,039 |
| 114 | 81 | 34 | 5.6 | 4.5 | 54 | 3.4 | 3,510 |
| 123 | 86 | 40 | 6.5 | 6.0 | 62 | 2.7 | 3,497 |
| 139 | 95 | 50 | 8.7 | 6.7 | 74 | 3.2 | 3,869 |
| 153 | 107 | 59 | 8.9 | 8.5 | 82 | 4.2 | 4,189 |
| 150 | 109 | 65 | 8.6 | 10 | 88 | 4.5 | 4,106 |
| 131 | 98 | 64 | 9.3 | 8.9 | 84 | 5.5 | 3,503 |
| 110 | 83 | 56 | 8.2 | 8.8 | 75 | 6.4 | 2,792 |
| 94 | 71 | 48 | 6.8 | 7.3 | 69 | 8.9 | 2,255 |
| 63 | 52 | 37 | 5.6 | 5.3 | 54 | 10 | 1,407 |
| 48 | 35 | 30 | 4.5 | 5.9 | 43 | 15 | 881 |
| 53 | 18 | 31 | 5.1 | 5.9 | 51 | 52 | 552 |
| 2,121 | 1,445 | 651 | 113 | 163 | 1,161 | 209 | 60,317 |
| 2,121 | 1,445 | 651 | 113 | 163 | 1,161 | 209 | 86,033 |

Table 112 (cont.)

1943.

Gross
A Form 1040 A

| $\$ 2,750-3,000$ | 3,071 |
| ---: | ---: |
| $2,500-2,750$ | 3,379 |
| $2,250-2,500$ | 3,692 |
| $2,000-250$ | 3,909 |
| $1,750-2,000$ | 3,995 |
| $1,500-1,750$ | 3,847 |
| $1,250-1,500$ | 3,173 |
| $1,000-1,250$ | 2,687 |
| $750-1,000$ | 1,852 |
| $500-750$ | 1,053 |
| Under 500 | 428 |
| Total | 31,086 |


| Net | B F | Forms | 1040 | A N D | 1041 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$10,000 \& over | 11,836 | 530 | 11 | 187 | 42 | 22 | 123 |
| 9,000-10,000 | 911 | 21 | 1.7 | 4.6 | 4.8 | 1.7 | 12 |
| 8,000-9,000 | 1,024 | 23 | 1.4 | 5.0 | 5.5 | 1.8 | 14 |
| 7,000-8,000 | 1,250 | 25 | 2.2 | 4.8 | 6.2 | 2.0 | 18 |
| 6,000-7,000 | 1,625 | 28 | 2.6 | 6.1 | 7.3 | 2.7 | 23 |
| 5,000-6,000 | 2,575 | 31 | 3.7 | 6.3 | 9.4 | 3.0 | 36 |
| 4,500-5,000 | 2,414 | 19 | 2.4 |  | 5.9 | 2.1 | 33 |
| 4,000-4,500 | 3,821 | 19 | 3.8 |  | 6.7 | 1.0 | 51 |
| 3,500-4,000 | 6,281 | 24 | 3.5 |  | 9.2 | 2.6 | 88 |
| 3,000-3,500 | 9,666 | 30 | 6.9 |  | 12 | 4.2 | 135 |
| 2,750-3,000 | 4,846 | 14 | 2.6 |  | 7.2 | 3.0 | 83 |
| 2,500-2,750 | 3,799 | 14 | 3.1 |  | 6.9 | 2.4 | 74 |
| 2,250-2,500 | 3,754 | 16 | 2.7 |  | 8.4 | 3.6 | 78 |
| 2,000-2,250 | 3,465 | 14 | 2.7 |  | 6.7 | 2.0 | 69 |
| 1,750-2,000 | 3,092 | 14 | 15 |  | 7.4 | 1.9 | 66 |
| 1,500-1,750 | 2,471 | 11 | 2.0 |  | 7.8 | 2.7 | 45 |
| 1,250-1,500 | 2,025 | 10 | 2.5 . |  | 5.9 | 2.6 | 33 |
| 1,000-1,250 | 1,657 | 13 | 2.2 |  | 8.5 | 4.7 | 25 |
| 750-1,000 | 1,088 | 10 | 2.5 |  | 8.0 | 3.0 | 16 |
| 500-750 | 613 | 7.9 | 1.1 |  | 5.7 | 1.4 | 12 |
| Under 500 | 289 | 7.9 | 1.7 |  | 10 | 5.2 | 14 |
| Total | 68,499 | 882 | 78 | 214 | 193 | 75 | 1,047 |
| Total, All Forms | 99,586 | 882 | 78 | 214 | 193 | 75 | 1,047 |

For notes see pages 544-5.


Table 112 (cont.)


For notes see pages 544-5.

Table 112 (cont.)


For notes see pages 544-5.

Table 112 (concl.)

|  |  | Net Gain from Sales or | Net Gain from Sales or | Interest Received | Net <br> Loss from Sales or Exchanges | Net <br> Loss from Sales or |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Adjusted | Gross Adjusted | Exchanges of | Exchanges of Prop- | On Wholly | of Capital | Exchanges of Prop- | Economic Income |
| Gross | or Total | Capital | erty other | Tax | Assets | erty other | (col. 2 - |
| or Total | Income, | Assets | than | Exempt | Allowed | than | col. 3 \& 4 |
| Income | Tax | incl. in | Capital | Gov. Obli- | as a De- | Capital | + col. 5 |
| Class, Tax | Definitions | Col. $2^{\text {r }}$ | Assets | gations ${ }^{\text {d }}$ | duction ${ }^{\text {r }}$ | Assets | through 7) |
| Definition ${ }^{\text {a }}$ s |  |  | ( millio | ns of do | 11 ars ) |  |  |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1948 |  |  |  |  |  |  |  |
| \$20,000 \& over | 16,130 | 1,067 | 11 | 149 | 44 | 14 | 15,259 |
| 15,000-20,000 | 4,119 | 137 | 4.7 | 16 | 16 | 2.7 | 4,012 |
| 14,000-15,000 | 1,087 | 36 | 1.6 | 3.8 | 4.4 | 0.8 | 1,058 |
| 13,000-14,000 | 1,200 | 39 | 1.6 | 4.4 | 4.4 | 0.7 | 1,169 |
| 12,000-13,000 | 1,400 | 46 | 1.7 | 5.1 | 5.2 | 0.8 | 1,364 |
| 11,000-12,000 | 1,607 | 53 | 2.2 | 4.8 | 6.0 | 1.0 | 1,563 |
| 10,000-11,000 | 1,990 | 61 | 2.4 | 3.7 | 6.7 | 1.2 | 1,938 |
| 9,000-10,000 | 2,373 | 70 | 2.1 | 4.6 | 7.2 | 1.5 | 2,314 |
| 8,000-9,000 | 3,022 | 77 | 2.9 | 5.0 | 8.5 | 1.9 | 2,957 |
| 7,000-8,000 | 4,417 | 98 | 4.2 | 4.8 | 10 | 2.2 | 4,332 |
| 6,000-7,000 | 7,517 | 124 | 7.0 | 6.1 | 16 | 6.0 | 7,415 |
| 5,000-6,000 | 12,603 | 134 | 7.6 | 6.3 | 17 | 5.9 | 12,490 |
| 4,000-5,000 | 22,744 | 168 | 12 |  | 25 | 6.7 | 22,597 |
| 3,500-4,000 | 15,228 | 88 | 6.1 |  | 16 | 4.1 | 15,154 |
| 3,000- 3,500 | 17,286 | 85 | 7.0 | - | 17 | 7.6 | 17,219 |
| 2,750-3,000 | 8,642 | 39 | 4.2 |  | 8.8 | 1.4 | 8,609 |
| 2,500-2,750 | 8,294 | 43 | 4.5 |  | 7.3 | 1.7 | 8,255 |
| 2,250- 2,500 | 7,497 | 39 | 3.5 |  | 9.2 | 2.1 | 7,466 |
| 2,000-2,250 | 6,682 | 36 | 4.0 |  | 7.9 | 2.6 | 6,653 |
| 1,750-2,000 | 5,815 | 35 | 4.0 |  | 6.8 | 2.7 | 5,785 |
| 1,500-1,750 | 4,669 | 27 | 2.9 |  | 7.3 | 2.3 | 4,648 |
| 1,250-1,500 | 3,724 | 30 | 4.0 |  | 7.6 | 3.2 | 3,700 |
| 1,000-1,250 | 2;793 | 25 | 1.8 |  | 8.1 | 1.6 | 2,776 |
| 750-1,000 | 2,037 | 19 | 2.0 |  | 7.3 | 1.9 | 2,025 |
| 500-750 | 1,356 | 15 | 1.6 |  | 5.8 | 1.6 | 1,347 |
| Under 500 | 930 | 11 | 0.8 |  | 8.2 | 4.8 | 931 |
| Total | 165,161 | 2,600 | 108 | 214 | 290 | 83 | 163,038 |

## Notes to Table 112

Because of rounding, details may not add to total.
n.a: not available.

SOURCES:
1916-42: Statistics of Income supplemented by the Source Book.
1943 and 1944:special tabulations provided by the Bureau of Internal Revenue, and Press Release, August 21, 1947.
1945-48: Statistics of Income, Part 1, Preliminary Report.
${ }^{4}$ For class intervals covered, see note to column 1 of Table 111.
${ }^{\mathrm{b}}$ Estimated as the sum of the several types of payment (see App. 2).
${ }^{\text {c }}$ Including contributions.
${ }^{\text {a }}$ Wholly tax exempt interest plus for 1917-42 the difference between the partly tax exempt interest reported on the face of the return and that on the information schedule. Wholly tax exempt interest is not reported for 1916-23 or for the years after 1940. For the method by which it is estimated for 1916-23 see Appendix 2. For 1941-48 the 1940 amounts are used.

Notes to Table 112 (concl.)
${ }^{\text {e }}$ Including the items bracketed for the given year, as indicated below:
Contributions
Net loss from sales of real estate, stocks, bonds, etc.
Net loss from business
Net loss from partnership
Interest paid
Taxes paid
Amount distributable to beneficiaries (fiduciary returns)
Losses from fire, storm, etc. Bad debts Other deductions

${ }^{2}$ Owing to a revision (not available) by income classes, this column was estimated by subtracting columns 2 and 5 from column 7 and adding columns 3 and 4 .
${ }^{8}$ Included in column 8.
${ }^{\mathrm{n}}$ Estimated by deducting column 2 from column 9 and adding column 3. Amounts for columns 6 and 7 are included.
${ }^{1}$ Includes amounts for net income classes under $\$ 5,000$.
${ }^{1}$ Excludes amounts for columns 6 and 7 for net income classes under $\$ 5,000$.
${ }^{\mathbf{k}}$ Excluding capital net loss for which $121 / 2$ percent tax credit is taken (see Statistics of Income, 1942, Part 1, pp. 324-5).
${ }^{1}$ Net gain or loss from sales or exchanges of capital assets, regardless of time held, after certain percentages depending on the time the assets were held, and after the limitation on the deduction for capital loss, have been applied (see ibid.).
${ }^{m}$ Net gain or loss from sales of capital assets held more than 18 months upon which $66^{2} / 3$ percent of the gain or loss on sales of assets held 18 months but not more than 24 months, and 50 percent of the gain or loss on sales of assets held more than 24 months, are taken into account (see ibid.).
${ }^{\mathrm{n}}$ After deduction of short term capital loss of preceding year (see ibid.).
${ }^{\circ}$ Losses from fire, storm, etc. and bad debts reported on fiduciary returns are included with 'other deductions'.
${ }^{v}$ The net result of combining short term gains and losses (from sales of capital assets held 6 months or less) and long term gains and losses (from sales of capital assets held more than 6 months, upon which 50 percent of the gain or loss is taken into account). Short term gain is reduced by the net short term capital loss carried over from 1941 in an amount not in excess of the net income for that year (the latter being computed without regard to capital gains and losses, or $\$ 1,000$, whichever is smaller); see ibid.
${ }^{9}$ Not previously allowed as a deduction.
${ }^{r}$ Combination of net short and long term capital gain and loss and the capital loss carryover from 1942-46 (or 1943-47) inclusive, not previously deducted.

- Adjusted gross income for individual returns, total income for taxable fiduciary returns.
${ }^{\text {t }}$ Slightly different from the figure derived as the sum of the several income types because we exclude negligible amounts on nontaxable returns not distributed by income class in Statistics of Income.

Table 113
Income per Capita (dollars) on Net Income Returns, by Net Income Classes Basic Variant and Adjustments, 1916-1948

|  |  |  |  | INCOME PER CAPITA, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BASIC VARIANT ADJ. TO |  |  |  |  |  |

For notes see pages 565-9.

|  | Include |
| :---: | :---: |
| Excess of |  |
| Exclude | Gains over |
| Federal | Losses from |
| Income | Sales of |
| Taxes | Assets |
| $(9)$ | $(10)$ |



| ECONOMIC INCOME PER CAPITA Basic Variant Adj. for Family Status |  |  | BASIC VARIANT ADJ. FOR MAXIMUM EFFECT OF |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unwarranted Inclusions |  | Unwarranted Inclusions <br> \& Deductions |  |
|  |  |  | Tax return | Economic | Tax return | Economic |
| Basic | Family | Single person | population adjusted | income per | population adjusted | income per |
| Variant | returns | returns | (000) | capita | (000) | capita |
| (2) | (3) | (4) | (5) | (6) | (7) | . (8) |
| 11,731 | 10,360 | 32,491 | 512 | 12,817 | 628 | 11,751 |
| 3,693 | 3,354 | 10,295 | 97 | 4,036 | 211 | 3,352 |
| 3,461 | 3,145 | 9,722 | 130 | 3,764 | 117 | 3,032 |
| 3,109 | 2,847 | 8,771 | 190 | 3,396 | 171 | 2,663 |
| 2,415 | 2,224 | 6,919 | 288 | 2,618 | 466 | 2,292 |
| 2,030 | 1,872 | 5,994 | 456 | 2,194 | 674 | 1,887 |
| 1,593 | 1,461 | 4,761 | 1,239 | 1,684 | 1,548 | 1,524 |
| 1,255 | 1,143 | 3,615 | 2,066 | 1,306 | 1,860 | 1,192 |
| 912 | 794 | 2,511 | 4,322 | , 933 | 3,890 | 862 |
| 1,090 | 635 | 1,511 | 2,640 | 1,132 | 2,376 | 1,044 |
| 11,678 | 10,238 | 33,181 | 524 | 12,737 | 640 | 11,728 |
| 3,817 | 3,459 | 10,492 | 99 | 4,243 | 89 | 3,475 |
| 3,371 | 3,054 | 9,315 | 127 | 3,745 | 234 | 3,177 |
| 2,850 | 2,594 | 8,123 | 191 | 3,158 | 172 | 2,646 |
| 2,445 | 2,235 | 7,051 | 291 | 2,715 | 514 | 2,242 |
| 2,076 | 1,918 | 5,902 | 453 | 2,311 | 408 | 1,942 |
| 1,581 | 1,449 | 4,624 | 1,197 | 1,709 | 1,454 | 1,567 |
| 1,206 | 1,095 | 3,555 | 2,521 | 1,269 | 3,028 | 1,193 |
| 833 | 714 | 2,437 | 7,592 | 848 | 6,833 | 799 |
| 1,108 | 644 | 1,549 | 3.766 | 1,125 | 3.389 | 1,066 |






\$10,000 \& over
$\$ 10,000 \&$ over
$9,000-10,000$


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| :---: | :---: | :---: |
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## 926

$\$ 10,000$ \& over



Table 113 (cont.)



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| :---: |
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For notes see pages 565－9．
Table 113 (cont.) INCOME PER CAPITA,
BASIC VARIANT ADJ. TO

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0
0
0




 MAXIMUM EFFECT OF
Unwarranted Inclusions
 11341


BASIC VARIANT ADJ. FOR

 Family Status Family Single等







INCOME PER CAPITA,

| Basic variant adj. To |  |
| :---: | :---: |
| $\therefore$ | Include |
| $\therefore$ | Excess of |
| Exclude | Gains over |
| Federal | Losses from |
| Income | Sales of |
| Taxes | Assets |
| (9) | $(10)$ |

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## Table 113 (cont.)



\footnotetext{






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$\sum_{\sim}^{5}$
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[^102]Table 113 (cont.)


ADJUSTED
GROSS OR
TOTAL INCOME
CLASS,
TAX
DEFINIION
(1)
1944
$\$ 11,000 \&$ over
$10,000-11,000$
$9,000-10,000$
$8,000-9,000$
$7,000-8,000$
$6,000-7,000$
$5,000-6,000$
$4,500-5,000$
$4,000-4,500$
$3,500-4,000$
$3,000-3,500$
$2,750-3,000$
$2,500-2,750$
$2,250-2,500$
$2,000-2,250$
$1,750-2,000$
$1,500-1,750$
$1,250-1,500$
$1,000-1,250$
$750-1,000$
$500-750$
Under
500











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INCOME PER CAPITA,
BASIC VARIANT ADJ. TO Include
Excess of worj sassot
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Table 113 (concl.)


## Notes to Table 113

* For 1916, column 6 is not available; for 1947, columns 3, 4, and 10 are not available; for 1948, columns 3-8 and 10 are not available. $\dagger$ Additional $\$ 1,000$ intervals were necessary to estimate the adjusted share of income received by the top 1 percent.

| Net Income <br> Class, | Tax Return <br> Population <br> Tdjusted | Economic <br> Income per |
| :---: | :---: | :---: |
| Defanition | (000) | Capita |
| $\$ 15,000 \&$ over | 551 | $\$ 18,527$ |
| $14,000-15,000$ | 40 | 5,822 |
| $13,000-14,000$ | 60 | 5,04 |
| $12,000-13,000$ | 214 | 5,014 |
| $11,000-12,000$ | 549 | 4,497 |
| $10,000-11,000$ |  | 4,148 |

## Column

1 See note to column 1 of Table 111.
2 Last column of Table 112 divided by column 8 of Table 111.
3, 4 For 1929 see Appendix 5, Section A. Other years are estimated by the same procedure with the following exceptions:
For 1917 for the net income class $\$ 1,000-2,000$ Statistics of Income does not show the distribution of net income between family and single person returns. The distribution of economic income is estimated from the 1918 distribution for this class with allowance for the proportionate difference between the 1917 and 1918 distributions for the $\$ 2,000-3,000$ net income class.
For 1944 and later years the distribution of economic income on tax returns between family and single person returns is based on the distribution of adjusted gross income. Adjusted gross income of single persons claiming one exemption is estimated as the product of the number in a given income class and the average income of all single persons in that class.
5, 6 1916-18: corresponding to columns 9 and 10 for 1919-48; see notes to those columns.
1919-47: for 1929 see Appendix 5, Section C. Other years are estimated by the same procedure. Since capital gains are not reported on Form 1040A, there are no entries for 1941, 1942, and 1943, Part A.
7, 8 For 1929 see Appendix 5, Section C. Other years are estimated by the same procedure. Since deductions are not reported on Form 1040A, there are no entries for 1941, 1942, and 1943, Part A.
9 For 1929 see Appendix 4, Section C. Other years (including 1916-18, shown in column 5 for those years) are estimated by the same procedure.

The 1917 war excess profits tax on partnerships is not shown by net income classes nor are there data on the amount of partnership profits subject to this tax. The tax as reported does not cover any that may have been paid by the $\$ 1,000-2,000$ net income class. For this class it is assumed to be zero. The distribution of the tax among the other net income classes is based on the war excess profits tax paid on salaries and on income from business for which the rate appears to be the same. The steps are as follows:

Notes to Table 113 (cont.)

## Column

9 (cont.)
A Estimate of Tax for the $\$ 2,000-4,000, \$ 4,000-5,000$, and $\$ 5,000-$ 10,000 Net Income Classes and for All Classes $\$ 10,000$ and over Combined

1) The ratio of the 8 percent and the invested capital tax (Statistics of Income, 1917, Table 2) to wages and salaries and net income from business (ibid., Table 7) is computed for the $\$ 2,000-4,000, \$ 4,000-5,000$, and $\$ 5,000-10,000$ net income classes and for all classes $\$ 10,000$ and over combined.
2) This ratio is computed also for all net income classes $\$ 2,000$ and over combined.
3) The ratio of the ratio for the given income class (step 1) to the overall ratio (step 2) is computed.
4) The ratio of the war excess profits tax on partnerships (ibid., p. 23) to partnership profits (ibid., Table 7) is computed for all net income classes $\$ 2,000$ and over combined.
5) The over-all ratio of partnership tax to partnership profits (step 4) is multiplied by the ratio derived in step 3 to yield a preliminary ratio of partnership tax to partnership profits for the $\$ 2,000-4,000, \$ 4,000-5,000$, and $\$ 5,000-10,000$ net income classes and for all classes $\$ 10,000$ and over combined.
6) Partnership profits for the $\$ 2,000-4,000, \$ 4,000-5,000$, and $\$ 5,000$ 10,000 net income classes and for all classes $\$ 10,000$ and over combined (ibid., Table 7) are multiplied by the ratio in step 5 to yield a preliminary estimate of war excess profits tax for these classes.
7) The ratio of the war excess profits tax as reported for all net income classes $\$ 2,000$ and over to the sum of the preliminary class by class estimates (step 6) is computed.
8) The preliminary class by class estimates derived in step 6 are multiplied by the ratio derived in step 7 to yield the final estimate of partnership tax for the $\$ 2,000-4,000, \$ 4,000-5,000$, and $\$ 5,000-10,000$ net income classes, and for all classes $\$ 10,000$ and over combined.

B Estimate of Tax for Each $\$ 1,000$ Class Interval in the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ Net Income Classes

## 1 Estimate of Partnership Profits

a The 1918 ratio of income from partnerships, personal service corporations, estates and trusts (Statistics of Income, 1918, Basic Table 6) to economic income excluding wholly tax exempt interest is computed for each $\$ 1,000$ interval in the $\$ 2,000-4,000$ and $\$ 5,000-$ 10,000 net income classes. (It is assumed that the proportion of income from personal service corporations and estates and trusts not included with partnership income in 1917 - would be the same, relatively, from class to class, and that its inclusion with partnership income would not, therefore, seriously affect the comparability of the ratios with those for 1917 in step d, below).
b This ratio is computed also for the $\$ 2,000-4,000$ and $\$ 5,000-$ 10,000 net income classes.
c The ratio of the ratio for each $\$ 1,000$ interval (step a) to the ratio for the larger interval (step b) is computed.
d The 1917 ratio of partnership profits (ibid., 1917, Table 7) to

Notes to Table 113 (cont.)

## Column

9 (concl.)
economic income excluding wholly tax exempt interest is computed for the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes.
e The 1917 ratio for the larger interval (step d) is multiplied by the ratio for each $\$ 1,000$ interval derived in step c.
f Economic income excluding wholly tax exempt interest for each $\$ 1,000$ interval in the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes is multiplied by the appropriate ratio derived in step e to yield a preliminary estimate of partnership profits for that interval.
g The ratio of partnership profits as reported for the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes to partnership profits as the sum of the preliminary estimates for the component $\$ 1,000$ intervals (step $f$ ) is computed.
$h$ The preliminary estimate derived in step $f$ is multiplied by the appropriate ratio derived in step $g$ to yield a final estimate of partnership profits for the given $\$ 1,000$ interval.
2 Estimate of Tax
a For each $\$ 1,000$ interval in the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes, the ratio of the 8 percent and the invested capital tax to net income is computed.
b This ratio is computed also for the $\$ 2,000-4,000$ and $\$ 5,000-$ 10,000 net income classes.
c The ratio of the ratio for each $\$ 1,000$ interval (step a) to that for the larger interval (step b) is computed.
d The final estimate of partnership tax for the larger interval (A, step 8) is divided by partnership profits to yield the final estimate of the tax rate for that interval.
e The tax rate for the larger interval (step d) is multiplied by the appropriate ratio derived in step c to yield the preliminary estimate of the tax rate for each $\$ 1,000$ interval.
f Partnership profits for each $\$ 1,000$ interval ( $B$, step 1 h ) are multiplied by the preliminary tax rate derived in step e to yield a preliminary estimate of taxes for the interval.
g The ratio of taxes for the larger interval (A, step 8) to the sum of the preliminary estimates for its component $\$ 1,000$ intervals (step f) is computed.
h The preliminary estimate of taxes for each $\$ 1,000$ interval (step f) is multiplied by the appropriate ratio derived in step g to yield the final estimate of taxes for the interval.
10 For 1929 see Appendix 4, Section D. Other years, including 1917 and 1918 for which the estimates appear in column 6 (for 1916, when capital gains are reported with business and partnership profits, there is no estimate), are calculated by the same procedure. Since gains and losses from sales of assets are not reported on Form 1040A, there are no entries for 1941, 1942, and 1943, Part A.

Statistics of Income does not show all gains and losses from sales of assets for every year of the period under consideration. Gains from sales of assets as reported for 1917-33 cover all such gains but beginning with 1934 they represent only the taxable portion. Losses from sales of assets as reported for 1917-30 cover all such losses, but until 1925 they are included with general deductions. Beginning with 1931 they represent only a fraction of all

Notes to Table 113 (cont.)

## Column

10 (cont.)
such losses. To supplement the Statistics of Income data, the series prepared by Lawrence H. Seltzer (The Nature and Tax Treatment of Capital Gains and Losses, NBER, 1951; Appendix Two, Tables 1 and 2) are used. The procedure for each year is indicated below.

## A Net Gains from Sales of Assets

1917: Statistics of Income shows net gains for the $\$ 2,000-4,000, \$ 4,000-$ 5,000 , and $\$ 5,000-10,000$ net income classes and all classes $\$ 10,000$ and over. Net gains for the $\$ 1,000-2,000$ net income class are not shown. They are estimated by the procedure indicated in step 9 below. An estimate for each $\$ 1,000$ interval in the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes is derived by steps 1-8.

1) The ratio of profits from sales of real estate, stocks, bonds, etc. (Statistics of Income, 1917, Table 7) to net income excluding contributions is computed for the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes.
2) This ratio is computed also for 1918.
3) The 1918 ratio of profits from sales, etc. to net income is computed for each $\$ 1,000$ interval in the $\$ 2,000-4,000$ and $\$ 5,000-10,000$ net income classes.
4) The 1918 ratio of the ratio for each $\$ 1,000$ interval (step 3) to the ratio for the larger interval (step 2) is computed.
5) The 1917 ratio for the larger interval (step 1) is multiplied by the appropriate ratio derived in step 4.
6) Net income, excluding contributions, for each $\$ 1,000$ interval for 1917 is multiplied by the appropriate ratio derived in step 5 to yield a preliminary estimate of profits from sales, etc. for the interval.
7) The ratio of profits from sales, etc. as reported for each larger interval to the sum of the preliminary estimates for its component $\$ 1,000$ intervals (step 6) is computed.
8) The preliminary estimates (step 6) are multiplied by the appropriate ratio derived in step 7 to yield final estimates of profits from sales, etc. for the $\$ 1,000$ intervals.
9) Profits from sales, etc. for the $\$ 1,000-2,000$ net income class are estimated by multiplying net income, excluding contributions, by the 1918 ratio of profits to net income, with allowance for the proportionate difference between the 1917 and 1918 ratios of profits to net income for the $\$ 2,000-3,000$ net income class.
1918-33: As reported in Statistics of Income.
1934-37: Seltzer's series is used, the distribution of the under $\$ 5,000$ and $\$ 5,000-25,000$ classes by $\$ 1,000$ intervals being based on the distribution of the series reported in Statistics of Income.
1938-46: Statistics of Income (or the Preliminary Report) shows (1) taxable gains from sales of capital assets and (2) gains from sales of other property. Seltzer's series, distributed by $\$ 1,000$ intervals on the basis of (1), is substituted for the latter; (2) is used as reported.

## B Net Losses from Sales of Assets

1917-25: Seltzer's series is used, the distribution of the under $\$ 100,000$ class by $\$ 1,000$ intervals being based on the average distribution for 1926-30 of the Statistics of Income series.

Notes to Table 113 (concl.)

## Column

10 (concl.)
1926-30: As reported in Statistics of Income (including the amount not tabulated as a deduction but for which the $121 / 2 \%$ tax credit is taken).

1931: For net income classes up to $\$ 10,000$, as reported in Statistics of Income; for all classes over $\$ 10,000$ Seltzer's series is used (for the former, Seltzer's series appears to be identical with that in Statistics of Income).
1932-37: Seltzer's series is used, the distribution by $\$ 1,000$ intervals being based on the distribution of the Statistics of Income series.
1938-46: Statistics of Income (or the Preliminary Report) shows (1) taxable losses from sales of capital assets, and (2) losses from sales of other property. Seltzer's series, distributed by $\$ 1,000$ intervals on the basis of (1), is substituted for the latter; (2) is used as reported.

Table 114
Income Receipts of Individuals, 1913-1948

|  | Employee Compensation |  | Entrepreneurial Income |  | $\underset{\text { Total }}{\text { Servi }}$ | Incomes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Of Nontarm |  |  | (col. $1+$ | Nonfarm |
|  | Total (1) | Population <br> (2) | Total <br> (3) | Population <br> (4) | $\text { col. } 3 \text { ) }$ (5) | Population <br> (6) |
|  |  |  | ¢ |  | A | Amounts |
| 1913 | 18,527 | 17,060 | 8,752 | 5,308 | 27,279 | 22,368 |
| 1914 | 18,235 | 16,800 | 8,443 | 5,052 | 26,678 | 21,852 |
| 1915 | 19,052 | 17,596 | 9,606 | 5,854 | 28,658 | 23,450 |
| 1916 | 22,046 | 20,510 | 11,727 | 6,970 | 33,773 | 27,480 |
| 1917 | 25,259 | 23,402 | 16,653 | 9,667 | 41,912 | 33,069 |
| 1918 | 31,627 | 29,546 | 15,829 | 7,137 | 47,456 | 36,683 |
| 1919 | 34,604 | 32,138 | 20,270 | 11,083 | 54,874 | 43,221 |
| 1919 | 37,140 | 34,457 | 18,324 | 9,350 | 55,464 | 43,807 |
| 1920 | 43,890 | 40,802 | 14,080 | 7,229 | 57,970 | 48,031 |
| 1921 | 35,537 | 33,356 | 8,936 | 5,063 | 44,473 | 38,419 |
| 1922 | 37,004 | 34,620 | 11,044 | 6,831 | 48,048 | 41,451 |
| 1923 | 43,340 | 40,769 | 12,686 | 7,701 | 56,026 | 48,470 |
| 1924 | 43,324 | 40,847 | 12,938 | 7,550 | 56,262 | 48,397 |
| 1925 | 45,019 | 42,383 | 14,395 | 8,169 | 59,414 | 50,552 |
| 1926 | 48,018 | 45,229 | 14,078 | 8,334 | 62,095 | 53,563 |
| 1927 | 48,433 | 45,671 | 13,591 | 7,887 | 62,024 | 53,558 |
| 1928 | 49,362 | 46,500 | 13,807 | 8,212 | 63,169 | 54,712 |
| 1929 | 52,214 | 49,273 | 14,321 | 8,345 | 66,535 | 57,618 |
| 1930 | 47,768 | 45,038 | 11,133 | 6,888 | 58,900 | 51,926 |
| 1931 | 40,469 | 38,109 | 8,260 | 5,499 | 48,728 | 43,608 |
| 1932 | 31,700 | 29,856 | 5,775 | 3,944 | 37,475 | 33,800 |
| 1933 | 30,054 | 28,338 | 7,174 | 4,499 | 37,228 | 32,837 |
| 1934 | 34,891 | 33,014 | 8,968 | 5,128 | 43,860 | 38,142 |
| 1935 | 37,937 | 35,703 | 9,901 | 5,487 | 47,838 | 41,190 |
| 1936 | 42,783 | 40,508 | 11,414 | 6,341 | 54,197 | 46,849 |
| 1937 | 47,524 | 44,808 | 11,859 | 6,689 | 59,383 | 51,497 |
| 1938 | 44,351 | 41,760 | 11,18.1 | 6,772 | 55,532 | 48,532 |
| 1929 | 51,455 | 48,153 | 13,521 | 8,120 | 64,976 | 56,273 |
| 1930 | 47,272 | 44,222 | 9,936 | 6,277 | 57,208 | 50,499 |
| 1931 | 41,232 | 38,634 | 7,353 | 4,705 | 48,585 | 43,339 |
| 1932 | 31,963 | 29,921 | 4,416 | 2,911 | 36,379 | 32,832 |
| 1933 | 30,499 | 28,557 | 5,559 | 3,450 | 36,058 | 32,007 |
| 1934 | 35,315 | 33,189 | 6,475 | 4,330 | 41,790 | 37,519 |
| 1935 | 38,569 | 36,204 | 9,724 | 5,037 | 48,293 | 41,241 |
| 1936 | 45,003 | 42,413 | 9,882 | 6,194 | 54,885 | 48,607 |
| 1937 | 47,747 | 44,862 | 12,095 | 6,659 | 59,842 | 51,521 |
| 1938 | 45,175 | 42,407 | 10,368 | 6,126 | 55,543 | 48,533 |
| 1939 | 48,196 | 45,276 | 11,274 | 6,942 | 59,470 | 52,218 |
| 1940 | 52,192 | 49,100 | 12,537 | 7,772 | 64,729 | 56,872 |
| 1941 | 64,113 | 60,534 | 16,974 | 10,210 | 81,087 | 70,744 |
| 1942 | 83,778 | 79,318 | 22,890 | 12,464 | 106,668. | 91,782 |
| 1943 | 105,843 | 100,651 | 25,887 | 14,266 | 131,730 | 114,917 |
| 1944 | 116,787 | 111,297 | 27,519 | 15,369 | 144,306 | 126,666 |
| 1945 | 119,475 | 113,871 | 28,854 | 16,853 | 148,329 | 130,724 |
| 1946 | 121,192 | 114,911 | 36,646 | 22,676 | 157,838 | 137,587 |
| 1947 | 132,740 | 125,632 | 39,837 | 24,727 | 172,577 | 150,359 |
| 1948 | 145,161 | 137,520 | 39,852 | 22,510 | 185,013 | 160,030 |

For notes see pages 576-7.

| Dividends (7) | Interest <br> (8) | Dividends \& Interest (col. $7+$ col. 8) (9) | Rent <br> (10) | Property Incomes (col. $9+$ col. 10) (11) | Total Inco Of Total Population (col. $5+$ col. 11) (12) | e Receipts <br> Of <br> Nonfarm <br> Population <br> (13) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (MILLIONS OF DoLlars) |  |  |  |  |  |  |
| 2.097 | 1,436 | 3,533 | 1,719 | 5,252 | 32,531 | 27,620 |
| 1,970 | 1,464 | 3,434 | 1,772 | 5,206 | 31,884 | 27,058 |
| 2,006 | 1,575 | 3,581 | 1,846 | 5,427 | 34,085 | 28,877 |
| 3,290 | 1,631 | 4,921 | 1,976 | 6,897 | 40,670 | 34,377 |
| 3,723 | 1,760 | 5,483 | 2,137 | 7,620 | 49,532 | 40,689 |
| 3,518 | 1,967 | 5,485 | 2,272 | 7,757 | 55,213 | 44,440 |
| 3,209 | 2,585 | 5,794 | 2,452 | 8,246 | 63,120 | 51,467 |
| 2,882 | 2,932 | 5,815 | 2,452 | 8,267 | 63,730 | 52,074 |
| 3,211 | 3,333 | . 6,544 | 2,375 | 8,919 | 66,890 | 56,950 |
| 2,959 | 3,522 | 6,481 | 2,313 | 8,794 | 53,267 | 47,213 |
| 3,044 | 3,589 | 6,634 | 2,644 | 9,277 | 57,325 | 50,728 |
| 3,837 | 3,772 | 7,609 | 2,828 | 10,437 | 66,463 | 58,907 |
| 3,811 | 3,900 | 7,710 | 2,974 | 10,684 | 66,946 | 59,081 |
| 4,421 | 4,055 | 8,476 | 2,893 | 11,369 | 70,783 | 61,921 |
| 4,721 | 4,120 | 8,841 | 2,736 | 11,577 | 73,672 | 65,140 |
| 5,046 | 4,299 | 9,345 | 2,693 | 12,038 | 74,062 | 65,596 |
| 5,485 | 4,569 | 10,053 | 2,698 | 12,751 | 75,920 | 67,463 |
| 6,285 | 4,831 | 11,116 | 2,581 | 13,697 | 80,232 | 71,315 |
| 5,972 | 4,888 | 10,860 | 1,982 | 12,842 | 71,743 | 64,768 |
| 4,621 | 4,845 | 9,467 | 1,288 | 10,754 | 59,482 | 54,362 |
| 2,991 | 4,656 | 7,647 | 807 | 8,453 | 45,929 | 42,253 |
| 2,450 | 4,197 | 6,646 | 898 | 7,545 | 44,773 | 40,382 |
| 2,993 | 4,007 | 7,000 | 857 | 7,858 | 51,717 | 46,000 |
| 3,748 | 3,795 | 7,543 | 1,036 | 8,580 | 56,417 | 49,770 |
| 4,814 | 3,729 | 8,543 | 1,071 | 9,614 | 63,812 | 56,463 |
| 4,924 | 3,775 | 8,699 | 1,264 | 9,963 | 69,345 | 61,460 |
| 3,464 | 3,653 | 7,117 | 1,154 | 8,271 | 63,803 | 56,803 |
| 5,823 | 5,294 | 11,117 | 3,303 | 14,420 | 79,396 | 70,693 |
| 5,500 | 4,986 | 10,486 | 2,565 | 13,051 | 70,259 | 63,550 |
| 4,098 | 4,942 | 9,040 | 1,744 | 10,784 | 59,369 | 54,123 |
| 2,574 | 4,641 | 7,215 | 1,114 | 8,329 | 44,708 | 41,161 |
| 2,066 | 4,389 | 6,455 | 1,029 | 7,484 | 43,542 | 39,491 |
| 2,596 | 4,120 | 6,716 | 1,328 | 8,044 | 49,834 | 45,563 |
| 2,872 | 3,827 | 6,699 | 1,535 | 8,234 | 56,527 | 49,475 |
| 4,557 | 3,619 | 8,176 | 1,839 | 10,015 | 64,900 | 58,622 |
| 4,693 | 3,551 | 8,244 | 2,133 | 10,377 | 70,219 | 61,898 |
| 3,195 | 3,476 | 6,671 | 2,069 | 8,740 | 64,283 | 57,273 |
| 3,796 | 3,369 | 7,165 | 2,180 | 9,345 | 68,815 | 61,563 |
| 4,049 | 3,315 | 7,364 | 2,301 | 9,665 | 74,394 | 66,537 |
| 4,465 | 3,241 | 7,706 | 2,818 | 10,524 | 91,611 | 81,268 |
| 4,297 | 3,081 | 7,378 | 3,515 | 10,893 | 117,561 | 102,675 |
| 4,477 | 3,100 | 7,577 | 3,967 | 11,544 | 143,274 | 126,461 |
| 4,689 | 3,307 | 7,996 | 4,178 | 12,174 | 156,480 | 138,840 |
| 4,720 | 3,705 | 8,425 | 4,353 | 12,778 | 161,107 | 143,502 |
| 5,808 | 4,200 | 10,008 | 4,181 | 14,189 | 172,027 | 151,776 |
| 7,018 | 4,423 | 11,441 | 4,594 | 16,035 | 188,612 | 166,394 |
| 7,467 | 4,916 | 12,383 | 5,039 | 17,422 | 202,435 | 177,452 |

Table 114 (cont.)

| Employee Compensation |  | Entrepreneurial Income |  | Service Incomes |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | Of |
| Total <br> (1) | Of Nonfarm Population |  |  |  | Of Nonfarm Population |  | Nonfarm Population |
|  | (2) | (3) | (4) | (5) | (6) |
|  |  | B Percentage Distribution of |  |  |  |
| 56.95 |  | 26.90 |  | 83.86 |  |
| 57.19 |  | 26.48 |  | 83.67 |  |
| 55.90 |  | 28.18 |  | 84.08 |  |
| 54.21 |  | 28.84 |  | 83.04 |  |
| 51.00 |  | 33.62 |  | 84.62 |  |
| 57.28 |  | 28.67 |  | 85.95 |  |
| 54.82 |  | 32.11 |  | 86.94 |  |
| 58.28 |  | 28.75 |  | 87.03 |  |
| 65.62 |  | 21.05 |  | 86.67 |  |
| 66.72 |  | 16.78 |  | 83.49 |  |
| 64.55 |  | 19.26 |  | 83.82 |  |
| 65.21 |  | 19.09 |  | 84.30 |  |
| 64.71 |  | 19.33 |  | 84.04 |  |
| 63.60 |  | 20.34 |  | 83.94 |  |
| 65.18 |  | 19.11 |  | 84.29 |  |
| 65.40 |  | 18.35 |  | 83.75 |  |
| 65.02 |  | 18.19 |  | 83.20 |  |
| 65.08 |  | 17.85 |  | 82.93 |  |
| 66.58 | $\cdots$ | 15.52 |  | 82.10 , |  |
| 68.03 |  | 13.89 |  | 81.92 |  |
| 69.02 |  | 12.58 |  | 81.59 |  |
| 67.13 |  | 16.02 |  | 83.15 |  |
| 67.47 |  | 17.34 |  | 84.81 |  |
| 67.24 |  | 17.55 |  | 84.79 |  |
| 67.05 |  | 17.89 |  | 84.93 |  |
| 68.53 |  | 17.10 |  | 85.63 |  |
| 69.51 |  | 17.52 |  | 87.04 |  |
| 64.81 |  | 17.03 |  | 81.84 |  |
| 67.28 |  | 14.14 |  | 81.42 |  |
| 69.45 |  | 12.38 |  | 81.84 |  |
| 71.49 |  | 9.88 |  | 81.37 |  |
| 70.04 |  | 12.77 |  | 82.81 |  |
| 70.86 |  | 12.99 |  | 83.86 |  |
| 68.23 |  | 17.20 |  | 85.43 |  |
| 69.34 |  | 15.23 |  | 84.57 |  |
| 68.00 |  | 17.22 |  | 85.22 |  |
| 70.28 |  | 16.13 |  | 86.40 |  |
| 70.04 |  | 16.38 |  | 86.42 |  |
| 70.16 |  | 16.85 |  | 87.01 |  |
| 69.98 |  | 18.53 |  | 88.51 |  |
| 71.26 |  | 19.47 |  | 90.73 |  |
| 73.88 |  | 18.07 |  | 91.94 |  |
| 74.63 |  | 17.59 |  | 92.22 |  |
| 74.16 |  | 17.91 |  | 92.07 |  |
| 70.45 |  | 21.30 |  | 91.75 |  |
| 70.38 |  | 21.12 |  | 91.50 |  |
| 71.71 |  | 19.69 |  | 91.39 |  |

For notes see pages 576-7.

| Dividends | Interest | Dividends \& Interest (col. $7+$ col. 8) | Rent | Property | Total Income Receipts Of Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Incomes (col. $9+$ col. 10) | Population (col. $5+$ col. 11) | Of <br> Nonfarm <br> Population |
|  | (8) | (9) | (10) | (11) | (12) | (13) |

Total INCome Receipts by Type

| 6.45 | 4.41 | 10.86 | 5.28 | 16.14 | 100.00 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 6.18 | 4.59 | 10.77 | 5.56 | 16.33 | 100.00 |
| 5.88 | 4.62 | 10.51 | 5.42 | 15.92 | 100.00 |
| 8.09 | 4.01 | 12.10 | 4.86 | 16.96 | 100.00 |
| 7.52 | 3.55 | 11.07 | 4.31 | 15.38 | 100.00 |
| 6.37 | 3.56 | 9.93 | 4.12 | 14.05 | 100.00 |
| 5.08 | 4.10 | 9.18 | 3.88 | 13.06 | 100.00 |
| 4.52 | 4.60 | 9.12 | 3.85 | 12.97 | 100.00 |
| 4.80 | 4.98 | 9.78 | 3.55 | 13.33 | 100.00 |
| 5.56 | 6.61 | 12.17 | 4.34 | 16.51 | 100.00 |
| 5.31 | 6.26 | 11.57 | 4.61 | 16.18 | 100.00 |
| 5.77 | 5.68 | 11.45 | 4.26 | 15.70 | 100.00 |
| 5.69 | 5.82 | 11.52 | 4.44 | 15.96 | 100.00 |
| 6.25 | 5.73 | 11.98 | 4.09 | 16.06 | 100.00 |
| 6.41 | 5.59 | 12.00 | 3.71 | 15.71 | 100.00 |
| 6.81 | 5.80 | 12.62 | 3.64 | 16.25 | 100.00 |
| 7.22 | 6.02 | 13.24 | 3.55 | 16.80 | 100.00 |
| 7.83 | 6.02 | 13.86 | 3.22 | 17.07 | 100.00 |
| 8.32 | 6.81 | 15.14 | 2.76 | 17.90 | 100.00 |
| 7.77 | 8.14 | 15.92 | 2.16 | 18.08 | 100.00 |
| 6.51 | 10.14 | 16.65 | 1.76 | 18.41 | 100.00 |
| 5.47 | 9.37 | 14.84 | 2.01 | 16.85 | 100.00 |
| 5.79 | 7.75 | 13.54 | 1.66 | 15.19 | 100.00 |
| 6.64 | 6.73 | 13.37 | 1.84 | 15.21 | 100.00 |
| 7.54 | 5.84 | 13.39 | 1.68 | 15.07 | 100.00 |
| 7.10 | 5.44 | 12.54 | 1.82 | 14.37 | 100.00 |
| 5.43 | 5.72 | 11.15 | 1.81 | 12.96 | 100.00 |
| 7.33 | 6.67 | 14.00 | 4.16 | 18.16 | 100.00 |
| 7.83 | 7.10 | 14.92 | 3.65 | 18.58 | 100.00 |
| 6.90 | 8.32 | 15.23 | 2.94 | 18.16 | 100.00 |
| 5.76 | 10.38 | 16.14 | 2.49 | 18.63 | 100.00 |
| 4.74 | 10.08 | 14.82 | 2.36 | 17.19 | 100.00 |
| 5.21 | 8.27 | 13.48 | 2.66 | 16.14 | 100.00 |
| 5.08 | 6.77 | 11.85 | 2.72 | 14.57 | 100.00 |
| 7.02 | 5.58 | 12.60 | 2.83 | 15.43 | 100.00 |
| 6.68 | 5.06 | 11.74 | 3.04 | 14.78 | 100.00 |
| 4.97 | 5.41 | 10.38 | 3.22 | 13.60 | 100.00 |
| 5.52 | 4.90 | 10.41 | 3.17 | 13.58 | 100.00 |
| 5.44 | 4.46 | 9.90 | 3.09 | 12.99 | 100.00 |
| 4.87 | 3.54 | 8.41 | 3.08 | 11.49 | 100.00 |
| 3.66 | 2.62 | 6.28 | 2.99 | 9.27 | 100.00 |
| 3.12 | 2.16 | 5.29 | 2.77 | 8.06 | 100.00 |
| 3.00 | 2.11 | 5.11 | 2.67 | 7.78 | 100.00 |
| 2.93 | 2.30 | 5.23 | 2.70 | 7.93 | 100.00 |
| 3.38 | 2.44 | 5.82 | 2.43 | 8.25 | 100.00 |
| 3.72 | 2.34 | 6.07 | 2.44 | 8.50 | 100.00 |
| 3.69 | 2.43 | 6.12 | 2.49 | 8.61 | 100.00 |
|  |  |  |  |  |  |

Table 114 (concl.)

| Employee |  | Entrepreneurial Income |  | Service Incomes |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | Of |
|  | Of Nonfarm |  |  |  | Of Nonfarm | (col. $1+$ | Nonfarm |
| Total <br> (1) | Population <br> (2) | Total <br> (3) | Population <br> (4) | col. 3) <br> (5) | Population <br> (6) |

C Percentage Distribution of Income

| 1913 | 61.77 | 19.22 | 80.98 |
| :---: | :---: | :---: | :---: |
| 1914 | 62.09 | 18.67 | 80.76 |
| 1915 | 60.93 | 20.27 | 81.21 |
| 1916 | 59.66 | 20.28 | 79.94 |
| 1917 | . 57.51 | 23.76 | 81.27 |
| 1918 | 66.48 | 16.06 | 82.54 |
| 1919 | 62.44 | 21.53 | 83.98 |
| 1919 | 66.17 | 17.96 | 84.12 |
| 1920 | 71.64 | 12.69 | 84.34 |
| 1921 | 70.65 | 10.72 | 81.37 |
| 1922 | 68.25 | 13.47 | 81.71 |
| 1923 | 69.21 | 13.07 | 82.28 |
| 1924 | 69.14 | 12.78 | 81.92 |
| 1925 | 68.45 | 13.19 | 81.64 |
| 1926 | 69.43 | 12.79 | 82.23 |
| 1927 | 69.62 | 12.02 | 81.65 |
| 1928 | 68.93 | 12.17 | 81.10 |
| 1929 | 69.09 | 11.70 | 80.79 |
| 1930 | 69.54 | 10.64 | 80.17 |
| 1931 | 70.10 | 10.12 | 80.22 |
| 1932 | 70.66 | 9.33 | 79.99 |
| 1933 | 70.18 | 11.14 | 81.32 |
| 1934 | 71.77 | 11.15 | 82.92 |
| 1935 | 71.74 | 11.02 | 82.76 |
| 1936 | 71.74 | 11.23 | 82.97 |
| 1937 | 72.91 | 10.88 | 83.79 |
| 1938 | 73.52 | 11.92 | 85.44 |
| 1929 | 68.12 | 11.49 | 79.60 |
| 1930 | 69.59 | 9.88 | 79.46 |
| 1931 | 71.38 | 8.69 | 80.08 |
| 1932 | 72.69 | 7.07 | 79.76 |
| 1933 | 72.31 | 8.74 | 81.05 |
| 1934 | 72.84 | 9.50 | 82.34 |
| 1935 | 73.18 | 10.18 | 83.36 |
| 1936 | 72.35 | 10.57 | 82.92 |
| 1937 | 72.48 | 10.76 | 83.24 |
| 1938 | 74.04 | 10.70 | 84.74 |
| 1939 | 73.54 | 11.28 | 84.82 |
| 1940 | 73.79 | 11.68 | 85.47 |
| 1941 | 74.49 | 12.56 | 87.05 |
| 1942 | 77.25 | 12.14 | 89.39 |
| 1943 | 79.59 | 11.28 | 90.87 |
| 1944 | 80.16 | 11.07 | 91.23 |
| 1945 | 79.35 | 11.74 | 91.10 |
| 1946 | 75.71 | 14.94 | 90.65 |
| 1947 | 75.50 | 14.86 | 90.36 |
| 1948 | 77.50 | 12.68 | 90.18 |

For notes see pages 576-7.

| Dividends (7) | Interest <br> (8) | Dividends \& Interest (col. $7+$ col. 8) (9) | Rent <br> (10) | Property Incomes (col. $9+$ col. 10) (11) | Total Inco Of Total Population (col. $5+$ col. 11) (12) | Receipts <br> Of <br> Nonfarm Population <br> (13) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F NONFARM POPULATION BY TYPE |  |  |  |  |  |  |
| 7.59 | 5.20 | 12.79 | 6.22 | 19.02 |  | 100.00 |
| 7.28 | 5.41 | 12.69 | 6.55 | 19.24 |  | 100.00 |
| 6.95 | 5.45 | 12.40 | 6.39 | 18.79 |  | 100.00 |
| 9.57 | 4.74 | 14.32 | 5.75 | 20.06 |  | 100.00 |
| 9.15 | 4.32 | 13.48 | 5.25 | 18.73 |  | 100.00 |
| 7.92 | 4.43 | 12.34 | 5.11 | 17.46 |  | 100.00 |
| 6.24 | 5.02 | 11.26 | 4.76 | 16.02 |  | 100.00 |
| 5.54 | 5.63 | 11.17 | 4.71 | 15.88 |  | 100.00 |
| 5.64 | 5.85 | 11.49 | 4.17 | 15.66 |  | 100.00 |
| 6.27 | 7.46 | 13.73 | 4.90 | 18.63 |  | 100.00 |
| 6.00 | 7.08 | 13.08 | 5.21 | 18.29 |  | 100.00 |
| 6.51 | 6.40 | 12.92 | 4.80 | 17.72 |  | 100.00 |
| 6.45 | 6.60 | 13.05 | 5.03 | 18.08 |  | 100.00 |
| 7.14 | 6.55 | 13.69 | 4.67 | 18.36 |  | 100.00 |
| 7.25 | 6.32 | 13.57 | 4.20 | 17.77 |  | 100.00 |
| 7.69 | 6.55 | 14.25 | 4.10 | 18.35 |  | 100.00 |
| 8.13 | 6.77 | 14.90 | 4.00 | 18.90 |  | 100.00 |
| 8.81 | 6.78 | 15.59 | 3.62 | 19.21 |  | 100.00 |
| 9.22 | 7.55 | 16.77 | 3.06 | 19.83 |  | 100.00 |
| 8.50 | 8.91 | 17.41 | 2.37 | 19.78 |  | 100.00 |
| 7.08 | 11.02 | 18.10 | 1.91 | 20.01 |  | 100.00 |
| 6.07 | 10.39 | 16.46 | 2.22 | 18.68 |  | 100.00 |
| 6.51 | 8.71 | 15.22 | 1.86 | 17.08 |  | 100.00 |
| 7.53 | 7.62 | 15.16 | 2.08 | 17.24 |  | 100.00 |
| 8.52 | 6.60 | 15.13 | 1.90 | 17.03 |  | 100.00 |
| 8.01 | 6.14 | 14.15 | 2.06 | 16.21 |  | 100.00 |
| 6.10 | 6.43 | 12.53 | 2.03 | 14.56 |  | 100.00 |
| 8.24 | 7.49 | 15.73 | 4.67 | 20.40 |  | 100.00 |
| 8.66 | 7.85 | 16.50 | 4.04 | 20.54 |  | 100.00 |
| 7.57 | 9.13 | 16.70 | 3.22 | 19.92 |  | 100.00 |
| 6.25 | 11.28 | 17.53 | 2.71 | 20.24 |  | 100.00 |
| 5.23 | 11.11 | 16.34 | 2.61 | 18.95 |  | 100.00 |
| 5.70 | 9.04 | 14.74 | 2.92 | 17.66 |  | 100.00 |
| 5.80 | 7.74 | 13.54 | 3.10 | 16.64 |  | 100.00 |
| 7.77 | 6.17 | 13.95 | 3.14 | 17.08 |  | 100.00 |
| 7.58 | 5.74 | 13.32 | 3.45 | 16.76 |  | 100.00 |
| 5.58 | 6.07 | 11.65 | 3.61 | 15.26 |  | 100.00 |
| 6.17 | 5.47 | 11.64 | 3.54 | 15.18 |  | 100.00 |
| 6.08 | 4.98 | 11.07 | 3.46 | 14.53 |  | 100.00 |
| 5.49 | 3.99 | 9.48 | 3.47 | 12.95 |  | 100.00 |
| 4.18 | 3.00 | 7.19 | 3.42 | 10.61 |  | 100.00 |
| 3.54 | 2.45 | 5.99 | 3.14 | 9.13 |  | 100.00 |
| 3.38 | 2.38 | 5.76 | 3.01 | 8.77 |  | 100.00 |
| 3.29 | 2.58 | 5.87 | 3.03 | 8.90 |  | 100.00 |
| 3.83 | 2.77 | 6.59 | 2.76 | 9.35 |  | 100.00 |
| 4.22 | 2.66 | 6.88 | 2.76 | 9.64 |  | 100.00 |
| 4.21 | 2.77 | 6.98 | 2.84 | 9.82 |  | 100.00 |

## Notes to Table 114

Because of rounding, details may not add to total.

## Column

## 1913-1919

1 National Product in Wartime (NBER, 1945), p. 141, line 3 of income pay-ments-business savings aggregate and unpublished extension for 1913.
2 Column 1 minus the compensation of employees living on farms, estimated as the difference between total income receipts of the farm population (see notes to App. 3, Sec. C, col. 8) and the income of farm operators (see notes to col. 4).
3 National Product in Wartime, p. 141, lines 4 and 5 of income paymentsbusiness savings aggregate and unpublished extension for 1913.
4 Column 3 minus the net income of farm operators (ibid., p. 139, and unpublished extension for 1913).
6 Column 2 plus column 4.
7 National Product in Wartime, p. 141, lines 6 and 8 of income paymentsbusiness savings aggregate and unpublished extension for 1913.
8 Ibid., line 7 and unpublished extension for 1913.
10 Ibid., line 9 and unpublished extension for 1913 reduced by the proportionate amount by which the 1919 figure exceeds that shown in the series for 1919-38 below.

13 Column 6 plus column 11.
1919-1938
1 National Income and Its Composition, 1919-1938 (NBER, 1941), pp. 322-3, Table 57.
2 See notes to series for 1913-19, above.
3 Entrepreneurial net income (National Income and Its Composition, pp. 336-7, Table 64) minus gains and losses from sales of capital assets (ibid., p. 895, Table IV).

4 Column 3 minus the net income of farm operators (ibid., p. 544, Table A2).
6 Column 2 plus column 4.
7 Dividends, including the balance of international payments (National Income and Its Composition, pp. 322-3, Table 57), minus the dividend income of life insurance companies, which is assumed to constitute the same percentage of their interest and dividend receipts as stocks constitute of their holdings of stocks, bonds, real estate mortgages, collateral loans, and premium notes and loans. The dividend and interest income of life insurance companies is reported in the Statistical Abstract which also shows asset data for 1921 and later years. The percentage distribution of assets for 1919 and 1920 is based on data for life insurance companies operating in Connecticut, reported in the Connecticut Insurance Report, Part II.
8 Interest payments (National Income and Its Composition, pp. 322-3, Table 57) minus the interest receipts of life insurance companies. The latter is calculated by subtracting from their dividend and interest income the estimated amount of dividends (see notes to col. 7).
10 Net rent paid to individuals, excluding imputed (ibid., p. 735, Table F5).
13 Column 6 plus column 11.

Notes to Table 114 (concl.)

## Column

## 1929-1945

1 Survey of Current Business, July 1947, Supplement: wage and salary receipts less employee contributions for social insurance plus other labor income and transfer payments (Table 3) minus business transfer payments and government contributions to military family allowances (Tables 36 and VII respectively).
2 Column 6 minus column 4.
3 Survey of Current Business, July 1947, Supplement, Table 1 and errata sheet for 1936: income of unincorporated enterprises excluding inventory valuation adjustment and net rent on owner-occupied farm dwellings, the latter from a special tabulation provided by the Department of Commerce, National Income Division.
4 Ibid., Table 1: income of business and professional unincorporated enterprises.
6 Column 13 minus column 11.
7 Survey of Current Business, July 1947, Supplement, Table 3.
8 Ibid., personal interest income (Table 3) minus imputed interest (Table 37).
10 Ibid., rental income of persons (Table 1) minus net rent on owner-occupied nonfarm dwellings (Table 39 and special tabulation of net rent on owneroccupied farm dwellings provided by the Department of Commerce, National Income Division).
13 Calculated by the procedure indicated in the notes to Appendix 3, Section C, column 8.

1946 and 1947
The procedure parallels that for 1929-45. Underlying published series are from Survey of Current Business, July 1949, same tables as for 1929-45 except that government contributions to military family allowances are from Statistical Abstract for 1948, p. 226.

1948
The procedure parallels that for 1929-45. Underlying published series are from Survey of Current Business, July 1950, same tables as for 1929-45 except that government contributions to military family allowances are from Statistical Abstract for 1950, p. 210.


 Compen-
sation
$(\$ 000,000)$
 by Cosented
(000) ${ }^{2}$

$(2)$
27,620
27,058
28,777
34,377
40,689
44,440
51,467
52,074
56,950
47,213
50,728
58,907
59,081
61,921
65,140
65,596
67,463




## Notes to Table 115

n.a: not available.

* Beginning in 1939 compensation of state and local government employees is subject to federal income tax and is therefore covered in the basic variant.


## Column

1 1913-47: total population, Table 69, column 5, minus farm population as reported in the Farm Income Situation, June-July 1947, p. 21, and JulyAugust, 1949, p. 10. See Addendum Table 1 for correction of this series.
1948: total population, Table 69, column 5, minus midyear estimates of the farm population calculated by averaging the January 1 figures for 1948 and 1949 shown in the Farm Income Situation, August 1950, Table 3, p. 26.
2 Table 114, column 13.
3 1913-19: unpublished estimates by W. I. King.
1919-38: National lncome and Its Composition, 1919-1938, Table G 7, columns 6-9, p. 814.
1929-38: Survey of Current Business, July 1947, Supplement, Table 24. Work relief employees are excluded.
4 Column 3 multiplied by the average number of persons per return as shown in Table 69, column 4 .
5 1913-19: National Income and Its Purchasing Power (NBER, 1930), pp. 364 and 369.
1919-38: National Income and Its Composition, Table G 3, columns 7-9, p. 812.

1929-38: Survey of Current Business, July 1947, Supplement, Tables 14 and 15. Work relief is excluded:

6 1913-19: unpublished estimates by W. I. King.
1919-38: National Income and Its Composition, Table F 5, p. 735. Imputed rent on farm homes is excluded.
1929-44: Survey of Current Business, July 1947, Supplement, Table 39.
1945: Survey of Current Business, July 1948, Table 39, p. 15.
1946 and 1947: ibid., July 1949, Table 39, p. 25.
1948: ibid., July 1950, Table 39, p. 27.
71914 and 1915: from the Annual Report of the Commissioner of Internal Revenue. Data as reported are for fiscal years ending June 30 of the following year and include taxes withheld at source. Pairs of fiscal years are averaged to yield estimates for calendar years.
1916-42: Statistics of Income, 1942, Part 1, Table 14, p. 233.
1943-48: Statistics of Income or Preliminary Reports.
8 The Nature and Tax Treatment of Capital Gains and Losses (Lawrence H. Seltzer, NBER, 1951), Appendix Two, Table 1. For 1917-27 data are for returns with statutory net income; for 1928-46 they are for all returns. For 1938-41 short term net losses are excluded because there is no satisfactory basis for estimating their total. For 1917 Seltzer's series for gains excludes those for the net income class $\$ 1,000-2,000$. They were estimated by multiplying net income by the ratio of capital gains to net income for the $\$ 2,000-$ 3,000 net income class, with allowance for the proportionate difference between the ratio for the $\$ 1,000-2,000$ and for the $\$ 2,000-3,000$ net income class in 1918.

9 1919-28: National Income and Its Composition, Table 47, p. 312. 1929-46: Tables 21 and 38 of Survey of Current Business, July 1947, Supplement, pp. 33 and 47, and July 1949, pp. 18 and 25; undistributed corporate income minus depletion plus gains and losses from sales of assets.

Coverage of Upper Income Groups in Basic, Economic Income, and Disposable Income Variants, Tables 116-126 ${ }^{\circ}$

| Percentage Band <br> of Given Variant <br> Basic Variant | Total Population | Nonfarm Population |
| :--- | :--- | :---: |
| Top 1 | $1913-48$ | $1913-48$ |
| 2nd \& 3rd | $1917-48$ | $1917-48$ |
| 4th \& 5th | $1917-48$ | $1917-48$ |
| 6th \& 7th | $1917-29,1932,1934-48$ | $1917-48$ |
| 8th-10th | $1918-24,1937,1939-48$ | $1917-29,1935-48$ |
| 11th-15th | $1940-48$ | b |
| 16th-20th | $1940-48$ |  |
| Economic Income Variant |  |  |
| Top 1 | $1919-46$ | $1919-46$ |
| 2nd \& 3rd | $1919-46$ | $1919-46$ |
| 4th \& 5th | $1919-46$ | $1919-46$ |
| 6th \& 7th |  | $1919-46$ |
| Disposable Income Variant | $1919-46$ |  |
| Top 1 | $1919-46$ | $1919-46$ |
| 2nd \& 3rd | $1919-46$ | $1919-46$ |
| 4th \& 5th | $1919-46$ | $1919-46$ |

[^103]Table 116: Percentage Shares of Upper Income Groups in Total Income Receipts, Basic Variant, Total and Nonfarm Population, 1913-1948
A Top 1 Percent

| \% of | $\%$ of |
| :---: | :---: |
| Total Income | Nonfarm |
| Received by | Coveration by |
| Given Percentage Band |  |
| of Total Population |  |


| \% of Income of Nonfarm |  |
| :---: | :---: |
| Population Received by |  |
| Given |  |
|  | Percentage |
| Nonfarm | Band of |
| Population | Nonfarm |
| in Col. 2 | Population |


| 1913 | 14.98 | 1.50 | 17.64 | 16.13 |
| :---: | :---: | :---: | :---: | :---: |
| 1914 | 13.07 | 1.48 | 15.40 | 14.12 |
| 1915 | 14.32 | 1.48 | 16.90 | 15.51 |
| 1916 | 15.58 | 1.47 | 18.43 | 16.93 |
| 1917 | 14.16 | 1.45 | 17.24 | 15.58 |
| 1918 | 12.69 | 1.44 | 15.76 | 14.06 |
| 1919 | 12.96 | 1.42 | 15.90 | 14.04 |
| 1919 | 12.84 | 1.42 | 15.71 | 13.87 |
| 1920 | 12.34 | 1.42 | 14.50 | 12.87 |
| 1921 | 13.50 | 1.41 | 15.23 | 13.49 |
| 1922 | 13.38 | 1.40 | 15.12 | 13.41 |
| 1923 | 12.28 | 1.38 | 13.85 | 12.37 |
| 1924 | 12.91 | 1.37 | 14.63 | 13.04 |
| 1925 | 13.73 | 1.36 | 15.70 | 13.99 |
| 1926 | 13.93 | 1.35 | 15.76 | 14.06 |
| 1927 | 14.39 | 1.34 | 16.24 | 14.66 |
| 1928 | 14.94 | 1.33 | 16.82 | 15.19 |
| 1929 | 14.50 | 1.33 | 16.31 | 14.76 |
| 1930 | 13.82 | 1.32 | 15.31 | 13.83 |
| 1931 | 13.29 | 1.33 | 14.54 | 13.06 |
| 1932 | 12.90 | 1.33 | 14.02 | 12.62 |
| 1933 | 12.14 | 1.34 | 13.46 | 12.01 |
| 1934 | 12.03 | 1.34 | 13.52 | 12.07 |
| 1935 | 12.07 | 1.33 | 13.69 | 12.26 |
| 1936 | 13.37 | 1.32 | 15.11 | 13.65 |
| 1937 | 13.00 | 1.32 | 14.67 | 13.27 |
| 1938 | 11.53 | 1.31 | 12.96 | 11.63 |
| 1929 | 14.65 | 1.33 | 16.45 | 14.89 |
| 1930 | 14.12 | 1.32 | 15.61 | 14.10 |
| 1931 | 13.31 | 1.33 | 14.60 | 13.12 |
| 1932 | 13.25 | 1.33 | 14.40 | 12.95 |
| 1933 | 12.48 | 1.34 | 13.76 | 12.28 |
| 1934 | 12.48 | 1.34 | 13.65 | 12.19 |
| 1935 | 12.05 | 1.33 | 13.77 | 12.34 |
| 1936 | 13.14 | 1.32 | 14.55 | 13.15 |
| 1937 | 12.84 | 1.32 | 14.56 | 13.18 |
| 1938 | 11.45 | 1.31 | 12.85 | 11.54 |
| 1939 | 11.80 | 1.30 | 13.19 | 11.88 |
| 1940 | 11.89 | 1.30 | 13.29 | 12.01 |
| 1941 | 11.39 | 1.29 | 12.84 | 11.58 |
| 1942 | 10.06 | 1.28 | 11.52 | 10.44 |
| 1943 | 9.38 | 1.24 | 10.63 | 9.71 |
| 1944 | 8.58 | 1.23 | 9.67 | 8.84 |
| 1945 | 8.81 | 1.22 | 9.89 | 9.03 |
| 1946 | 8.98 | 1.23 | 10.18 | 9.20 |
| 1947 | 8.49 | 1.24 | 9.62 | 8.70 |
| 1948 | 8.38 | 1.23 | 9.55 | 8.65 |

For notes see page 590.

Table 116 (cont.)


For notes see page 590.

Table 116 (cont.)
C 4thand 5 th Percentage Band


For notes see page 590.

Table 116 (cont.)
D Top 5 Percent

|  | \% of | $\%$ of Nonfarm | Nonfarm | of Income Population R Given | ceived by |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total Income | Population |  | Percentage | Top 7 |
|  | Received by | Covered by | Nonfarm | Band of | Percent of |
|  | Given Perc | Entage Band | Population | Nonfarm | Nonfarm |
|  | of Total | opulation | in Col. 2 | Population | Population |
|  | (1) | (2) | (3) | (4) | (5) |
| 1917 | 24.60 | 7.27 | 29.94 | 25.56 | 29.46 |
| 1918 | 22.69 | 7.18 | 28.19 | 24.22 | 27.87 |
| 1919 | 23.13 | 7.08 | 28.37 | 24.77 | 28.24 |
| 1919 | 22.91 | 7.08 | 28.04 | 24.48 | 27.91 |
| 1920 | 22.07 | 7.11 | 25.92 | 22.63 | 25.77 |
| 1921 | 25.47 | 7.06 | 28.74 | 24.63 | 28.61 |
| 1922 | 24.79 | 7.02 | 28.01 | 24.41 | 27.98 |
| 1923 | 22.89 | 6.92 | 25.82 | 22.35 | 25.95 |
| 1924 | 24.29 | 6.85 | 27.52 | 24.03 | 27.79 |
| 1925 | 25.20 | 6.81 | 28.80 | 25.24 | 29.19 |
| 1926 | 25.25 | 6.76 | 28.55 | 25.14 | 29.02 |
| 1927 | 25.96 | 6.70 | 29.31 | 25.84 | 29.91 |
| 1928 | 26.78 | 6.67 | 30.13 | 26.68 | 30.80 |
| 1929 | 26.09 | 6.65 | 29.35 | 26.05 | 30.05 |
| 1930 | 25.65 | 6.62 | 28.41 | 24.93 | 29.18 |
| 1931 | 26.22 | 6.63 | 28.69 | 24.88 | 29.47 |
| 1932 | 26.00 | 6.65 | 28.26 | 24.37 | 29.06 |
| 1933 | 24.65 | 6.71 | 27.33 | 23.53 | 27.93 |
| 1934 | 23.97 | 6.69 | 26.95 | 23.33 | 27.62 |
| 1935 | 23.78 | 6.67 | 26.96 | 23.39 | 27.62 |
| 1936 | 24.76 | 6.62 | 27.98 | 24.58 | 28.71 |
| 1937 | 24.10 | 6.58 | 27.19 | 24.11 | 28.02 |
| 1938 | 22.97 | 6.54 | 25.80 | 23.26 | 27.39 |
| 1929 | 26.36 | 6.65 | 29.61 | 26.28 | 30.32 |
| 1930 | 26.19 | 6.62 | 28.96 | 25.40 | 29.74 |
| 1931 | 26.27 | 6.63 | 28.82 | 24.99 | 29.60 |
| 1932 | 26.71 | 6.65 | 29.01 | 25.02 | 29.83 |
| 1933 | 25.34 | 6.71 | 27.94 | 24.06 | 28.56 |
| 1934 | 24.88 | 6.69 | 27.21 | 23.55 | 27.88 |
| 1935 | 23.73 | 6.67 | 27.12 | 23.53 | 27.78 |
| 1936 | 24.35 | 6.62 | 26.96 | 23.68 | 27.65 |
| 1937 | 23.80 | 6.58 | 27.00 | 23.94 | 27.82 |
| 1938 | 22.80 | 6.54 | 25.59 | 23.07 | 27.17 |
| 1939 | 23.45 | 6.52 | 26.21 | 22.94 | 27.17 |
| 1940 | 22.71 | 6.49 | 25.39 | 22.83 。 | 26.30 |
| 1941 | 21.89 | 6.45 | 24.67 | 22.15 | 25.53 |
| 1942 | 18.94 | 6.38 | 21.69 | 19.60 | 22.55 |
| 1943 | 17.75 | 6.21 | 20.11 | 18.40 | 21.11 |
| 1944 | 16.62 | 6.13 | 18.74 | 17.22 | 19.89 |
| 1945 | 17.39 | 6.10 | 19.52 | 17.99 | 20.70 |
| 1946 | 18.20 | 6.17 | 20.62 | 18.85 | 21.76 |
| - 1947 | 17.41 | 6.18 | 19.74 | 17.99 | 20.85 |
| 1948 | 17.63 | 6.16 | 20.11 | 18.27 | 21.37 |

For notes see page 590.

Table 116 (cont.)
E 6thand 7 th Percentage Band


For notes see page 590.

Table 116 (cont.)
F Top 7 Percent

|  |  | $\%$ of | Nonfarm | Population Given | ceived by |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\%$ of <br> Total Income | $\underset{\text { Population }}{\text { Nonfer }}$ |  | Percentage | Top 10 |
|  | Received by | Covered by | Nonfarm | Band of | Percent of |
|  | Given Perce | entage Band | Population | Nonfarm | Nonfarm |
|  | of Total P | opulation | in Col. 2 | Population | Population |
|  | (1) | (2) | (3) | (4) | (5) |
| 1917 | 28.59 | 10.18 | 34.80 | 29.46 | 34.52 |
| 1918 | 26.45 | 10.05 | 32.86 | 27.87 | 32.78 |
| 1919 | 26.86 | 9.92 | 32.94 | 28.24 | 33.06 |
| 1919 | 26.60 | 9.92 | 32.56 | 27.91 | 32.68 |
| 1920 | 25.76 | 9.95 | 30.25 | 25.77 | 30.32 |
| 1921 | 30.15 | 9.89 | 34.01 | 28.61 | 34.20 |
| 1922 | 29.03 | 9.83 | 32.80 | 27.98 | 33.07 |
| 1923 | 26.79 | 9.69 | 30.22 | 25.95 | 30.71 |
| 1924 | 28.22 | 9.59 | 31.97 | 27.79 | 32.62 |
| 1925 | 29.67 | 9.54 | 33.92 | 29.19 | 34.72 |
| 1926 | 29.62 | 9.47 | 33.50 | 29.02 | 34.42 |
| 1927 | 30.47 | 9.37 | 34.40 | 29.91 | 35.55 |
| 1928 | 31.24 | 9.34 | 35.16 | 30.80 | 36.17 |
| 1929 | 30.48 | 9.31 | 34.29 | 30.05 | 35.43 |
| 1930 |  |  |  | 29.18 |  |
| 1931 |  |  |  | 29.47 |  |
| 1932 | 31.02 | 9.32 | 33.72 | 29.06 |  |
| 1933 |  |  |  | 27.93 |  |
| 1934 | 28.67 | 9.37 | 32.23 | 27.62 |  |
| 1935 | 28.55 | 9.33 | 32.36 | 27.62 | 33.56 |
| 1936 | 29.16 | 9.27 | 32.95 | 28.71 | 34.29 |
| 1937 | 28.33 | 9.21 | 31.97 | 28.02 | 33.44 |
| 1938 | 27.48 | 9.16 | 30.86 | 27.39 | 32.57 |
| 1929 | 30.80 | 9.31 | 34.59 | 30.32 | 35.74 |
| 1930 |  |  |  | 29.74 |  |
| 1931 |  |  |  | 29.60 |  |
| 1932 | 31.87 | 9.32 | 34.61 | 29.83 |  |
| 1933 |  |  |  | 28.56 |  |
| 1934 | 29.75 | 9.37 | 32.54 | 27.88 |  |
| 1935 | 28.49 | 9.33 | 32.55 | 27.78 | 33.75 |
| 1936 | 28.67 | 9.27 | 31.74 | 27.65 | 33.02 |
| 1937 | 27.98 | 9.21 | 31.74 | 27.82 | 33.20 |
| 1938 | 27.27 | 9.16 | 30.61 | 27.17 | 32.30 |
| 1939 | 28.03 | 9.13 | 31.33 | 27.17 | 32.96 |
| 1940 | 26.82 | 9.08 | 29.98 | 26.30 | 31.46 |
| 1941 | 25.36 | 9.03 | 28.59 | 25.53 | 29.98 |
| 1942 | 21.98 | 8.93 | 25.17 | 22.55 | 26.54 |
| 1943 | 20.54 | 8.70 | 23.27 | 21.11 | 24.81 |
| 1944 | 19.36 | 8.59 | 21.82 | 19.89 | 23.49 |
| 1945 | 20.10 | 8.54 | 22.56 | 20.70 | 24.25 |
| 1946 | 21.04 | 8.64 | 23.84 | 21.76 | 25.43 |
| 1947 | 20.21 | 8.66 | 22.90 | 20.85 | 24.50 |
| 1948 | 20.70 | 8.62 | 23.61 | 21.37 | 25.41 |

For notes see page 590.

Table 116 (cont.)
G 8th-10th Percentage Band

|  | $\%$ of <br> Total Income Received by Given Per of Total (1) | $\%$ of Nonfarm Population Covered by age Band ulation | $\%$ of Inco Populatio <br> Nonfarm Population in Col. 2 (3) | Nonfarm ceived by Given Percentage Band of Nonfarm Population <br> (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | (1) | - (2) | (3) | (4) |
| 1917 |  |  | - | 5.05 |
| 1918 | 4.77 | 4.31 | 5.93 | 4.91 |
| 1919 | 4.83 | 4.25 | 5.92 | 4.82 |
| 1919 | 4.78 | 4.25 | 5.86 | 4.77 |
| 1920 | 4.86 | 4.26 | 5.70 | 4.56 |
| 1921 | 6.39 | 4.24 | 7.20 | 5.60 |
| 1922 | 5.70 | 4.21 | 6.44 | 5.09 |
| 1923 | 5.33 | 4.15 | 6.01 | 4.76 |
| 1924 | 5.35 | 4.11 | 6.06 | 4.84 |
| 1925 |  |  |  | 5.53 |
| 1926 |  |  |  | 5.40 |
| 1927 |  |  |  | 5.64 |
| 1928 |  |  |  | 5.36 |
| 1929 |  |  |  | 5.38 |
| 1935 | . |  |  | 5.94 |
| 1936 |  |  |  | 5.58 |
| 1937 | 6.21 | 3.95 | 7.01 | 5.42 |
| 1938 |  |  |  | 5.18 |
| 1929 |  |  |  | 5.43 |
| 1935 |  |  |  | 5.97 |
| 1936 |  |  |  | 5.37 |
| 1937 | 6.13 | 3.95 | 6.96 | 5.38 |
| 1938 |  |  |  | 5.13 |
| 1939 | 6.39 | 3.91 | 7.14 | 5.79 |
| 1940 | 5.26 | 3.89 | 5.88 | 5.16 |
| 1941 | 4.60 | 3.87 | 5.18 | 4.45 |
| 1942 | 4.02 | 3.83 | 4.60 | 3.99 |
| 1943 | 3.74 | 3.73 | 4.23 | 3.70 |
| 1944 | 3.71 | 3.68 | 4.18 | . 3.60 |
| 1945 | 3.61 | 3.66 | 4.05 | 3.55 |
| 1946 | 3.66 | 3.70 | 4.14 | 3.67 |
| 1947 | 3.75 | 3.71 | 4.25 | 3.65 |
| 1948 | 4.08 | 3.70 | 4.65 | 4.04 |

For notes see page 590.

Table 116 (concl.)
H Top 10 Percent
$\%$ of Income of


| 1917 |  |  |  | 34.52 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | 31.22 | 14.36 | 38.79 | 32.78 |  |
| 1919 | 31.69 | 14.17 | 38.87 | 33.06 | 39.92 |
| 1919 | 31.39 | 14.17 | 38.42 | 32.68 | 39.46 |
| 1920 | 30.61 | 14.21 | 35.96 | 30.32 | 36.91 |
| 1921 | 36.53 | 14.13 | 41.22 | 34.20 | 42.64 |
| 1922 | 34.72 | 14.05 | 39.24 | 33.07 | 40.66 |
| 1923 | 32.11 | 13.84 | 36.23 | 30.71 | 37.90 |
| 1924 | 33.57 | 13.69 | 38.03 | 32.62 | 40.07 |
| 1925 |  |  |  | 34.72 |  |
| 1926 |  |  |  | 34.42 |  |
| 1927 |  |  |  | 35.55 |  |
| 1928 |  |  |  | 36.17 |  |
| 1929 |  |  |  | 35.43 |  |
| 1935 |  |  |  | 33.56 |  |
| 1936 |  |  |  | 34.29 |  |
| 1937 | 34.54 | 13.16 | 38.98 | 33.44 |  |
| 1938 |  |  |  | 32.57 |  |
| 1929 |  |  |  | 35.74 |  |
| 1935 |  |  |  | 33.75 |  |
| 1936 |  |  |  | 33.02 |  |
| 1937 | 34.12 | 13.16 | 38.70 | 33.20 |  |
| 1938 |  |  |  | 32.30 |  |
| 1939 | 34.41 | 13.04 | 38.47 | 32.96 | 41.93 |
| 1940 | 32.07 | 12.98 | 35.86 | 31.46 | 38.72 |
| 1941 | 29.96 | 12.91 | 33.77 | 29.98 | 36.35 |
| 1942 | 26.00 | 12.75 | 29.77 | 26.54 | 32.30 |
| 1943 | 24.28 | 12.43 | 27.50 | 24.81 | 30.39 |
| 1944 | 23.07 | 12.27 | 26.00 | 23.49 | 28.84 |
| 1945 | 23.71 | 12.20 | 26.61 | 24.25 | 29.46 |
| 1946 | 24.69 | 12.35 | 27.99 | 25.43 | 30.61 |
| 1947 | 23.95 | 12.37 | 27.15 | 24.50 | 29.81 |
| 1948 | 24.78 | 12.32 | 28.27 | 25.41 | 31.26 |

For notes see page 590.

Notes to Table 116

## Column

1 For details of the procedure by which the income share of a given upper percentage band is calculated, see the sample computation for 1929 in Appendix 3, Section A. For 1913-15, when the tax return population covers respectively $1.046,1.042$, and 0.963 percent of the total population, the share for the top 1 percent is extrapolated on the basis of comparable data for 1916.
2 The percentage of total population covered by the given percentage band multiplied by the ratio of the total population (Table 69, col. 5) to the nonfarm (Table 115, col. 1).
3 Column 1 multiplied by the ratio of total income receipts (Table 114, col. 12) to income of nonfarm population (Table 114, col. 13).

4,5 For details of the procedure by which the income share of a given upper percentage band is calculated, see the sample computation for 1929 in Appendix 3, Section C. For 1913-15, when the tax return population covers respectively $1.566,1.546$, and 1.421 percent of the nonfarm population, the share for the top 1 percent is extrapolated on the basis of comparable data for 1916. For the procedure by which the 1938 entries for the 4th and 5th, 6th and 7th, and 8th-10th percentage bands are estimated, see Chapter 8, note 8.

Table 117
Per Capita Income of Entire Population, of Upper Income Groups, and at Lower Partition Line of Each Income Group (dollars)
Basic Variant, Total and Nonfarm Population, 1913-1948
I Per Capita Income of Entire Population and of Given Percentage Band

| Entire | Top | 2nd \& | 4th \& | 6th \& | 8th- | 11th- | 16th- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Population | 1 | 3rd | 5th | 7th | 10th | 15th | 20th |
| (1) | $(2)$ | $(3)$ | (4) | $(5)$ | $(6)$ | $(7)$ | (8) |


| 1913 | $335{ }^{\text {a }}$ | 5,013 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | $322{ }^{\text {a }}$ | 4,206 |  |  |  |  |  |  |
| 1915 | $339^{\text {a }}$ | 4,852 |  |  |  |  |  |  |
| 1916 | 399a | 6,209 |  |  |  |  |  |  |
| 1917 | 479 ${ }^{\text {a }}$ | 6,781 | 1,356 | 1,141 | 955 |  |  |  |
| 1918 | $528{ }^{\text {a }}$ | 6,698 | 1,518 | 1,121 | 993 | 840 |  |  |
| 1919 | 606 | 7,782 | 1,798 | 1,254 | 1,119 | 966 |  |  |
| 1920 | 627 | 7,742 | 1,812 | 1,238 | 1,157 | 1,016 |  |  |
| 1921 | 490 | 6,614 | 1,662 | 1,270 | 1,146 | 1,043 |  |  |
| 1922 | 520 | 6,957 | 1,765 | 1,203 | 1,102 | 987 |  |  |
| 1923 | 593 | 7,279 | 1,784 | 1,361 | 1,156 | 1,052 |  |  |
| 1924 | 586 | 7,566 | 1,943 | 1,390 | 1,150 | 1,045 |  |  |
| 1925 | 610 | 8,383 | 2,040 | 1,458 | 1,366 |  |  |  |
| 1926 | 627 | 8,735 | 2,094 | 1,453 | 1,371 |  |  |  |
| 1927 | 622 | 8,945 | 2,077 | 1,520 | 1,401 |  |  |  |
| 1928 | 630 | 9,410 | 2,174 | 1,552 | 1,406 |  |  |  |
| 1929 | 659 | 9,547 | 2,241 | 1,575 | 1,445 |  |  |  |
| 1930 | 583 | 8,058 | 1,938 | 1,509 |  |  |  |  |
| 1931 | 480 | 6,372 | 1,692 | 1,410 |  |  |  |  |
| 1932 | 368 | 4,747 | 1,308 | 1,101 | 923 |  |  |  |
| 1933 | 357 | 4,327 | 1,240 | 990 |  |  |  |  |
| 1934 | 409 | 4,922 | 1,354 | 1,090 | 961 |  |  |  |
| 1935 | 443 | 5,353 | 1,435 | 1,160 | 1,056 |  |  |  |
| 1936 | 498 | 6,661 | 1,644 | 1,196 | 1,095 |  |  |  |
| 1937 | 538 | 6,997 | 1,763 | 1,225 | 1,139 | 1,115 |  |  |
| 1938 | 491 | 5,668 | 1,605 | 1,207 | 1,107 |  |  |  |
| 1939 | $526^{\text {b }}$ | 6,203 | 1,755 | 1,307 | 1,204 | 1,120 |  |  |
| 1940 | $564{ }^{\text {b }}$ | 6,702 | 1,844 | 1,205 | 1,157 | 988 | 960 | 907 |
| 1941 | $688{ }^{\text {b }}$ | 7,832 | 2,150 | 1,460 | 1,195 | 1,054 | 967 | 912 |
| 1942 | $873^{\text {b }}$ | 8,781 | 2,328 | 1,549 | 1,328 | 1,169 | 1,041 | 952 |
| 1943 | 1,050 ${ }^{\text {b }}$ | 9,850 | 2,684 | 1,705 | 1,465 | 1,308 | 1,223 | 1,119 |
| 1944 | 1,133 ${ }^{\text {b }}$ | 9,720 | 2,772 | 1,788 | 1,549 | 1,401 | 1,257 | 1,152 |
| 1945 | 1,154 ${ }^{\text {b }}$ | 10,167 | 3,056 | 1,891 | 1,563 | 1,389 | 1,229 | 1,125 |
| 1946 | 1,218 ${ }^{\text {b }}$ | 10,934 | 3,464 | 2,150 | 1,731 | 1,484 | 1,300 | 1,179 |
| 1947 | 1,310 ${ }^{\text {b }}$ | 11,117 | 3,567 | 2,277 | 1,828 | 1,636 | 1,359 | 1,280 |
| 1948 | 1,381 ${ }^{\text {b }}$ | 11,563 | 3,847 | 2,539 | 2,121 | 1,877 | 1,608 | 1,394 |

For notes see page 595.

Table 117 (cont.)

## I Per Capita Income of Entire Population and of Given Percentage BAND (concl.)

| Entire | Top | 2nd \& | 4th \& | 6th \& | 8th- | 11th- | 16th- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Population | 1 | 3rd | 5th | 7th | 10th | 15th | 20th |
| (1) | $(2)$ | (3) | (4) | (5) | (6) | (7) | (8) |

B Nonfarm Population

| 1913 | 425* | 6,863 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | 405 | 5,720 |  |  |  |  |
| 1915 | $424{ }^{\text {a }}$ | 6,571 |  |  |  |  |
| 1916 | $495{ }^{\text {a }}$ | 8,375 |  |  |  |  |
| 1917 | $572{ }^{\text {a }}$ | 8,913 | 1,638 | 1,218 | 1,115 | 964 |
| 1918 | $610^{\text {a }}$ | 8,580 | 1,834 | 1,267 | 1,112 | 1,000 |
| 1919 | 702 | 9,731 | 2,255 | 1,466 | 1,205 | 1,115 |
| 1920 | 759 | 9,773 | 2,246 | 1,456 | 1,191 | 1,153 |
| 1921 | 614 | 8,276 | 2,049 | 1,368 | 1,222 | 1,144 |
| 1922 | 646 | 8,669 | 2,105 | 1,449 | 1,153 | 1,098 |
| 1923 | 727 | 8,996 | 2,144 | 1,487 | 1,310 | 1,153 |
| 1924 | 708 | 9,232 | 2,318 | 1,574 | 1,331 | 1,142 |
| 1925 | 727 | 10,177 | 2,477 | 1,615 | 1,436 | 1,342 |
| 1926 | 750 | 10,541 | 2,601 | 1,553 | 1,454 | 1,349 |
| 1927 | 737 | 10,813 | 2,544 | 1,577 | 1,502 | 1,386 |
| 1928 | 747 | 11,343 | 2,637 | 1,651 | 1,539 | 1,335 |
| 1929 | 778 | 11,488 | 2,700 | 1,695 | 1,558 | 1,396 |
| 1930 | 697 | 9,643 | 2,318 | 1,549 | 1,481 |  |
| 1931 | 581 | 7,589 | 1,941 | 1,492 | 1,333 |  |
| 1932 | 450 | 5,683 | 1,465 | 1,181 | 1,057 |  |
| 1933 | 432 | 5,186 | 1,365 | 1,121 | 950 |  |
| 1934 | 487 | 5,881 | 1,578 | 1,163 | 1,044 |  |
| 1935 | 521 | 6,395 | 1,695 | 1,205 | 1,102 | 1,032 |
| 1936 | 584 | 7,972 | 1,956 | 1,236 | 1,206 | 1,086 |
| 1937 | 628 | 8,330 | 2,079 | 1,322 | 1,227 | 1,134 |
| 1938 | 573 | 6,660 | 1,868 | 1,462. | 1,182 | 988 |
| 1939 | $613^{\text {b }}$ | 7,285 | 2,065 | 1,326 | 1,295 | 1,184 |
| 1940 | $654{ }^{\text {b }}$ | 7,855 | 2,135 | 1,405 | 1,138 | 1,124 |
| 1941 | $787^{\text {b }}$ | 9,116 | 2,500 | 1,662 | 1,331 | 1,167 |
| 1942 | $972^{\text {b }}$ | 10,149 | 2,726 | 1,728 | 1,431 | 1,293 |
| 1943 | 1,151 ${ }^{\text {b }}$ | 11,180 | 3,107 | 1,896 | 1,560 | 1,422 |
| 1944 | 1,233 ${ }^{\text {b }}$ | 10,899 | 3,183 | 1,987 | 1,649 | 1,481 |
| 1945 | 1,254 ${ }^{\text {b }}$ | 11,318 | 3,498 | 2,124. | 1,699 | 1,485 |
| 1946 | 1,327 ${ }^{\text {b }}$ | 12,211 | 3,969 | 2,433 | 1,929 | 1,621 |
| 1947 | 1,429 ${ }^{\text {b }}$ | 12,432 | 4,066 | 2,569 | 2,046 | 1,738 |
| 1948 | 1,491 ${ }^{\text {b }}$ | 12,894 | 4,337 | 2,832 | 2,314 | 2,008 |

For notes see page 595.

Table 117 (cont.)
II Per Capita Income at Lower Limit of Given Percentage Band

| Top | 2nd \& | 4th \& | 6th \& | 8th- | 11th- | 16th- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3rd | 5 th | 7th | 10 th | 15th | 20th |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ | $(7)$ |

A Total population

| 1916 | 1,410 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 | 1,848 | 1,244 | 1,044 | 874 |  |  |  |
| 1918 | 2,164 | 1,304 | 1,055 | 929 | 760 |  |  |
| 1919 | 2,591 | 1,502 | 1,185 | 1,055 | 884 |  |  |
| 1920 | 2,628 | 1,498 | 1,197 | 1,098 | 943 |  |  |
| 1921 | 2,288 | 1,453 | 1,206 | 1,104 | 985 |  |  |
| 1922 | 2,488 | 1,457 | 1,151 | 1,054 | 924 |  |  |
| 1923 | 2,552 | 1,558 | 1,254 | 1,113 | 1,022 |  |  |
| 1924 | 2,740 | 1,643 | 1,264 | 1,107 | 1,032 |  |  |
| 1925 | 3,090 | 1,725 | 1,411 | 1,322 |  |  |  |
| 1926 | 3,329 | 1,744 | 1,411 | 1,331 |  |  |  |
| 1927 | 3,232 | 1,777 | 1,459 | 1,345 |  |  |  |
| 1928 | 3,300 | 1,837 | 1,477 | 1,338 |  |  |  |
| 1929 | 3,348 | 1,879 | 1,509 | 1,384 |  |  |  |
| 1930 | 2,905 | 1,710 | 1,332 |  |  |  |  |
| 1931 | 2,390 | 1,545 | 1,287 |  |  |  |  |
| 1932 | 1,747 | 1,200 | 1,008 | 845 |  |  |  |
| 1933 | 1,668 | 1,108 | 885 |  |  |  |  |
| 1934 | 1,898 | 1,215 | 1,023 | 902 |  |  |  |
| 1935 | 2,038 | 1,290 | 1,107 | 1,008 |  |  |  |
| 1936 | 2,416 | 1,402 | 1,144 | 1,047 |  |  |  |
| 1937 | 2,544 | 1,470 | 1,181 | 1,129 | 1,101 |  |  |
| 1938 | 2,258 | 1,392 | 1,156 | 1,060 |  |  |  |
| 1939 | 2,472 | 1,515 | 1,254 | 1,170 | 1,072 |  |  |
| 1940 | 2,618 | 1,491 | 1,181 | 1,086 | 977 | 933 | 882 |
| 1941 | 3,172 | 1,772 | 1,321 | 1,136 | 1,020 | 939 | 887 |
| 1942 | 3,466 | 1,899 | 1,434 | 1,262 | 1,119 | 996 | 918 |
| 1943 | 4,062 | 2,139 | 1,580 | 1,400 | 1,275 | 1,170 | 1,086 |
| 1944 | 4,174 | 2,226 | 1,664 | 1,488 | 1,345 | 1,203 | 1,119 |
| 1945 | 4,654 | 2,404 | 1,719 | 1,491 | 1,327 | 1,176 | 1,093 |
| 1946 | 5,126 | 2,729 | 1,929 | 1,628 | 1,412 | 1,238 | 1,140 |
| 1947 | 5,196 | 2,850 | 2,040 | 1,749 | 1,526 | 1,319 | 1,243 |
| 1948 | 5,516 | 3,125 | 2,321 | 2,020 | 1,771 | 1,497 | 1,345 |

For notes see page 595.

Table 117 (concl.)
II Per Capita Income at Lower Limit of Given Percentage Band (concl.)

| Top | 2nd \& | 4th \& | 6th \& | 8th- | 11th- | 16th- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3rd | 5 th | 7th | 10th | 15th | 20th |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | (5) | (6) | (7) |

B NONFARM POPULATION

| 1916 | 1,830 |  |  |  |  |
| :--- | :--- | :--- | :--- | ---: | ---: |
| 1917 | 2,405 | 1,412 | 1,165 | 1,052 | 883 |
| 1918 | 2,696 | 1,524 | 1,187 | 1,066 | 938 |
| 1919 | 3,429 | 1,818 | 1,329 | 1,168 | 1,050 |
| 1920 | 3,364 | 1,808 | 1,317 | 1,176 | 1,093 |
| 1921 | 2,908 | 1,674 | 1,293 | 1,190 | 1,102 |
| 1922 | 3,015 | 1,746 | 1,293 | 1,131 | 1,053 |
| 1923 | 3,210 | 1,786 | 1,396 | 1,245 | 1,112 |
| 1924 | 3,444 | 1,910 | 1,447 | 1,252 | 1,109 |
| 1925 | 3,846 | 2,000 | 1,523 | 1,398 | 1,288 |
| 1926 | 3,954 | 2,10 | 1,503 | 1,411 | 1,290 |
| 1927 | 3,695 | 2,003 | 1,539 | 1,454 | 1,321 |
| 1928 | 4,020 | 2,087 | 1,594 | 1,454 | 1,226 |
| 1929 | 4,051 | 2,139 | 1,625 | 1,491 | 1,307 |
| 1930 | 3,496 | 1,895 | 1,515 | 1,449 |  |
| 1931 | 2,894 | 1,702 | 1,410 | 1,260 |  |
| 1932 | 2,148 | 1,315 | 1,117 | 1,000 |  |
| 1933 | 1,994 | 1,237 | 1,032 | 875 |  |
| 1934 | 2,287 | 1,355 | 1,102 | 989 |  |
| 1935 | 2,437 | 1,429 | 1,152 | 1,073 | 993 |
| 1936 | 2,840 | 1,555 | 1,221 | 1,156 | 1,020 |
| 1937 | 2,966 | 1,658 | 1,274 | 1,189 | 1,081 |
| 1938 | 2,677 | 1,653 | 1,315 | 1,100 | 187 |
| 1939 | 2,865 | 1,655 | 1,310 | 1,249 | 1,152 |
| 1940 | 3,092 | 1,732 | 1,264 | 1,132 | 1,055 |
| 1941 | 3,700 | 2,038 | 1,487 | 1,633 | 1,103 |
| 1942 | 4,125 | 2,170 | 1,573 | 1,374 | 1,226 |
| 1943 | 4,838 | 2,427 | 1,720 | 1,503 | 1,369 |
| 1944 | 4,821 | 2,515 | 1,810 | 1,580 | 1,418 |
| 1945 | 5,264 | 2,726 | 1,900 | 1,610 | 1,415 |
| 1946 | 5,886 | 3,108 | 2,166 | 1,799 | 1,524 |
| 1947 | 5,943 | 3,232 | $2,, 293$ | 1,917 | 1,651 |
| 1948 | 6,143 | 3,505 | 2,560 | 2,186 | 1,905 |

Notes to Table 117
${ }^{2}$ Not strictly comparable with series for 1919-38 (see notes to sources). Figure for 1919 comparable with those for preceding years is $\$ 600$ for total population and $\$ 693$ for nonfarm population.
${ }^{5}$ Not strictly comparable with series for 1919-38 (see notes to sources). Figures for 1929-38 comparable with those for following years are:

| Total |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Population |  |  |  |  |  |
| $\$ 652$ | Nonfarm <br> Population <br> 1929 | $\$ 772$ | 1934 | Total <br> Population | Nonfarm <br> Population |
| 1930 | 571 | 684 | 1935 | 444 | $\$ \$ 83$ |
| 1931 | 479 | 579 | 1936 | 507 | 518 |
| 1932 | 358 | 439 | 1937 | 545 | 606 |
| 1933 | 347 | 422 | 1938 | 495 | 577 |

Column
Part I

## A Total Population

1 Table 74, column 5.
2-8 Column 1 multiplied by the income share of the given percentage band per percentile of population (from Table 118).

B Nonfarm Population
1 Calculated from Table 115, columns 1 and 2.
2-8 Column 1 multiplied by the income share of the given percentage band per percentile of population (from Table 119).

## Part II

1 Per capita income of segment of population lying between the top 0.9999 and 1.0001 percent of the cumulative distribution. The share of total income receipts (or of income of nonfarm population) at these levels is estimated by the procedure outlined for the share of the top 1 percent in Appendix 3, Section A or C. The difference between the shares at these levels is averaged (by dividing by 2 ) and the average multiplied by the countrywide income per capita, Part I, column 1.
2-7 Calculated as the geometric mean of the average per capita income for pairs of successive percentage bands. When the tax return population does not cover a percentage band below the lowest partition line shown in this table, the per capita income at the lowest partition line is estimated by multiplying the average per capita income for the lowest percentage band by (a) the ratio of the per capita income at the lower limit of the next band above to the average per capita income for that band, or (b) the ratio of the average per capita income for the lowest percentage band to the per capita income at the upper limit of that band, whichever ratio is lower. Average per capita income for the various percentage bands is from Part I, and unpublished extensions.

Table 118: Percentage Shares of Upper Income Groups in Total Income Receipts, Basic Variant, Total Population, Adjusted for Various Changes in Scope of Income, 1913-1948

|  | BASIC | VARIANT | ADJUSTED |  | TO |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  |  | Include |
|  | Compensation |  | Exclude |  | Excess of |
|  | of State | Include | Federal |  | osses from |
| BASIC | \& Local | Imputed | Income |  | Sales of |
| variant | Governments | Rent | Taxes |  | Assets |
| (1) | (2) | (3) | (4) |  | (5) |


| 1913 | 14.98 | 14.98* | 14.83 | n.a. | n.a. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | 13.07 | 13.07* | 12.93 | 12.99 | n.a. |
| 1915 | 14.32 . | 14.32* | 14.17 | 14.20 | n.a. |
| 1916 | 15.58 | 15.58* | 15.44 | 15.21 | n.a. |
| 1917 | 14.16 | 14.16* | 14.06 | 12.86 | 14.40 |
| 1918 | 12.69 | 12.69* | 12.60 | 11.17 | 12.54 |
| 1919 | 12.96 | 12.96* | 12.88 | 11.45 | 13.02 |
| 1919 | 12.84 | 12.84* | 12.75 | 11.33 | 12.90 |
| 1920 | 12.34 | 12.34** | 12.24 | 11.23 | 12.03 |
| 1921 | 13.50 | 13.50** | 13.34 | 12.52 | 12.75 |
| 1922 | 13.38 | 13.38** | 13.22 | 12.26 | 13.68 |
| 1923 | 12.28 | 12.28* | 12.15 | 11.55 | 12.39 |
| 1924 | 12.91 | 12.91** | 12.76 | 12.08 | 13.84 |
| 1925 | 13.73 | 13.73.* | 13.58 | 12.86 | 16.31 |
| 1926 | 13.93 | 13.93* | 13.80 | 13.10 | 15.94 |
| 1927 | 14.39 | 14.39* | 14.25 | 13.45 | 16.83 |
| 1928 | 14.94 | 14.94* | 14.81 | 13,66 | 19.29 |
| 1929 | 14.50 | 14.50* | 14.37 | 13.43 | 18.28 |
| 1930 | 13.82 | 13.82* | 13.70 | 13.27 | 14.21 |
| 1931 | 13.29 | 13.29* | 13.17 | 12.94 | 12.77 |
| 1932 | 12.90 | 12.90* | 12.80 | 12.35 | 10.56 |
| 1933 | 12.14 | 12.14* | 12.04 | 11.46 | 11.37 |
| 1934 | 12.03 | 12.03* | 11.96 | 11.21 | 11.76 |
| 1935 | 12.07 | 12.07* | 12.00 | 11.11 | 12.43 |
| 1936 | 13.37 | 13.37* | 13.30 | 11.81 | 14.37 |
| 1937 | 13.00 | 13.00* | 12.93 | 11.68 | 13.33 |
| 1938 | 11.53 | 11.53* | 11.46 | 10.57 | 11.91 |
| 1929 | 14.65 | 14.65* | 14.50 | 13.57 | 18.47 |
| 1930 | 14.12 | 14.12* | 13.97 | 13.55 | 14.52 |
| 1931 | 13.31 | 13.31* | 13.17 | 12.97 | 12.79 |
| 1932 | 13.25 | 13.25* | 13.11 | 12.69 | 10.86 |
| 1933 | 12.48 | 12.48* | 12.38 | 11.79 | 11.71 |
| 1934 | 12.48 | 12.48* | 12.42 | 11.64 | 12.21 |
| 1935 | 12.05 | 12.05* | 11.99 | 11.09 | 12.41 |
| 1936 | 13.14 | 13.14* | 13.08 | 11.61 | 14.13 |
| 1937 | 12.84 | 12.84* | 12.77 | 11.53 | 13.17 |
| 1938 | 11.45 | 11.45* | 11.38 | 10.49 | 11.82 |
| 1939 | 11.80 | $\dagger$ | 11.72 | 10.75 | 12.01 |
| 1940 | 11.89 | $\dagger$ | 11.82 | 10.39 | 12.05 |
| 1941 | 11.39 | $\dagger$ | 11.33 | 9.02 | 11.44 |
| 1942 | 10.06 | $\dagger$ | 10.01 | 7.13 | 10.16 |
| 1943 | 9.38 | $\dagger$ | 9.34 | 5.47 | 9.92 |
| 1944 | 8.58 | $\dagger$ | 8.53 | 5.74 | 9.19 |
| 1945 | 8.81 | $\dagger$ | 8.76 | 5.72 | 10.08 |
| 1946 | 8.98 | $\dagger$ | 8.94 | 6.03 | 10.41 |
| 1947 | 8.49 | $\dagger$ | 8.46 | 5.86 | n.a. |
| 1948 | 8.38 | $\dagger$ | n.a. | 6.25 | n.a. |

For notes see page 606.

Table 118 (cont.)

|  | BASIC | VARIANT | ADJUST | D TO |
| :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  | Include |
|  | Compensation |  |  | Excess of |
|  | of Employees |  | Exclude | Gains over |
| AS | of State <br> \& Local | Include <br> Imputed | Federal Income | Losses from Sales of |
| variant | Governments | Rent | Taxes | Assets |
| (1) | (2) | (3) | (4) | (5) |


| 1917 | 5.67 | 5.68 | 5.66 | 5.70 | 5.76 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | 5.75 | 5.75 | 5.74 | 5.72 | 5.79 |
| 1919 | 5.99 | 5.99 | 5.98 | 5.99 | 6.14 |
| 1919 | 5.93 | 5.93 | 5.92 | 5.93 | 6.08 |
| 1920 | 5.78 | 5.78 | 5.76 | 5.75 | 6.00 |
| 1921 | 6.79 | 6.86 | 6.76 | 6.81 | 6.97 |
| 1922 | 6.79 | 6.85 | 6.76 | 6.79 | 6.82 |
| 1923 | 6.02 | 6.03 | 6.00 | 6.02 | 6.08 |
| 1924 | 6.63 | 6.67 | 6.60 | 6.66 | 6.74 |
| 1925 | 6.68 | 6.72 | 6.66 | 6.73 | 6.78 |
| 1926 | 6.68 | 6.71 | 6.66 | 6.72 | 6.79 |
| 1927 | 6.68 | 6.74 | 6.66 | 6.73 . | 6.72 |
| 1928 | 6.90 | 6.97 | 6.88 | 6.98 | 6.88 |
| 1929 | 6.81 | 6.85 | 6.79 | 6.88 | 6.77 |
| 1930 | 6.65 | 6.75 | 6.63 | 6.68 | 6.68 |
| 1931 | 7.06 | 7.38 | 7.03 | 7.07 | 7.21 |
| 1932 | 7.11 | 7.87 | . 7.09 | 7.12 | 7.30 |
| 1933 | 6.96 | 7.52 | 6.94 | 6.98 | 7.07 |
| 1934 | 6.62 | 6.96 | 6.60 | 6.64 | 6.52 |
| 1935 | 6.47 | 6.80 | 6.46 | 6.51 | 6.42 |
| 1936 | 6.60 | 6.80 | 6.59 | 6.64 | 6.59 |
| 1937 | 6.55 | 6.71 | -6.54 | 6.58 | 6.53 |
| 1938 | 6.53 | 6.91 | 6.52 | 6.54 | 6.50 |
| 1929 | 6.88 | 6.94 | 6.86 | 6.96 | 6.84 |
| 1930 | 6.79 | 6.93 | 6.76 | 6.82 | 6.82 |
| 1931 | 7.07 | 7.42 | 7.04 | 7.09 | 7.22 |
| 1932 | 7.31 | 8.16 | 7.28 | 7.32 | 7.51 |
| 1933 | 7.16 | 7.82 | 7.13 | 7.18 | 7.28 |
| 1934 | 6.86 | 7.32 | 6.85 | 6.90 | 6.78 |
| 1935 | 6.46 | 6.81 | 6.45 | 6.50 | 6.41 |
| 1936 | 6.49 | 6.69 | 6.48 | 6.53 | 6.48 |
| 1937 | 6.47 | 6.63 | 6.46 | 6.49 | 6.45 |
| 1938 | 6.48 | 6.84 | 6.47 | 6.49 | 6.45 |
| 1939 | 6.68 | $\dagger$ | 6.66 | 6.69 | 6.68 |
| 1940 | 6.54 | $\dagger$ | 6.53 | 6.55 | 6.55 |
| 1941 | 6.25 | $\dagger$ | 6.24 | 6.11 | 6.17 |
| 1942 | 5.33 | $\dagger$ | 5.32 | 4.98 | 5.28 |
| 1943 | 5.12 | $\dagger$ | 5.11 | 4.56 | 5.16 |
| 1944 | 4.89 | $\dagger$ | 4.88 | 4.42 | 4.99 |
| 1945 | 5.30 | $\dagger$ | 5.29 | 4.72 | 5.53 |
| 1946 | 5.69 | $\dagger$ | 5.68 | 5.11 | 6.00 |
| 1947 | 5.45 | $\dagger$ | 5.44 | 4.93 | n.a. |
| 1948 | 5.57 | $\dagger$ | n.a. | 5.17 | n.a. |

Table 118 (cont.)

|  | BASIC | VARIANT | A D J U |  | To |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  |  | Include |
|  | Compensation |  |  |  | Excess of |
|  | of Employees |  | Exclude |  | Gains over |
|  | of State | Include | Federal |  | osses from |
| BASIC | \& Local | Imputed | Income |  | Sales of |
| Variant | Governments | Rent | Taxes |  | Assets |
| (1) | (2) | (3) | (4) |  | (5) |



For notes see page 606. .

Table 118 (cont.)

|  |  | BASIC <br> Include Compensation of Employees of State \& Local Governments (2) | VARIANT | ADJUSTED |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Include |
|  |  |  |  | Exclude | Excess of Gains over |
|  |  |  | Include | Federal | Losses from |
|  | BASIC |  | Imputed | Income | Sales of |
|  | variant |  | Rent | Taxes | Assets |
|  | (1) |  | (3) | (4) | (5) |
|  |  | D ToP 5 | ERCEN-T |  |  |
| 1917 | 24.60 | 24.64 | 24.49 | 23.38 | 24.95 |
| 1918 | 22.69 | 22.72 | 22.60 | 21.16 | 22.58 |
| 1919 | 23.13 | 23.18 | 23.04 | 21.64 | 23.37 |
| 1919 | 22.91 | 22.93 | 22.81 | 21.43 | 23.15 |
| 1920 | 22.07 | 22.10 | 21.95 | 20.93 | 22.04 |
| 1921 | 25.47 | 25.72 | 25.28 | 24.54 | 24.70 |
| 1922 | 24.79 | 25.00 | 24.60 | 23.73 | 25.10 |
| 1923 | 22.89 | 22.97 | 22.74 | 22.17 | 23.09 |
| 1924 | 24.29 | 24.43 | 24.11 | 23.51 | 25.34 |
| 1925 | 25.20 | 25.35 | 25.02 | 24.42 | 27.77 |
| 1926 | 25.25 | 25.40 | 25.09 | 24.50 | 27.30 |
| 1927 | 25.96 | 26.16 | 25.81 | 25.12 | 28.39 |
| 1928 | 26.78 | 27.01 | 26.63 | 25.64 | 30.91 |
| 1929 | 26.09 | 26.27 | 25.95 | 25.15 | 29.66 |
| 1930 | 25.65 | 25.93 | 25.50 | 25.15 | 26.10 |
| 1931 | 26.22 | 26.75 | 26.08 | 25.91 | 26.00 |
| 1932 | 26.00 | 26.98 | 25.87 | 25.48 | 24.07 |
| 1933 | 24.65 | 25.49 | 24.52 | 24.02 | 24.10 |
| 1934 | 23.97 | 24.55 | 23.88 | 23.22 | 23.57 |
| 1935 | 23.78 | 24.32 | 23.70 | 22.90 | 24.05 |
| 1936 | 24.76 | 25.27 | 24.69 | 23.32 | 25.70 |
| 1937 | 24.10 | 24.62 | 24.02 | 22.86 | 24.40 |
| 1938 | 22.97 | 23.67 | 22.88 | 22.07 | 23.31 |
| 1929 | 26.36 | 26.58 | 26.19 | 25.42 | 29.96 |
| 1930 | 26.19 | 26.55 | 26.02 | 25.69 | 26.66 |
| 1931 | 26.27 | 26.84 | 26.10 | 25.96 | 26.05 |
| 1932 | 26.71 | 27.80 | 26.53 | 26.19 | 24.77 |
| 1933 | 25.34 | 26.30 | 25.22 | 24.71 | 24.80 |
| 1934 | 24.88 | 25.59 | 24.79 | 24.1 .1 | 24.47 |
| 1935 | 23.73 | 24.30 | 23.67 | 22.85 | 24.00 |
| 1936 | 24.35 | 24.86 | 24.28 | 22.92 | 25.27 |
| 1937 | 23.80 | 24.32 | 23.73 | 22.57 | 24.09 |
| 1938 | 22.80 | 23.49 | 22.71 | 21.90 | 23.13 |
| 1939 | 23.45 | $\dagger$ | 23.36 | 22.45 | 23.68 |
| 1940 | 22.71 | $\dagger$ | 22.63 | 21.27 | 22.88 |
| 1941 | 21.89 | $\dagger$ | 21.81 | 19.35 | 21.86 |
| 1942 | 18.94 | $\dagger$ | 18.88 | 15.53 | 18.98 |
| 1943 | 17.75 | $\dagger$ | 17.70 | 13.09 | 18.32 |
| 1944 | 16.62 | $\dagger$ | 16.57 | 13.15 | 17.35 |
| 1945 | 17.39 | $\dagger$ | 17.33 | 13.53 | 18.93 |
| 1946 | 18.20 | $\dagger$ | 18.15 | 14.49 | 20.05 |
| 1947 | 17.41 | $\dagger$ | 17.38 | 14.10 | n.a. |
| 1948 | . 17.63 | $\dagger$ | n.a. | 14.95 | n.a. |

For notes see page 606.

Table 118 (cont.)


For notes see page 606.

Table 118 (cont.)

|  | BASIC variant <br> (1) | BASIC <br> Include Compensation of Employees of State \& Local Governments (2) | VARIANT <br> Include Imputed Rent <br> (3) | ADJUST <br> Exclude Federal Income Taxes <br> (4) | D TO Include Excess of Gains over Losses from Sales of Assets (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | F TOP 7 | R CENT |  |  |
| 1917 | 28.59 | 28.68 | 28.48 | 27.42 | 28.97 |
| 1918 | 26.45 | 26.50 | 26.36 | 24.96 | 26.35 |
| 1919 | 26.86 | 26.93 | 26.78 | 25.41 | 27.12 |
| 1919 | 26.60 | 26.64 | 26.51 | 25.16 | 26.86 |
| 1920 | 25.76 | 25.80 | 25.65 | 24.63 | 25.73 |
| 1921 | 30.15 | 30.48 | 29.96 | 29.24 | 29.38 |
| 1922 | 29.03 | 29.30 | 28.85 | 27.99 | 29.31 |
| 1923 | 26.79 | 26.93 | 26.64 | 26.09 | 26.99 |
| 1924 | 28.22 | 28.45 | 28.04 | 27.48 | 29.25 |
| 1925 | 29.67 | 29.86 | 29.50 | 28.93 | 32.15 |
| 1926 | 29.62 | 29.81 | 29.47 | 28.91 | 31.63 |
| 1927 | 30.47 | 30.74 | 30.32 | 29.68 | 32.82 |
| 1928 | 31.24 | 31.56 | 31.10 | 30.17 | 35.19 |
| 1929 | 30.48 | 30.73 | 30.34 | 29.60 | 33.87 |
| 1932 | 31.02 | 32.20 | 30.89 | 30.52 | 29.15 |
| 1934 | 28.67 | 29.36 | 28.59 | 27.96 | 28.18 |
| 1935 | 28.55 | 29.17 | 28.47 | 27.70 | 28.75 |
| 1936 | 29.16 | 29.74 | 29.08 | 27.79 | 30.02 |
| 1937 | 28.33 | 28.91 | 28.26 | 27.16 | 28.61 |
| 1938 | 27.48 | 28.26 | 27.39 | 26.63 | 27.80 |
| 1929 | 30.80 | 31.10 | 30.63 | 29.91 | 34.21 |
| 1932 | 31.87 . | 33.16 | 31.69 | 31.36 | 30.00 |
| 1934 | 29.75 | 30.59 | 29.67 | 29.02 | 29.26 |
| 1935 | 28.49 | 29.15 | 28.42 | 27.65 | 28.70 |
| 1936 | 28.67 | 29.25 | 28.60 | 27.32 | 29.52 |
| 1937 | 27.98 | 28.56 | 27.91 | 26.82 | 28.25 |
| 1938 | 27.27 | 28.05 | 27.19 | 26.43 | 27.59 |
| 1939 | 28.03 | + | 27.94 | 27.07 | 28.26 |
| 1940 | 26.82 | $\dagger$ | 26.74 | 25.40 | 26.99 |
| 1941 | 25.36 | $\dagger$ | 25.30 | 22.87 | 25.34 |
| 1942 | 21.98 | $\dagger$ | 21.93 | 18.50 | 22.02 |
| 1943 | 20.54 | $\dagger$ | 20.49 | 15.78 | 21.11 |
| 1944 | 19.36 | $\dagger$ | 19.31 | 15.78 | 20.08 |
| 1945 | 20.10 | $\dagger$ | 20.04 | 16.14 | 21.64 |
| 1946 | 21.04 | $\dagger$ | 21.00 | 17.26 | 22.94 |
| 1947 | 20.21 | $\dagger$ | 20.17 | 16.81 | n.a. |
| 1948 | 20.70 | $\dagger$ | n.a. | 17.94 | n.a. |

For notes see page 606.

Table 118 (cont.)

|  |  |  | VARIAN | ADJUS |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Include |  |  | Include |
|  |  | Compensation |  |  | Excess of |
|  |  | of Employees |  | Exclude | Gains over |
|  |  | of State | Include | Federal | Losses from |
|  | BASIC | \& Local | Imputed | Income | Sales of |
|  | variant | Governments | Rent | Taxes | Assets |
|  | (1) | (2) | (3) | (4) | (5) |
|  | G | 8th-10th Per | CENTA | B AN D |  |
| 1918 | 4.77 | 4.82 | 4.78 | 4.83 | 4.79 |
| 1919 | 4.83 | 4.87 | 4.84 | 4.89 | 4.84 |
| 1919 | 4.78 | 4.80 | 4.79 | 4.84 | 4.80 |
| 1920 | 4.86 | 4.88 | 4.87 | 4.90 | 4.85 |
| 1921 | 6.39 | 6.46 | 6.40 | 6.44 | 6.41 |
| 1922 | 5.70 | 5.77 | 5.71 | 5.75 | 5.66 |
| 1923 | 5.33 | 5.38 | 5.34 | 5.36 | 5.29 |
| 1924 | 5.35 | 5.42 | 5.36 | 5.40 | 5.28 |
| 1937 | 6.21 | 6.23 | 6.22 | 6.29 | 6.14 |
| 1937 | 6.13 | 6.15 | 6.14 | 6.21 | 6.06 |
| 1939 | 6.39 | $\dagger$ | 6.39 | 6.46 | 6.38 |
| 1940 | 5.26 | $\dagger$ | 5.26 | 5.34 | 5.26 |
| 1941 | 4.60 | $\dagger$ | 4.61 | 4.68 | 4.62 |
| 1942 | 4.02 | $\dagger$ | 4.02 | 3.99 | 4.02 |
| 1943 | 3.74 | $\dagger$ | 3.74 | 3.67 | 3.72 |
| 1944 | 3.71 | $\dagger$ | 3.71 | 3.60 | 3.70 |
| 1945 | 3.61 | $\dagger$ | 3.62 | 3.51 | 3.58 |
| 1946 | 3.66 | $\dagger$ | 3.66 | 3.60 | 3.66 |
| 1947 | 3.75 | $\dagger$ | 3.75 | 3.66 | n.a. |
| 1948 | 4.08 | $\dagger$ | n.a. | 4.00 | n.a. |


| 1918 | 31.22 | 31.32 | 31.14 | 29.79 | 31.14 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1919 | 31.69 | 31.80 | 31.62 | 30.30 | 31.96 |
| 1919 | 31.39 | 31.44 | 31.30 | 30.00 | 31.66 |
| 1920 | 30.61 | 30.68 | 30.51 | 29.53 | 30.57 |
| 1921 | 36.53 | 36.94 | 36.35 | 35.68 | 35.79 |
| 1922 | 34.72 | 35.08 | 34.55 | 33.75 | 34.97 |
| 1923 | 32.11 | 32.31 | 31.98 | 31.45 | 32.28 |
| 1924 | 33.57 | 33.86 | 33.40 | 32.87 | 34.53 |
| 1937 | 34.54 | 35.14 | 34.47 | 33.45 | 34.74 |
| 1937 | 34.12 | 34.72 | 34.05 | 33.03 | 34.31 |
| 1939 | 34.41 | $\dagger$ | 34.33 | 33.52 | 34.64 |
| 1940 | 32.07 | + | 32.00 | 30.74 | 32.26 |
| 1941 | 29.96 | $\dagger$ | 29.90 | 27.55 | 29.96 |
| 1942 | 26.00 | $\dagger$ | 25.95 | 22.49 | 26.03 |
| 1943 | 24.28 | $\dagger$ | 24.23 | 19.45 | 24.83 |
| 1944 | 23.07 | $\dagger$ | 23.02 | 19.37 | 23.78 |
| 1945 | 23.71 | $\dagger$ | 23.66 | 19.65 | 25.22 |
| 1946 | 24.69 | $\dagger$ | 24.66 | 20.86 | 26.61 |
| 1947 | 23.95 | $\dagger$ | 23.92 | 20.47 | n.a. |
| 1948 | 24.78 | $\dagger$ | n.a. | 21.94 | n.a. |

For notes see page 606.

Table 118 (cont.)


For notes see page 606.

Table 118 (cont.)


|  |  | J | Lo |
| ---: | ---: | ---: | ---: |
| 1917 | 71.42 |  | 71. |
| 1918 | 73.55 |  | 73. |
| 1919 | 73.14 |  | 73. |
| 1919 | 73.40 |  | 73. |


| 1919 | 73.40 | 73.24 |
| :--- | :--- | :--- |
| 1920 | 69.85 |  |
| 1921 | 70.97 | 70 |
| 1922 | 73.21 | 73 |
| 1923 | 71.78 | 71 |
| 1924 | 70.33 | 70 |
| 1925 | 70.38 |  |


| 1927 | 69.53 | 69.26 | 69.68 | 70.32 | 67.18 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1928 | 68.76 | 68.44 | 68.90 | 69.83 | 64.80 |
| 1929 | 69.52 | 69.27 | 69.66 | 70.40 | 66.13 |


| 1929 | 69.52 | 69.27 | 69.66 | 70.40 | 66.13 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1932 | 68.98 | 67.80 | 69.11 | 69.48 | 70.85 |
| 1934 | 71.33 | 70.64 | 71.41 | 72.04 | 71.82 |


| 1935 | 71.45 | 70.83 | 71.53 | 72.30 | 71.25 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1936 | 70.84 | 70.26 | 70.92 | 72.21. | 69.98 |
| 1937 | 71.67 | 71.09 | 71.74 | 72.84 | 71.39 |


| 1938 | 72.52 | 71.74 | 72.61 | 73.37 | 72.20 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1929 | 69.20 | 68.90 | 69.37 | 70.09 | 65.79 |


| 1932 | 68.13 | 66.84 | 68.31 | 68.64 | 70.00 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1934 | 70.25 | 69.41 | 70.33 | 70.98 | 70.74 |
| 1935 | 71.51 | 70.85 | 71.58 | 72.35 | 71.30 |
| 1936 | 71.33 | 70.75 | 71.40 | 72.68 | 70.48 |
| 1937 | 72.02 | 71.44 | 72.09 | 73.18 | 71.75 |
| 1938 | 72.73 | 71.95 | 72.81 | 73.57 | 72.41 |
| 1939 | 71.97 | $\dagger$ | 72.06 | 72.93 | 71.74 |
| 1940 | 73.18 | $\dagger$ | 73.26 | 74.60 | 73.01 |
| 1941 | 74.64 | $\dagger$ | 74.70 | 77.13 | 74.66 |
| 1942 | 78.02 | $\dagger$ | 78.07 | 81.50 | 77.98 |
| 1943 | 79.46 | $\dagger$ | 79.51 | 84.22 | 78.89 |
| 1944 | 80.64 | 79.90 | $\dagger$ | 80.69 | 84.22 |
| 1945 | 78.96 | $\dagger$ | 79.96 | 83.86 | 79.92 |
| 1946 | 79.36 |  |  |  |  |
| 1947 | 79.79 | $\dagger$ | 79.00 | 82.74 | 77.06 |
| 1948 | 79.30 |  | $\dagger$ | 79.83 | 83.19 |
|  | n.a. | 82.06 | n.a. |  |  |
|  |  |  |  |  | n.a. |


|  |  | Lower | Perc |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | 68.78 | 68.68 | 68.86 | 70.21 | 68.86 |
| 1919 | 68.31 | 68.20 | 68.38 | 69.70 | 68.04 |
| 1919 | 68.61 | 68.56 | 68.70 | 70.00 | 68.34 |
| 1920 | 69.39 | 69.32 | 69.49 | 70.47 | 69.43 |

For notes see page 606.

Table 118 (cont.)

|  | BASIC VARIANT (1) | BASIC <br> Include Compensation of Employees of State \& Local Governments (2) | VARIANT <br> Include Imputed Rent (3) | $\left.\begin{array}{cc}\text { ADJUSTED } & \text { TO } \\ \text { Include } \\ \text { Excess of }\end{array}\right\}$Exclude <br> Gains over <br> Federal <br> Losses from <br> Income <br> Taxes <br> Sales of <br> (4) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | K Lower 90 Percent (concl.) |  |  |  |  |
| 1921 | 63.47 | 63.06 | 63.65 | 64.32 | 64.21 |
| 1922 | 65.28 | 64.92 | 65.45 | 66.26 | 65.03 |
| 1923 | 67.89 | 67.69 | 68.02 | 68.55 | 67.72 |
| 1924 | 66.43 | 66.14 | 66.60 | 67.13 | 65.47 |
| 1937 | 65.46 | 64.86 | 65.53 | 66.55 | 65.26 |
| 1937 | 65.88 | 65.28 | 65.95 | 66.97 | 65.69 |
| 1939 | 65.59 | $\dagger$ | 65.67 | 66.48 | 65.36 |
| 1940 | 67.93 | $\dagger$ | 68.00 | 69.26 | 67.74 |
| 1941 | 70.04 | $\dagger$ | 70.10 | 72.45 | 70.04 |
| 1942 | 74.00 | $\dagger$ | 74.05 | 77.51 | 73.97 |
| 1943 | 75.72 | $\dagger$ | 75.77 | 80.55 | 75.17 |
| 1944 | 76.93 | $\dagger$ | 76.98 | 80.63 | 76.22 |
| 1945 | 76.29 | $\dagger$ | 76.34 | 80.35 | 74.78 |
| 1946 | 75.31 | $\dagger$ | 75.34 | 79.14 | 73.40 |
| 1947 | 76.05 | $\dagger$ | 76.08 | 79.53 | n.a. |
| 1948 | 75.22 | $\dagger$ | n.a. | 78.06 | n.a. |

L Additional Percentage Bands

| 1940 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11th-15th | 8.51 | $\dagger$ | 8.51 | 8.66 | 8.54 |
| Top 15 | 40.58 | $\dagger$ | 40.51 | 39.40 | 40.80 |
| 16th-20th | 8.05 | $\dagger$ | 8.04 | 8.18 | 8.08 |
| Top 20 | 48.63 | $\dagger$ | 48.56 | 47.58 | 48.88 |
| Lower 80 | 51.37 | $\dagger$ | 51.44 | 52.42 | 51.12 |
| 1941 |  |  |  |  |  |
| 11th-15th | 7.03 | $\dagger$ | 7.03 | 7.17 | 7.08 |
| Top 15 | 36.99 | $\dagger$ | 36.93 | 34.72 | 37.04 |
| 16th-20th | 6.63 | $\dagger$ | 6.63 | 6.78 | 6.68 |
| Top 20 | 43.62 | $\dagger$ | 43.56 | 41.50 | 43.72 |
| Lower 80 | 56.38 | $\dagger$ | 56.44 | 58.50 | 56.28 |
| 1942 |  |  |  |  |  |
| 11th-15th | 5.96 | $\dagger$ | 5.97 | 6.01 | 5.96 |
| Top 15 | 31.96 | $\dagger$ | 31.92 | 28.50 | 32.00 |
| 16th-20th | 5.45 | $\dagger$ | 5.45 | 5.51 | 5.45 |
| Top 20 | 37.42 | $\dagger$ | 37.37 | 34.01 | 37.45 |
| Lower 80 | 62.58 | $\dagger$ | 62.63 | 65.99 | 62.55 |
| 1943 |  |  |  |  |  |
| 11th-15th | 5.82 | $\dagger$ | 5.82 | 5.76 | 5.80 |
| Top 15 | 30.10 | $\dagger$ | 30.06 | 25.21 | 30.63 |
| 16th-20th | 5.33 | $\dagger$ | 5.33 | 5.36 | 5.30 |
| Top 20 | 35.43 | $\dagger$ | 35.39 | 30.57 | 35.93 |
| Lower 80 | 64.57 | $\dagger$ | 64.61 | 69.43 | 64.07 |

For notes see page 606.

Table 118 (concl.)

| Basic | Include <br> Compensation <br> of Employees |  | Anclude | Exclude |
| :---: | :---: | :---: | :---: | :---: |
| of | Tederal <br> Include <br> Eains of over |  |  |  |
| Losses from |  |  |  |  |

L Additional Percentage Bands (concl.)

| 1944 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11th-15th | 5.55 | $\dagger$ | 5.55 | 5.45 | 5.52 |
| Top 15 | 28.62 | $\dagger$ | 28.57 | 24.82 | 29.30 |
| 16th-20th | 5.08 | $\dagger$ | 5.08 | 5.04 | 5.05 |
| Top 20 | 33.70 | $\dagger$ | 33.65 | 29.86 | 34.36 |
| Lower 80 | 66.30 | $\dagger$ | 66.35 | 70.14 | 65.64 |
| 1945 |  |  |  |  |  |
| 11th-15th | 5.33 | $\dagger$ | 5.33 | 5.24 | 5.26 |
| Top 15 | 29.03 | $\dagger$ | 28.99 | 24.90 | 30.48 |
| 16th-20th | 4.88 | $\dagger$ | 4.88 | 4.85 | 4.81 |
| Top 20 | 33.91 | $\dagger$ | 33.86 | 29.75 | 35.29 |
| Lower 80 | 66.09 | $\dagger$ | 66.14 | 70.25 | 64.71 |
| 1946 |  |  |  |  |  |
| 11th-15th | 5.34 | $\dagger$ | 5.34 | 5.32 | 5.29 |
| Top 15 | 30.03 | $\dagger$ | 30.00 | 26.17 | 31.90 |
| 16th-20th | 4.84 | $\dagger$ | 4.84 | 4.86 | 4.77 |
| Top 20 | 34.87 | $\dagger$ | 34.84 | 31.04 | 36.67 |
| Lower 80 | 65.13 | $\dagger$ | 65.16 | 68.96 | 63.33 |
| 1947 |  |  |  |  |  |
| 11th-15th | 5.19 | $\dagger$ | 5.19 | 5.19 | n.a. |
| Top 15 | 29.14 | $\dagger$ | 29.11* | 25.66 | n.a. |
| 16th-20th | 4.89 | $\dagger$ | 4.89 | 4.89 | n.a. |
| Top 20 | 34.03 | $\dagger$ | 34.00 | 30.56 | n.a. |
| Lower 80 | 65.97 | $\dagger$ | 66.00 | 69.44 | n.a. |
| 1948 |  |  |  |  |  |
| 11th-15th | 5.82 | $\dagger$ | n.a. | 5.77 | n.a. |
| Top 15 | 30.60 | $\dagger$ | n.a. | 27.71 | n.a. |
| 16th-20th | 5.05 | $\dagger$ | n.a. | 5.06 | n.a. |
| Top 20 | 35.65 | $\dagger$ | n.a. | 32.77 | n.a. |
| Lower 80 | 64.35 | $\dagger$ | n.a. | 67.23 | n.a. |

## Notes to Table 118

n.a: not available.
*It was assumed that the inclusion of nonfederal employees would not affect the share of the top 1 percent. Column 2 is therefore identical with column 1 :
$\dagger$ Beginning in 1939 the compensation of nonfederal employees is subject to federal income tax, and is, therefore, covered in column 1.

## Column

1 For details of the procedure by which the income share of a given upper percentage band is calculated see the sample computation for 1929 in Appendix 3, Section A. The shares for the lower income groups are estimated by subtraction. For 1913-15, when the tax return population covers respectively $1.046,1.042$, and 0.963 percent of the total population, the share for the top 1 percent is extrapolated on the basis of comparable data for 1916.
2-5 For details of the procedure by which the income share of a given upper percentage band is calculated see the sample computations for 1929 in Appendix 4, Sections A-D respectively. The shares for the lower income groups are estimated by subtraction.

Table 119: Percentage Shares of Upper Income Groups in Income of Nonfarm Population, Basic Variant, Nonfarm Population, Adjusted for Various Changes in Scope of Income, 1913-1948

| BASIC | VARIANT | ADJUSTED | TO |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Include <br> Compensation |  | Include |  |
| Include |  |  |  |  |


| 1913 | 16.13 |
| :--- | ---: |
| 1914 | 14.12 |
| 1915 | 15.51 |
| 1916 | 16.93 |
| 1917 | 15.58 |
| 1918 | 14.06 |
| 1919 | 14.04 |
| 1919 | 13.87 |
| 1920 | 12.87 |
| 1921 | 13.49 |
| 1922 | 13.41 |
| 1923 | 12.37 |
| 1924 | 13.04 |
| 1925 | 13.99 |
| 1926 | 14.06 |
| 1927 | 14.66 |
| 1928 | 15.19 |
| 1929 | 14.76 |
| 1930 | 13.83 |
| 1931 | 13.06 |
| 1932 | 12.62 |
| 1933 | 12.01 |
| 1934 | 12.07 |
| 1935 | 12.26 |
| 1936 | 13.65 |
| 1937 | 13.27 |
| 1938 | 11.63 |
| 1929 | 14.89 |
| 1930 | 14.10 |
| 1931 | 13.12 |
| 1932 | 12.95 |
| 1933 | 12.28 |
| 1934 | 12.19 |
| 1935 | 12.34 |
| 1936 | 13.15 |
| 1937 | 13.18 |
| 1938 | 11.54 |
| 1939 | 11.88 |
| 1940 | 12.01 |
| 1941 | 11.58 |
| 1942 | 8.65 |
| 1943 | 8.71 |
| 1944 | 9.03 |
| 1945 | 8.70 |
| 1946 | 1947 |
| 1948 | 10. |
| 198 |  |

A Top 1 Percent

| 16.13* | 15.96 | n.a. | n.a. |
| :---: | :---: | :---: | :---: |
| 14.12* | 13.96 | 14.03 | n.a. |
| 15.51* | 15.34 | 15.38 | n.a. |
| 16.93* | 16.77 | 16.51 | n.a. |
| 15.58* | 15.46 | 14.05 | 15.82 |
| 14.06* | 13.95 | 12.25 | 13.87 |
| 14.04* | 13.94 | 12.25 | 14.04 |
| 13.87* | 13.75 | 12.10 | 13.88 |
| 12.87* | 12.75 | 11.62 | 12.45 |
| 13.49* | 13.30 | 12.42 | 12.67 |
| 13.41* | 13.23 | 12.19 | 13.73 |
| 12.37* | 12.22 | 11.57 | 12.49 |
| 13.04* | 12.86 | 12.11 | 14.01 |
| 13.99* | 13.82 | 13.01 | 16.75 |
| 14.06* | 13.91 | 13.14 | 16.20 |
| 14.66* | 14.51 | 13.62 | 17.29 |
| 15.19* | 15.04 | 13.76 | 19.87 |
| 14.76* | 14.62 | 13.56 | 18.88 |
| 13.83* | 13.69 | 13.23 | 14.29 |
| 13.06* | 12.94 | 12.69 | 12.55 |
| 12.62* | 12.50 | 12.03 | 10.13 |
| 12.01* | 11.91 | 11.28 | 11.19 |
| 12.07* | 11.99 | 11.17 | 11.84 |
| 12.26* | 12.18 | 11.19 | 12.70 |
| 13.65* | 13.57 | 11.93 | 14.75 |
| 13.27* | 13.19 | 11.81 | 13.66 |
| 11.63* | 11.55 | 10.58 | 12.07 |
| $14.89^{*}$ | 14.73 | 13.68 | 19.04 |
| 14.10* | 13.95 | 13.48 | 14.57 |
| 13.12* | 12.98 | 12.74 | 12.60 |
| 12.95* | 12.82 | 12.36 | 10.42 |
| 12.28* | 12.19 | 11.54 | 11.46 |
| 12.19* | 12.13 | 11.28 | 11.96 |
| 12.34* | 12.28 | 11.26 | 12.77 |
| 13.15* | 13.09 | 11.48 | 14.21 |
| 13.18* | 13.12 | 11.73 | 13.56 |
| 11.54* | 11.47 | 10.49 | 11.97 |
| $\dagger$ | 11.81 | 10.74 | 12.13 |
| $\dagger$ | 11.94 | 10.36 | 12.20 |
| $\dagger$ | 11.52 | 9.02 | 11.69 |
| $\dagger$ | 10.39 | 7.29 | 10.58 |
| + | 9.66 | 5.55 | 10.29 |
| $\dagger$ | 8.79 | 5.84 | 9.49 |
| $\dagger$ | 8.98 | 5.78 | 10.36 |
| $\dagger$ | 9.17 | 6.09 | 10.71 |
| $\dagger$ | 8.67 | 5.93 | n.a. |
| $\dagger$ | n.a. | 6.40 | n.a. |

For notes see page 618.

Table 119 (cont.)


For notes see page 618.

Table 119 (cont.)


For notes see page 618.

Table 119 (cont.)

BASIC
VARIANT
(1)
BASIC
VARIANT
$(1)$

| 1917 | 25.56 |
| :--- | :--- |
| 1918 | 24.22 |
| 1919 | 24.77 |
| 1919 | 24.48 |
| 1920 | 22.63 |
| 1921 | 24.63 |
| 1922 | 24.41 |
| 1923 | 22.35 |
| 1924 | 24.03 |
| 1925 | 25.24 |
| 1926 | 25.14 |
| 1927 | 25.84 |
| 1928 | 26.68 |
| 1929 | 26.05 |
| 1930 | 24.93 |
| 1931 | 24.88 |
| 1932 | 24.37 |
| 1933 | 23.53 |
| 1934 | 23.33 |
| 1935 | 23.39 |
| 1936 | 24.58 |
| 1937 | 24.11 |
| 1938 | 23.26 |
| 1929 | 26.28 |
| 1930 | 25.40 |
| 1931 | 24.99 |
| 1932 | 25.02 |
| 1933 | 24.06 |
| 1934 | 23.55 |
| 1935 | 23.53 |
| 1936 | 23.68 |
| 1937 | 23.94 |
| 1938 | 23.07 |
| 1939 | 22.94 |
| 1940 | 22.83 |
| 1941 | 22.15 |
| 1942 | 19.60 |
| 1943 | 18.40 |
| 1944 | 17.22 |
| 1945 | 17.99 |
| 1946 | 18.85 |
| 1947 | 17.99 |
| 1948 | 18.27 |
|  |  |
| 19 |  |

D TOP 5 PERCENT $25.60 \quad 25.44$
$24.26 \quad 24.11$
22.41
25.95
24.10
25.01
24.72
24.72
22.54
23.85
24.77
22.55
25.16
28.13
27.42
28.47
31.25 •
30.06
25.46
24.66
22.23
22.94
22.94
23.73
25.65
24.46 23.66
30.31 25.96 24.78 22.86 23.47 23.16
23.87 23.87
24.71 24.71
24.29 23.46 23.21 23.03 22.15 19.66
19.04 19.04
18.01 18.01
19.66 20.80

1948
18.27

For notes see page 618.

Table 119 (cont.)

|  |  | BASIC <br> Include Compensation of Employees of State \& Local Governments (2) | VARIANT A | ADJUSTED |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Include |
|  |  |  | Include |  | Excess of |
|  |  |  | Imputed | Exclude | Gains over |
|  |  |  | Rent on | Federal | Losses from |
|  | basic |  | Nonfarm | Income | Sales of |
|  | variant |  | Homes | Taxes | Assets. |
|  | (1) |  | (3) | (4) | (5) |
|  | E 6 TH | AND 7 Th Pe | RCENTAGE | BAND |  |
| 1917 | 3.90 | 3.92 | 3.91 | 3.96 | 3.90 |
| 1918 | 3.64 | 3.67 | 3.65 | 3.68 | 3.64 |
| 1919 | 3.48 | 3.51 | 3.48 | 3.52 | 3.50 |
| 1919 | 3.43 | 3.47 | 3.44 | 3.48 | 3.46 |
| 1920 | 3.14 | 3.18 | 3.15 | 3.16 | 3.19 |
| 1921 | 3.98 | 4.04 | 3.99 | 4.02 | 3.93 |
| 1922 | 3.57 | 3.66 | 3.58 | 3.62 | 3.55 |
| 1923 | 3.60 | 3.63 | 3.61 | 3.62 | 3.62 |
| 1924 | 3.76 | 3.82 | 3.76 | 3.79 | 3.76 |
| 1925 | 3.95 | 3.99 | 3.96 | 3.99 | 3.84 |
| 1926 | 3.88 | 3.90 | 3.89 | 3.92 | 3.81 |
| 1927 | 4.07 | 4.10 | 4.08 | 4.12 | 4.04 |
| 1928 | 4.12 | 4.17 | 4.13 | 4.19 | 3.94 |
| 1929 | 4.00 | 4.04 | 4.01 | 4.06 | 3.84 |
| 1930 | 4.25 | 4.28 | 4.25 | 4.28 | 4.28 |
| 1931 | 4.59 | 4.71 | 4.59 | 4.61 | 4.71 |
| 1932 | 4.69 | 4.84 | 4.70 | 4.71 | 4.90 |
| 1933 | 4.40 | 4.61 | 4.41 | 4.43 | 4.49 |
| 1934 | 4.29 | 4.41 | 4.29 | 4.33 | 4.26 |
| 1935 | 4.23 | 4.32 | 4.23 | 4.28 | 4.19 |
| 1936 | 4.13 | 4.16 | 4.13 | 4.19 | 4.07 |
| 1937 | 3.91 | 3.98 | 3.91 | 3.96 | 3.89 |
| 1938 | 4.13 | 4.37 | 4.13 | 4.17 | 4.12 |
| 1929 | 4.04 | 4.08 | 4.04 | 4.09 | 3.88 |
| 1930 | 4.33 | 4.37 | 4.34 | 4.36 | 4.36 |
| 1931 | 4.61 | 4.74 | 4.61 | 4.63 | 4.73 |
| 1932 | 4.82 | 4.97 | 4.82 | 4.84 | 5.04 |
| 1933 | 4.50 | 4.72 | 4.50 | 4.53 | 4.60 |
| 1934 | 4.33 | 4.46 | 4.33 | 4.37 | 4.30 |
| 1935 | 4.25 | 4.36 | 4.26 | 4.31 | 4.22 |
| 1936 | 3.98 | 4.00 | 3.98 | 4.04 | 3.93 |
| 1937 | 3.88 | 3.96 | 3.88 | 3.93 | 3.87 |
| 1938 | 4.09 | 4.34 | 4.10 | 4.14 | 4.09 |
| 1939 | 4.22 | $\dagger$ | 4.23 | 4.26 | 4.23 |
| 1940 | 3.48 | $\dagger$ | 3.48 | 3.54 | 3.49 |
| 1941 | 3.38 | $\dagger$ | 3.39 | 3.42 | 3.39 |
| 1942 | 2.94 | $\dagger$ | 2.95 | 2.89 | 2.94 |
| 1943 | 2.71 | $\dagger$ | 2.72 | 2.63 | 2.70 |
| 1944 | 2.67 | $\dagger$ | 2.68 | 2.60 | 2.68 |
| 1945 | 2.71 | $\dagger$ | 2.71 | 2.63 | 2.72 |
| 1946 | 2.91 | $\dagger$ | 2.91 | 2.83 | 2.97 |
| 1947 | 2.86 | $\dagger$ | 2.87 | 2.79 | n.a. |
| 1948 | 3.10 | $\dagger$ | n.a. | 3.03 | n.a. |

For notes see page 618.

Table 119 (cont.)


For notes see page 618.

Table 119 (cont.)

|  | basic | variant | ADJUST |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  | Include |
|  | Compensation | Include |  | Excess of |
|  | of Employees | Imputed | Exclude | Gains over |
|  | of State | Rent on | Federal | Losses from |
| basic | \& Local | Nonfarm | Income | Sales of |
| variant | Governments | Homes | Taxes | Assets |



For notes see page 618.

Table 119 (cont.)


For notes see page 618.

Table 119 (cont.)

|  | BASIC | VARIAN | D J S | D To |
| :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  | Include |
|  | Compensation | Include |  | Excess of |
|  | of Employees | Imputed | Exclude | Gains over |
|  | of State | Rent on | Federal | Losses from |
| BASIC | \& Local | Nonfarm | Income | Sales of |
| Variant | Governments | Homes | Taxes | Assets |
| (1) | (2) | (3) | (4) | (5) |


| 1917 | 74.44 | 74.40 | 74.56 | 75.88 | 74.05 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | 75.78 | 75.74 | 75.89 | 77.59 | 75.90 |
| 1919 | 75.23 | 75.18 | 75.34 | 76.99 | 74.99 |
| 1919 | 75.52 | 75.51 | 75.65 | 77.26 | 75.28 |
| 1920 | 77.37 | 77.36 | 77.51 | 78.66 | 77.46 |
| 1921 | 75.37 | 75.23 | 75.59 | 76.41 | 76.15 |
| 1922 | 75.59 | 75.49 | 75.80 | 76.79 | 75.23 |
| 1923 | 77.65 | 77.60 | 77.82 | 78.45 | 77.45 |
| 1924 | 75.97 | 75.88 | 76.18 | 76.84 | 74.84 |
| 1925 | 74.76 | 74.65 | 74.96 | 75.65 | 71.87 |
| 1926 | 74.86 | 74.72 | 75.03 | 75.70 | 72.58 |
| 1927 | 74.16 | 74.00 | 74.34 | 75.10 | 71.53 |
| 1928 | 73.32 | 73.14 | 73.48 | 74.60 | 68.75 |
| 1929 | 73.95 | 73.81 | 74.11 | 75.00 | 69.94 |
| 1930 | 75.07 | 74.86 | 75.24 | 75.62 | 74.54 |
| 1931 | 75.12 | 74.76 | 75.27 | 75.46 | 75.34 |
| 1932 | 75.63 | 74.87 | 75.77 | 76.20 | 77.77 |
| 1933 | 76.47 | 75.89 | 76.60 | 77.16 | 77.06 |
| 1934 | 76.67 | 76.20 | 76.77 | 77.52 | 77.06 |
| 1935 | 76.61 | 76.11 | 76.70 | 77.61 | 76.27 |
| 1936 | 75.42 | 74.95 | 75.51 | 77.03 | 74.35 |
| 1937 | 75.89 | 75.48 | 75.98 | 77.27 | 75.54 |
| 1938 | 76.74 | 76.30 | 76.84 | 77.74 | 76.34 |
| 1929 | 73.72 | 73.56 | 73.89 | 74.78 | 69.69 |
| 1930 | 74.60 | 74.32 | 74.76 | 75.15 | 74.04 |
| 1931 | 75.01 | 74.61 | 75.17 | 75.35 | 75.22 |
| 1932 | 74.98 | 74.13 | 75.14 | 75.56 | 77.14 |
| 1933 | 75.94 | 75.27 | 76.05 | 76.64 | 76.53 |
| 1934 | 76.45 | 75.92 | 76.52 | 77.30 | 76.84 |
| 1935 | 76.47 | 75.91 | 76.54 | 77.48 | 76.13 |
| 1936 | 76.32 | 75.90 | 76.38 | 77.89 | 75.29 |
| 1937 | 76.06 | 75.64 | 76.13 | 77.44 | 75.71 |
| 1938 | 76.93 | 76.50 | 77.01 | 77.93 | 76.54 |
| 1939 | 77.06 | $\dagger$ | 77.14 | 78.16 | 76.79 |
| 1940 | 77.17 | $\dagger$ | 77.25 | 78.78 | 76.97 |
| 1941 | 77.85 | $\dagger$ | 77.92 | 80.60 | 77.85 |
| 1942 | 80.40 | $\dagger$ | 80.46 | 84.04 | 80.34 |
| 1943 | 81.60 | $\dagger$ | 81.66 | 86.54 | 80.96 |
| 1944 | 82.78 | $\dagger$ | 82.84 | 86.44 | 81.99 |
| 1945 | 82.01 | $\dagger$ | 82.07 | 86.07 | 80.34 |
| 1946 | 81.15 | $\dagger$ | 81.19 | 85.06 | 79.20 |
| 1947 | 82.01 | $\dagger$ | 82.05 | 85.49 | n.a. |
| 1948 | 81.73 | $\dagger$ | n.a. | 84.54 | n.a. |

For notes see page 618.

Table 119 (cont.)

|  | BASTC | RIAN | DJUS | TO |
| :---: | :---: | :---: | :---: | :---: |
|  | Include |  |  | Include |
|  | Compensation | Include | Exclude | Excess of |
|  | of State | Rent on | Federal | Losses from |
| ASIC | \& Local | Nonfarm | Income | Sales of |
| variant | Governments | Homes | Taxes | Assets |
| (1) | (2) | (3) | (4) | (5) |


| 1917 | 70.54 | 70.48 | 70.66 | 71.92 | 70.14 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | 72.13 | 72.08 | 72.24 | 73.90 | 72.25 |
| 1919 | 71.76 | 71.67 | 71.86 | 73.47 | 71.49 |
| 1919 | 72.09 | 72.04 | 72.21 . | 73.78 | 71.82 |
| 1920 | 74.23 | 74.18 | 74.36 | 75.50 | 74.27 |
| 1921 | 71.39 | 71.19 | 71.60 | 72.39 | 72.22 |
| 1922 | 72.02 | 71.82 | 72.22 | 73.17 | 71.68 |
| 1923 | 74.05 | 73.97 | 74.21 | 74.83 | 73.83 |
| 1924 | 72.21 | 72.06 | 72.41 | 73.05 | 71.08 |
| 1925 | 70.81 | 70.66 | 71.00 | 71.66 | 68.04 |
| 1926 | 70.98 | 70.83 | 71.14 | 71.78 | 68.77 |
| 1927 | 70.09 | 69.89 | 70.25 | 70.98 | 67.49 |
| 1928 | 69.20 | 68.98 | 69.35 | 70.41 | 64.81 |
| 1929 | 69.95 | 69.77 | 70.10 | 70.95 | 66.10 |
| 1930 | 70.82 | 70.58 | 70.98 | 71.35 | 70.26 |
| 1931 | 70.53 | 70.05 | 70.68 | 70.85 | 70.63 |
| 1932 | 70.94 | 70.03 | 71.07 | 71.48 | 72.87 |
| 1933 | 72.07 | 71.28 | 72.20 | 72.74 | 72.57 |
| 1934 | 72.38 | 71.78 | 72.48 - | 73.19 | 72.80 |
| 1935 | 72.38 | 71.78 | 72.47 | 73.33 | 72.08 |
| 1936 | 71.29 | 70.79 | 71.37 | 72.84 | 70.28 |
| 1937 | 71.98 | 71.49 | 72.07 | 73.31 | 71.65 |
| 1938 | 72.61 | 71.93 | 72.71 | 73.57 | 72.22 |
| 1929 | 69.68 | 69.47 | 69.85 | 70.69 | 65.81 |
| 1930 | 70.26 | 69.96 | 70.42 | 70.79 | 69.68 |
| 1931 | 70.40 | 69.87 | 70.56 | 70.72 | 70.50 |
| 1932 | 70.17 | 69.16 | 70.32 | 70.72 | 72.10 |
| 1933 | 71.44 | 70.55 | 71.54 | 72.11 | 71.93 |
| 1934 | 72.12 | 71.46 | 72.19 | 72.93 | 72.54 |
| 1935 | 72.22 | 71.56 | 72.28 | 73.17 | 71.92 |
| 1936 | 72.35 | 71.89 | 72.40 | 73.86 | 71.36 |
| 1937 | 72.18 | 71.68 | 72.24 | 73.50 | 71.85 |
| 1938 | 72.83 | 72.16 | 72.92 | 73.79 | 72.45 |
| 1939 | 72.83 | $\dagger$ | 72.92 . | 73.90 | 72.56 |
| 1940 | 73.70 | $\dagger$ | 73.77 | 75.23 | 73.48 |
| 1941 | 74.47 | $\dagger$ | 74.54 | 77.18 | 74.47 |
| 1942 | 77.45 | $\dagger$ | 77.51 | 81.15 | 77.40 |
| 1943 | 78.89 | $\dagger$ | 78.94 | 83.91 | 78.26 |
| 1944 | 80.11 | $\dagger$ | 80.16 | 83.84 | 79.32 |
| 1945 | 79.30 | $\dagger$ | 79.35 | 83.44 | 77.63 |
| 1946 | 78.24 | $\dagger$ | 78.28 | 82.22 | 76.23 |
| 1947 | 79.15 | + | 79.18 | 82.70 | n.a. |
| 1948 | 78.63 | $\dagger$ | п.a. | 81.51 | n.a. |

For notes see page 618.

Table 119 (concl.)


For notes see page 618.

## Notes to Table 119

n.a: not available.
*It was assumed that the inclusion of nonfederal employees would not affect the share of the top 1 percent. Column 2 is therefore identical with column 1.
$\dagger$ Beginning in 1939 the compensation of nonfederal employees is subject to federal income tax, and is, therefore, covered in column 1.

Column
1 For details of the procedure by which the income share of a given upper percentage band is calculated, see the sample computation for 1929 in Appendix 3, Section C. The shares for the lower income groups are estimated by subtraction. For 1913-15, when the tax return population covers respectively $1.566,1.546$, and 1.421 percent of the nonfarm population, the share for the top 1 percent is extrapolated on the basis of comparable data for 1916. For the procedure by which the 1938 entries in Sections C-G are estimated, see Chapter 8, note 8.
2-5 For details of the procedure by which the income share of a given upper percentage band is calculated see the sample computations for 1929 in Appendix 4, Sections A-D, respectively. For 1938 the entries in columns 4 and 5, Sections C-G are estimated as follows: the difference between column 1 and column 4 or 5 for the top 3 and the top 10 percent is interpolated for the top 5 and 7 percent along a straight line and added to column 1 (see Ch. 8, note 8).

Table 120
Percentage Shares of Upper Income Groups in Total Income Receipts Basic Variant, Total Population, Adjusted for Changes in Unit and Income Used in Classification by Size, 1917-1947

|  |  | ANTAD | STED FOR Unwarranted |
| :---: | :---: | :---: | :---: |
|  |  | Unwarranted |  |
| Basic | Family | Inclusions | Deductions |
| VARIANT | Status | (Maximum) | (Maximum) |
| (1) | (2) | (3) | (4) |


| 1917 | 14.16 | 14.74 | n.a. | n.a. |
| :---: | :---: | :---: | :---: | :---: |
| 1918 | 12.69 | 13.23 | n.a. | n.a. |
| 1919 | 12.96 | 13.44 | 13.34 | 13.78 |
| 1919 | 12.84 | 13.31 | 13.22 | 13.65 |
| 1920 | 12.34 | 12.87 | 12.75 | 13.22 |
| 1921 | 13.50 | 14.21 | 13.72 | 15.61 |
| 1922 | 13.38 | 14.00 | 13.76 | 15.12 |
| 1923 | 12.28 | 12.93 | 12.60 | 13.50 |
| 1924 | 12.91 | 13.60 | 13.42 | 14.15 |
| 1925 | 13.73 | 14.30 | 14.63 | 15.32 |
| 1926 | 13.93 | 14.49 | 14.62 | 15.35 |
| 1927 | 14.39 | 14.97 | 15.13 | 16.01 |
| 1928 | 14.94 | 15.50 | 16.07 | 16.75 |
| 1929 | 14.50 | 15.09 | 15.45 | 16.69 |
| 1930 | 13.82 | 14.36 | 14.16 | 15.16 |
| 1931 | 13.29 | 13.92 | 13.44 | 15.05 |
| 1932 | 12.90 | 13.69 | 12.98 | 14.59 |
| 1933 | 12.14 | 12.76 | 12.42 | 13.83 |
| 1934 | 12.03 | 12.63 | 12.14 | 13.03 |
| 1935 | 12.07 | 12.66 | 12.32 | 13.08 |
| 1936 | 13.37 | 13.86 | 13.77 | 14.28 |
| 1937 | 13.00 | 13.44 | 13.17 | 13.76 |
| 1938 | 11.53 | 11.99 | 11.69 | 12.46 |
| 1929 | 14.65 | 15.25 | 15.61 | 16.86 |
| 1930 | 14.12 | 14.67 | 14.46 | 15.48 |
| 1931 | 13.31 | 13.94 | 13.46 | 15.08 |
| 1932 | 13.25 | 14.06 | 13.34 | 14.98 |
| 1933 | 12.48 | 13.12 | 12.77 | 14.22 |
| 1934 | 12.48 | 13.11 | 12.60 | 13.52 |
| 1935 | 12.05 | 12.63 | 12.29 | 13.05 |
| 1936 | 13.14 | 13.62 | 13.54 | 14.04 |
| 1937 | 12.84 | 13.27 | 13.00 | 13.59 |
| 1938 | 11.45 | 11.90 | 11.60 | 12.36 |
| 1939 | 11.80 | 12.34 | 11.95 | 12.65 |
| 1940 | 11.89 | 12.37 | 12.02 | 12.45 |
| 1941 | 11.39 | 11.80 | 11.51 | 11.96 |
| 1942 | 10.06 | 10.40 | 10.12 | 10.41 |
| 1943 | 9.38 | 9.67 | 9.52 | 9.71 |
| 1944 | 8.58 | 8.89 | 8.72 | 8.72 |
| 1945 | 8.81 | 9.14 | 9.09 | 9.09 |
| 1946 | 8.98 | 9.30 | 9.29 | 9.30 |
| 1947 | 8.49 | n.a. | 8.68 | 8.68 |

For notes see page 626.

Table 120 (cont.)


For notes see page 626.

Table 120 (cont.)


For notes see page 626.

Table 120 (cont.)

|  | BASIC VARIANT <br> (1) | Family Status |  | Unwarranted Inclusions (Maximum) <br> (4) | Unwarranted Inclusions \& Deductions (Maximum) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Preliminary <br> (2) | Final <br> (3) |  | Preliminary <br> (5) | Final <br> (6) |
|  |  | D Top 5 Percent |  |  |  |  |
| 1918 | 22.69 | 24.06 | 24.06* | n.a. | .a. | a.a. |
| 1919 | 23.13 | 24.67 | 24.67* | 23.73 | 24.33 | 24.89 |
| 1919 | 22.91 | 24.43 | 24.43* | 23.50 | 24.10 | 24.66 |
| 1920 | 22.07 | 24.24 | 24.24* | 22.69 | 23.28 | 23.68 |
| 1921 | 25.47 | 28.39 | 28.39* | 26.15 | 28.23 | 28.72 |
| 1922 | 24.79 | 27.38 | 27.38* | 25.40 | 27.30 | 27.78 |
| 1923 | 22.89 | 24.80 | $24.80^{*}$ | 23.40 | 25.85 | 26.24 |
| 1924 | 24.29 | 26.24 | 26.24* | 24.89 | 26.70 | 27.15 |
| 1925 | 25.20 | 26.78 | 27.38 | 26.15 | 26.80 | 28.08 |
| 1926 | 25.25 | 26.79 | 27.42 | 25.99 | 26.73 | 28.04 |
| 1927 | 25.96 | 27.24 | 27.98 | 26.83 | 27.65 | 29.13 |
| 1928 | 26.78 | 28.04 | 28.82 | 27.77 | 28.40 | 29.93 |
| 1929 | 26.09 | 27.55 | 28.30 | 27.11 | 28.13 | 29.62 |
| 1930 | 25.65 | 26.68 | 27.69 | 26.01 | 26.66 | 28.52 |
| 1931 | 26.22 | 26.98 | 28.35 | 26.49 | 27.06 | 29.45 |
| 1932 | 26.00 | 27.47 | 28.41 | 26.12 | 27.14 | 28.87 |
| 1933 | 24.65 | 26.06 | 27.08 | 24.98 | 25.83 | 27.68 |
| 1934 | 23.97 | 25.22 | 26.12 | 24.11 | 24.85 | 26.50 |
| 1935 | 23.78 | 25.06 | 25.81 | 24.05 | 24.88 | 26.29 |
| 1936 | 24.76 | 26.08 | 26.58 | 25.17 | 25.97 | 27.02 |
| 1937 | 24.10 | 25.58 | 25.94 | 24.31 | 25.37 | 26.24 |
| 1938 | 22.97 | 24.43 | 24.81 | 23.17 | 24.47 | 25.36 |
| 1929 | 26.36 | 27.83 | 28.59 | 27.40 | 28.43 | 29.91 |
| 1930 | 26.19 | 27.24 | 28.27 | 26.56 | 27.22 | 29.09 |
| 1931 | 26.27 | 27.04 | 28.41 | 26.54 | 27.11 | 29.50 |
| 1932 | 26.71 | 28.22 | 29.17 | 26.83 | 27.89 | 29.62 |
| 1933 | 25.34 | 26.79 | 27.82 | 25.69 | 26.56 | 28.42 |
| 1934 | 24.88 | 26.17 | 27.08 | 25.02 | 25.79 | 27.44 |
| 1935 | 23.73 | 25.02 | 25.76 | 24.00 | 24.83 | 26.24 |
| 1936 | 24.35 | 25.65 | 26.14 | 24.75 | 25.54 | 26.59 |
| 1937 | 23.80 | 25.26 | 25.62 | 24.01 | 25.06 | 25.93 |
| 1938 | 22.80 | 24.25 | 24.63 | 22.99 | 24.29 | 25.18 |
| 1939 | 23.45 | 25.15 | 25.53 | 23.63 | 24.91 | 25.78 |
| 1940 | 22.71 | 25.01 | 25.01* | 22.83 | 24.60 | 24.60* |
| 1941 | 21.89 | 23.93 | 23.93* | 22.01 | 23.69 | 23.69* |
| 1942 | 18.94 | 20.81 | 20.81* | 19.00 | 20.65 | 20.65* |
| 1943 | 17.75 | 19.55 | 19.55* | 17.87 | 19.11 | 19.11* |
| 1944 | 16.62 | 18.55 | 18.55* | 16.80 | 16.80 | 16.80* |
| 1945 | 17.39 | 19.02 | 19.02* | 17.69 | 17.69 | 17.69* |
| 1946 | 18.20 | 19.58 | 19.58* | 18.61 | 18.61 | 18.61* |
| 1947 | 17.41 | n.a. | n.a. | 17.68 | 17.68 | 17.68* |

For notes see page 626.

Table 120 (cont.)

BASIC VARIANT ADJUSTED FOR
BASIC
VARIANT
(1)

FAMILX STATUS
Preliminary Final
(2)
(3)


For notes see page 626.

Table 120 (cont.)

|  | basic VARIANT <br> (1) | basic variant adjusted forfamily status |  |
| :---: | :---: | :---: | :---: |
|  |  | Preliminary <br> (2) | Final <br> (3) |
|  | F Top 7 | Percent |  |
| 1919 | 26.86 | 28.30 | 28.88 |
| 1919 | 26.60 | 28.03 | 28.61 |
| 1920 | 25.76 | 28.01 | 28.22 |
| 1921 | 30.15 | 32.88 | 33.31 |
| 1922 | 29.03 | 31.72 | 32.09 |
| 1923 | 26.79 | 28.99 | 29.17 |
| 1924 | 28.22 | 30.56 | 30.88 |
| 1925 | 29.67 | 30.49 | 32.12 |
| 1926 | 29.62 | 30.39 | 32.10 |
| 1927 | 30.47 | 30.93 | 33.00 |
| 1928 | 31.24 | 31.60 | 33.78 |
| 1929 | 30.48 | 31.01 | 33.11 |
| 1932 | 31.02 | 31.09 | 33.72 |
| 1934 | 28.67 | 28.83 | 31.30 |
| 1935 | 28.55 | 29.04 | 31.02 |
| 1936 | 29.16 | 30.24 | 31.43 |
| 1937 | 28.33 | 29.77 | 30.55 |
| 1938 | 27.48 | 28.94 | 29.77 |
| 1929 | 30.80 | 31.34 | 33.44 |
| 1932 | 31.87 | 31.94 | 34.61 |
| 1934 | 29.52 | 29.92 | 32.44 |
| 1935 | 28.49 | 28.98 | 30.96 |
| 1936 | 28.67 | 29.74 | 30.92 |
| 1937 | 27.98 | 29.40 | 30.19 |
| 1938 | 27.27 | 28.72 | 29.56 |
| 1939 | 28.03 | 29.57 | 30.52 |
| 1940 | 26.82 | 29.39 | 29.39* |
| 1941 | 25.36 | 27.95 | 27.95* |
| 1942 | 21.98 | 24.24 | 24.24* |
| 1943 | 20.54 | 22.81 | 22.81* |
| 1944 | 19.36 | 21.76 | 21.76* |
| 1945 | 20.10 | 22.28 | 22.28* |
| 1946 | 21.04 | 22.98 | 22.98* |
| 1947 | 20.21 | n.a. | n.a. |

For notes see page 626.

Table 120 (cont.)

|  | BASIC variant <br> (1) | BASIC VA <br> Family Status |  | Unwarranted Inclusions (Maximum) (4) | USTED FOR Unwarranted Inclusions \& Deductions (Maximum) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  | Preliminary | Final |  | Preliminary | Final |
|  |  | (2) | (3) |  | (5) | (6) |
|  |  | G LOWER 95 Percent |  |  |  |  |
| 1918 | 77.31 | 75.94 | 75.94* | n.a. | n.a. | n.a. |
| 1919 | 76.87 | 75.33 | 75.33* | 76.27 | 75.67 | 75.11 |
| 1919 | 77.09 | 75.57 | 75.57* | 76.50 | 75.90 | 75.34 |
| 1920 | 77.93 | 75.76 | 75.76* | 77.31 | 76.72 | 76.32 |
| 1921 | 74.53 | 71.61 | 71.61* | 73.84 | 71.77 | 71.28 |
| 1922 | 75.21 | 72.62 | 72.62* | 74.60 | 72.70 | 72.22 |
| 1923 | 77.11 | 75.20 | 75.20* | 76.60 | 74.15 | 73.76 |
| 1924 | 75.71 | 73.76 | 73.76* | 75.12 | 73.30 | 72.85 |
| 1925 | 74.80 | 73.22 | 72.62 | 73.85 | 73.20 | 71.92 |
| 1926 | 74.75 | 73.21 | 72.58 | 74.01 | 73.27 | 71.96 |
| 1927 | 74.04 | 72.76 | 72.02 | 73.17 | 72.35 | 70.87 |
| 1928 | 73.22 | 71.96 | 71.18 | 72.23 | 71.60 | 70.07 |
| 1929 | 73.91 | 72.46 | 71.70 | 72.89 | 71.87 | 70.38 |
| 1930 | 74.35 | 73.32 | 72.31 | 73.99 | 73.34 | 71.48 |
| 1931. | 73.78 | 73.02 | 71.65 | 73.51 | 72.94 | 70.55 |
| 1932 | 74.00 | 72.53 | 71.59 | 73.88 | 72.86 | 71.13 |
| 1933 | 75.35 | 73.94 | 72.92 | 75.02 | 74.17 | 72.32 |
| 1934 | 76.03 | 74.78 | 73.88 | 75.89 | 75.15 | 73.50 |
| 1935 | 76.22 | 74.94 | 74.19 | 75.95 | 75.12 | 73.71 |
| 1936 | 75.24 | 73.92 | 73.42 | 74.83 | 74.03 | 72.98 |
| 1937 | 75.90 | 74.42 | 74.06 | 75.69 | 74.63 | 73.76 |
| 1938 | 77.03 | 75.57 | 75.19 | 76.83 | 75.53 | 74.64 |
| 1929 | 73.64 | 72.16 | 71.41 | 72.60 | 71.58 | 70.09 |
| 1930 | 73.81 | 72.76 | 71.73 | 73.44 | 72.78 | 70.91 |
| 1931 | 73.73 | 72.96 | 71.59 | 73.46 | 72.89 | 70.50 |
| 1932 | 73.29 | 71.78 | 70.83 | 73.17 | 72.12 | 70.38 |
| 1933 | 74.66 | 73.21 | 72.18 | 74.31 | 73.44 | 71.58 |
| 1934 | 75.12 | 73.83 | 72.92 | 74.98 | 74.21 | 72.56 |
| 1935 | 76.26 | 74.98 | 74.24 | 76.00 | 75.17 | 73.76 |
| 1936 | 75.65 | 74.35 | 73.86 | 75.25 | 74.46 | 73.41 |
| 1937 | 76.20 | 74.74 | 74.38 | 75.99 | 74.94 | 74.07 |
| 1938 | 77.20 | 75.75 | 75.37 | 77.01 | 75.71 | 74.82 |
| 1939 | 76.55 | 74.85 | 74.47 | 76.37 | 75.09 | 74.22 |
| 1940 | 77.29 | 74.99 | 74.99* | 77.17 | 75.40 | 75.40* |
| 1941. | 78.12 | 76.06 | 76.06* | 77.99 | 76.31 | 76.31* |
| 1942 | 81.06 | 79.19 | 79.19* | 81.00 | 79.35 | 79.35* |
| 1943 | 82.25 | 80.45 | 80.45* | 82.13 | 80.89 | 80.89* |
| 1944 | 83.38 | 81.45 | 81.45* | 83.20 | 83.20 | 83.20* |
| 1945 | 82.61 | 80.98 | 80.98* | 82.31 | 82.31 | 82.31* |
| 1946 | 81.80 | 80.42 | 80.42* | 81.39 | 81.39 | 81.39* |
| 1947 | 82.59 | n.a. | n.a. | 82.32 | 82.32 | 82.32* |

For notes see page 626.

Table 120 (concl.)

|  |  | BASIC VARIANT <br> (1) |  | BASIC VARIANT FAMILY Preliminary <br> (2) | Final <br> (3) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | H | Lower | 93 | Percent |  |
| 1919 |  | 73.14 |  | 71.70 | 71.12 |
| 1919 |  | 73.40 |  | 71.97 | 71.39 |
| 1920 |  | 74.24 |  | 71.99 | 71.78 |
| 1921 |  | 69.85 |  | 67.12 | 66.69 |
| 1922 |  | 70.97 |  | 68.28 | 67.91 |
| 1923 |  | 73.21 |  | 71.01 | 70.83 |
| 1924 |  | 71.78 |  | 69.44 | 69.12 |
| 1925 |  | 70.33 |  | 69.51 | 67.88 |
| 1926 |  | 70.38 |  | 69.61 | 67.90 |
| 1927 |  | 69.53 |  | 69.07 | 67.00 |
| 1928 |  | 68.76 |  | 68.40 | 66.22 |
| 1929 |  | 69.52 |  | 68.99 | 66.89 |
| 1932 |  | 68.98 |  | 68.91 | 66.28 |
| 1934 |  | 71.33 |  | 71.17 | 68.70 |
| 1935 |  | 71.45 |  | 70.96 | 68.98 |
| 1936 |  | 70.84 |  | 69.76 | 68.57 |
| 1937 |  | 71.67 |  | 70.23 | 69.45 |
| 1938 |  | 72.52 |  | 71.06 | 70.23 |
| 1929 |  | 69.20 |  | 68.66 | 66.56 |
| 1932 |  | 68.13 |  | 68.06 | 65.39 |
| 1934 |  | 70.25 |  | 70.08 | 67.56 |
| 1935 |  | 71.51 |  | 71.02 | 69.04 |
| 1936 |  | 71.33 |  | 70.26 | 69.08 |
| 1937 |  | 72.02 |  | 70.60 | 69.81 |
| 1938 |  | 72.73 |  | 71.28 | 70.44 |
| 1939 |  | 71.97 |  | 70.43 | 69.48 |
| 1940 |  | 73.18 |  | 70.61 | 70.61* |
| 1941 |  | 74.64 |  | 72.05 | 72.05* |
| 1942 |  | 78.02 |  | 75.76 | 75.76* |
| 1943 |  | 79.46 |  | 77.19 | 77.19* |
| 1944 |  | 80.64 |  | 78.24 | 78.24* |
| 1945 |  | 79.90 |  | 77.72 | 77.72* |
| 1946 |  | 78.96 |  | 77.02 | 77.02* |
| 1947 |  | 79.79 |  | n.a. | n.a. |

## Notes to Table 120

n.a: not available.
*Entries in preceding column are regarded as final.

## Column

1 Table 118, column 1.
2-6 For details of the procedure by which the income share of a given upper percentage band is calculated, see Appendix 5, Sections A-D. The shares for the lower income groups are estimated by subtraction.

Table 121
Percentage Shares of Upper Income Groups in Income of Nonfarm Population Basic Variant, Nonfarm Population, Adjusted for Changes in Unit and Income Used in Classification by Size, 1917-1947

|  | BASIC | IANT ADJ | ED FOR |
| :---: | :---: | :---: | :---: |
|  |  |  | Unwarranted |
|  |  | Unwarranted |  |
| Basic | Family | Inclusions | Deductions |
| VARIANT | Status | (Maximum) | (Maximum) |
| (1) | (2) | (3) | (4) |

A TOP 1 PERCENT

| 1917 | 15.58 | 16.10 | n.a. | n.a. |
| :---: | :---: | :---: | :---: | :---: |
| 1918 | 14.06 | 14.57 | n.a. | n.a. |
| 1919 | 14.04 | 14.56 | 14.48 | 15.11 |
| 1919 | 13.87 | 14.39 | 14.31 | 14.94 |
| 1920 | 12.87 | 13.33 | 13.29 | 13.85 |
| 1921 | 13.49 | 14.11 | 13.72 | 15.71 |
| 1922 | 13.41 | 14.03 | 13.80 | 15.23 |
| 1923 | 12.37 | 12.92 | 12.71 | 13.39 |
| 1924 | 13.04 | 13.58 | 13.61 | 14.26 |
| 1925 | 13.99 | 14.47 | 15.08 | 15.71 |
| 1926 | 14.06 | 14.56 | 14.84 | 15.60 |
| 1927 | 14.66 | 15.17 | 15.49 | 16.39 |
| 1928 | 15.19 | 15.60 | 16.51 | 17.21 |
| 1929 | 14.76 | 15.25 | 15.86 | 16.90 |
| 1930 | 13.83 | 14.35 | 14.21 | 15.16 |
| 1931 | 13.06 | 13.63 | 13.23 | 14.64 |
| 1932 | 12.62 | 13.31 | 12.71 | 14.03 |
| 1933 | 12.01 | 12.64 | 12.33 | 13.56 |
| 1934 | 12.07 | 12.62 | 12.20 | 12.97 |
| 1935 | 12.26 | 12.77 | 12.54 | 13.23 |
| 1936 | 13.65 | 14.16 | 14.10 | 14.64 |
| 1937 | 13.27 | 13.75 | 13.45 | 14.10 |
| 1938 | 11.63 | 12.07 | 11.80 | 12.62 |
| 1929 | 14.89 | 15.38 | 16.00 | 17.05 |
| 1930 | 14.10 | 14.63 | 14.48 | 15.46 |
| 1931 | 13.12 | 13.69 | 13.29 | 14.70 |
| 1932 | 12.95 | 13.66 | 13.04 | 14.41 |
| 1933 | 12.28 | 12.92 | 12.61 | 13.86 |
| 1934 | 12.19 | 12.74 | 12.32 | 13.09 |
| 1935 | 12.34 | 12.85 | 12.61 | 13.31 |
| 1936 | 13.15 | 13.64 | 13.58 | 14.10 |
| 1937 | 13.18 | 13.65 | 13.36 | 14.00 |
| 1938 | 11.54 | 11.97 | 11.70 | 12.52 |
| 1939 | 11.88 | 12.38 | 12.05 | 12.79 |
| 1940 | 12.01 | 12.46 | 12.15 | 12.64 |
| 1941 | 11.58 | 11.96 | 11.71 | 12.21 |
| 1942 | 10.44 | 10.74 | 10.51 | 10.83 |
| 1943 | 9.71 | 9.94 | 9.86 | 10.07 |
| 1944 | 8.84 | 9.10 | 9.00 | 9.00 |
| 1945 | 9.03 | 9.22 | 9.34 | 9.34 |
| 1946 | 9.20 | 9.53 | 9.55 | 9.55 |
| 1947 | 8.70 | n.a. | 8.91 | 8.91 |

For notes see page 634.

Table 121 (cont.)

|  | BASIC VARIANTADJUSTED FOR |  |  |
| :---: | :---: | :---: | :---: |
|  | . |  | Unwarranted |
|  | mil | Unwarranted |  |
| VARIANT | Status | (Maximum) | (Maximum) |
| (1) | (2) | (3) | (4) |


| 1917 | 5.73 | 6.39 | n.a. | n.a. |
| :---: | :---: | :---: | :---: | :---: |
| 1918 | 6.01 | 6.65 | n.a. | n.a. |
| 1919 | 6.50 | 7.06 | 6.63 | 6.58 |
| 1919 | 6.43 | 6.97 | 6.56 | 6.51 |
| 1920 | 5.92 | 6.67 | 6.14 | 6.01 |
| 1921 | 6.68 | 7.73 | 6.78 | 7.24 |
| 1922 | 6.51 | 7.22 | 6.60 | 6.98 |
| 1923 | 5.90 | 6.61 | 5.99 | 7.58 |
| 1924 | 6.55 | 7.44 | 6.60 | 7.48 |
| 1925 | 6.81 | 7.64 | 6.70 | 7.44 |
| 1926 | 6.94 | 7.66 | 6.86 | 7.52 |
| 1927 | 6.90 | 7.64 | 6.79 | 7.63 |
| 1928 | 7.06 | 7.86 | 6.80 | 7.51 |
| 1929 | 6.94 | 7.69 | 6.76 | 7.99 |
| 1930 | 6.65 | 7.30 | 6.60 | 7.31 |
| 1931 | 6.68 | 7.66 | 6.70 | 7.29 |
| 1932 | 6.51 | 7.54 | 6.50 | 7.52 |
| 1933 | 6.32 | 7.31 | 6.36 | 7.19 |
| 1934 | 6.48 | 7.14 | 6.47 | 7.32 |
| 1935 | 6.50 | 7.06 | 6.49 | 7.34 |
| 1936 | 6.70 | 7.05 | 6.68 | 7.29 |
| 1937 | 6.62 | 6.97 | 6.64 | 7.29 |
| 1938 | 6.53 | 6.94 | 6.54 | 7.44 |
| 1929 | 7.00 | 7.76 | 6.82 | 8.06 |
| 1930 | 6.78 | 7.44 | 6.72 | 7.45 |
| 1931 | 6.71 | 7.69 | 6.73 | 7.32 |
| 1932 | 6.68 | 7.74 | 6.67 | 7.72 |
| 1933 | 6.46 | 7.48 | 6.50 | 7.35 |
| 1934 | 6.54 | 7.20 | 6.53 | 7.40 |
| 1935 | 6.54 | 7.10 | 6.53 | 7.38 |
| 1936 | 6.45 | 6.79 | 6.43 | 7.02 |
| 1937 | 6.58 | 6.92 | 6.60 | 7.24 |
| 1938 | 6.47 | 6.89 | 6.48 | 7.38 |
| 1939 | 6.74 | 7.26 | 6.74 | 7.26 |
| 1940 | 6.53 | 7.21 | 6.53 | 6.85 |
| 1941 | 6.35 | 7.04 | 6.36 | 6.72 |
| 1942 | 5.61 | 6.37 | 5.61 | 5.94 |
| 1943 | 5.40 | 6.06 | 5.40 | 5.51 |
| 1944 | 5.16 | 5.89 | 5.18 | 5.17 |
| 1945 | 5.58 | 6.17 | 5.60 | 5.60 |
| 1946 | 5.98 | 6.31 | 6.05 | 6.05 |
| 1947 | 5.69 | n.a. | 5.74 | 5.74 |

For notes see page 634.

Table 121 (cont.)


For notes see page 634.

Table 121 (cont.)

|  | BASIC vARIANT <br> (1) | Family Status |  | Unwarranted Inclusions (Maximum) <br> (4) | Unwarranted Inclu sions \& Deductions (Maximum) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Preliminary <br> (2) | Final <br> (3) |  | Preliminary (5) | Final (6) |
|  |  | D Top 5 Percent |  |  |  |  |
| 1917 | 25.56 | 27.07 | 27.07* | n.a. | n.a. | n.a. |
| 1918 | 24.22 | 25.85 | 25.85* | n.a. | п.a. | n.a. |
| 1919 | 24.77 | 26.00 | 26.00* | 25.41 | 26.15 | 26.15* |
| 1919 | 24.48 | 25.69 | 25.69* | 25.12 | 25.85 | 25.85* |
| 1920 | 22.63 | 24.47 | 24.47* | 23.37 | 23.85 | 23.85* |
| 1921 | 24.63 | 27.23 | 27.23* | 25.36 | 28.06 | 28.06* |
| 1922 | 24.41 | 26.29 | 26.29* | 24.90 | 27.12 | 27.12* |
| 1923 | 22.35 | 24.09 | 24.09* | 22.91 | 25.70 | 25.70* |
| 1924 | 24.03 | 25.66 | 25.66* | 24.71 | 26.73 | 26.73* |
| 1925 | 25.24 | 27.03 | 27.03* | 26.23 | 27.40 | 28.46 |
| 1926 | 25.14 | 27.07 | 27.07* | 25.93 | 27.05 | 28.15 |
| 1927 | 25.84 | 27.66 | 27.66* | 26.70 | 28.05 | 29.27 |
| 1928 | 26.68 | 28.37 | 28.37* | 27.76 | 28.86 | 30.11 |
| 1929 | 26.05 | 27.90 | 27.90* | 27.11 | 28.84 | 30.07 |
| 1930 | 24.93 | 26.44 | 27.05 | 25.27 | 26.50 | 27.94 |
| 1931 | 24.88 | 26.29 | 27.14 | 25.17 | 26.32 | 28.00 |
| 1932 | 24.37 | 26.07 | 26.60 | 24.48 | 26.11 | 27.47 |
| 1933 | 23.53 | 25.11 | 25.68 | 23.88 | 25.31 | 26.71 |
| 1934 | 23.33 | 24.77 | 25.25 | 23.47 | 24.67 | 25.98 |
| 1935 | 23.39 | 24.91 | 25.25 | 23.70 | 24.89 | 26.08 |
| 1936 | 24.58 | 26.21 | 26.21* | 25.06 | 26.27 | 27.21 |
| 1937 | 24.11 | 25.64 | 25.64* | 24.30 | 25.86 | 26.58 |
| 1938 | 23.26 | 24.33 | 24.33* | 23.47 | 25.00 | 25.78 |
| 1929 | 26.28 | 28.15 | 28.15* | 27.35 | 29.09 | 30.33 |
| 1930 | 25.40 | 26.95 | 27.55 | 25.75 | 27.01 | 28.46 |
| 1931 | 24.99 | 26.41 | 27.26 | 25.28 | 26.43 | 28.12 |
| . 1932 | 25.02 | 26.76 | 27.29 | 25.13 | 26.81 | 28.19 |
| 1933 | 24.06 | 25.67 | 26.25 | 24.42 | 25.88 | 27.30 |
| 1934 | 23.55 | 25.01 | 25.48 | 23.70 | 24.91 | 26.22 |
| 1935 | 23.53 | 25.06 | 25.39 | 23.84 | 25.04 | 26.23 |
| 1936 | 23.68 | 25.25 | 25.25* | 24.14 | 25.30 | 26.24 |
| 1937 | 23.94 | 25.45 | 25.45* | 24.13 | 25.68 | 26.40 |
| 1938 | 23.07 | 24.14 | 24.14* | 23.28 | 24.80 | 25.57 |
| 1939 | 22.94 | 24.79 | 24.79* | 23.15 | 24.86 | 24.86* |
| 1940 | 22.83 | 24.69 | 24.69* | 22.97 | 24.46 | 24.46* |
| 1941 | 22.15 | 23.90 | 23.90* | 22.30 | 23.70 | 23.70* |
| 1942 | 19.60 | 21.39 | 21.39* | 19.68 | 21.05 | 21.05* |
| 1943 | 18.40 | 20.05 | 20.05* | 18.55 | 19.58 | 19.58* |
| 1944 | 17.22 | 18.97 | 18.97* | 17.40 | 17.40 | 17.40* |
| 1945 | 17.99 | 19.47 | 19.47* | 18.34 | 18.34 | 18.34* |
| 1946 | 18.85 | 20.09 | 20.09* | 19.31 | 19.31 | 19.31* |
| 1947 | 17.99 | n.a. | n.a. | 18.28 | 18.28 | 18.28* |

For notes see page 634.

Table 121 (cont.)

|  | BASIC | B A S Family | SIC VA Status | IANTADJ <br> Unwarranted Inclusions | USTED F Unwarrant sions \& Ded <br> (Maxim | R <br> d Inclu ductions um) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | VARIANT <br> (1) | Preliminary <br> (2) | Final <br> (3) | $\begin{gathered} \text { (Maximum) } \\ (4) \end{gathered}$ | Preliminary (5) | Final <br> (6) |
|  | E | 6 TH AND | 7 т ${ }^{\text {P }}$ P | Entage | BAND |  |
| 1919 | 3.48 | 4.11 | 4.11* | 3.54 | 3.56 | 3.56* |
| 1919 | 3.43 | 4.07 | 4.07* | 3.50 | 3.52 | 3.52* |
| 1920 | 3.14 | 3.80 | 3.80* | 3.14 | 3.33 | 3.33* |
| 1921 | 3.98 | 4.68 | 4.68* | 4.02 | 3.69 | 3.69* |
| 1922 | 3.57 | 4.61 | 4.61* | 3.76 | 3.70 | 3.70* |
| 1923 | 3.60 | 4.04 | 4.04* | 3.62 | 3.59 | 3.59* |
| 1924 | 3.76 | 4.39 | 4.39* | 3.75 | 3.80 | 3.80* |
| 1925 | 3.95 | 3.92 | 4.63 | 4.04 | 3.59 | 4.66 |
| 1926 | 3.88 | 3.64 | 4.38 | 3.94 | 3.60 | 4.69 |
| 1927 | 4.07 | 3.62 | 4.46 | 4.20 | 3.70 | 4.83 |
| 1928 | 4.12 | 3.75 | 4.62 | 4.16 | 3.70 | 4.83 |
| 1929 | 4.00 | 3.68 | 4.54 | 4.11 | 3.40 | 4.53 |
| 1930 | 4.25 | 3.75 | 4.81 | 4.30 | 3.70 | 4.89 |
| 1931 | 4.59 | 3.71 | 5.06 | 4.60 | 3.93 | 5.20 |
| 1932 | 4.69 | 4.52 | 5.50 | 4.71 | 4.09 | 5.26 |
| 1933 | 4.40 | 4.23 | 5.26 | 4.43 | 3.86 | 5.10 |
| 1.934 | 4.29 | 4.18 | 5.11 | 4.30 | 3.86 | 5.02 |
| 1935 | 4.23 | 4.16 | 4.98 | 4.25 | 3.91 | 5.03 |
| 1936 | 4.13 | 3.96 | 4.59 | 4.11 | 3.76 | 4.80 |
| 1937 | 3.91 | 4.02 | 4.55 | 3.96 | 3.54 | 4.50 |
| 1938 | 4.13 | 4.29 | 4.83 | 4.15 | 3.90 | 4.87 |
| 1929 | 4.04 | 3.72 | 4.57 | 4.14 | 3.43 | 4.57 |
| 1930 | 4.33 | 3.82 | 4.89 | 4.39 | 3.77 | 4.97 |
| 1931 | 4.61 | 3.73 | 5.08 | 4.62 | 3.95 | 5.22 |
| 1932 | 4.82 | 4.64 | 5.63 | 4.84 | 4.20 | 5.38 |
| 1933 | 4.50 | 4.33 | 5.36 | 4.53 | 3.95 | 5.20 |
| 1934 | 4.33 | 4.22 | 5.15 | 4.34 | 3.90 | 5.06 |
| 1935 | 4.25 | 4.19 | 5.00 | 4.27 | 3.94 | 5.05 |
| 1936 | 3.98 | 3.82 | 4.43 | 3.96 | 3.63 | 4.65 |
| 1937 | 3.88 | 3.99 | 4.52 | 3.93 | 3.52 | 4.47 |
| 1938 | 4.09 | 4.26 | 4.80 | 4.11 | 3.86 | 4.84 |
| 1939 | 4.22 | 4.30 | 4.85 | 4.23 | 3.92 | 4.78 |
| 1940 | 3.48 | 4.31 | 4.31* | 3.50 | 3.99 | 3.99* |
| 1941 | 3.38 | 4.07 | 4.07* | 3.38 | 4.00 | 4.00* |
| 1942 | 2.94 | 3.47 | 3.47* | 2.94 | 3.75 | 3.75* |
| 1943 | 2.71 | 3.34 | 3.34* | 2.70 | 3.30 | 3.30* |
| 1944 | 2.67 | 3.28 | 3.28* | 2.68 | 2.68 | 2.68* |
| 1945 | 2.71 | 3.32 | 3.32* | 2.72 | 2.72 | 2.72* |
| 1946 | 2.91 | 3.43 | 3.43* | 2.94 | 2.94 | 2.94* |
| 1947 | 2.86 | n.a. | n.a. | 2.88 | 2.88 | 2.88* |

For notes see page 634.

Table 121 (cont.)

| BASIC | Family S |  | Unwarranted Inclusions | Unwarranted Inclusions \& Deductions (Maximum) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| VARIANT | Preliminary | Final | (Maximum) | Preliminary | Final |
| (1) | (2) | (3) | (4) | (5) | (6) |

F Top 7 Percent

| 1919 | 28.24 | 30.11 | 30.11* | 28.95 | 29.71 | 29.71* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1919 | 27.91 | 29.76 | 29.76* | 28.62 | 29.36 | 29.36* |
| 1920 | 25.77 | 28.27 | 28.27* | 26.50 | 27.18 | $27.18{ }^{\text {² }}$ |
| 1921 | 28.61 | 31.90 | 31.90* | 29.38 | 31.74 | 31.74* |
| 1922 | 27.98 | 30.90 | 30.90* | 28.66 | 30.82 | 30.82* |
| 1923 | 25.95 | 28.13 | 28.13* | 26.53 | 29.29 | 29.29* |
| 1924 | 27.79 | 30.05 | 30.05* | 28.46 | 30.52 | 30.52* |
| 1925 | 29.19 | -30.95 | 31.66 | 30.27 | 30.98 | 33.12 |
| 1926 | 29.02 | 30.71 | 31.45 | 29.87 | 30.66 | 32.84 |
| 1927 | 29.91 | 31.27 | 32.11 | 30.91 | 31.75 | 34.10 |
| 1928 | 30.80 | 32.12 | 33.00 | 31.91 | 32.55 | 34.94 |
| 1929 | 30.05 | 31.59 | 32.44 | 31.21 | 32.24 | 34.60 |
| 1930 | 29.18 | 30.19 | 31.86 | 29.57 | 30.20 | 32.83 |
| 1931 | 29.47 | 30.01 | 32.20 | 29.77 | 30.25 | 33.19 |
| 1932 | 29.06 | 30.59 | 32.10 | 29.19 | 30.20 | 32.73 |
| 1933 | 27.93 | 29.34 | 30.95 | 28.30 | 29.17 | 31.81 |
| 1934 | 27.62 | 28.96 | 30.36 | 27.77 | 28.54 | 31.00 |
| 1935 | 27.62 | 29.08 | 30.22 | 27.94 | 28.80 | 31.10 |
| 1936 | 28.71 | 30.18 | 30.80 | 29.17 | 30.03 | 32.01 |
| 1937 | 28.02 | 29.66 | 30.18 | 28.26 | 29.41 | 31.08 |
| 1938 | 27.39 | 28.63 | 29.17 | 27.62 | 28.90 | 30.64 |
| 1929 | 30.32 | 31.87 | 32.72 | 31.49 | 32.52 | 34.89 |
| 1930 | 29.74 | 30.77 | 32.44 | 30.14 | 30.78 | 33.42 |
| 1931 | 29.60 | 30.14 | 32.34 | 29.90 | 30.38 | 33.33 |
| 1932 | 29.83 | 31.40 | 32.92 | 29.97 | 31.00 | 33.57 |
| 1933 | 28.56 | 30.00 | 31.61 | 28.94 | 29.83 | 32.49 |
| 1934 | 27.88 | 29.23 | 30.64 | 28.04 | 28.81 | 31.28 |
| 1935 | 27.78 | 29.25 | 30.39 | 28.11 | 28.98 | 31.28 |
| 1936 | 27.65 | 29.07 | 29.68 | 28.09 | 28.92 | 30.89 |
| 1937 | 27.82 | 29.45 | 29.97 | 28.06 | 29.20 | 30.87 |
| 1938 | 27.17 | 28.39 | 28.93 | 27.40 | 28.66 | 30.40 |
| 1939 | 27.17 | 29.09 | 29.64 | 27.37 | 28.78 | 29.64 |
| 1940 | 26.30 | 29.00 | 29.00* | 26.47 | 28.45 | 28.45* |
| 1941 | 25.53 | 27.96 | 27.96* | 25.68 | 27.70 | 27.70* |
| 1942 | 22.55 | 24.86 | 24.86** | 22.62 | 24.80 | 24.80 * |
| 1943 | 21.11 | 23.39 | 23.39** | 21.25 | 22.88 | 22.88* |
| 1944 | 19.89 | 22.25 | 22.25 * | 20.08 | 20.08 | 20.08* |
| 1945 | 20.70 | 22.79 | 22.79** | 21.05 | 21.05 | 21.05* |
| 1946 | 21.76 | 23.52 | 23.52* | 22.24 | 22.24 | 22.24* |
| 1947 | 20.85 | n.a. | n.a. | 21.16 | 21.16 | 21.16* |

For notes see page 634.

Table 121 (cont.)

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{} \& \multirow{3}{*}{\begin{tabular}{l}
BASIC VARIANT \\
(1)
\end{tabular}} \& BAS
Family S \& C V A

atus \& \begin{tabular}{l}
IANTADJ <br>
Unwarranted Inclusions

 \& USTED F Unwarran sions \& De (Maxim \& 

0 R <br>
Incluductions um)
\end{tabular} <br>

\hline \& \& Preliminary (2) \& | Final |
| :--- |
| (3) | \& | (Maximum) |
| :--- |
| (4) | \& | Preliminary |
| :--- |
| (5) | \& | Final |
| :--- |
| (6) | <br>

\hline \& \& \multicolumn{5}{|l|}{G Lower 95 Percent} <br>
\hline 1917 \& 74.44 \& 72.93 \& 72.93* \& n.a. \& n.a. \& n.a. <br>
\hline 1918 \& 75.78 \& 74.15 \& 74.15* \& n.a. \& n.a. \& n.a. <br>
\hline 1919 \& 75.23 \& 74.00 \& 74.00* \& 74.59 \& 73.85 \& 73.85* <br>
\hline 1919 \& 75.52 \& 74.31 \& $74.31^{\text {* }}$ \& 74.88 \& 74.15 \& 74.15* <br>
\hline 1920 \& 77.37 \& 75.53 \& 75.53* \& 76.63 \& 76.15 \& 76.15* <br>
\hline 1921 \& 75.37 \& 72.77 \& 72.77* \& 74.64 \& 71.94 \& 71.94* <br>
\hline 1922 \& 75.59 \& 73.71 \& 73.71* \& 75.10 \& 72.88 \& 72.88* <br>
\hline 1923 \& 77.65 \& 75.91 \& 75.91* \& 77.09 \& 74.30 \& 74.30* <br>
\hline 1924 \& 75.97 \& 74.34 \& 74.34* \& 75.29 \& 73.27 \& 73.27* <br>
\hline 1925 \& 74.76 \& 72.97 \& 72.97* \& 73.77 \& 72.60 \& 71.54 <br>
\hline 1926 \& 74.86 \& 72.93 \& 72.93* \& 74.07 \& 72.95 \& 71.85 <br>
\hline 1927 \& 74.16 \& 72.34 \& 72.34* \& 73.30 \& 71.95 \& 70.73 <br>
\hline 1928 \& 73.32 \& 71.63 \& 71.63* \& 72.24 \& 71.14 \& 69.89 <br>
\hline 1929 \& 73.95 \& 72.10 \& 72.10* \& 72.89 \& 71.16 \& 69.93 <br>
\hline 1930 \& 75.07 \& 73.56 \& 72.95 \& 74.73 \& 73.50 \& 72.06 <br>
\hline 1931 \& 75.12 \& 73.71 \& 72.86 \& 74.83 \& 73.68 \& 72.00 <br>
\hline 1932 \& 75.63 \& 73.93 \& 73.40 \& 75.52 \& 73.89 \& 72.53 <br>
\hline 1933 \& 76.47 \& 74.89 \& 74.32 \& 76.12 \& 74.70 \& 73.29 <br>
\hline 1934 \& 76.67 \& 75.23 \& 74.75 \& 76.53 \& 75.33 \& 74.02 <br>
\hline 1935 \& 76.61 \& 75.09 \& 74.75 \& 76.30 \& 75.11 \& 73.92 <br>
\hline 1936 \& 75.42 \& 73.79 \& 73.79* \& 74.94 \& 73.73 \& 72.79 <br>
\hline 1937 \& 75.89 \& 74.36 \& 74.36* \& 75.70 \& 74.14 \& 73.42 <br>
\hline 1938 \& 76.74 \& 75.66 \& 75.66* \& 76.53 \& 75.00 \& 74.22 <br>
\hline 1929 \& 73.72 \& 71.85 \& $71.85 *$ \& 72.65 \& 70.91 \& 69.67 <br>
\hline 1930 \& 74.60 \& 73.05 \& 72.45 \& 74.25 \& 72.99 \& 71.54 <br>
\hline 1931 \& 75.01 \& 73.59 \& 72.74 \& 74.72 \& 73.57 \& 71.88 <br>
\hline 1932 \& 74.98 \& 73.24 \& 72.71 \& 74.87 \& 73.19 \& 71.81 <br>
\hline 1933 \& 75.94 \& 74.33 \& 73.75 \& 75.58 \& 74.12 \& 72.70 <br>
\hline 1934 \& 76.45 \& 74.99 \& 74.52 \& 76.30 \& 75.09 \& 73.78 <br>
\hline 1935 \& 76.47 \& 74.94 \& 74.61 \& 76.16 \& 74.96 \& 73.77 <br>
\hline 1936 \& 76.32 \& 74.75 \& 74.75* \& 75.86 \& 74.70 \& 73.76 <br>
\hline 1937 \& 76.06 \& 74.55 \& 74.55* \& 75.87 \& 74.32 \& 73.60 <br>
\hline 1938 \& 76.93 \& 75.86 \& 75.86* \& 76.72 \& 75.20 \& 74.43 <br>
\hline 1939 \& 77.06 \& 75.21 \& 75.21* \& 76.85 \& 75.14 \& 75.14* <br>
\hline 1940 \& 77.17 \& 75.31 \& 75.31* \& 77.03 \& 75.54 \& 75.54* <br>
\hline 1941 \& 77.85 \& 76.10 \& 76.10* \& 77.70 \& 76.30 \& 76.30* <br>
\hline 1942 \& 80.40 \& 78.61 \& 78.61* \& 80.32 \& 78.95 \& 78.95* <br>
\hline 1943 \& 81.60 \& 79.95 \& 79.95* \& 81.45 \& 80.42 \& 80.42* <br>
\hline 1944 \& 82.78 \& 81.03 \& 81.03* \& 82.60 \& 82.60 \& 82.60* <br>
\hline 1945 \& 82.01 \& 80.53 \& 80.53* \& 81.66 \& 81.66 \& 81.66* <br>
\hline 1946 \& 81.15 \& 79.91 \& 79.91* \& 80.69 \& 80.69 \& 80.69* <br>
\hline 1947 \& 82.01 \& n.a. \& n.a. \& 81.72 \& 81.72 \& 81.72* <br>
\hline
\end{tabular}

For notes see page 634.

Table 121 (concl.)

|  | BASIC VARIANT <br> (1) | Family Status |  | Unwarranted Inclusions (Maximum) (4) | Unwarranted Inclusions \& Deductions (Maximum) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Preliminary <br> (2) | Final <br> (3) |  | Preliminary <br> (5) | Final <br> (6) |
|  |  | H Low | ER 93 | ERCENT |  |  |
| 1919 | 71.76 | 69.89 | 69.89* | 71.05 | 70.29 | 70.29* |
| 1919 | 72.09 | 70.24 | 70.24* | 71.38 | 70.64 | 70.64* |
| 1920 | 74.23 | 71.73 | 71.73* | 73.50 | 72.82 | $72.8{ }^{\prime}$ |
| 1921 | 71.39 | 68.10 | 68.10* | 70.62 | 68.26 | 68.26 |
| 1922 | 72.02 | 69.10 | 69.10* | 71.34 | 69.18 | 69.18* |
| 1923 | 74.05 | 71.87 | 71.87* | 73.47 | 70.71 | 70.71* |
| 1924 | 72.21 | 69.95 | 69.95* | 71.54 | 69.48 | 69.48* |
| 1925 | 70.81 | 69.05 | 68.34 | 69.73 | 69.02 | 66.88 |
| 1926 | 70.98 | 69.29 | 68.55 | 70.13 | 69.34 | 67.16 |
| 1927 | 70.09 | 68.73 | 67.89 | 69.10 | 68.24 | 65.90 |
| 1928 | 69.20 | 67.88 | 67.00 | 68.09 | 67.45 | 65.06 |
| 1929 | 69.95 | 68.41 | 67.56 | 68.78 | 67.76 | 65.40 |
| 1930 | 70.82 | 69.81 | 68.14 | 70.43 | 69.80 | 67.17 |
| 1931 | 70.53 | 70.00 | 67.80 | 70.23 | 69.75 | 66.81 |
| 1932 | 70.94 | 69.41 | 67.90 | 70.81 | 69.80 | 67.27 |
| 1933 | 72.07 | 70.66 | 69.05 | 71.70 | 70.83 | 68.19 |
| 1934 | 72.38 | 71.04 | 69.64 | 72.23 | 71.46 | 69.00 |
| 1935 | 72.38 | 70.92 | 69.78 | 72.06 | 71.20 | 68.90 |
| 1936 | 71.29 | 69.82 | 69.20 | 70.83 | 69.97 | 67.99 |
| 1937 ' | 71.98 | 70.34, | 69.82 | 71.74 | 70.59 | 68.92 |
| 1938 | 72.61 | 71.37 | 70.83 | 72.38 | 71.10 | 69.36 |
| 1929 | 69.68 | 68.13 | 67.28 | 68.51 | 67.48 | 65.11 |
| 1930 | 70.26 | 69.23 | 67.56 | 69.86 | 69.22 | 66.58 |
| 1931 | 70.40 | 69.86 | 67.66 | 70.10 | 69.62 | 66.67 |
| 1932 | 70.17 | 68.60 | 67.08 | 70.03 | 69.00 | 66.43 |
| 1933 | 71.44 | 70.00 | 68.39 | 71.06 | 70.17 | 67.51 |
| 1934 | 72.12 | 70.77 | 69.36 | 71.96 | 71.19 | 68.72 |
| 1935 | 72.22 | 70.75 | 69.61 | 71.89 | 71.02 | 68.72 |
| 1936 | 72.35 | 70.93 | 70.32 | 71.91 | 71.08 | 69.11 |
| 1937 | 72.18 | 70.55 | 70.03 | 71.94 | 70.80 | 69.13 |
| 1938 | 72.83 | 71.61 | 71.07 | 72.60 | 71.34 | 69.60 |
| 1939 | 72.83 | 70.91 | 70.36 | 72.62 | 71.22 | 70.36 |
| 1940 | 73.70 | 71.00 | 71.00* | 73.53 | 71.55 | 71.55* |
| 1941 | 74.47 | 72.04 | 72.04* | 74.32 | 72.30 | 72.30* |
| 1942 | 77.45 | 75.14 | 75.14* | 77.38 | 75.20 | 75.20* |
| 1943 | 78.89 | 76.61 | 76.61* | 78.75 | 77.12 | 77.12* |
| 1944 | 80.11 | 77.75 | 77.75 * | 79.92 | 79.92 | 79.92* |
| 1945 | 79.30 | 77.21 | 77.21* | 78.95 | 78.95 | 78.95* |
| 1946 | 78.24 | 76.48 | 76.48* | 77.76 | 77.76 | 77.76* |
| 1947 | 79.15 | n.a. | n.a. | 78.84 | 78.84 | 78.84* |

Notes to Table 121
n.a: not available.

* Entries in preceding column are regarded as final.


## Column

1 Table 119, column 1.
2-6 For details of the procedure by which the income share of a given upper percentage band is calculated, see Appendix 5, Sections A-D. The shares for the lower income groups are estimated by subtraction. For the procedure by which the 1938 entries in Sections C-F are estimated, see Chapter 8, note 8.

Table 122
Percentage Shares of Upper Income Groups and Per Capita Income of Entire Population and of Upper Income Groups, Economic and Disposable Income Variants; Per Capita Income at Lower Partition Line of Each Income Group, Economic Income Variant
Total and Nonfarm Population, 1919-1946
I Shares of Given Percentage Band

| Top 1 | 2nd \& 3rd. | 4th \& 5th | Top 5 | 6th \& 7th | Top 7 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | (6) |

1 Economic income Variant
A Total Population

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 1919 | 14.04 | 6.78 | 5.28 | 26.10 |
| 1920 | 13.64 | 6.83 | 5.29 | 25.76 |
| 1921 | 16.15 | 9.04 | 6.51 | 31.70 |
| 1922 | 15.58 | 8.04 | 6.77 | 30.39 |
| 1923 | 14.02 | 8.49 | 5.57 | 28.08 |
| 1924 | 14.69 | 8.38 | 5.98 | 29.06 |
| 1925 | 15.74 | 8.07 | 6.43 | 30.24 |
| 1926 | 15.77 | 8.16 | 6.29 | 30.21 |
| 1927 | 16.46 | 8.39 | 6.34 | 31.19 |
| 1928 | 17.18 | 8.29 | 6.59 | 32.06 |
| 1929 | 17.15 | 8.48 | 6.24 | 31.88 |
| 1930 | 15.57 | 8.44 | 6.68 | 30.69 |
| 1931 | 15.57 | 9.04 | 7.36 | 31.96 |
| 1932 | 15.27 | 9.35 | 7.51 | 32.12 |
| 1933 | 14.35 | 8.87 | 7.61 | 30.83 |
| 1934 | 13.56 | 8.50 | 7.07 | 29.13 |
| 1935 | 13.60 | 8.37 | 6.81 | 28.77 |
| 1936 | 14.70 | 8.04 | 6.53 | 29.26 |
| 1937 | 14.12 | 7.95 | 6.43 | 28.51 |
| 1938 | 12.84 | 8.41 | 6.56 | 27.80 |
| 1929 | 17.31 | 8.57 | 6.32 | 32.19 |
| 1930 | 15.88 | 8.64 | 6.83 | 31.34 |
| 1931 | 15.57 | 9.07 | 7.39 | 32.03 |
| 1932 | 15.65 | 9.65 | 7.68 | 32.99 |
| 1933 | 14.76 | 9.19 | 7.78 | 31.73 |
| 1934 | 14.08 | 8.88 | 7.30 | 30.26 |
| 1935 | 13.58 | 8.39 | 6.81 | 28.77 |
| 1936 | 14.46 | 7.91 | 6.45 | 28.82 |
| 1937 | 13.96 | 7.87 | 6.38 | 28.20 |
| 1938 | 12.75 | 8.33 | 6.53 | 27.62 |
| 1939 | 13.12 | 8.30 | 6.35 | 27.77 |
| 1940 | 12.87 | 7.74 | 6.22 | 26.83 |
| 1941 | 12.32 | 7.53 | 5.83 | 25.67 |
| 1942 | 10.70 | 6.76 | 5.02 | 22.47 |
| 1943 | 9.95 | 6.14 | 4.78 | 20.86 |
| 1944 | 8.98 | 5.73 | 3.96 | 18.68 |
| 1945 | 9.37 | 5.89 | 4.01 | 19.27 |
| 1946 | 9.58 | 6.17 | 4.20 | 19.96 |

For notes see pages 644-5.

Table 122 (cont.)
I Shares of Given Percentage Band (cont.)

| Top 1 | 2 nd \& 3rd | 4th \& 5th | Top 5 | 6th \& 7th | Top 7 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | $(2)$ | (3) | $(4)$ | $(5)$ | $(6)$ |

1 Economic Income Variant (concl.)
B Nonfarm Population

| 1919 | 15.34 | 7.04 | 4.56 | 26.94 | 4.20 | 31.14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1920 | 14.18 | 6.74 | 4.64 | 25.56 | 4.04 | 29.60 |
| 1921 | 16.14 | 8.28 | 6.16 | 30.58 | 4.44 | 35.03 |
| 1922 | 15.68 | 7.66 | 5.56 | 28.90 | 4.85 | 33.74 |
| 1923 | 13.80 | 8.28 | 5.25 | 27.33 | 4.06 | 31.39 |
| 1924 | 14.63 | 8.34 | 5.28 | 28.25 | 4.49 | 32.74 |
| 1925 | 16.02 | 8.24 | 5.91 | 30.17 | 5.39 | 35.56 |
| 1926 | 15.94 | 8.21 | 5.88 | 30.04 | 5.21 | 35.25 |
| 1927 | 16.74 | 8.35 | 5.98 | 31.07 | 5.25 | 36.32 |
| 1928 | 17.47 | 8.31 | 6.03 | 31.81 | 5.39 | 37.20 |
| 1929 | 17.24 | 8.72 | 5.95 | 31.91 | 5.11 | 37.02 |
| 1930 | 15.54. | 7.97 | 6.60 | 30.12 | 5.48 | 35.60 |
| 1931 | 15.08 | 8.37 | 7.03 | 30.48 | 5.79 | 36.27 |
| 1932 | 14.61 | 8.97 | 6.75 | 30.33 | 6.21 | 36.55 |
| 1933 | 14.07 | 8.52 | 6.73 | 29.32 | 6.17 | 35.49 |
| 1934 | 13.44 | 8.14 | 6.71 | 28.28 | 5.97 | 34.25 |
| 1935 | 13.66 | 8.03 | 6.66 | 28.35 | 5.88 | 34.22 |
| 1936 | 15.08 | 7.75 | 6.40 | 29.23 | 5.29 | 34.52 |
| 1937 | 14.49 | 7.74 | 6.19 | 28.42 | 5.22 | 33.64 |
| 1938 | 12.98 | 8.07 | 6.13 | 27.18 | 5.82 | 33.00 |
| 1929 | 17.38 | 8.80 | 6.01 | 32.19 | 5.16 | 37.35 |
| 1930 | 15.84 | 8.15 | 6.72 | 30.71 | 5.57 | 36.28 |
| 1931 | 15.14 | 8.42 | 7.07 | 30.63 | 5.82 | 36 |
| 1932 | 14.99 | 9.26 | 6.91 | 31.16 | 6.34 | 37.50 |
| 1933 | 14.41 | 8.77 | 6.87 | 30.05 | 6.27 | 36.33 |
| 1934 | 13.59 | 8.25 | 6.78 | 28.62 | 6.01 | 34.63 |
| 1935 | 13.76 | 8.10 | 6.72 | 28.59 | 5.91 | 34.50 |
| 1936 | 14.54 | 7.46 | 6.18 | 28.19 | 5.13 | 33.32 |
| 1937 | 14.41 | 7.69 | 6.17 | 28.27 | 5.19 | 33.46 |
| 1938 | 12.88 | 7.99 | 6.09 | 26.97 | 5.79 | 32.76 |
| 1939 | 13.22 | 7.77 | 5.64 | 26.63 | 5.40 | 32.04 |
| 1940 | 13.02 | 7.52 | 5.71 | 26.25 | 4.82 | 31.08 |
| 1941 | 12.52 | 7.39 | 5.46 | 25.37 | 4.69 | 30.07 |
| 1942 | 11.08 | 6.69 | 5.01 | 22.77 | 4.28 | 27.05 |
| 1943 | 10.24 | 6.17 | 4.76 | 21.17 | 3.94 | 25.11 |
| 1944 | 9.21 | 5.90 | 3.99 | 19.10 | 3.29 | 22.39 |
| 1945 | 9.48 | 6.18 | 4.09 | 19.76 | 3.33 | 23.08 |
| 1946 | 9.84 | 6.37 | 4.29 | 20.50 | 3.46 | 23.96 |

For notes see pages 644-5

| BASIC REFERENCETABLES |  |  |  |  |  | 637 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Table 122 (cont.) |  |  |  |  |  |  |
| I Shares of Given Percentage Band (cont.) |  |  |  |  |  |  |
|  | Top 1 <br> (1) | 2nd \& 3rd <br> (2) | 4th \& 5th (3) | Top 5 (4) | 6th \& 7th (5) | Top 7 (6) |
| 2 Disposable Income Variant |  |  |  |  |  |  |
| A Total Population |  |  |  |  |  |  |
| 1919 | 12.21 | 6.78 | 5.27 | 24.27 |  |  |
| 1920 | 11.80 | 6.81 | 5.36 | 23.96 |  |  |
| 1921 | 14.20 | 8.80 | 6.31 | 29.32 |  |  |
| 1922 | 14.39 | 8.01 | 6.63 | 29.04 |  |  |
| 1923 | 13.08 | 8.43 | 5.54 | 27.05 |  |  |
| 1924 | 14.28 | 8.48 | 5.98 | 28.73 |  |  |
| 1925 | 16.54 | 8.31 | 6.24 | 31.09 |  |  |
| 1926 | 16.26 | 8.39 | 6.12 | 30.78 |  |  |
| 1927 | 17.22 | 8.57 | 6.12 | 31.92 |  |  |
| 1928 | 19.12 | 8.62 | 6.33 | 34.06 |  |  |
| 1929 | 18.92 | 8.61 | 5.96 | 33.49 |  |  |
| 1930 | 15.07 | 8.52 | 6.70 | 30.29 |  |  |
| 1931 | 14.55 | 9.15 | 7.46 | 31.16 |  |  |
| 1932 | 12.29 | 9.53 | 7.74 | 29.56 |  |  |
| 1933 | 12.63 | 8.96 | 7.73 | 29.32 |  |  |
| 1934 | 12.36 | 8.43 | 7.06 | 27.85 |  |  |
| 1935 | 12.75 | 8.38 | 6.76 | 27.89 |  |  |
| 1936 | 13.75 | 8.12 | 6.49 | 28.35 |  |  |
| 1937 | 12.97 | 7.95 | 6.44 | 27.36 |  |  |
| 1938 | 12.10 | 8.38 | 6.56 | 27.04 |  |  |
| 1929 | 19.08 | 8.70 | 6.03 | 33.81 |  |  |
| 1930 | 15.38 | 8.72 | 6.85 | 30.95 |  |  |
| 1931 | 14.56 | 9.18 | 7.49 | 31.23 |  |  |
| 1932 | 12.62 | 9.85 | 7.93 | 30.40 |  |  |
| 1933 | 13.01 | 9.29 | 7.90 | 30.21 |  |  |
| 1934 | 12.84 | 8.81 | 7.29 | 28.95 |  |  |
| 1935 | 12.74 | 8.39 | 6.76 | 27.89 |  |  |
| 1936 | 13.52 | 7.99 | 6.41 | 27.92 |  |  |
| 1937 | 12.81 | 7.86 | 6.38 | 27.06 |  |  |
| 1938 | 12.01 | 8.31 | 6.53 | 26.85 |  |  |
| 1939 | 12.14 | 8.32 | 6.36 | 26.81 |  |  |
| 1940 | 11.39 | 7.75 | 6.30 | 25.44 |  |  |
| 1941 | 9.89 | 7.28 | 5.81 | 22.98 . |  |  |
| 1942 | 7.81 | 6.34 | 4.88 | 19.03 |  |  |
| 1943 | 6.44 | 5.62 | 4.60 | 16.66 |  |  |
| 1944 | 6.61 | 5.33 | 3.80 | 15.75 |  |  |
| 1945 | 7.27 | 5.51 | 3.87 | 16.65 |  |  |
| 1946 | 7.71 | 5.84 | 4.10 | 1\%.66 |  |  |

For notes see pages 644-5

Table 122 (cont.)
I Shares of Given Percentage Band (concl.)


For notes see pages 644-5.

Table 122 (cont.)
II Per Capita Income of Entire Population and of Given Percentage Band
Entire

| Population | Top 1 | 2nd \& 3rd | 4th \& 5th | 6th \& 7th |
| :---: | :---: | :---: | :---: | :---: |
| (1) | (2) | (3) | (4) | (5) |

1 Economic Income Variant
A Total Population

| 1913 | $346{ }^{\text {a }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1914 | $333{ }^{\text {a }}$ |  |  |  |
| 1915 | $350{ }^{\text {a }}$ |  |  |  |
| 1916 | $410{ }^{\text {a }}$ |  |  |  |
| 1917 | $490^{\text {a }}$ |  |  |  |
| 1918 | $540^{2}$ |  |  |  |
| 1919 | 620 | 8,708 | 2,103 | 1,639 |
| 1920 | 645 | 8,803 | 2,202 | 1,707 |
| 1921 | 510 | 8,235 | 2,305 | 1,658 |
| 1922 | 540 | 8,424 | 2,172 | 1,830 |
| 1923 | 614 | 8,604 | 2,604 | 1,710 |
| 1924 | 609 | 8,952 | 2,553 | 1,822 |
| 1925 | 633 | 9,955 | 2,554 | 2,035 |
| 1926 | 647 | 10,211 | 2,640 | 2,035 |
| 1927 | 642 | 10,564 | 2,693 | 2,033 |
| 1928 | 648 | 11,141 | 2,687 | 2,135 |
| 1929 | 678 | 11,625 | 2,873 | 2,116 |
| 1930 | 601 | 9,363 | 2,539 | 2,009 |
| 1931 | 494 | 7,683 | 2,230 | 1,817 |
| 1932 | 378 | 5,775 | 1,768 | 1,420 |
| 1933 | 366 | 5,256 | 1,624 | 1,394 |
| 1934 | 418 | 5,662 | 1,775 | 1,476 |
| 1935 | 452 | 6,146 | 1,892 | 1,539 |
| 1936 | 507 | 7,453 | 2,037 | 1,654 |
| 1937 | 548 | 7,746 | 2,181 | 1,764 |
| 1938 | 502 | 6,451 | 2,112 | 1,647 |
| 1939 | $537{ }^{\text {b }}$ | 7,044 | 2,228 | 1,706 |
| 1940 | $575^{\text {b }}$ | 7,398 | 2,226 | 1,788 |
| 1941 | $700^{\text {b }}$ | 8,626 | 2,636 | 2,041 |
| 1942 | 888 ${ }^{\text {b }}$ | 9,499 | 3,002 | 2,227 |
| 1943 | 1,067 ${ }^{\text {b }}$ | 10,619 | 3,273 | 2,550 |
| 1944 | 1,153 ${ }^{\text {b }}$ | 10,361 | 3,305 | 2,282 |
| 1945 | 1,175 ${ }^{\text {b }}$ | 11,009 | 3,459 | 2,353 |
| 1946 | 1,234 ${ }^{\text {b }}$ | 11,828 | 3,809 | 2,593 |
| 1947 | 1,325 ${ }^{\text {b }}$ |  |  |  |
| 1948 | $1,400^{\text {b }}$ |  |  |  |

For notes see pages 644-5.

Table 122 (cont.)
II Per Capita Income of Entire Population and of Given Percentage Band (dollars) (cont.)

Entire
Population Top 1 2nd \& 3rd 4th \& 5th 6th \& 7th
(1)
(2)
(3)
(4)
(5)

1 Economic Income Variant (concl.)
B Nonfarm Population

| 1913 | $441^{\text {a }}$ |  |  |  | $\%$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1914 | $421^{\text {a }}$ |  |  |  |  |
| 1915 | 439* |  |  |  |  |
| 1916 | $510^{\text {n }}$ |  |  |  |  |
| 1917 | $588{ }^{\text {a }}$ |  |  |  |  |
| 1918 | $626^{\text {a }}$ |  |  |  |  |
| 1919 | 722 | 11,072 | 2,540 | 1,647 | 1,516 |
| 1920 | 785 | 11,128 | 2,646 | 1,819 | 1,583 |
| 1921 | 642 | 10,358 | 2,656 | 1,975 | 1,426 |
| 1922 | 675 | 10,583 | 2,586 | 1,876 | 1,637 |
| 1923 | 756 | 10,435 | 3,130 | 1,987 | 1,536 |
| 1924 | 740 | 10,824 | 3,086 | 1,953 | 1,663 |
| 1925 | 758 | 12,140 | 3,120 | 2,239 | 2,043 |
| 1926 | 777 | 12,394 | 3,191 | 2,287 | 2,027 |
| 1927 | 764 | 12,793 | 3,191 | 2,285 | 2,006 |
| 1928 | 771 | 13,478 | 3,204 | 2,326 | 2,078 |
| 1929 | 804 | 13,862 | 3,505 | 2,391 | 2,054 |
| 1930 | 722 | 11,217 | 2,877 | 2,382 | 1,979 |
| 1931 | 600 | 9,043 | 2,511 | 2,108 | 1,735 |
| 1932 | 464 | 6,781 | 2,082 | 1,566 | 1,442 |
| 1933 | 445 | 6,258 | 1,894 | 1,496 | 1,372 |
| 1934 | 498 | 6,695 | 2,028 | 1,671 | 1,486 |
| 1935 | 533 | 7,279 | 2,139 | 1,776 | 1,566 |
| 1936 | 596 | 8,981 | 2,309 | 1,905 | 1,574 |
| 1937 | 641 | 9,291 | 2,481 | 1,985 | 1,672 |
| 1938 | 587 | 7,616 | 2,368 | 1,800 | 1,708 |
| 1939 | $626^{\circ}$ | 8,275 | 2,433 | 1,765 | 1,691 |
| 1940 | $667{ }^{\text {b }}$ | 8,686 | 2,508 | 1,906 | 1,610 |
| 1941 | $802{ }^{\text {b }}$ | 10,043 | 2,962 | 2,189 | 1,882 |
| 1942 | $990^{\text {b }}$ | 10,965 | 3,309 | 2,479 | 2,118 |
| 1943 | 1,171 ${ }^{\text {b }}$ | 11,998 | 3,612 | 2,786 | 2,309 |
| 1944 | $1,256^{\text {b }}$ | 11,570 | 3,701 | 2,504 | 2,066 |
| 1945 | 1,277 ${ }^{\text {b }}$ | 12,111 | 3,948 | 2,614 | 2,124 |
| 1946 | 1,345 ${ }^{\text {b }}$ | 13,237 | 4,281 | 2,882 | 2,328 |
| 1947 | 1,445 ${ }^{\text {b }}$ |  |  |  |  |
| 1948 | 1,512 ${ }^{\text {b }}$ |  |  |  |  |

For notes see pages 644-5.

Table 122 (cont.)
II Per Capita Income of Entire Population and of Given Percentage Band (dollars) (cont.)

| Entire <br> Population <br> $(1)$ | Top 1 | 2nd \& 3rd | 4th \& 5th | 6th \& 7th |
| :---: | :---: | :---: | :---: | :---: |

2 DISPOSABLE•INCOME:VARIANT
A Total Population

| 1917 | 485 ${ }^{\text {a }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1918 | $528^{\text {a }}$ |  |  |  |
| 1919 | 611 | 7,460 | 2,071 | 1,611 |
| 1920 | 635 | 7,492 | 2,162 | 1,700 |
| 1921 | 497 | 7,060 | 2,189 | 1,570 |
| 1922 | 535 | 7,698 | 2,143 | 1,772 |
| 1923 | 610 | 7,972 | 2,570 | 1,687 |
| 1924 | 612 | 8,742 | 2,594 | 1,829 |
| 1925 | 648 | 10,727 | 2,694 | 2,023 |
| 1926 | 660 | 10,727 | 2,768 | 2,019 |
| 1927 | 657 | 11,310 | 2,815 | 2,011 |
| 1928 | 676 | 12,923 | 2,913 | 2,140 |
| 1929 | 693 | 13,114 | 2,983 | 2,067 |
| 1930 | 587 | 8,839 | 2,497 | 1,965 |
| 1931 | 470 | 6,835 | 2,149 | 1,753 |
| 1932 | 354 | 4,353 | 1,687 | 1,370 |
| 1933 | 352 | 4,448 | 1,577 | 1,361 |
| 1934 | 409 | 5,049 | 1,722 | 1,441 |
| 1935 | 446 | 5,689 | 1,869 | 1,509 |
| 1936 | 502 | 6,903 | 2,038 | 1,629 |
| 1937 | 539 | 6,988 | 2,142. | 1,734 |
| 1938 | 494 | 5,977 | 2,070 | 1,619 |
| 1939 | $528{ }^{\text {b }}$ | 6,405 | 2,196 | 1,677 |
| 1940 | $560{ }^{\text {b }}$ | 6,385 | 2,170 | 1,765 |
| 1941 | $664{ }^{\text {b }}$ | 6,567 | 2,419 | 1,930 |
| 1942 | $819{ }^{\text {b }}$ | 6,393 | 2,598 | 1,999 |
| 1943 | $949^{\text {b }}$ | 6,116 | 2,666 | 2,184 |
| 1944 | 1,046 ${ }^{\text {b }}$ | 6,920 | 2,790 | 1,990: |
| 1945 | 1,082 ${ }^{\text {b }}$ | 7,863 | 2,983 | 2,094 |
| 1946 | 1,166 ${ }^{\text {b }}$ | 8,994 | 3,407 | 2,393 |

For notes see pages 644-5.

Table 122 (cont.)
II Per Capita Income of Entire Population and of Given Percentage Band (Dollars) (concl.)

Entire
Population Top $1 \quad$ 2nd \& 3rd 4 th \& 5th 6th \& 7th
(1) (2) (3) (4)
(5)

2 Disposable Income Variant (concl.)
B Nonfarm Population

| 1917 | $580{ }^{\text {a }}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | $610^{\text {a }}$ |  |  |  |  |
| 1919 | 708 | 9,301 | 2,509 | 1,624 | 1,488 |
| 1920 | 770 | 9,307 | 2,586 | 1,788 | 1,580 |
| 1921 | 624 | 8,750 | 2,547 | 1,824 | 1,371 |
| 1922 | 667 | 9,591 | 2,538 | 1,861 | 1,562 |
| 1923 | 750 | 9,593 | 3,073 | 1,952 | 1,533 |
| 1924 | 744 | 10,491 | 3,137 | 1,967 | 1,686 |
| 1925 | 779 | 13,024 | 3,338 | 2,299 | 2,037 |
| 1926 | 794 | 13,009 | 3,363 | 2,316 | 2,031 |
| 1927 | 784 | 13,726 | 3,373 | 2,271 | 2,012 |
| 1928 | 808 | 15,682 | 3,521 | 2,393 | 2,115 |
| 1929 | 825 | 15,721 | 3,716 | 2,363 | 2,020 |
| 1930 | 702 | 10,539 | 2,843 | 2,333 | 1,925 |
| 1931 | 568 | 7,965 | 2,412 | 2,021 | 1,680 |
| 1932 | 432 | 4,948 | 1,972 | 1,499 | 1,386 |
| 1933 | 426 | 5,197 | 1,833 | 1,462 | 1,332 |
| 1934 | 486 | 5,921 | 1,954 | 1,625 | 1,451 |
| 1935 | 525 | 6,695 | 2,101 | 1,741 | 1,543 |
| 1936 | 589 | 8,253. | 2,305 | 1,879 | 1,565 |
| 1937 | 628 | 8,319 | 2,425 | 1,962 | 1,636 |
| 1938 | 576 | 7,021 | 2,308 | 1,768 | 1,681 |
| 1939 | $614{ }^{\text {b }}$ | 7,464 | 2,390 | 1,735 | 1,672 |
| 1940 | $648{ }^{\text {b }}$ | 7,403 | 2,438 | 1,867 | 1,580 |
| 1941 | $755^{\text {b }}$ | 7,514 | 2,684 | 2,045 | 1,791 |
| 1942 | $902{ }^{\text {b }}$ | 7,210 | 2,805 | 2,203 | 1,906 |
| 1943 | 1,025 ${ }^{\text {b }}$ | 6,679 | 2,868 | 2,359 | 1,981 |
| 1944 | 1,125 ${ }^{\text {b }}$ | 7,551 | 3,085 | 2,165 | 1,802 |
| 1945 | 1,164 ${ }^{\text {b }}$ | 8,457 | 3,366 | 2,310 | 1,890 |
| 1946 | 1,260 ${ }^{\text {b }}$ | 9,946 | 3,778 | 2,646 | 2,154 |

For notes see pages 644-5.

Table 122 (cont.)
III Per Capita Income at Lower Limit of Given Percentage Band (dollars) Economic Income Variant

|  | Top 1 <br> (1) | 2nd \& 3rd <br> (2) | 4th \& 5th <br> (3) | 6th \& 7th <br> (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | 2,978 | Total Popu |  |  |
| 1919 |  | 1,851 | 1,549 |  |
| 1920 | 3,110 | 1,931 | 1,650 |  |
| 1921 | 3,055 | 1,960 | 1,574 |  |
| 1922 | 3,043 | 1,985 | 1,751 |  |
| 1923 | 3,443 | 2,126 | 1,576 |  |
| 1924 | 3,460 | 2,156 | 1,657 |  |
| 1925 | 3,779 | 2,273 | 1,969 |  |
| 1926 | 4,048 | 2,310 | 1,976 |  |
| 1927 | 4,017 | 2,338 | 1,951 |  |
| 1928 | 4,002 | 2,388 | 2,032 |  |
| 1929 | 4,199 | 2,462 | 2,027 |  |
| 1930 | 3,617 | 2,257 | 1,773 |  |
| 1931 | 3,043 | 2,015 | 1,659 |  |
| 1932 | 2,280 | 1,586 | 1,300 |  |
| 1933 | 2,127 | 1,503 | 1,246 |  |
| 1934 | 2,368 | 1,618 | 1,385 |  |
| 1935 | 2,547 | 1,706 | 1,469 |  |
| 1936 | 2,871 | 1,830 | 1,582 |  |
| 1937 | 3,011 | 1,954 | 1,701 |  |
| 1938 | 2,809 | 1,863 | 1,577 |  |
| 1939 | 3,004 | 1,948 | 1,637 |  |
| 1940 | 3,050 | 1,984 | 1,752 |  |
| 1941 | 3,714 | 2,310 | 1,847 |  |
| 1942 | 4,148 | 2,575 | 2,062 |  |
| 1943 | 4,686 | 2,871 | 2,363 |  |
| 1944 | 4,729 | 2,737 | 2,124 |  |
| 1945 | 5,155 | 2,840 | 2,139 |  |
| 1946 | 5,593 | 3,129 | 2,326 |  |

'For notes see pages 644-5.

Table 122 (concl.)
III Per Capita Income at Lower Limit of Given Percentage Band (dollars) Economic Income Variant (concl.)

| Top 1 | 2nd \& 3rd | 4th \& 5th | 6th \& 7th |
| :---: | :---: | :---: | :---: |
| $(1)$ | (2) | (3) | $(4)$ |


| B Nonfarm Population |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1919 | 3,880 | 2,045 | 1,578 | 1,469 |
| 1920 | 3,906 | 2,188 | 1,695 | 1,563 |
| 1921 | 3,718 | 2,281 | 1,693 | 1,389 |
| 1922 | 3,694 | 2,197 | 1,750 | 1,606 |
| 1923 | 4,267 | 2,507 | 1,755 | 1,460 |
| 1924 | 4,347 | 2,465 | 1,801 | 1,564 |
| 1925 | 4,724 | 2,632 | 2,138 | 1,989 |
| 1926 | 4,759 | 2,681 | 2,156 | 1,967 |
| 1927 | 4,528 | 2,684 | 2,144 | 1,942 |
| 1928 | 4,837 | 2,714 | 2,200 | 1,963 |
| 1929 | 5,097 | 2,883 | 2,219 | 1,966 |
| 1930 | 4,218 | 2,605 | 2,180 | 1,936 |
| 1931 | 3,613 | 2,296 | 1,916 | 1,640 |
| 1932 | 2,843 | 1,809 | 1,502 | 1,364 |
| 1933 | 2,612 | 1,685 | 1,431 | 1,263 |
| 1934 | 2,797 | 1,836 | 1,576 | 1,408 |
| 1935 | 2,951 | 1,942 | 1,668 | 1,525 |
| 1936 | 3,289 | 2,084 | 1,739 | 1,509 |
| 1937 | 3,447. | 2,205 | 1,827 | 1,620 |
| 1938 | 3,254 | 2,067 | 1,752 | 1,589 |
| 1939 | 3,329 | 2,062 | 1,727 | 1,631 |
| 1940 | 3,542 | 2,176 | 1,750 | 1,601 |
| 1941 | 4,246 | 2,536 | 2,027 | 1,786 |
| 1942 | 4,752 | 2,847 | 2,291 | 2,034 |
| 1943 | 5,410 | 3,148 | 2,536 | 2,225 |
| 1944 | 5,372 | 3,032 | 2,275 | 1,980 |
| 1945 | 5,791 | 3,198 | 2,356 | 2,013 |
| 1946 | 6,364 | 3,497 | 2,588 | 2,171 |

Notes to Table 122
${ }^{\text {a }}$ Not strictly comparable with series for 1919-38 (see notes to sources). Figures for 1919 comparable with those for preceding years are: for the economic income variant: total population, $\$ 613$; nonfarm population, $\$ 710$; for the disposable income variant: total population, $\$ 604$; nonfarm population, $\$ 697$.
${ }^{6}$ Not strictly comparable with series for 1919-38 (see notes to sources). Figures for 1929-38 comparable with those for following years are:

|  | Economic. Income Variant <br> Total <br> population | Vonfarm <br> Dopulation | Disposable <br> Total <br> population | Income Variant <br> Nonfarm <br> population |
| :---: | :---: | :---: | :---: | :---: |
| 1929 | $\$ 674$ | $\$ 799$ | $\$ 690$ | $\$ 820$ |
| 1930 | 591 | 708 | 576 | 688 |
| 1931 | 496 | 599 | 472 | 567 |
| 1932 | 371 | 454 | 347 | 422 |
| 1933 | 356 | 433 | 342 | 414 |
| 1934 | 402 | 491 | 393 | 479 |
| 1935 | 452 | 526 | 446 | 518 |
| 1936 | 515 | 615 | 510 | 609 |
| 1937 | 554 | 642 | 545 | 630 |
| 1938 | 506 | 590 | 497 | 578 |

Notes to Table $122^{\circ}$ (concl.)
Part I
1 Economic Income Variant
Basic variant plus adjustment for (a) inclusion of compensation of nonfederal employees, (b) inclusion of imputed rent, (c) family status, (d) maximum effect of unwarranted inclusions and deductions (from Tables 118-121).

## 2 Disposable Income Variant

Economic income variant (Sec. 1) plus adjustment for (a) exclusion of federal income taxes and (b) inclusion of excess of gains over losses from sales of assets, minus (c) adjustment for unwarranted inclusions (from Tables 118-121).

Part II
Column

1. Economic Income Variant

## A Total Population

1 Economic income (col. 12 of Table 114 plus col. 6 of Table 115) divided by column 5 of Table 69.
2-4 Column 1 multiplied by the income share of the given percentage band per percentile of population (from Part I).

## B Nonfarm Population

1 Economic income (the sum of income of nonfarm population, col. 2 of Table 115, and imputed rent) divided by column 1 of Table 115. For 1919-38 the imputed rent series is that in column 6 of Table 115 since it already excludes imputed rent on farm dwellings. For 1929-48 column 6 of Table 115 is adjusted to exclude imputed rent on farm dwellings by an unpublished series provided by the Department of Commerce, National Income Division.
2-5 Column 1 multiplied by the income share of the given percentage band per percentile of population (from Part I).

## 2 Disposable Income Variant

1 Economic income (see notes to Sec. 1, col. 1) minus federal income taxes plus excess of gains over losses from sales of assets (both from Table 115) divided by the entire population (see notes to Sec. 1, col. 1).
2-5 Column 1 multiplied by the income share of the given percentage band per percentile of population (from Part I).

## Part III

The partition lines are assumed to lie at the same point proportionately between the average per capitas for pairs of successive percentage bands as for the basic variant (see Table 117). For the lowest percentage band shown the lower limit is assumed to lie at the same proportionate distance below the average per capita income as it does for the corresponding percentage band in the basic variant (see Table 117).

Table 123
Percentage Shares of Upper Income Groups in Countrywide Aggregates of Various Types of Income, Basic Variant, Total Population, 1917-1948

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A Top 1 Percent |  |  |  |  |  |  |  |
| 1917 | 6.64 | 9.15 | 7.64 | 72.39 | 44.59 | 63.47 | 14.89 | 49.87 |
| 1918 | 5.96 | 10.63 | 7.52 | 61.74 | 47.01 | 56.46 | 14.90 | 44.29 |
| 1919 | 6.58 | 11.47 | 8.39 | 66.55 | 42.35 | 55.76 | 14.23 | 43.41 |
| 1919 | 6.14 | 12.68 | 8.30 | 74.09 | 37.34 | 55.56 | 14.23 | 43.30 |
| 1920 | 5.82 | 13.78 | 7.75 | 72.40 | 32.55 | 52.11 | 14.86 | 42.19 |
| 1921 | 6.82 | 15.73 | 8.61 | 65.33 | 29.90 | 46.08 | 16.12 | 38.20 |
| 1922 | 6.33 | 14.80 | 8.28 | 71.66 | 30.66 | 49.48 | 15.43 | 39.78 |
| 1923 | 5.81 | 13.04 | 7.45 | 64.60 | 28.97 | 46.94 | 14.62 | 38.19 |
| 1924 | 6.05 | 14.47 | 7.99 | 68.83 | 27.83 | 48.09 | 14.84 | 38.84 |
| 1925 | 6.24 | 15.60 | 8.51 | 67.89 | 28.73 | 49.16 | 17.22 | 41.03 |
| 1926 | 6.08 | 15.11 | 8.13 | 73.26 | 30.77 | 53.46 | 17.86 | 45.05 |
| 1927 | 6.23 | 15.79 | 8.33 | 72.86 | 31.70 | 53.92 | 16.75 | 45.61 |
| 1928 | 6.41 | 17.16 | 8.76 | 71.35 | 32.02 | 53.48 | 16.08 | 45.57 |
| 1929 | 6.17 | 16.16 | 8.32 | 66.02 | 31.13 | 50.86 | 17.17 | 44.51 |
| 1930 | 6.57 | 12.70 | 7.73 | 61.76 | 26.63 | 45.95 | 18.87 | 41.77 |
| 1931 | 6.95 | 12.49 | 7.89 | 58.03 | 22.77 | 39.98 | 21.04 | 37.72 |
| 1932 | 7.51 | 11.33 | 8.10 | 57.94 | 20.94 | 35.41 | 21.86 | 34.12 |
| 1933 | 7.34 | 11.85 | 8.21 | 55.87 | 20.56 | 33.58 | 15.97 | 31.48 |
| 1934 | 6.87 | 11.02 | 7.72 | 57.76 | 23.27 | 38.02 | 19.89 | 36.04 |
| 1935 | 6.88 | 11.50 | 7.84 | 52.10 | 24.12 | 38.03 | 18.57 | 35.68 |
| 1936 | 6.77 | 13.22 | 8.13 | 61.93 | 24.42 | 45.55 | 21.76 | 42.90 |
| 1937 | 6.59 | 12.94 | 7.86 | 64.38 | 23.87 | 46.80 | 21.95 | 43.65 |
| 1938 | 6.70 | 12.21 | 7.81 | 56.57 | 21.52 | 38.58 | 23.77 | 36.52 |
| 1929 | 6.26 | 17.12 | 8.52 | 71.26 | 28.41 | 50.85 | 13.42 | 42.28 |
| 1930 | 6.64 | 14.23 | 7.96 | 67.05 | 26.11 | 47.58 | 14.58 | 41.10 |
| 1931 | 6.82 | 14.03 | 7.91 | 65.44 | 22.32 | 41.87 | 15.54 | 37.61 |
| 1932 | 7.45 | 14.82 | 8.34 | 67.32 | 21.01 | 37.53 | 15.83 | 34.63 |
| 1933 | 7.23 | 15.30 | 8.47 | 66.25 | 19.66 | 34.57 | 13.94 | 31.74 |
| 1934 | 6.79 | 15.26 | 8.10 | 66.59 | 22.63 | 39.62 | 12.84 | 35.21 |
| 1935 | 6.77 | 11.70 | 7.76 | 68.00 | 23.92 | 42.82 | 12.54 | 37.18 |
| 1936 | 6.43 | 15.27 | 8.02 | 65.41 | 25.17 | 47.60 | 12.68 | 41.19 |
| 1937 | 6.55 | 12.69 | 7.80 | 67.55 | 25.37 | 49.38 | 13.00 | 41.90 |
| 1938 | 6.57 | 13.17 | 7.81 | 61.33 | 22.61 | 41.16 | 13.26 | 34.56 |
| 1939 | 6.36 | 14.21 | 7.85 | 62.02 | 24.27 | 44.27 | 12.78 | 36.93 |
| 1940 | 6.41 | 14.81 | 8.03 | 63.23 | 23.65 | 45.41 | 13.01 | 37.70 |
| 1941 | 6.00 | 16.88 | 8.28 | 57.81 | 25.30 | 44.14 | 11.35 | 35.36 |
| 1942 | 4.89 | 18.84 | 7.88 | 52.72 | 25.98 | 41.55 | 9.96 | 31.36 |
| 1943 | 3.75 | 23.35 | 7.60 | 52.30 | 22.70 | 40.19 | 9.76 | 29.73 |
| 1944 | 3.33 | 22.00 | 6.89 | * | * | 38.88 | 8.94 | 28.60 |
| 1945 | 3.33 | 23.00 | 7.16 | * | * | 37.80 | 9.11 | 28.02 |
| 1946 | 3.76 | 18.28 | 7.13 | 50.90 | 19.17 | 37.59 | 10.15 | 29.50 |
| 1947 | 3.90 | 15.16 | 6.50 | 50.23 | 17.20 | 37.46 | 10.98 | 29.87 |
| 1948 | 3.78 | 15.16 | 6.23 | 53.56 | 15.76 | 38.56 | 12.77 | 31.10 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest <br> (5) | Dividends and Interest <br> (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | B 2 N | A ND | Rd Perct | NTAO | Band |  |  |
| 1917 | 5.57 | 5.51 | 5.58 | 4.42 | 6.59 | 5.11 | . 10.14 | 6.60 |
| 1918 | 4.53 | 6.65 | 5.24 | 6.31 | 11.89 | 8.32 | 9.71 | 8.75 |
| 1919 | 4.97 | 6.51 | 5.54 | 7.91 | 10.17 | 8.92 | 9.28 | 9.02 |
| 1919 | 4.63 | 7.20 | 5.48 | 8.81 | 8.96 | 8.88 | 9.28 | 9.00 |
| 1920 | 4.57 | 7.58 | 5.31 | 9.10 | 8.53 | 8.81 | 8.91 | 8.84 |
| 1921 | 5.27 | 8.08 | 5.84 | 12.77 | 10.34 | 11.45 | 11.92 | 11.58 |
| 1922 | 5.82 | 8.26 | 6.39 | 8.86 | 8.72 | 8.78 | 8.54 | 8.73 |
| 1923 | 4.09 | 9.55 | 5.33 | 9.00 | 10.18 | 9.58 | 9.98 | 9.70 |
| 1924 | 4.66 | 10.23 | 5.94 | 8.38 | 10.64 | 9.53 | 12.03 | 10.26 |
| 1925 | 4.93 | 9.86 | 6.12 | 7.68 | 9.82 | 8.70 | 11.91 | 9.55 |
| 1926 | 4.78 | 10.05 | 5.98 | 9.07 | 10.64 | 9.80 | 12.16 | 10.39 |
| 1927 | 5.21 | 9.19 | 6.09 | 8.00 | 10.50 | 9.15 | 11.43 | 9.68 |
| 1928 | 5.55 | 9.55 | 6.43 | 7.76 | 10.30 | 8.92 | 10.19 | 9.20 |
| 1929 | 5.47 | 9.38 | 6.32 | 7.95 | 9.60 | 8.66 | 11.10 | 9.14 |
| 1930 | 5.80 | 8.44 | 6.30 | 7.23 | 8.32 | 7.72 | 10.78 | 8.20 |
| 1931 | 6.25 | 8.41 | 6.62 | 7.77 | 8.39 | 8.08 | 15.95 | 9.04 |
| 1932 | 6.94 | 6.73 | 6.91 | 6.58 | 7.87 | 7.36 | 12.71 | 7.90 |
| 1933 | 7.05 | 6.40 | 6.92 | 6.75 | 6.17 | 6.38 | 10.82 | 6.94 |
| 1934 | 6.66 | 6.14 | 6.56 | 6.67 | 5.89 | 6.22 | 12.22 | 6.89 |
| 1935 | 6.56 | 5.90 | 6.42 | 6.24 | 6.08 | 6.16 | 10.78 | 6.72 |
| 1936 | 6.07 | 6.93 | 6.26 | 7.96 | 7.21 | 7.63 | 13.58 | 8.31 |
| 1937 | 6.02 | 6.97 | 6.22 | 8.60 | 6.46 | 7.67 | 12.02 | 8.23 |
| 1938 | 6.15 | 6.51 | 6.23 | 8.94 | 6.29 | 7.58 | 12.69 | 8.31 |
| 1929 | 5.55 | 9.93 | 6.47 | 8.58 | 8.76 | 8.66 | 8.68 | 8.68 |
| 1930 | 5.87 | 9.46 | 6.49 | 7.85 | 8.16 | 7.99 | 8.33 | 8.07 |
| 1931 | 6.13 | 9.45 | 6.63 | 8.76 | 8.22 | 8.47 | 11.78 | 9.02 |
| 1932 | 6.88 | 8.80 | 7.12 | 7.65 | 7.89 | 7.80 | 9.21 | 8.02 |
| 1933 | 6.94 | 8.25 | 7.15 | 8.00 | 5.90 | 6.57 | 9.44 | 7.00 |
| 1934 | 6.58 | 8.51 | 6.88 | 7.69 | 5.73 | 6.49 | 7.89 | 6.73 |
| 1935 | 6.45 | 6.01 | 6.36 | 8.14 | 6.03 | 6.93 | 7.28 | 7.00 |
| 1936 | 5.77 | 8.01 | 6.18 | 8.41 | 7.43 | 7.97 | 7.91 | 7.98 |
| 1937 | 5.99 | 6.83 | 6.18 | 9.02 | 6.87 | 8.09 | 7.12 | 7.90 |
| 1938 | 6.04 | 7.02 | 6.23 | 9.69 | 6.61 | 8.09 | 7.08 | 7.86 |
| 1939 | 6.20 | 7.54 | 6.46 | 8.85 | 7.36 | 8.15 | 7.35 | 7.97 |
| 1940 | 5.86 | 7.61 | 6.22 | 9.40 | 8.30 | 8.90 | 6.90 | 8.45 |
| 1941 | 5.15 | 8.28 | 5.82 | 11.12 | 9.08 | 10.26 | 7.44 | 9.52 |
| 1942 | 4.37 | 7.61 | 5.07 | 9.56 | 8.11 | 8.95 | 5.61 | 7.87 |
| 1943 | 3.70 | 9.50 | 4.84 | 10.64 | 7.87 | 9.51 | 5.81 | 8.24 |
| 1944 | 3.37 | 9.78 | 4.60 | * | * | 10.13 | 4.96 | 8.36 |
| 1945 | 3.32 | 11.78 | 4.98 | * | * | 10.87 | 5.43 | 9.02 |
| 1946 | 3.54 | 11.26 | 5.33 | 12.81 | 8.68 | 11.08 | 6.23 | 9.65 |
| 1947 | 3.60 | 10.22 | 5.13 | 11.35 | 7.48 | 9.85 | 6.32 | 8.84 |
| 1948 | 3.73 | 10.73 | 5.24 | 12.08 | 7.30 | 10.18 | 6.70 | 9.17 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensasation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Prop- erty Incomes <br> (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | C $4 \mathbf{T}$ | AND | h Perc | ntage | BAND |  |  |
| 1917 | 4.69 | 4.62 | 4.64 | 1.96 | 1.83 | 1.92 | 8.17 | 3.67 |
| 1918 | 4.61 | 3.17 | 4.17 | 2.20 | 7.80 | 4.21 | 6.12 | 4.75 |
| 1919 | 4.46 | 3.51 | 4.11 | 2.99 | 5.44 | 4.08 | 5.97 | 4.64 |
| 1919 | 4.16 | 3.88 | 4.06 | 3.33 | 4.80 | 4.07 | 5.97 | 4.63 |
| 1920 | 4.01 | 3.57 | 3.91 | 2.98 | 4.61 | 3.81 | 4.77 | 4.08 |
| 1921 | 5.20 | 5.12 | 5.19 | 3.90 | 5.41 | 4.72 | 6.26 | 5.12 |
| 1922 | 4.41 | 4.83 | 4.50 | 4.75 | 5.71 | 5.27 | 5.80 | 5.41 |
| 1923 | 3.48 | 7.12 | 4.30 | 3.88 | 6.59 | 5.22 | 7.81 | 5.98 |
| 1924 | 3.57 | 7.01 | 4.36 | 3.87 | 7.16 | 5.53 | 9.28 | 6.64 |
| 1925 | 4.07 | 6.03 | 4.54 | 3.34 | 6.53 | 4.86 | 9.60 | 6.05 |
| 1926 | 3.99 | 5.64 | 4.36 | 3.34 | 6.77 | 4.94 | 10.16 | 6.15 |
| 1927 | 4.27 | 6.05 | 4.65 | 4.32 | 6.89 | 5.50 | 8.39 | 6.15 |
| 1928 | 4.72 | 5.39 | 4.86 | 2.68 | 7.07 | 4.68 | 7.68 | 5.31 |
| 1929 | 4.50 | 5.11 | 4.63 | 3.27 | 6.67 | 4.75 | 9.11 | 5.57 |
| 1930 | 4.69 | 6.66 | 5.06 | 3.41 | 6.58 | 4.84 | 10.21 | 5.67 |
| 1931 | 5.55 | 6.80 | 5.76 | 4.56 | 6.21 | 5.41 | 14.01 | 6.43 |
| 1932 | 6.27 | 5.82 | 6.20 | 3.61 | 4.84 | 4.36 | 13.07 | 5.19 |
| 1933 | 5.97 | 4.71 | 5.73 | 3.63 | 4.47 | 4.16 | 9.94 | 4.84 |
| 1934 | 5.70 | 4.49 | 5.45 | 3.35 | 4.24 | 3.86 | 11.42 | 4.68 |
| 1935 | 5.73 | 4.02 | 5.38 | 2.99 | 4.31 | 3.66 | 9.72 | 4.40 |
| 1936 | 5.13 | 3.85 | 4.87 | 3.38 | 4.21 | 3.74 | 9.44 | 4.39 |
| 1937 | 4.94 | 3.56 | 4.66 | 3.55 | 3.41 | 3.49 | 7.04 | 3.94 |
| 1938 | 5.23 | 3.84 | 4.95 | 4.30 | 3.74 | 4.01 | 8.31 | 4.62 |
| 1929 | 4.57 | 5.42 | 4.74 | 3.53 | 6.09 | 4.75 | 7.12 | 5.29 |
| 1930 | 4.74 | 7.46 | 5.22. | 3.70 | 6.45 | 5.01 | 7.89 | 5.58 |
| 1931 | 5.44 | 7.64 | 5.78 | 5.14 | 6.09 | 5.66 | 10.34 | 6.41 |
| 1932 | 6.22 | 7.62 | 6.39 | 4.20 | 4.86 | 4.62 | 9.46 | 5.27 |
| 1933 | 5.88 | 6.07 | 5.91 | 4.31 | 4.28 | 4.28 | 8.68 | 4.88 |
| 1934 | 5.63 | 6.22 | 5.72 | 3.86 | 4.13 | 4.02 | 7.37 | 4.57 |
| 1935 | 5.64 | 4.09 | 5.33 | 3.90 | 4.28 | 4.12 | 6.57 | 4.58 |
| 1936 | 4.88 | 4.45 | 4.81 | 3.58 | 4.34 | 3.91 | 5.50 | 4.21 |
| 1937 | 4.91 | 3.49 | 4.63 | 3.72 | 3.62 | 3.68 | 4.17 | 3.79 |
| 1938 | 5.13 | 4.14 | 4.95 | 4.66 | 3.93 | 4.28 | 4.64 | 4.38 |
| 1939 | 5.24 | 4.17 | 5.04 | 4.34 | 4.59 | 4.46 | 4.38 | 4.44 |
| 1940 | 4.60 | 3.61 | 4.39 | 3.36 | 4.49 | 3.87 | 3.44 | 3.75 |
| 1941 | 4.45 | 3.36 | 4.25 | 3.92 | 3.97 | 3.94 | 4.06 | 3.99 |
| 1942 | 3.81 | 2.83 | 3.61 | 2.98 | 2.95 | 2.97 | 2.67 | 2.88 |
| 1943 | 3.42 | 2.83 | 3.32 | 2.60 | 2.46 | 2.54 | 1.90 | 2.32 |
| 1944 | 3.22 | 3.06 | 3.19 | * | * | 3.28 | 1.90 | 2.81 |
| 1945 | 3.08 | 4.16 | 3.29 | * | * | 3.57 | 2.28 | 3.13 |
| 1946 | 3.07 | 4.86 | 3.50 | 4.23 | 4.08 | 4.17 | 2.81 | 3.77 |
| 1947 | 3.11 | 4.66 | 3.47 | 3.86 | 3.27 | 3.63 | 3.09 | 3.48 |
| 1948 | 3.36 | 4.83 | 3.68 | 4.20 | 3.40 | 3.88 | 3.13 | 3.66 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends (4) | Interest (5) | Dividends and Interest. (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | D Top 5 Percent |  |  |  |  |  |  |  |
| 1917 | 16.90 | 19.29 | 17.86 | 78.77 | 53.01 | 70.50 | 33.21 | 60.15 |
| 1918 | 15.10 | 20.45 | 16.92 | 70.25 | 66.69 | 68.99 | 30.73 | 57.80 |
| 1919 | 16.01 | 21.48 | 18.03 | 77.45 | 57.96 | 68.76 | 29.48 | 57.08 |
| 1919 | 14.92 | 23.76 | 17.84 | 86.23 | 51.09 | 68.51 | 29.48 | 56.93 |
| 1920 | 14.40 | 24.93 | 16.97 | 84.47 | 45.69 | 64.72 | 28.54 | 55.10 |
| 1921 | 17.29 | 28.94 | 19.64 | 82.00 | 45.66 | 62.25 | 34.30 | 54.90 |
| 1922 | 16.56 | 27.89 | 19.17 | 85.26 | 45.09 | 63.53 | 29.77 | 53.91 |
| 1923 | 13.38 | 29.70 | 17.08 | 77.49 | 45.74 | 61.75 | 32.41 | 53.87 |
| 1924 | 14.28 | 31.71 | 18.29 | 81.08 | 45.64 | 63.15 | 36.15 | 55.73 |
| 1925 | 15.24 | 31.49 | 19.18 | 78.91 | 45.08 | 62.73 | 38.73 | 56.64 |
| 1926 | 14.85 | 30.80 | 18.47 | 85.66 | 48.18 | 68.20 | 40.18 | 61.59 |
| 1927 | 15.71 | 31.03 | 19.07 | 85.18 | 49.08 | 68.58 | 36.56 | 61.43 |
| 1928 | 16.67 | 32.10 | 20.05 | 81.80 | 49.39 | 67.07 | 33.95 | 60.08 |
| 1929 | 16.13 | 30.65 | 19.26 | 77.24 | 47.40 | 64.27 | 37.39 | 59.21 |
| 1930 | 17.07 | 27.80 | 19.10 | 72.40 | 41.53 | 58.50 | 39.86 | 55.64 |
| 1931 | 18.75 | 27.70 | 20.26 | 70.35 | 37.37 | 53.47 | 51.00 | 53.19 |
| 1932 | 20.72 | 23.89 | 21.21 | 68.13 | 33.65 | 47.14 | 47.64 | 47.21 |
| 1933 | 20.35 | 22.95 | 20.86 | 66.25 | 31.20 | 44.12 | 36.73 | 43.26 |
| 1934 | 19.23 | 21.65 | 19.73 | 67.78 | 33.40 | 48.10 | 43.52 | 47.61 |
| 1935 | 19.17 | 21.41 | 19.64 | 61.33 | 34.52 | 47.84 | 39.07 | 46.79 |
| 1936 | 17.97 | 24.01 | 19.25 | 73.27 | 35.84 | 56.93 | 44.78 | 55.60 |
| 1937 | 17.54 | 23.47 | 18.74 | 76.53 | 33.74 | 57.96 | 41.00 | 55.83 |
| 1938 | 18.08 | 22.55 | 18.99 | 69.81 | 31.55 | 50.18 | 44.78 | 49.45 |
| 1929 | 16.37 | 32.47 | 19.72 | 83.37 | 43.26 | 64.26 | 29.21 | 56.25 |
| 1930 | 17.25 | 31.15 | 19.66 | 78.61 | 40.72 | 60.59 | 30.81 | 54.75 |
| 1931 | 18.40 | 31.12 | 20.32 | 79.34 | 36.63 | 55.99 | 37.65 | 53.04 |
| 1932 | 20.55 | 31.24 | 21.85 | 79.17 | 33.76 | 49.96 | 34.50 | 47.92 |
| 1933 | 20.06 | 29.62 | 21.54 | 78.55 | 29.83 | 45.43 | 32.06 | 43.62 |
| 1934 | 19.00 | 29.98 | 20.71 | 78.14 | 32.49 | 50.14 | 28.10 | 46.51 |
| 1935 | 18.86 | 21.80 | 19.45 | 80.04 | 34.23 | 53.87 | 26.38 | 48.76 |
| 1936 | 17.08 | 27.73 | 19.01 | 77.40 | 36.93 | 59.49 | 26.09 | 53.38 |
| 1937 | 17.46 | 23.01 | 18.60 | 80.29 | 35.87 | 61.15 | 24.29 | 53.60 |
| 1938 | 17.75 | 24.32 | 18.99 | 75.69 | 33.16 | 53.53 | 24.99 | 46.79 |
| 1939 | 17.80 | 25.92 | 19.35 | 75.21 | 36.22 | 56.88 | 24.51 | 49.34 |
| 1940 | 16.86 | 26.02 | 18.64 | 75.99 | 36.44 | 58.19 | 23.35 | 49.90 |
| 1941 | 15.60 | 28.52 | 18.35 | 72.85 | 38.35 | 58.34 | 22.85 | 48.86 |
| 1942 | 13.07 | 29.27 | 16.57 | 65.26 | 37.04 | 53.47 | 18.24 | 42.11 |
| 1943 | 10.86 | 35.68 | 15.76 | 65.54 | 33.03 | 52.24 | 17.47 | 40.29 |
| 1944 | 9.92 | 34.83 | 14.67 | * | * | 52.30 | 15.79 | 39.77 |
| 1945 | 9.73 | 38.94 | 15.42 | * | * | 52.24 | 16.82 | 40.17 |
| 1946 | 10.37 | 34.39 | 15.97 | 67.94 | 31.94 | 52.83 | 19.20 | 42.93 |
| 1947 | 10.61 | 30.04 | 15.11 | 65.43 | 27.95 | 50.94 | 20.39 | 42.19 |
| 1948 | 10.87 | 30.72 | 15.15 | 69.84 | 26.47 | 52.62 | 22.60 | 43.94 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensasation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | $\begin{aligned} & \text { Dividends } \\ & \text { and } \\ & \text { Interest } \\ & (6) \end{aligned}$ | Rent <br> (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | E 6 T | AND 7 | th Perc | ntage | BAND |  |  |
| 1917 | 3.49 | 5.62 | 4.33 | 1.94 | 1.51 | 1.80 | 7.47 | 3.32 |
| 1918 | 4.73 | 1.98 | 3.78 | 1.31 | 6.37 | 3.12 | 4.89 | 3.65 |
| 1919 | 5.27 | 1.24 | 3.82 | 1.15 | 4.66 | 2.72 | 3.79 | 3.05 |
| 1919 | 4.91 | 1.38 | 3.78 | 1.28 | 4.11 | 2.71 | 3.79 | 3.04 |
| 1920 | 4.37 | 1.78 | 3.79 | 1.38 | 3.58 | 2.50 | 3.64 | 2.82 |
| 1921 | 5.59 | 2.21 | 4.95 | 1.52 | 3.56 | 2.62 | 4.16 | 3.04 |
| 1922 | 4.68 | 2.60 | 4.26 | 2.81 | 4.14 | 3.53 | 4.60 | 3.85 |
| 1923 | 3.46 | 4.96 | 3.82 | 2.26 | 5.05 | 3.64 | 6.37 | 4.35 |
| 1924 | 3.43 | 4.88 | 3.78 | 2.34 | 5.38 | 3.88 | 7.25 | 4.75 |
| 1925 | 4.04 | 5.25 | 4.34 | 2.76 | 5.61 | 4.12 | 8.26 | 5.17 |
| 1926 | 3.94 | 5.22 | 4.24 | 2.71 | 5.59 | 4.05 | 8.55 | 5.11 |
| 1927 | 4.24 | 4.88 | 4.38 | 3.04 | 5.78 | 4.30 | 8.16 | 5.16 |
| 1928 | 4.48 | 4.56 | 4.50 | 2.03 | 5.58 | 3.64 | 6.84 | 4.31 |
| 1929 | 4.27 | 4.41 | 4.30 | 2.80 | 5.51 | 3.98 | 8.54 | 4.83 |
| 1932 | 4.85 | 4.68 | 4.82 | 3.33 | 5.82 | 4.84 | 16.61 | 5.95 |
| 1934 | 5.15 | 3.03 | 4.72 | 2.82 | 4.39 | 3.72 | 12.08 | 4.63 |
| 1935 | 5.50 | 2.72 | 4.93 | 2.36 | 4.00 | 3.19 | 9.08 | 3.90 |
| 1936 | 5.01 | 2.79 | 4.54 | 2.56 | 3.77 | 3.09 | 8.50 | 3.68 |
| 1937 | 4.78 | 2.98 | 4.41 | 2.76 | 3.03 | 2.88 | 6.76 | 3.35 |
| 1938 | 5.00 | 3.17 | 4.62 | 3.44 | 3.30 | 3.37 | 7.60 | 3.94 |
| 1929 | 4.33 | 4.67 | 4.40 | 3.02 | 5.03 | 3.97 | 6.67 | 4.59 |
| 1932 | 4.81 | 6.12 | 4.96 | 3.87 | 5.83 | 5.13 | 12.03 | 6.04 |
| 1934 | 5.09 | 4.20 | 4.95 | 3.25 | 4.27 | 3.88 | 7.80 | 4.52 |
| 1935 | 5.41 | 2.77 | 4.88 | 3.08 | 3.97 | 3.59 | 6.13 | 4.06 |
| 1936 | 4.76 | 3.22 | 4.48 | 2.71 | 3.89 | 3.23 | 4.95 | 3.53 |
| 1937 | 4.76 | 2.92 | 4.38 | 2.89 | 3.22 | 3.03 | 4.01 | 3.22 |
| 1938 | 4.91 | 3.42 | 4.62 | 3.74 | 3.46 | 3.59 | 4.24 | 3.73 |
| 1939 | 5.15 | 2.74 | 4.71 | 3.49 | 4.18 | 3.81 | 3.59 | 3.77 |
| 1940 | 4.32 | 2.87 | 4.08 | 2.52 | 5.42 | 3.83 | 4.11 | 4.01 |
| 1941 | 3.94 | 2.37 | 3.59 | 2.51 | 2.77 | 2.62 | 3.14 | 2.74 |
| 1942 | 3.47 | 1.90 | 3.15 | 1.78 | 2.01 | 1.88 | 1.97 | 1.91 |
| 1943 | 3.15 | 1.79 | 2.90 | 1.51 | 1.56 | 1.53 | 1.39 | 1.49 |
| 1944 | 3.07 | 1.76 | 2.83 | * | * | 1.82 | 1.15 | 1.59 |
| 1945 | 2.95 | 2.20 | 2.81 | * | * | 1.65 | 1.32 | 1.54 |
| 1946 | 2.90 | 2.90 | 2.90 | 2.43 | 2.40 | 2.42 | 1.74 | 2.22 |
| 1947 | 2.93 | 2.68 | 2.87 | 2.05 | 1.93 | 2.00 | 1.70 | 1.92 |
| 1948 | 3.26 | 2.70 | 3.16 | 2.20 | 2.18 | 2.19 | 1.90 | 2.11 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes <br> (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F Tof 7 Percent |  |  |  |  |  |  |  |  |
| 1917 | 20.38 | 24.90 | 22.18 | 80.71 | 54.52 | 72.30 | 40.68 | 63.47 |
| 1918 | 19.83 | 22.42 | 20.70 | 71.56 | 73.06 | 72.11 | 35.62 | 61.45 |
| 1919 | 21.28 | 22.72 | 21.85 | 78.60 | 62.62 | 71.47 | 33.27 | 60.12 |
| 1919 | 19.83 | 25.13 | 21.62 | 87.51 | 55.20 | 71.22 | 33.27 | 59.97 |
| 1920 | 18.77 | 26.71 | 20.76 | 85.86 | 49.27 | 67.22 | 32.18 | 57.92 |
| 1921 | 22.88 | 31.15 | 24.59 | 83.51 | 49.21 | 64.87 | 38.45 | 57.94 |
| 1922 | 21.24 | 30.49 | 23.42 | 88.07 | 49.22 | 67.05 | 34.37 | 57.76 |
| 1923 | 16.84 | 34.67 | 20.90 | 79.74 | 50.79 | 65.39 | 38.78 | 58.22 |
| 1924 | 17.71 | 36.59 | 22.07 | 83.42 | 51.02 | 67.03 | 43.41 | 60.48 |
| 1925 | 19.28 | 36.74 | 23.52 | 81.67 | 50.69 | 66.85 | 46.99 | 61.80 |
| 1926 | 18.79 | 36.02 | 22.70 | 88.38 | 53.77 | 72.25 | 48.73 | 66.70 |
| 1927 | 19.95 | 35.92 | 23.45 | 88.22 | 54.86 | 72.88 | 44.73 | 66.59 |
| 1928 | 21.15 | 36.66 | 24.55 | 83.82 | 54.98 | 70.72 | 40.80 | 64.39 |
| 1929 | 20.40 | 35.07 | 23.56 | 80.03 | 52.91 | 68.24 | 45.92 | 64.04 |
| 1932 | 25.56 | 28.57 | 26.03 | 71.46 | 39.47 | 51.98 | 64.25 | 53.16 |
| 1934 | 24.39 | 24.68 | 24.44 | 70.60 | 37.80 | 51.82 | 55.60 | 52.24 |
| 1935 | 24.67 | 24.13 | 24.57 | 63.69 | 38.52 | 51.03 | 48.15 | 50.69 |
| 1936 | 22.98 | 26.80 | 23.79 | 75.83 | 39.61 | 60.02 | 53.28 | 59.29 |
| 1937 | 22.33 | 26.45 | 23.15 | 79.28 | 36.77 | 60.83 | 47.77 | 59.18 |
| 1938 | 23.08 | 25.73 | 23.62 | 73.25 | 34.85 | 53.54 | 52.38 | 53.39 |
| 1929 | 20.71 | 37.14 | 24.13 | 86.38 | 48.28 | 68.24 | 35.88 | 60.83 |
| 1932 | 25.35 | 37.36 | 26.81 | 83.04 | 39.59 | 55.09 | 46.53 | 53.95 |
| 1934 | 24.09 | 34.18 | 25.66 | 81.40 | 36.76 | 54.01 | 35.90 | 51.03 |
| 1935 | 24.27 | 24.57 | 24.33 | 83.12 | 38.20 | 57.46 | 32.51 | 52.82 |
| 1936 | 21.84 | 30.95 | 23.50 | 80.10 | 40.82 | 62.72 | 31.04 | 56.92 |
| 1937 | 22.22 | 25.93 | 22.97 | 83.18 | 39.09 | 64.19 | 28.30 | 56.81 |
| 1938 | 22.66 | 27.75 | 23.61 | 79.42 | 36.62 | 57.12 | 29.23 | 50.52 |
| 1939 | 22.95 | 28.66 | 24.06 | 78.70 | 40.39 | 60.69 | 28.10 | 53.10 |
| 1940 | 21.18 | 28.89 | 22.72 | 78.52 | 41.86 | 62.01 | 27.46 | 53.90 |
| 1941 | 19.54 | 30.88 | 21.94 | 75.35 | 41.12 | 60.96 | 26.00 | 51.60 |
| 1942 | 16.54 | 31.16 | 19.71 | 67.04 | 39.05 | 55.35 | 20.21 | 44.02 . |
| 1943 | 14.01 | 37.46 | 18.66 | 67.05 | 34.59 | 53.77 | 18.86 | $41.78{ }^{\circ}$ |
| 1944 | 12.99 | 36.59 | 17.50 | * | * | 54.11 | 16.94 | 41.36 |
| 1945 | 12.69 | 41.14 | 18.23 | * | * | 53.89 | 18.14 | 41.71 |
| 1946 | 13.28 | 37.29 | 18.87 | 70.37 | 34.34 | 55.25 | 20.94 | 45.14 |
| 1947 | 13.54 | 32.73 | 17.98 | 67.48 | 29.88 | 52.95 | 22.10 | 44.11 |
| 1948 | 14.14 | 33.42 | 18.30 | 72.04 | 28.65 | 54.82 | 24.50 | 46.05 |

Table 123 (cont.)


For notes see page 656.

Table 123 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest <br> (6) | Rent $(7)$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 Lower 95 Percent |  |  |  |  |  |  |  |  |
| 1917 | 83.10 | 80.71 | 82.14 | 21.23 | 46.99 | 29.50 | 66.79 | 39.86 |
| 1918 | 84.90 | 79.55 | 83.08 | 29.75 | 33.31 | 31.01 | 69.27 | 42.20 |
| 1919 | 83.99 | 78.52 | 81.97 | 22.55 | 42.04 | 31.24 | 70.52 | 42.92 |
| 1919 | 85.08 | 76.24 | 82.16 | 13.77 | 48.91 | 31.49 | 70.52 | 43.07 |
| 1920 | 85.60 | 75.07 | 83.03 | 15.53 | 54.31 | 35.28 | 71.46 | 44.90 |
| 1921 | 82.71 | 71.06 | 80.36 | 18.00 | 54.34 | 37.75 | 65.70 | 45.10 |
| 1922 | 83.44 | 72.11 | 80.83 | 14.74 | 54.91 | 36.47 | 70.23 | 46.09 |
| 1923 | 86.62 | 70.30 | 82.92 | 22.52 | 54.26 | 38.25 | 67.59 | 46.13 |
| 1924 | 85.72 | 68.29 | 81.71 | 18.92 | 54.36 | 36.85 | 63.85 | 44.27 |
| 1925 | 84.76 | 68.51 | 80.82 | 21.09 | 54.92 | 37.27 | 61.27 | 43.36 |
| 1926 | 85.15 | 69.20 | 81.54 | 14.34 | 51.82 | 31.80 | 59.82 | 38.41 |
| 1927 | 84.29 | 68.96 | 80.93 | 14.82 | 50.92 | 31.42 | 63.44 | 38.57 |
| 1928 | 83.33 | 67.90 | 79.95 | 18.20 | 50.61 | 32.93 | 66.04 | 39.92 |
| 1929 | 83.86 | 69.35 | 80.74 | 22.76 | 52.60 | 35.73 | 62.61 | 40.78 |
| 1930 | 82.93 | 72.20 | 80.90 | 27.60 | 58.47 | 41.50 | 60.14 | 44.36 |
| 1931 | 81.26 | 72.30 | 79.74 | 29.65 | 62.63 | 46.53 | 49.00 | 46.81 |
| 1932 | 79.28 | 76.11 | 78.79 | 31.87 | 66.35 | 52.86 | 52.36 | 52.79 |
| 1933 | 79.65 | 77.05 | 79.14 | 33.75 | 68.80 | 55.88 | 63.27 | 56.74 |
| 1934 | 80.79 | 78.35 | 80.27 | 32.22 | 66.60 | 51.90 | 56.48 | 52.39 |
| 1935 | 80.83 | 78.59 | 80.36 | 38.67 . | 65.48 | 52.16 | 60.93 | 53.21 |
| 1936 | 82.03 | 75.99 | 80.75 | 26.73 | 64.16 | 43.07 | 55.22 | 44.40 |
| 1937 | 82.46 | 76.53 | 81.26 | 23.47 | 66.26 | 42.04 | 59.00 | 44.17 |
| 1938 | 81.92 | 77.45 | 81.01 | 30.19 | 68.45 | 49.82 | 55.22 | 50.55 |
| 1929 | 83.63 | 67.53 | 80.28 | 16.63 | 56.74 | 35.74 | 70.79 | 43.75 |
| 1930 | 82.75 | 68.85 | 80.34 | 21.39 | 59.28 | 39.41 | 69.19 | 45.25 |
| 1931 | 81.60 | 68.88 | 79.68 | 20.66 | 63.36 | 44.01 | 62.35 | 46.96 |
| 1932 | 79.46 | 68.76 | 78.15 | 20.83 | 66.24 | 50.04 | 65.50 | 52.08 |
| 1933 | 79.94 | 70.38 | 78.46 | 21.44 | 70.17 | 54.57 | 67.94 | 56.38 |
| 1934 | 81.00 | 70.02 | 79.29 | 21.86 | 67.51 | 49.86 | 71.90 | 53.49 |
| 1935 | 81.14 | 78.20 | 80.55 | 19.96 | 65.77 | 46.13 | 73.62 | 51.24 |
| 1936 | 82.92 | 72.27 | 80.99 | 22.60 | 63.06 | 40.51 | 73.91 | 46.62 |
| 1937 | 82.54 | 76.99 | 81.40 | 19.71 | 64.13 | 38.85 | 75.71 | 46.40 |
| 1938 | 82.25 | 75.68 | 81.01 | 24.31 | 66.84 | 46.47 | 75.01 | 53.21 |
| 1939 | 82.20 | 74.08 | 80.65 | 24.79 | 63.78 | 43.12 | 75.49 | 50.66 |
| 1940 | 83.14 | 73.98 | 81.36 | 24.01 | 63.56 | 41.81 | 76.65 | 50.10 |
| 1941 | 84.40 | 71.48 | 81.65 | 27.16 | 61.65 | 41.66 | 77.15 | 51.14 |
| 1942 | 86.93 | 70.73 | 83.43 | 34.74 | 62.96 | 46.53 | 81.76 | 57.89 |
| 1943 | 89.14 | 64.32 | 84.24 | 34.46 | 66.97 | 47.76 | 82.53 | 59.71 |
| 1944 | 90.08 | 65.17 | 85.33 | * | * | 47.70 | 84.21 | 60.23 |
| 1945 | 90.26 | 61.06 | 84.58 | * | * | 47.76 | 83.18 | 59.83 |
| 1946 | 89.63 | 65.61 | 84.04 | 32.06 | 68.06 | 47.16 | 80.80 | 57.07 |
| 1947 | 89.39 | 69.96 | 84.89 | 34.57 | 72.05 | 49.06 | 79.61 | 57.81 |
| 1948 | 89.13 | 69.28 | 84.85 | 30.16 | 73.53 | 47.38 | 77.40 | 56.06 |

For notes see page 656.

Table 123 (cont.)

|  | Employee Compensasation (1) | Entrep. Income <br> (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent <br> (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | J Lower 93 Percent |  |  |  |  |  |  |  |
| 1917 | 79.62 | 75.10 | 77.82 | 19.29 | 45.48 | 27.70 | 59.32 | 36.53 |
| 1918 | 80.17 | 77.58 | 79.30 | 28.44 | 26.94 | 27.89 | 64.38 | 38.55 |
| 1919 | 78.72 | 77.28 | 78.15 | 21.40 | 37.38 | 28.53 | 66.73 | 39.88 |
| 1919 | 80.17 | 74.87 | 78.38 | 12.49 | 44.80 | 28.78 | 66.73 | 40.03 |
| 1920 | 81.23 | 73.29 | 79.24 | 14.14 | 50.73 | 32.78 | 67.82 | 42.08 |
| 1921 | 77.12 | 68.85 | 75.41 | 16.49 | 50.79 | 35.13 | 61.55 | 42.06 |
| 1922 | 78.76 | 69.51 | 76.58 | 11.93 | 50.78 | 32.95 | 65.63 | 42.24 |
| 1923 | 83.16 | 65.33 | 79.10 | 20.26 | 49.21 | 34.61 | 61.22 | 41.78 |
| 1924 | 82.29 | 63.41 | 77.93 | 16.58 | 48.98 | 32.97 | 56.60 | 39.52 |
| 1925 | 80.72 | 63.26 | 76.48 | 18.33 | 49.31 | 33.15 | 53.01 | 38.20 |
| 1926 | 81.21 | 63.98 | 77.30 | 11.62 | 46.23 | 27.75 | 51.27 | 33.30 |
| 1927. | 80.05 | 64.08 | 76.55 | 11.78 | 45.14 | 27.12 | 55.27 | 33.41 |
| 1928 | 78.85 | 63.34 | 75.46 | 16.18 | 45.02 | 29.28 | 59.20 | 35.61 |
| 1929 | 79.60 | 64.93 | 76.44 | 19.97 | 47.09 | 31.76 | 54.08 | 35.96 |
| 1932 | 74.44 | 71.43 | 73.97 | 28.54 | 60.53 | 48.02 | 35.75 | 46.84 |
| 1934 | 75.62 | 75.32 | 75.56 | 29.40 | 62.20 | 48.18 | 44.40 | 47.76 |
| 1935 | 75.33 | 75.87 | 75.44 | 36.31 | 61.48 | 48.97 | 51.85 | 49.31 |
| 1936 | 77.02 | 73.20 | 76.21 | 24.17 | 60.39 | 39.98 | 46.72 | 40.71 |
| 1937 | 77.67 | 73.55 | 76.85 | 20.72 | 63.23 | 39.17 | 52.24 | 40.82 |
| 1938 | 76.92 | 74.27 | 76.38 | 26.75 | 65.15 | 46.46 | 47.62 | 46.62 |
| 1929 | 79.30 | 62.86 | 75.87 | 13.62 | 51.72 | 31.76 | 64.12 | 39.17 |
| 1932 | 74.65 | 62.64 | 73.19 | 16.96 | 60.41 | 44.91 | 53.47 | 46.05 |
| 1934 | 75.91 | 65.82 | 74.34 | 18.60 | 63.24 | 45.98 | 64.10 | 48.97 |
| 1935 | 75.73 | 75.43 | 75.67 | 16.88 | 61.80 | 42.54 | 67.49 | 47.18 |
| 1936 | 78.16 | 69.05 | 76.50 | 19.90 | 59.18 | 37.28 | 68.96 | 43.08 |
| 1937 | 77.78 | 74.07 | 77.03 | 16.82 | 60.91 | 35.81 | 71.70 | 43.19 |
| 1938 | 77.34 | 72.25 | 76.39 | 20.58 | 63.38 | 42.88 | 70.77 | 49.48 |
| 1939 | 77.05 | 71.34 | 75.94 | 21.30 | 59.61 | 39.31 | 71.90 | 46.89 |
| 1940 | 78.82 | 71.11 | 77.28 | 21.48 | 58.14 | 37.99 | 72.54 | 46.10 |
| 1941 | 80.46 | 69.12 | 78.06 | 24.64 | 58.88 | 39.04 | 74.00 | 48.39 |
| 1942 | 83.46 | 68.84 | 80.29 | 32.96 | 60.95 | 44.65 | 79.79 | 55.98 |
| 1943 | 85.99 | 62.54 | 81.34 | 32.95 | 65.41 | 46.23 | 81.14 | 58.22 |
| 1944 | 87.01 | 63.41 | 82.50 | * | * | 45.89 | 83.06 | 58.65 |
| 1945 | 87.32 | 58.86 | 81.77 | * | * | 46.11 | 81.86 | 58.29 |
| 1946 | 86.72 | 62.71 | 81.13 | 29.63 | 65.66 | 44.75 | 79.06 | 54.86 |
| 1947 | 86.46 | 67.27 | 82.02 | 32.52 | 70.12 | 47.05 | 77.90 | 55.89 |
| 1948 | 85.86 | 66.58 | 81.70 | 27.96 | 71.35 | 45.18 | 75.50 | 53.95 |

For notes see page 656.

## BASIC REFERENCETABLES

Table 123 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Property Incomes <br> (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | K Lower 90 Percent |  |  |  |  |  |  |  |
| 1918 | 74.63 | 74.21 | 74.48 | 26.66 | 19.27 | 24.01 | 57.92 | 33.93 |
| 1919 | 72.36 | 74.72 | 73.21 | 19.39 | 32.10 | 25.06 | 61.38 | 35.84 |
| 1919 | 74.24 | 72.03 | 73.50 | 10.26 | 40.14 | 25.33 | 61.38 | 36.00 |
| 1920 | 75.07 | 71.26 | 74.12 | 12.70 | 46.45 | 29.88 | 63.36 | 38.78 |
| 1921 | 69.48 | 65.18 | 68.59 | 14.44 | 46.02 | 31.60 | 55.63 | 37.88 |
| 1922 | 71.78 | 66.26 | 70.49 | 10.09 | 46.29 | 29.68 | 60.65 | 38.48 |
| 1923 | 77.46 | 60.81 | 73.69 | 18.37 | 43.05 | 30.60 | 53.35 | 36.76 |
| 1924 | 76.58 | 59.13 | 72.57 | 14.45 | 42.54 | 28.66 | 48.51 | 34.16 |
| 1937 | 70.40 | 70.72 | 70.46 | 16.59 | 58.20 | 34.65 | 42.12 | 35.59 |
| 1937 | 70.54 | 71.29 | 70.69 | 12.49 | 55.56 | 31.04 | 65.70 | 38.16 |
| 1939 | 69.50 | 68.30 | 69.27 | 17.26 | 54.20 | 34.63 | 67.24 | 42.23 |
| 1940 | 72.97 | 67.70 | 71.93 | 18.69 | 51.27 | 33.36 | 67.20 | 41.35 |
| 1941 | 74.99 | 66.58 | 73.23 | 22.29 | 55.93 | 36.44 | 70.20 | 45.47 |
| 1942 | 78.66 | 66.60 | 76.07 | 31.07 | 58.61 | 42.57 | 77.32 | 53.78 |
| 1943 | 81.55 | 60.60 | 77.41 | 31.41 | 63.52 | 44.54 | 79.37 | 56.51 |
| 1944 | 82.71 | 61.57 | 78.64 | * | * | 43.98 | 81.65 | 56.91 |
| 1945 | 83.16 | 56.69 | 77.98 | * | * | 44.51 | 80.60 | 56.80 |
| 1946 | 82.62 | 59.98 | 77.33 | 27.53 | 63.65 | 42.69 | 77.30 | 52.89 |
| 1947 | 82.26 | 64.82 | 78.12 | 30.96 | 68.41 | 45.43 | 76.26 | 54.26 |
| 1948 | 81.22 | 63.94 | 77.44 | 25.98 | 69.18 | 43.12 | 73.62 | 51.94 |

For notes see page 656.

Table 123 (concl.)

|  | Employee Compensation (1) | Entrep. Income <br> (2) | Service Incomes <br> (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent <br> (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | L Additional Percentage Bands |  |  |  |  |  |  |
| 1940 |  |  |  |  |  |  |  |  |
| 11th-15th | 9.92 | 5.13 | 8.97 | 3.85 | 7.67 | 5.57 | 6.09 | 5.64 |
| Top 15 | 36.95 | 37.43 | 37.04 | 85.16 | 56.40 | 72.21 | 38.89 | 64.28 |
| 16th-20th | 9.71 | 3.82 | 8.59 | 2.66 | 5.77 | 4.06 | 4.83 | 4.26 |
| Top 20 | 46.65 | 41.25 | 45.63 | 87.82 | 62.17 | 76.27 | 43.72 | 68.54 |
| Lower 80 | 53.35 | 58.75 | 54.37 | 12.18 | 37.83 | 23.73 | 56.28 | 31.46 |
| 1941 |  |  |  |  |  |  |  |  |
| 11th-15th | 8.86 | 2.36 | 7.51 | 2.21 | 3.30 | 2.67 | 4.50 | 3.18 |
| Top 15 | 33.87 | 35.77 | 34.28 | 79.92 | 47.37 | 66.23 | 34.31 | 57.71 |
| 16th-20th | 8.41 | 2.34 | 7.12 | 2.05 | 3.00 | 2.45 | 4.36 | 2.94 |
| Top 20 | 42.28 | 38.11 | 41.41 | 81.97 | 50.38 | 68.68 | 38.67 | 60.64 |
| Lower 80 | 57.72 | 61.89 | 58.59 | 18.03 | 49.62 | 31.32 | 61.33 | 39.36 |
| 1942 |  |  |  |  |  |  |  |  |
| 11th-15th | 7.06 | 3.32 | 6.25 | 2.53 | 3.29 | 2.85 | 3.86 | 3.17 |
| Top 15 | 28.39 | 36.72 | 30.18 | 71.46 | 44.68 | 60.28 | 26.54 | 49.39 |
| 16th-20th | 6.42 | 3.15 | 5.72 | 2.09 | 2.98 | 2.46 | 3.72 | 2.87 |
| Top 20 | 34.81 | 39.86 | 35.90 | 73.55 | 47.66 | 62.74 | 30.26 | 52.26 |
| Lower 80 | 65.19 | 60.14 | 64.10 | 26.44 | 52.34 | 37.26 | 69.74 | 47.74 |
| 1943 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.98 | 2.44 | 6.10 | 1.93 | 3.67 | 2.65 | 2.54 | 2.61 |
| Top 15 | 25.43 | 41.84 | 28.69 | 70.52 | 40.15 | 58.10 | 23.16 | 46.10 |
| 16th-20th | 6.37 | 2.62 | 5.60 | 1.87 | 2.58 | 2.16 | 2.67 | 2.33 |
| Top 20 | 31.80 | 44.46 | 34.29 | 72.40 | 42.73 | 60.26 | 25.84 | 48.43 |
| Lower 80 | 68.20 | 55.54 | 65.71 | 27.60 | 57.27 | 39.74 | 74.16 | 51.57 |
| 1944 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.66 | 2.28 | 5.84 | * | * | 2.14 | 1.84 | 2.04 |
| Top 15 | 23.95 | 40.72 | 27.20 | - | * | 58.15 | 20.20 | 45.13 |
| 16th-20th | 6.19 | 1.97 | 5.37 | * | * | 1.71 | 1.57 | 1.66 |
| Top 20 | 30.14 | 42:68 | 32.58 | * | * | 59.87 | 21.76 | 46.79 |
| Lower 80 | 69.86 | 57.32 | 67.42 | - | * | 40.13 | 78.24 | 53.21 |
| 1945 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.33 | 2.57 | 5.62 | * | * | 2.00 | 1.70 | 1.90 |
| Top 15 | 23.17 | 45.88 | 27.64 | * | * | 57.49 | 21.10 | 45.09 |
| 16th-20th | 5.88 | 2.16 | 5.16 | * | * | 1.65 | 1.44 | 1.58 |
| Top 20 | 29.05 | 48.03 | 32.79 | * | * | 59.14 | 22.54 | 46.67 |
| Lower 80 | 70.95 | 51.97 | 67.21 | * | * | 40.86 | 77.46 | 53.32 |
| 1946 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.36 | 3.12 | 5.62 | 2.05 | 2.47 | 2.22 | 2.05 | 2.17 |
| Top 15 | 23.74 | 43.14 | 28.28 | 74.52 | 38.82 | 59.54 | 24.74 | 49.29 |
| 16th-20th | 5.94 | 2.43 | 5.12 | 1.43 | 2.06 | 1.70 | 1.66 | 1.68 |
| Top 20 | 29.68 | 45.58 | 33.41 | 75.95 | 40.88 | 61.23 | 26.41 | 50.97 |
| Lower 80 | 70.32 | 54.42 | 66.59 | 24.05 | 59.12 | 38.77 | 73.59 | 49.03 |
| 1947 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.45 | 2.86 | 5.54 | 1.67 | 1.96 | 1.78 | 1.94 | 1.82 |
| Top 15 | 24.19 | 38.03 | 27.42 | 70.71 | 33.55 | 56.34 | 25.68 | 47.56 |
| 16th-20th | 6.08 | 2.22 | 5.20 | 1.28 | 1.66 | 1.43 | 1.62 | 1.48 |
| Top 20 | 30.27 | 40.25 | 32.61 | 71.99 | 35.21 | 57.77 | 27.29 | 49.04 |
| Lower 80 | 69.73 | 59.75 | 67.39 | 28.01 | 64.79 | 42.23 | 72.71 | 50.96 |
| 1948 |  |  |  |  |  |  |  |  |
| 11th-15th | 6.95 | 3.14 | 6.14 | 2.07 | 2.54 | 2.26 | 2.15 | 2.23 |
| Top 15 | 25.73 | 39.19 | 28.70 | 76.09 | 33.36 | 59.14 | 28.54 | 50.29 |
| 16th-20th | 6.18 | 2.41 | 5.37 | 1.39 | 1.91 | 1.60 | 1.57 | 1.59 |
| Top 20 | 31.92 | 41.61 | 34.08 | 77.48 | 35.28 | 60.73 | 30.11 | 51.88 |
| Lower 80 | 68.08 | 58.39 | 65.92 | 22.52 | 64.72 | 39.27 | 69.89 | 48.12 |

## Notes to Table 123

Because of rounding, details may not add to total.

* Basic data are not available for separate estimates of dividends and interest in this year.

The procedure by which the shares of a given upper percentage band in the several types of income are calculated parallels that for its share in total income receipts, outlined in Appendix 3, Section A. The shares of the lower income groups are estimated by subtraction. Our classification of the various sources of income reported in Statistics of Income is shown in Appendix 2. The countrywide aggregates to which the Statistics of Income data are related are given in Table 114.

Table 124
Percentage Shares of Upper Income Groups in Countrywide Aggregates of Various Types of Income, Basic Variant, Nonfarm Population, 1917-1948

|  | Employee Compensation (1) | Entrep. Income <br> (2) | Service Incomes (3) | Dividends (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A Top 1 Percent |  |  |  |  |  |  |  |
| 1917 | 6.12 | 13.21 | 8.19 | 69.63 | 41.28 | 60.55 | 12.69 | 47.17 |
| 1918 | 5.50 | 19.70 | 8.27 | 58.97 | 43.59 | 53.45 | 12.49 | 41.45 |
| 1919 | 5.96 | 17.82 | 9.00 | 63.18 | 38.95 | 52.37 | 12.11 | 40.40 |
| 1919 | 5.56 | 21.12 | 8.88 | 70.34 | 34.34 | 52.19 | 12.11 | 40.30 |
| 1920 | 5.27 | 23.24 | 7.97 | 68.40 | 30.06 | 48.88 | 12.81 | 39.27 |
| 1921 | 6.06 | 24.07 | 8.43 | 61.92 | 27.65 | 43.30 | 13.93 | 35.57 |
| 1922 | 5.63 | 20.72 | 8.11 | 68.21 | 28.17 | 46.55 | 13.31 | 37.07 |
| 1923 | 5.21 | 18.69 | 7.35 | 61.67 | 26.51 | 44.24 | 12.55 | 35.66 |
| 1924 | 5.40 | 21.23 | 7.87 | 66.15 | 25.54 | 45.61 | 12.66 | 36.44 |
| 1925 | 5.55 | 23.76 | 8.50 | 65.03 | 26.21 | 46.46 | 14.84 | 38.41 |
| 1926 | 5.44 | 21.86 | 8.00 | 69.85 | 28.03 | 50.36 | 15.45 | 42.11 |
| 1927 | 5.64 | 23.76 | 8.31 | 69.87 | 29.05 | 51.09 | 14.60 | 42.93 |
| 1928 | 5.78 | 25.45 | 8.73 | 68.38 | 29.45 | 50.69 | 13.92 | 42.91 |
| 1929 | 5.56 | 24.32 | 8.27 | 63.31 | 28.80 | 48.31 | 14.97 | 42.03 |
| 1930 | 5.93 | 17.67 | 7.48 | 59.27 | 24.60 | 43.66 | 16.63 | 39.49 |
| 1931 | 6.23 | 16.23 | 7.49 | 55.68 | 21.02 | 37.94 | 18.52 | 35.62 |
| 1932 | 6.73 | 14.75 | 7.67 | 55.85 | 19.56 | 33.75 | 19.55 | 32.40 |
| 1933 | 6.54 | 16.84 | 7.95 | 53.65 | 19.06 | 31.81 | 13.91 | 29.68 |
| 1934 | 6.10 | 16.80 | 7.54 | 55.50 | 21.63 | 36.11 | 17.31 | 34.06 |
| 1935 | 6.19 | 18.15 | 7.78 | 50.12 | 22.42 | 36.18 | 16.26 | 33.78 |
| 1936 | 6.10 | 20.83 | 8.09 | 59.48 | 22.70 | 43.42 | 19.06 | 40.71 |
| 1937 | 6.00 | 19.99 | 7.82 | 61.81 | 22.28 | 44.65 | 19.42 | 41.45 |
| 1938 | 6.12 | 17.70 | 7.74 | 54.12 | 20.01 | 36.62 | 21.12 | 34.45 |
| 1929 | 5.69 | 25.00 | 8.47 | 68.33 | 26.28 | 48,30 | 11.70 | 39.92 |
| 1930 | 6.04 | 19.39 | 7.70 | 64.35 | 24.12 | 45.22 | 12.86 | 38.86 |
| 1931 | 6.15 | 18.96 | 7.54 | 62.79 | 20.61 | 39.73 | 13.67 | 35.52 |
| 1932 | 6.72 | 19.99 | 7.89 | 64.89 | 19.62 | 35.77 | 14.16 | 32.88 |
| 1933 | 6.49 | 21.96 | 8.16 | 63.61 | 18.23 | 32.75 | 12.14 | 29.92 |
| 1934 | 6.06 | 19.89 | 7.66 | 63.99 | 21.04 | 37.64 | 11.18 | 33.28 |
| 1935 | 6.10 | 19.78 | 7.77 | 65.41 | 22.23 | 40.74 | 10.98 | 35.20 |
| 1936 | 5.83 | 21.32 | 7.80 | 62.82 | 23.39 | 45.37 | 11.11 | 39.08 |
| 1937 | 5.99 | 20.08 | 7.81 | 64.84 | 23.68 | 47.11 | 11.50 | 39.80 |
| 1938 | 6.03 | 19.57 | 7.74 | 58.68 | 21.03 | 39.06 | 11.78 | 32.60 |
| 1939 | 5.83 , | 20.24 | 7.74 | 59.53 | 22.64 | 42.18 | 11.28 | 34.98 |
| 1940 | 5.91 | 21.08 | 7.98 | 60.62 | 21.99 | 43.23 | 11.56 | 35.69 |
| 1941 | 5.55 | 25.04 | 8.36 | 54.97 | 23.32 | 41.66 | 9.97 | 33.17 |
| 1942 | 4.54 | 31.43 | 8.19 | 50.08 | 23.97 | 39.18 | 8.82 | 29.38 |
| 1943 | 3.49 | 38.81 | 7.88 | 49.79 | 21.11 | 38.06 | 8.67 | 27.96 |
| 1944 | 3.10 | 36.00 | 7.09 | * | * | 36.82 | 8.08 | 26.96 |
| 1945 | 3.10 | 35.91 | 7.33 | * | - * | 35.71 | 8.26 | 26.36 |
| 1946 | 3.50 | 26.48 | 7.29 | 48.30 | 17.70 | 35.46 | 9.16 | 27.71 |
| 1947 | 3.64 | 21.76 | 6.62 | 47.83 | 15.91 | 35.49 | 9.93 | 28.17 |
| 1948 | 3.51 | 23.92 | 6.38 | 51.22 | 14.58 | 36.67 | 11.68 | 29.44 |

For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | B 2 N | AND 3 | D PERC | ntage | Band | . |  |
| 1917 | 4.01 | 8.95 | 5.48 | 6.31 | 8.83 | 7.10 | 7.97 | 7.38 |
| 1918 | 3.61 | 13.20 | 5.47 | 7.23 | 10,78 | 8.55 | 8.47 | 8.51 |
| 1919 | 4.29 | 10.91 | 5.99. | 9.01 | 10.31 | 9.59 | 7.87 | 9.10 |
| 1919 | 4.00 | 12.93 | 5.91 | 10.03 | 9.09 | 9.55 | 7.87 | 9.08 |
| 1920 | 3.91 | 13.29 | 5.32 | 10.63 | 8.36 | 9.48 | 7.76 | 9.03 |
| 1921 | 5.15 | 13.48 | 6.25 | 9.59 | 7.78 | 8.61 | 8.13 | 8.49 |
| 1922 | 4.85 | 11.88 | 6.01 | 9.92 | 8.25 | 9.01 | 7.68 | 8.65 |
| 1923 | 3.83 | 12.52 | 5.21 | 8.99 | - 9.17 | 9.08 | 8.42 | 8.95 |
| 1924 | 4.32 | 14.97 | 5.98 | 8.39 | 9.06 | 8.73 | 9.67 | 9.06 |
| 1925 | 4.52 | 15.36 | 6.28 | 8.43 | 9.17 | 8.79 | 10.01 | 9.12 |
| 1926 | 4.44 | 15.69 | 6.19 | 10.37 | 10.32 | 10.34 | 10.38 | 10.36 |
| 1927 | 4.58 | 15.67 | 6.22 | 9.48 | 10.28 | 9.85 | 9.95 | 9.88 |
| 1928 | 4.93 | 15.23 | 6.47 | 9.27 | 10.01 | 9.60 | 9.59 | 9.60 |
| 1929 | 4.87 | 15.40 | 6.39 | 8.91 | 9.21 | 9.04 | 10.02 | 9.22 |
| 1930 | 5.23 | 12.62 | 6.22 | 8.14 | 7.94 | 8.05 | 9.73 | 8.32 |
| 1931 | 5.69 | 10.91 | 6.35 | 8.07 | 7.06 | 7.56 | 11.36 | 8.02 |
| 1932 | 6.02 | 8.26 | 6.29 | 6.91 | 6.98 | 6.95 | 10.33 | 7.30 |
| 1933 | 5.94 | 8.54 | 6.30 | 7.09 | 5.59 | 6.14 | 8.58 | 6.43 |
| 1934 | 5.82 | 9.82 | 6.36 | 7.23 | 5.78 | 6.40 | 10.72 | 6.88 |
| 1935 | 5.78 | 10.20 | 6.38 | 6.77 | 6.15 | 6.46 | 9.86 | 6.88 |
| 1936 | 5.36 | 12.30 | 6.30 | 8.74 | 7.13 | 8.04 | 12.46 | 8.54 |
| 1937 | 5.30 | 12.46 | 6.23 | 9.45 | 6.55 | 8.19 | 11.62 | 8.63 |
| 1938 | 5.45 | 10.54 | 6.17 | 9.48 | 6.30 | 7.85 | 12.16 | 8.46 |
| 1929 | 4.98 | 15.82 | 6.55 | 9.62 | 8.40 | 9.04 | 7.83 | 8.76 |
| 1930 | 5.33 | 13.84 | 6.39 | 8.84 | 7.78 | 8.34 | 7.52 | 8.19 |
| 1931 | 5.62 | 12.75 | 6.39 | 9.11 | 6.92 | 7.91 | 8.39 | 8.00 |
| 1932 | 6.01 | 11.19 | 6.47 | 8.03 | 7.00 | 7.37 | 7.48 | 7.40 |
| 1933 | 5.90 | 11.13 | 6.46 | 8.40 | 5.35 | 6.32 | 7.49 | 6.49 |
| 1934 | 5.79 | 11.63 | 6.47 | 8.33 | 5.62 | 6.67 | 6.92 | 6.72 |
| 1935 | 5.70 | 11.11 | 6.37 | 8.83 | 6.10 | 7.27 | 6.66 | 7.17 |
| 1936 | 5.12 | 12.60 | 6.08 | 9.23 | 7.34 | 8.40 | 7.26 | 8.20 |
| 1937 | 5.29 | 12.51 | 6.23 | 9.91 | 6.96 | 8.64 | 6.89 | 8.28 |
| 1938 | 5.36 | 11.66 | 6.17 | 10.27 | 6.62 | 8.37 | 6.78 | 8.00 |
| 1939 | 5.54 | 12.59 | 6.48 | 9.82 | 7.10 | 8.54 | 6.88 | 8.16 |
| 1940 | 5.19 | 12.37 | 6.17 | 10.29 | 7.86 | 9.19 | 6.77 | 8.62 |
| 1941 | 4.57 | 13.65 | 5.88 | 11.46 | 8.89 | 10.38 | 6.82 | 9.43 |
| 1942 | 3.84 | 14.40 | 5.28 | 10.46 | 8.60 | 9.68 | 5.58 | 8.36 |
| 1943 | 3.26 | 17.79 | 5.07 | 11.49 | 8.11 | 10.10 | 5.81 | 8.63 |
| 1944 | 2.98 | 18.14 | 4.83 | * | * | 10.49 | 4.94 | 8.58 |
| 1945 | 2.96 | 20.41 | 5.22 | * | * | 11.34 | 5.32 | 9.29 |
| 1946 | 3.22 | 17.64 | 5.60 | 13.21 | 8.53 | 11.25 | 5.99 | 9.70 |
| 1947 | 3.30 | 15.77 | 5.35 | 11.72 | 7.30 | 10.01 | 6.12 | 8.89 |
| 1948 | 3.38 | 18.07 | 5.45 | 12.39 | 7.04 | 10.26 | 6.49 | 9.17 |

For notes see page 667.

## BASIC REFERENCE TABLES

Table 124 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent <br> (7) | Property Incomes <br> (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | C 4 T | AND 5 | h Perc | ntage | Band |  |  |
| 1917 | 4.37 | 4.33 | 4.36 | 1.19 | 1.47 | 1.28 | 6.17 | 2.65 |
| 1918 | 3.15 | 7.89 | 4.08 | 2.61 | 6.55 | 4.03 | 5.33 | 4.42 |
| 1919 | 3.54 | 6.06 | 4.20 | 3.21 | 4.93 | 3.98 | 5.28 | 4.36 |
| 1919 | 3.30 | 7.18 | 4.14 | 3.57 | 4.34 | 3.96 | 5.28 | 4.35 |
| 1920 | 3.20 | 7.13 | 3.80 | 3.37 | 4.05 | 3.72 | 4.60 | 3.95 |
| 1921 | 3.24 | 7.29 | 3.78 | 7.86 | 6.50 | 7.12 | 7.89 | 7.33 |
| 1922 | 4.01 | 7.07 | 4.53 | 3.50 | 4.57 | 4.08 | 4.50 | 4.21 |
| 1923 | 2.66 | 9.90 | 3.81 | 4.38 | 5.72 | 5.04 | 6.17 | 5.36 |
| 1924 | 2.92 | 10.43 | 4.10 | 4.21 | 6.51 | 5.37 | 7.89 | 6.04 |
| 1925 | 3.21 | 9.77 | 4.27 | 3.45 | 5.49 | 4.43 | 7.59 | 5.22 |
| 1926 | 3.04 | 8.69 | 3.92 | 3.53 | 5.45 | 4.43 | 7.66 | 5.19 |
| 1927 | 3.63 | 7.31 | 4.17 | 3.07 | 5.46 | 4.17 | 6.78 | 4.76 |
| 1928 | 3.86 | 7.78 | 4.45 | 2.60 | 5.49 | 3.92 | 5.46 | 4.26 |
| 1929 | 3.73 | 7.63 | 4.30 | 3.16 | 5.25 | 4.07 | 6.55 | 4.55 |
| 1930 | 3.89 | 8.02 | 4.44 | 2.92 | 5.27 | 3.98 | 7.57 | 4.53 |
| 1931 | 4.42 | 8.59 | 4.94 | 4.03 | 5.72 | 4.89 | 12.86 | 5.85 |
| 1932 | 5.23 | 7.00 | 5.44 | 3.28 | 4.06 | 3.76 | 9.83 | 4.35 |
| 1933 | 5.18 | 6.80 | 5.41 | 3.30 | 3.71 | 3.56 | 7.96 | 4.10 |
| 1934 | 4.70 | 6.60 | 4.95 | 3.10 | 3.45 | 3.30 | 8.53 | 3.89 |
| 1935 | 4.68 | 5.98 | 485 | 2.72 | 3.40 | 3.06 | 7.02 | 3.55 |
| 1936 | 4.12 | 5.95 | 4.36 | 3.08 | 3.39 | 3.21 | 7.33 | 3.66 |
| 1937 | 4.16 | - 5.51 | 4.34 | 3.24 | 2.87 | 3.08 | 5.66 | 3.42 |
| 1938 | 4.82 | 5.78 | 5.02 | 4.47 | 3.80 | 4.12 | 7.89 | 4.73 |
| 1929 | 3.82 | 7.84 | 4.40 | 3.41 | 4.80 | 4.07 | 5.12 | 4.32 |
| 1930 | 3.97 | 8.80 | 4.56 | 3.17 | 5.17 | 4.12 | 5.85 | 4.46 |
| 1931 | 4.36 | 10.04 | 4.97 | 4.54 | 5.61 | 5.12 | 9.50 | 5.83 |
| 1932 | 5.22 | 9.48 | 5.60 | 3.81 | 4.08 | 3.98 | 7.12 | 4.42 |
| 1933 | 5.14 | 8.87 | 5.55 | 3.92 | 3.54 | 3.66 | 6.94 | 4.14 |
| 1934 | 4.67 | 7.81 | 5.04 | 3.58 | 3.36 | 3.44 | 5.51 | 3.80 |
| 1935 | 4.61 | 6.51 | 4.85 | 3.55 | 3.37 | 3.45 | 4.74 | 3.70 |
| 1936 | 3.94 | 6.09 | 4.21 | 3.25 | 3.49 | 3.36 | 4.27 | 3.52 |
| 1937 | 4.16 | 5.53 | 4.34 | 3.40 | 3.05 | 3.25 | 3.36 | 3.28 |
| 1938 | 4.75 | 6.38 | 5.02 | 4.85 | 3.99 | 4.40 | 4.40 | 4.48 |
| 1939 | 4.30 | 5.27 | 4.43 | 3.27 | 3.89 | 3.56 | 3.98 | 3.66 |
| 1940 | 4.15 | 5.45 | 4.35 | 3.35 | 4.22 | 3.74 | 3.20 | 3.64 |
| 1941 | 3.85 | 5.84 | 4.18 | 4.44 | 4.10 | 4.30 | 3.94 | 4.22 |
| 1942 | 3.31 | 5.55 | 3.62 | 3.39 | 3.10 | 3.27 | 2.57 | 3.04 |
| 1943 | 2.97 | 6.08 | 3.35 | 3.24 | 2.86 | 3.08 | 2.21 | 2.78 |
| 1944 | 2.81 | 6.00 | 3.23 | * | * | 3.66 | 1.99 | 3.09 |
| 1945 | 2.73 | 7.61 | 3.39 | * | * | 3.83 | 2.35 | 3.32 |
| 1946 | 2.67 | 8.43 | 3.62 | 4.81 | 4.10 | 4.51 | 2.97 | 4.06 |
| 1947 | 2.72 | 7.87 | 3.57 | 4.43 | 3.42 | 4.04 | 3.07 | 3.76 |
| 1948 | 2.92 | 9.06 | 3.78 | 4.66 | 3.53 | 4.21 | 3.22 | 3.92 |

For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes <br> (3) | Dividends <br> (4) | Interest <br> (5) | Dividends and Interest (6) | Rent <br> (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D Top 5 Percent |  |  |  |  |  |  |  |  |
| 1917 | 14.50 | 26.49 | 18.03 | 77.13 | 51.58 | 68.93 | 26.84 | 57.19 |
| 1918 | 12.27 | 40.80 | 17.82 | 68.80 | 60.93 | 65.99 | 26.29 | 54.38 |
| 1919 | 13.80 | 34.78 | 19.19 | 75.40 | 54:19 | 65.94 | 25.26 | 53.87 |
| 1919 | 12.87 | 41.23 | 18.94 | 83.94 | 47.77 | 65.70 | 25.26 | 53.73 |
| 1920 | 12.37 | 43.66 | 17.10 | 82.41 | 42.47 | 62.07 | 25.17 | 52.26 |
| 1921 | 14.45 | 44.84 | 18.46 | 79.37 | 41.93 | 59.03 | 29.95 | 51.40 |
| 1922 | 14.49 | 39.67 | 18.65 | 81.62 | 40.99 | 59.64 | 25.49 | 49.93 |
| 1923 | 11.70 | 41.11 | 16.38 | 75.04 | 41.40 | 58.37 | 27.15 | 49.96 |
| 1924 | 12.64 | 46.62 | 17.94 | 78.75 | 41.10 | 59.71 | 30.13 | 51.53 |
| 1925 | 13.29 | 48.89 | 19.04 | 76.91 | 40.87 | 59.67 | 32.43 | 52.76 |
| 1926 | 12.92 | 46.24 | 18.11 | 83.75 | 43.80 | 65.13 | 33.50 | 57.67 |
| 1927 | 13.86 | 46.73 | 18.70 | 82.43 | 44.79 | 65.12 | 31.34 | 57.57 |
| 1928 | 14.57 | 48.47 | 19.66 | 80.25 | 44.96 | 64.21 | 28.97 | 56.77 |
| 1929 | 14.16 | 47.35 | 18.97 | 75.37 | 43.26 | 61.42 | 31.54 | 55.80 |
| $1930{ }^{\circ}$ | 15.05 | 38.30 | 18.14 | 70.33 | 37.80 | 55.69 | 33.93 | 52.34 |
| 1931 | 16.34 | 35.73 | 18.79 | 67.78 | 33.80 | 50.39 | 42.74 | 49.49 |
| 1932 | 17.98 | 30.00 | 19.39 | 66.04 | 30.60 | 44.46 | 39.71 | 44.04 |
| 1933 | 17.67 | 32,18 | 19.66 | 64.04 | 28.36 | 41.51 | 30.45 | 40.22 |
| 1934 | 16.62 | 33.21 | 18.85 | 65.83 | 30.86 | 45.81 | 36.56 | 44.84 |
| 1935 | 16.65 | 34.33 | 19.01 | 59.61 | 31.97 | 45.70 | 33.14 | 44.22 |
| 1936 | 15.58 | 39.08 | 18.76 | 71.29 | 33.21 | 54.67 | 38.85 | 52.91 |
| 1937 | 15:46 | 37.95 | 18.39 | 74.50 | 31.69 | 55.92, | 36.70 | 53.49 |
| 1938 | 16.39 | 34.02 | 18.92 | 68.07 | 30.11 | 48.59 | 41.16 | 47.64 |
| 1929 | 14:49 | 48.66 | 19.42 | 81.35 | 39.48 | 61.41 | 24.64 | 53.00 |
| 1930 | 15.33 | 42.03 | 18.65 | 76.36 | 37.06 | 57.67 | 26.23 | 51.50 |
| 1931 | 16.12 | 41.76 | 18.90 | 76.44 | 33.14 | 52.77 | 31.56 | 49.35 |
| 1932 | 17.95 | 40.65 | 19.96 | 76.74 | 30.70 | 47.12 | 28.75 | 44.70 |
| 1933 | 17.53 | 41.96 | 20.17 | 75.94 | 27.12 | 42.74 | 26.58 | 40.54 |
| 1934 | 16.53 | 39.33 | 19.17 | 75.90 | 30.02 | 47.75 | 23.61 | 43.80 |
| 1935 | 16.42 | 37.40 | 18.99 | 77.80 | 31.70 | 51.46 | 22.38 | 46.07 |
| 1936 | 14.88 | 40.01 | 18.08 | 75.31 | 34.23 | 57.12 | 22.64 | 50.79 |
| 1937 | 15.44 | 38.12 | 18.38 | 78.16 | 33.69 | 59.01 | 21.75 | 51.36 |
| 1938 | 16.14 | 37.61 | 18.92 | 73.81 | 31.64 | 51.83 | 22.96 | 45.08 |
| 1939 | 15.67 | 38.11 | 18.66 | 72.62 | 33.63 | 54.28 | 22.14 | 46.79 |
| 1940 | 15.24 | 38.89 | 18.50 | 74.26 | 34.07 | 56.17 | 21.52 | 47.95 |
| 1941 | 13.97 | 44.53 | 18.43 | 70.86 | 36.31 | 56.33 | 20.72 | 46.83 |
| 1942 | 11.70 | 51.38 | 17.09 | 63.93 | 35.67 | 52.13 | 16.97 | 40.78 |
| 1943 | 9.72 | 62.67 | 16.29 | 64.52 | 32.07 | 51.24 | 16.69 | 39.37 |
| 1944 | 8.89 | 60.13 | 15.15 | * | * | 50.97 | 15.01 | 38.63 |
| 1945 | 8.80 | 63.94 | 15.93 | * | * | 50.88 | 15.93 | 38.97 |
| 1946 | 9.40 | 52.56 | 16.52 | 66.33 | 30.33 | 51.22 | 18.12 | 41.47 |
| 1947 | 9.67 | 45:40 | 15.55 | 63.97 | 26.63 | 49.54 | 19.12 | 40.83 |
| 1948 | 9.82 | 51.05 | 15.62 | 68.26 | 25.14 | 51.15 | 21.38 | 42.54 |

For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent <br> (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | E 6 Th | AND 7 | h Perc | NTAGE | BAND |  |  |
| 1917 | 3.36 | 5.78 | 4.05 | 1.43 | 1.27 | 1.38 | 5.61 | 2.59 |
| 1918 | 3.54 | 4.32 | 3.74 | 1.37 | 5.31 | 2.79 | 4.11 | 3.17 |
| 1919 | 3.31 | 4.33 | 3.56 | 1.98 | 3.63 | 2.72 | 4.06 | 3.10 |
| 1919 | 3.09 | 5.14 | 3.52 | 2.21 | 3.20 | 2.71 | 4.06 | 3.09 |
| 1920 | 2.97 | 4.68 | 3.22 | 1.97 | 3.08 | 2.54 | 3.22 | 2.71 |
| 1921 | 3.83 | 6.14 | 4.13 | 2.59 | 3.63 | 3.15 | 4.25 | 3.43 |
| 1922 | 3.19 | 5.36 | 3.54 | 3.55 | 4.03 | 3.81 | 4.20 | 3.90 |
| 1923 | 2.62 | 8.12 | 3.49 | 2.52 | 4.50 | 3.50 | 5.46 | 4.05 |
| 1924 | 2.70 | 8.30 | 3.58 | 2.49 | 4.88 | 3.70 | 6.48 | 4.51 |
| 1925 | 3.20 | 7.36 | 3.87 | 2.24 | 4.66 | 3.39 | 6.94 | 4.30 |
| 1926 | 3.21 | 6.73 | 3.76 | 2.21 | 4.94 | 3.48 | 7.51 | 4.44 |
| 1927 | 3.29 | 7.92 | 3.97 | 3.16 | 5.01 | 4.01 | 6.21 | 4.51 |
| 1928 | 3.71 | 6.72 | 4.16 | 1.87 | 5.21 | 3.39 | 5.90 | 3.92 |
| 1929 | 3.54 | 6.51 | 3.97 | 2.28 | 4.94 | 3.44 | 7.07 | 4.13 |
| 1930 | 3.74 | 8.11 | 4.32 | 2.51 | 4.50 | 3.40 | 7.20 | 3.98 |
| 1931 | 4.30 | 6.94 | 4.63 | 3.04 | 4.31 | 3.69 | 10.28 | 4.48 |
| 1932 | 4.80 | 5.85 | 4.93 | 2.50 | 3.86 | 3.33 | 9.61 | 3.93 |
| 1933 | 4.54 | 5.08 | 4.61 | 2.55 | 3.31 | 3.03 | 7.31 | 3.54 |
| 1934 | 4.40 | 5.29 | 4.52 | 2.29 | 3.07 | 2.74 | 8.22 | 3.32 |
| 1935 | 4.43 | 5.09 | 4.51 | 2.01 | 3.00 | 2.51 | 7.04 | 3.03 |
| 1936 | 4.15 | 4.99 | 4.28 | 2.38 | 3.17 | 2.72 | 7.20 | 3.24 |
| 1937 | 3.99 | 4.59 | 4.08 | 2.53 | 2.58 | 2.55 | 5.47 | 2.94 |
| 1938 | 4.23 | 4.44 | 4.26 | 3.12 | 2.80 | 2.95 | 6.19 | 3.40 |
| 1929 | 3.62 | 6.69 | 4.06 | 2.46 | 4.51 | 3.44 | 5.53 | 3.92 |
| 1930 | 3.80 | 8.90 | 4.44 | 2.72 | 4.41 | 3.52 | 5.57 | 3.92 |
| 1931 | 4.24 | 8.11 | 4.66 | 3.43 | 4.23 | 3.86 | 7.59 | 4.46 |
| 1932 | 4.79 | 7.93 | 5.07 | 2.91 | 3.87 | 3.53 | 6.96 | 3.99 |
| 1933 | 4.50 | 6.62 | 4.73 | 3.02 | 3.16 | 3.12 | 6.38 | 3.57 |
| 1934 | 4.37 | 6.27 | 4.59 | 2.64 | 2.98 | 2.85 | 5.30 | 3.24 |
| 1935 | 4.37 | 5.54 | 4.51 | 2.62 | 2.98 | 2.82 | 4.75 | 3.16 |
| 1936 | 3.96 | 5.11 | 4.12 | 2.51 | 3.26 | 2.84 | 4.19 | 3.11 |
| 1937 | 3.99 | 4.61 | 4.08 | 2.65 | 2.75 | 2.69 | 3.24 | 2.82 |
| 1938 | 4.16 | 4.90 | 4.26 | 3.38 | 2.94 | 3.15 | 3.45 | 3.22 |
| 1939 | 4.28 | 5.14 | 4.39 | 3.31 | 3.32 | 3.32 | 3.06 | 3.26 |
| 1940 | 3.60 | 4.06 | 3.65 | 2.28 | 3.38 | 2.78 | 2.59 | 2.73 |
| 1941 | 3.46 | 3.83 | 3.50 | 2.63 | 2.71 | 2.66 | 2.85 | 2.70 |
| 1942 | 3.02 | 3.32 | 3.07 | 1.85 | 1.91 | 1.87 | 1.78 | 1.84 |
| 1943 | 2.76 | 3.23 | 2.83 | 1.59 | 1.50 | 1.55 | 1.23 | 1.44 |
| 1944 | 2.68 | 3.45 | 2.76 | * | * | 2.04 | 1.22 | 1.76 |
| 1945 | 2.58 | 4.29 | 2.80 | * | * | 2.06 | 1.43 | 1.84 |
| 1946 | 2.58 | 4.82 | 2.96 | 2.56 | 2.58 | 2.57 | 1.73 | 2.32 |
| 1947 | 2.60 | 4.56 | 2.94 | 2.21 | 2.02 | 2.14 | 1.88 | 2.06 |
| 1948 | 2.86 | 5.14 | 3.20 | 2.42 | 2.14 | 2.31 | 1.93 | 2.20 |

For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | F top 7 Percent |  |  |  |  |  |  |  |
| 1917 | 17.85 | 32.27 | 22.08 | 78.55 | 52.84 | 70.30 | 32.45 | 59.78 |
| 1918 | 15.80 | 45.12 | 21.56 | 70.17 | 66.24 | 68.77 | 30.40 | 57.55 |
| 1919 | 17.11 | 39.12 | 22.76 | 77.38 | 57.83 | 68.66 | 29.32 | 56.96 |
| 1919 | 15.96 | 46.37 | 22.45 | 86.15 | 50.98 | 68.41 | 29.32 | 56.82 |
| 1920 | 15.34 | 48.34 | 20.32 | 84.38 | 45.55 | 64.61 | 28.39 | 54.97 |
| 1921 | 18.28 | 50.98 | 22.60 | 81.96 | 45.56 | 62.18 | 34.19 | 54.82 |
| 1922 | 17.68 | 45.03 | 22.19 | 85.17 | 45.02 | 63.45 | 29.69 | 53.83 |
| 1923 | 14.32 | 49.23 | 19.87 | 77.57 | 45.90 | 61.87 | 32.61 | 54.01 |
| 1924 | 15.34 | 54.92 | 21.52 | 81.24 | 45.98 | 63.41 | 36.62 | 56.04 |
| 1925 | 16.48 | 56.25 | 22.91 | 79.15 | 45.53 | 63.06 | 39.37 | 57.05 |
| 1926 | 16.13 | 52.96 | 21.86 | 85.96 | 48.74 | 68.62 | 41.00 | 62.11 |
| 1927 | 17.15 | 54.66 | 22.67 | 85.59 | 49.80 | 69.12 | 37.54 | 62.08 |
| 1928 | 18.28 | 55.19 | 23.82 | 82.12 | 50.17 | 67.60 | 34.87 | 60.69 |
| 1929 | 17.70 | 53.86 | 22.94 | 77.65 | 48.20 | 64.85 | 38.61 | 59.93 |
| 1930 | 18.79 | 46.41 | 22.46 | 72.83 | 42.30 | 59.09 | 41.14 | 56.32 |
| 1931 | 20.64 | 42.67 | 23.42 | 70.82 | 38.11 | 54.08 | 53.03 | 53.96 |
| 1932 | 22.79 | 35.86 | 24.32 | 68.55 | 34.46 | 47.79 | 49.31 | 47.97 |
| 1933 | 22.21 | 37.25 | 24.27 | 66.59 | 31.67 | 44.54 | 37.76 | 43.76 |
| 1934 | 21.01 | 38.50 | 23.37 | 68.12 | 33.93 | 48.55 | 44.78 | 48.15 |
| 1935 | 21.08 | 39.42 | 23.53 | 61.63 | 34.97 | 48.21 | 40.18 | 47.25 |
| 1936 | 19.73 | 44.07 | 23.04 | 73.67 | 36.38 | 57.39 | 46.05 | 56.15 |
| 1937 | 19.46 | 42.54 | 22.47 | 77.03 | 34.28 | 58.48 | 42.17 | 56.43 |
| 1938 | 20.62 | 38.46 | 23.18 | 71.19 | 32.90 | 51.54 | 47.35 | 51.04 |
| 1929 | 18.11 | 55.36 | 23.49 | 83.81 | 43.99 | 64.85 | 30.17 | 56.92 |
| 1930 | 19.14 | 50.93 | 23.09 | 79.08 | 41.47 | 61.20 | 31.79 | 55.42 |
| 1931 | 20.36 | 49.87 | 23.57 | 79.86 | 37.37 | 56.63 | 39.15 | 53.82 |
| 1932 | 22.74 | 48.58 | 25.03 | 79.65 | 34.57 | 50.65 | 35.71 | 48.69 ' |
| 1933 | 22.04 | 48.58 | 24.90 | 78.96 | 30.28 | 45.86 | 32.96 | 44.11 |
| 1934 | 20.90 | 45.60 | 23.76 | 78.54 | 33.00 | 50.60 | 28.91 | 47.04 |
| 1935 | 20.79 | 42.94 | 23.50 | 80.42 | 34.68 | 54.29 | 27.13 | 49.23 |
| 1936 | 18.84 | 45.12 | 22.2: | 77.82 | 37.49 | 59.97 | 26.83 | 53.90 |
| 1937 | 19.43 | 42.73 | 22.46 | 80.81 | 36.44 | 61.70 | 24.99 | 54.18 |
| 1938 | 20.30 | 42.51 | 23.18 | 77.19 | 34.57 | 54.98 | 26.42 | 48.30 |
| 1939 | 19.94 | 43.25 | 23.05 | 75.93 | 36.95 | 57.60 | 25.20 | 50.05 |
| 1940 | 18.84 | 42.95 | 22.15 | 76.54 | 37.45 | 58.94 | 24.12 | 50.68 |
| 1941 | 17.43 | 48.37 | 21.93 | 73.49 | 39.02 | 58.99 | 23.58 | 49.53 |
| 1942 | 14.72 | 54.70 | 20.16 | 65.78 | 37.58 | 54.00 | 18.75 | 42.63 |
| 1943 | 12.48 | 65.90 | 19.13 | 66.11 | 33.57 | 52.80 | 17.92 | 40.81 |
| 1944 | 11.57 | 63.58 | 17.91 | * | * | 53.00 | 16.23 | 40.38 |
| 1945 | 11.37 | 68.23 | 18.73 | * | * | 52.94 | 17.36 | 40.82 |
| 1946 | 11.98 | 57.38 | 19.48 | 68.89 | 32.90 | 53.79 | 19.84 | 43.79 |
| 1947 | 12.26 | 49.96 | 18.49 | 66.18 | 28.65 | 51.67 | 21.01 | 42.89 |
| 1948 | 12.67 | 56.19 | 18.81 | 70.68 | 27.28 | 53.45 | 23.31 | 44.74 |

For notes see page 667.

Table 124 (cont.)


For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest <br> (5) | Dividends and Interest <br> (6) | Rent <br> (7) | Prop- erty Incomes <br> (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | H To | 10 P | cent |  |  |  |
| 1917 | 21.78 | 42.32 | 27.79 | 80.61 | 54.44 | 72.21 | 40.23 | 63.29 |
| 1918 | 21.15 | 49.63 | 26.70 | 71.53 | 72.95 | 72.06 | 35.53 | 61.38 |
| 1919 | 23.07 | 41.61 | 27.87 | 78.63 | 62.74 | 71.54 | 33.37 | 60.20 |
| 1919 | 21.52 | 49.32 | 27.50 | 87.54 | 55.31 | 71.29 | 33.37 | 60.05 |
| 1920 | 20.28 | 52.07 | 25.14 | 85.87 | 49.33 | 67.26 | 32.24 | 57.96 |
| 1921 | 24.60 | 55.12 | 28.68 | 83.56 | 49.33 | 64.96 | 38.60 | 58.05 |
| 1922 | 23.02 | 49.49 | 27.44 | 88.14 | 49.40 | 67.18 | 34.56 | 57.91 |
| 1923 | 18.37 | 57.72 | 24.66 | 79.90 | 51.31 | 65.73 | 39.41 | 58.64 |
| 1924 | 19.42 | 63.46 | 26.32 | 83.65 | 51.72 | 67.50 | 44.26 | 61.07 |
| 1925 | 21.32 | 65.56 | 28.48 | 81.95 | 51.44 | 67.35 | 48.02 | 62.44 |
| 1926 | 20.89 | 61.80 | 27.27 | 88.67 | 54.68 | 72.83 | 50.16 | 67.48 |
| 1927 | 22.27 | 63.24 | 28.30 | 88.92 | 56.20 | 73.87 | 46.79 | 67.81 |
| 1928 | 23.36 | 62.97 | 29.30 | 84.38 | 56.41 | 71.67 | 43.10 | 65.62 |
| 1929 | 22.60 | 61.66 | 28.26 | 81.07 | 54.46 | 69.51 | 48.73 | 65.59 |
| 1935 | 27.44 | 44.73 | 29.75 | 64.32 | 39.65 | 51.91 | 51.30 | 51.84 |
| 1936 | 25.74 | 49.24 | 28.94 | 76.47 . | 40.65 | 60.83 | 55.48 | 60.25 |
| 1937 | 25.28 | 48.02 | 28.24 | 80.12 | 37.76 | 61.74 | 49.65 | 60.21 |
| 1938 | 26.29 | 43.79 | 28.75 | 74.65 | 36.15 | 54.89 | 54.93 | 54.90 |
| 1929 | 23.13 | 63.37 | 28.94 | 87.50 | 49.70 | 69.50 | 38.07 | 62.30 |
| 1935 | 27.06 | 48.72 | 29.71 | 83.94 | 39.32 . | 58.45 | 34.64 | 54.01 |
| 1936 | 24.58 | 50.41 | 27.89 | 80.77 | 41.89 | 63.56 | 32.33 | 57.84 |
| 1937 | 25.25 | 48.24 | 28.23 | 84.06 | 40.14 | 65.14 | 29.42 | 57.81 |
| 1938 | 25.89 | 48.41 | 28.75 | 80.94 | 37.98 | 58.56 | 30.65 | 51.96 |
| 1939 | 26.25 | 47.55 | 29.12 | 79.69 | 41.75 | 61.85 | 29.22 | 54.26 |
| 1940 | 24.04 | 48.02 | 27.37 | 79.26 | 43.60 | 63.21 | 28.81 | 55.14 |
| 1941 | 22.20 | 52.51 | 26.61 | 76.02 | 41.94 | 61.69 | 27.03 | 52.42 |
| 1942 | 18.95 | 58.47 | 24.36 | 67.63 | 39.76 | 55.99 | 20.94 | 44.69 |
| 1943 | 16.40 | 69.33 | 23.03 | 67.64 | 35.26 | 54.40 | 19.52 | 42.42 |
| 1944 | 15.40 | 66.92 | 21.69 | * | * | 54.92 | 17.52 | 42.09 |
| 1945 | 15.08 | 72.08 | 22.47 | * | * | 54.60 | 18.70 | 42.37 |
| 1946 | 15.63 | 62.13 | 23.30 | 71.31 | 35.18 | 56.15 | 21.70 | 46.00 |
| 1947 | 15.94 | 54.40 | 22.31 | 68.18 | 30.62 | 53.66 | 22.78 | 44.82 |
| 1948 | 16.78 | 61.18 | 23.05 | 72.91 | 29.58 | 55.71 | 25.31 | 46.92 |

Table 124 (cont.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends (4) | Interest (5) | Dividends and Interest (6) | Rent (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | I LOWER 95 Percent |  |  |  |  |  |  |  |
| 1917 | 85.50 | 73.51 | 81.97 | 22.87 | 48.42 | 31.07 | 73.16 | 42.81 |
| 1918 | 87.74 | 59.20 | 82.18 | 31.20 | 39.07 | 34.01 | 73.71 | 45.62 |
| 1919 | 86.20 | 65.22 | 80.81 | 24.60 | 45.81 | 34.06 | 74.74 | 46.13 |
| 1919 | 87.13 | 58.77 | 81.06 | 16.06 | 52.23 | 34.30 | 74.74 | 46.27 |
| 1920 | 87.63 | 56.34 | 82.90 | 17.59 | 57.53 | 37.93 | 74.83 | 47.74 |
| 1921 | 85.55 | 55.16 | 81.54 | 20.63 | 58.07 | 40.97 | 70.05 | 48.60 |
| 1922 | 85.51 | 60.33 | 81.35 | 18.38 | 59.01 | 40.36 | 74.51 | 50.07 |
| 1923 | 88.30 | 58.89 | 83.62 | 24.96 | 58.60 | 41.63 | 72.85 | 50.04 |
| 1924 | 87.36 | 53.38 | 82.06 | 21.25 | 58.90 | 40.29 | 69.86 | 48.47 |
| 1925 | 86.71 | 51.11 | 80.96 | 23.08 | 59.13 | 40.33 | 67.57 | 47.24 |
| 1926 | 87.08 | 53.76 | 81.90 | 16.25 | 56.20 | 34.87 | 66.50 | 42.33 |
| 1927 | 86.14 | 53.27 | 81.30 | 17.57 | 55.21 | 34.88 | 68.66 | 42.43 |
| 1928 | 85.43 | 51.53 | 80.34 | 19.75 | 55.04 | 35.79 | 71.03 | 43.23 |
| 1929 | 85.84 | 52.65 | 81.03 | 24.63 | 56.74 | 38.58 | 68.46 | 44.20 |
| 1930 | 84.94 | 61.70 | 81.86 | 29.67 | 62.20 | 44.31 | 66.07 | 47.66 |
| 1931 | 83.66 | 64.27 | 81.21 | 32.22 | 66.20 | 49.61 | 57.26 | 50.51 |
| 1932 | 82.02 | 70.00 | 80.61 | 33.96 | 69.40 | 55.54 | 60.29 | 55.96 |
| 1933 | 82.33 | 67.82 | 80.34 | 35.96 | 71.64 | 58.49 | 69.55 | 59.78 |
| 1934 | 83.38 | 66.79 | 81.15 | 34.17 | 69.14 | 54.19 | 63.44 | 55.16 |
| 1935 | 83.35 | 65.67 | 80.99 | 40.39 | 68.03 | 54.30 | 66.86 | 55.78 |
| 1936 | 84.42 | 60.92 | 81.24 | 28.71 | 66.79 | 45.33 | 61.15 | 47.09 |
| 1937 | 84.54 | 62.05 | 81.61 | 25.50 | 68.31 | 44.08 | 63.30 | 46.51 |
| 1938 | 83.61 | 65.98 | 81.08 | 31.93 | 69.89 | 51.41 | 58.84 | 52.36 |
| 1929 | 85.51 | 51.34 | 80.58 | 18.65 | . 60.52 | 38.59 | 75.36 | 47.00 |
| 1930 | 84.67 | 57.97 | 81.35 | 23.64 | 62.94 | 42.33 | 73.77 | 48.50 |
| 1931 | 83.88 | 58.24 | 81.10 | 23.56 | 66.86 | 47.23 | 68.44 | 50.65 |
| 1932 | 82.05 | 59.35 | 80.04 | 23.26 | 69.30 | 52.88 | 71.25 | 55.30 |
| 1933 | 82.47 | 58.04 | 79.83 | 24.06 | 72.88 | 57.26 | 73.42 | 59.46 |
| 1934 | 83.47 | 60.67 | 80.83 | 24.10 | 69.98 | 52.25 | 76.39 | 56.20 |
| 1935 | 83.58 | 62.60 | 81.01 | 22.20 | 68.30 | 48.54 | 77.62 | 53.93 |
| 1936 | 85.12 | 59.99 | 81.92 | 24.69 | 65.77 | 42.88 | 77.36 | 49.21 |
| 1937 | 84.56 | 61.88 | 81.62 | 21.84 | 66.31 | 40.99 | 78.25 | 48.64 |
| 1938 | 83.86 | 62.39 | 81.08 | 26.19 | 68.36 | 48.17 | 77.04 | 54.92 |
| 1939 | 84.33 | 61.89 | 81.34 | 27.38 | 66.37 | 45.72 | 77.86 | 53.21 |
| 1940 | 84.76 | 61.11 | 81.50 | 25.74 | 65.93 | 43.83 . | 78.48 | 52.05 |
| 1941 | 86.03 | 55.47 | 81.57 | 29.14 | 63.69 | 43.67 | 79.28 | 53.17 |
| 1942 | 88.30 | 48.62 | 82.91 | 36.07 | 64.33 | 47.87 | 83.03 | 59.22 |
| 1943 | 90.28 | 37.33 | 83.71 | 35.48 | 67.93 | 48.76 | 83.31 | 60.63 |
| 1944 | 91.11 | 39.87 | 84.85 | * | * | 49.03 | 84.99 | 61.37 |
| 1945 | 91.20 | 36.06 | 84.07 | * | * | 49.12 | 84.07 | 61.03 |
| 1946 | 90.60 | 47.44 | 83.48 | 33.68 | 69.67 | 48.78 | 81.88 | 58.53 |
| 1947 | 90.33 | 54.60 | 84.45 | 36.03 | 73.37 | 50.46 | 80.88 | 59.17 |
| 1948 | 90.18 | 48.95 | 84.38 | 31.74 | 74.86 | 48.85 | 78.62 | 57.46 |

For notes see page 667.

Table 124 (cont.)

|  | Employee Compensation <br> (1) | Entrep. Income <br> (2) | Service Incomes <br> (3) | Dividends <br> (4) | Interest (5) | Dividends and Interest (6) | Rent <br> (7) | Property Incomes (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | J Lower 93 Percent |  |  |  |  |  |  |  |
| 1917 | 82.15 | 67.73 | 77.92 | 21.45 | 47.16 | 29.70 | 67.55 | 40.22 |
| 1918 | 84.20 | 54.88 | 78.44 | 29.83 | 33.76 | 31.22 | 69.60 | 42.45 |
| 1919 | 82.89 | 60.88 | 77.24 | 22.62 | 42.17 | 31.34 | 70.68 | 43.04 |
| 1919 | 84.04 | 53.63 | 77.55 | 13.85 | 49.02 | 31.59 | 70.68 | 43.18 |
| 1920 | 84.66 | 51.66 | 79.68 | 15.62 | 54.45 | 35.39 | 71.61 | 45.03 |
| 1921 | 81.72 | 49.02 | 77.40 | 18.04 | 54.44 | 37.82 | 65.81 | 45.18 |
| 1922 | 82.32 | 54.97 | 77.81 | 14.83 | 54.98 | 36.55 | 70.31 | 46.17 |
| 1923 | 85.68 | 50.77 | 80.13 | 22.43 | 54.10 | 38.13 | 67.39 | 45.99 |
| 1924 | 84.66 | 45.08 | 78.48 | 18.76 | 54.02 | 36.59 | 63.38 | 43.96 |
| 1925 | 83.52 | 43.75 | 77.09 | 20.85 | 54.47 | 36.94 | 60.63 | 42.94 |
| 1926 | 83.87 | 47.04 | 78.14 | 14.04 | 51.26 | 31.38 | 59.00 | 37.89 |
| 1927 | 82.85 | 45.34 | 77.33 | 14.41 | 50:20 | 30.88 | 62.46 | 37.92 |
| 1928 | 81.72 | 44.81 | 76.18 | 17.88 | 49.83 | 32.40 | 65.13 | 39.31 |
| 1929 | 82.30 | 46.14 | 77.06 | 22.35 | 51.80 | 35.15 | 61.39 | 40.07 |
| 1930 | 81.21 | 53.59 | 77.54 | 27.17 | 57.70 | 40.91 | 58.86 | 43.68 |
| 1931 | 79.36 | 57.33 | 76.58 | 29.18 | 61.89 | 45.92 | 46.97 | 46.04 |
| 1932 | 77.21 | 64.14 | 75.68 | 31.45 | 65.54 | 52.21 | 50.69 | 52.03 |
| 1933 | 77.79 | 62.75 | 75.73 | 33.41 | 68.33 | 55.46 | 62.24 | 56.24 |
| 1934 | 78.99 | 61.50 | 76.63 | 31.88 | 66.07 | 51.45 | 55.22 | 51.85 |
| 1935 | 78.92 | 60.58 | 76.47 | 38.38 | 65.03 | 51.79 | 59.82 | 52.76 |
| 1936 | 80.27 | 55.93 | 76.96 | 26.33 | 63.62 | 42.61 | 53.95 | 43.85 |
| 1937 | 80.54 | 57.46 | 77.53 | 22.97 | 65.72 | 41.52 | 57.83 | 43.57 |
| 1938 | 79.38 | 61.54 | 76.82 | 28.81 | 67.10 | 48.46 | 52.65 | 48.96 |
| 1929 | 81.89 | 44.64 | 76.51 | 16.19 | 56.01 | 35.15 | 69.83 | 43.08 |
| 1930 | 80.86 | 49.07 | 76.91 | 20.92 | 58.53 | 38.80 | 68.21 | 44.58 |
| 1931 | 79.64 | 50.13 | 76.43 | 20.14 | 62.63 | 43.37 | 60.85 | 46.18 |
| 1932 | 77.26 | 51.42 | 74.97 | 20.35 | 65.43 | 49.35 | 64.29 | 51.31 |
| 1933 | 77.96 | 51.42 | 75.10 | 21.04 | 69.72 | 54.14 | 67.04 | 55.89 |
| 1934 | 79.10 | 54.40 | 76.24 | 21.46 | 67.00 | 49.40 | 71.09 | 52.96 |
| 1935 | 79.21 | 57.06 | 76.50 | 19.58 | 65.32 | 45.71 | 72.87 | 50.77 |
| 1936 | 81.16 | 54.88 | 77.79 | 22.18 | 62.51 | 40.03 | 73.17 | 46.10 |
| 1937 | 80.57 | 57.27 | 77.54 | 19.19 | 63.56 | 38.30 | 75.01 | 45.82 |
| 1938 | 79.70 | 57.49 | 76.82 | 22.81 | 65.43 | 45.02 | 73.58 | 51.70 |
| 1939 | 80.06 | 56.75 | 76.95 | 24.07 | 63.05 | 42.40 | 74.80 | 49.95 |
| 1940 | 81.16 | 57.05 | 77.85 | 23.46 | 62.55 | 41.06 | 75.88 | 49.32 |
| - 1941 | 82.57 | 51.63 | 78.07 | 26.51 | 60.98 | 41.00 | 76.42 | 50.47 |
| 1942 | 85.28 | 45.30 | 79.84 | 34.22 | 62.42 | 46.00 | 81.25 | 57.37 |
| 1943 | 87.52 | 34.10 | 80.87 | 33.89 | 66.43 | 47.20 | 82.08 | 59.19 |
| 1944 | 88.43 | 36.42 | 82.09 | * | * | 47.00 | 83.77 | 59.62 |
| 1945 | 88.62 | 31.77 | 81.27 | * | * | 47.06 | 82.64 | 59.18 |
| 1946 | 88.02 | 42.62 | 80.52 | 31.11 | 67.10 | 46.21 | 80.16 | 56.21 |
| 1947 | 87.74 | 50.04 | 81.51 | 33.82 | 71.35 | 48.33 | 79.00 | 57:11 |
| 1948 | 87.33 | 43.81 | 81.19 | 29.32 | 72.72 | 46.55 | 76.69 | 55.26 |

Table 124 (concl.)

|  | Employee Compensation (1) | Entrep. Income (2) | Service Incomes (3) | Dividends <br> (4) | Interest <br> (5) | Dividends and Interest <br> (6) | Rent (7) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| K Lower 90 Percent |  |  |  |  |  |  |  |  |
| 1917 | 78.22 | 57.68 | 72.21 | 19.39 | 45.56 | 27.80 | 59.77 | 36.71 |
| 1918 | 78.85 | 50.37 | 73.30 | 28.47 | 27.05 | 27.94 | 64.47 | 38.62 |
| 1919 | 76.92 | 58.39 | 72.13 | 21.36 | 37.26 | 28.46 | 66.63 | 39.80 |
| 1919 | 78.48 | 50.68 | 72.50 | 12.46 | 44.69 | 28.71 | 66.63 | 39.95 |
| 1920 | 79.72 | 47.93 | 74.86 | 14.13 | 50.68 | 32.74 | 67.76 | 42.04 |
| 1921 | 75.40 | 44.88 | 71.32 | 16.44 | 50.67 | 35.04 | 61.40 | 41.95 |
| 1922 | 76.98 | 50.51 | 72.56 | 11.86 | 50.60 | 32.82 | 65.44 | 42.09 |
| 1923 | 81.63 | 42.28 | 75.34 | 20.10 | 48.70 | 34.27 | 60.59 | 41.36 |
| 1924 | 80.58 | 36.54 | 73.68 | 16.35 | 48.28 | 32.50 | 55.74 | 38.93 |
| 1925 | 78.68 | 34.44 | 71.52 | 18.05 | 48.56 | 32.65 | 51.98 | 37.56 |
| 1926 | 79.11 | 38.20 | 72.73 | 11.33 | 45.32 | 27.17 | 49.84 | 32.52 |
| 1927 | 77.73 | 36.76 | 71.70 | 11.08 | 43.80 | 26.13 | 53.21 | 32.19 |
| 1928 | 76.64 | 37.03 | 70.70 | 15.62 | 43.59 | 28.33 | 56.90 | 34.38 |
| 1929 | 77.40 | 38.34 . | 71.74 | 18.93 | 45.54 | 30.49 | 51.27 | 34.41 |
| 1935 | 72.56 | 55.27 | 70.25 | 35.68 | 60.35 | 48.09 | 48.70 | 48.16 |
| 1936 | 74.26 | 50.76 | 71.06 | 23.53 | 59.35 | 39.17 | 44.52 | 39.75 |
| 1937 | 74.72 | 51.98 | 71.76 | 19.88 | 62.24 | 38.26 | 50.35 | 39.79 |
| 1938 | 73.71 | 56.21 | 71.25 | 25.35 | 63.85 | 45.11 | 45.07 | 45.10 |
| 1929 | 76.87 | 36.63 | 71.06 | 12.50 | 50.30 | 30.50 | 61.93 | 37.70 |
| 1935 | 72.94 | 51.28 | 70.29 | 16.06 | 60.68 | 41.55 | 65.36 | 45.99 |
| 1936 | 75.42 | 49.59 | 72.11 | 19.23 | 58.11 | 36.44 | 67.67 | 42.16 |
| 1937 | 74.75 | 51.76 | 71.77 | 15.94 | 59.86 | 34.86 | 70.58 | 42.19 |
| 1938 | 74.11 | 51.59 | 71.25 | 19.06 | 62.02 | 41.44 | 69.35 | 48.04 |
| 1939 | 73.75 | 52.45 | 70.88 | 20.31 | 58.25 | 38.15 | 70.78 | 45.74 |
| 1940 | 75.96 | 51.98 | 72.63 | 20.74 | 56.40 | 36.79 | 71.19 | 44.86 |
| 1941 | 77.80 | 47.49 | 73.39 | 23.98 | 58.06 | 38.31 | 72.97 | 47.58 |
| 1942 | 81.05 | 41.53 | 75.64 | 32.38 | 60.24 | 44.01 | 79.06 | 55.31 |
| 1943 | 83.60 | 30.68 | 76.97 | 32.36 | 64.74 | 45.60 | 80.48 | 57.58 |
| 1944 | 84.60 | 33.08 | 78.31 | * | * | 45.08 | 82.48 | 57.91 |
| 1945 | 84.92 | 27.92 | 77.53 | * | * | 45.40 | 81.30 | 57.63 |
| 1946 | 84.38 | 37.87 | 76.70 | 28.68 | 64.82 | 43.85 | 78.30 | 54.00 |
| 1947 | 84.06 | 45.60 | 77.69 | 31.82 | 69.38 | 46.34 | 77.22 | 55.18 |
| 1948 | 83.22 | 38.82 | 76.95 | 27.09 | 70.42 | 44.29 | $74.69{ }^{\circ}$ | 53.08 |

## Notes to Table 124

Because of rounding, details may not add to total.

* Basic data are not available for separate estimates of dividends and interest in this year.

The procedure by which the shares of a given upper percentage band in the several types of income are calculated parallels that for its share in total income of the nonfarm population, outlined in Appendix 3, Section C. The shares of lower income groups are estimated by subtraction. Our classification of the various sources of income reported in Statistics of Income is shown in Appendix 2. The countrywide aggregates to which the Statistics of Income data are related are given in Table 114. For the procedure by which the 1938 entries in Sections C-G are estimated, see Chapter 8, note 8.





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Table 125 (cont.)

|  |  | Employee Comp. <br> (1) | Entrep. Income (2) | Service Incomes (col. $1+$ col. 2) <br> (3) | Dividends <br> (4) | Interest <br> (5) | Dividends. and Interest (col. $4+$ col. 5) <br> (6) | Rent <br> (7) | Property Incomes (col. $6+$ col. 7) <br> (8) | Total Income (col. $3+$ col. 8) <br> (9) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | J | Lower | Perc | NT |  |  |  |
| 1917 |  | 56.80 | 35.32 | 92.13 | 2.03 | 2.26 | 4.29 | 3.58 | 7.87 | 100.00 |
| 1918 |  | 62.41 | 30.22 | 92.63 | 2.46 | 1.30 | 3.77 | 3.60 | 7.37 | 100.00 |
| 1919 |  | 58.97 | 33.91 | 92.88 | 1.49 | 2.09 | 3.58 | 3.54 | 7.12 | 100.00 |
| 1919 |  | 63.62 | 29.31 | 92.93 | 0.77 | 2.81 | 3.58 | 3.50 | 7.07 | 100.00 |
| 1920 |  | 71.70 | 20.75 | 92.45 | 0.91 | 3.40 | 4.31 | 3.24 | 7.55 | 100.00 |
| 1921 |  | 73.56 | 16.51 | 90.07 | 1.31 | 4.80 | 6.11 | 3.82 | 9.93 | 100.00 |
| 1922 |  | 71.54 | 18.84 | 90.38 | 0.89 | 4.47 | 5.36 | 4.26 | 9.62 | 100.00 |
| 1923 |  | 74.02 | 17.02 | 91.04 | 1.60 | 3.81 | 5.41 | 3.56 | 8.96 | 100.00 |
| 1924 |  | 74.15 | 17.06 | 91.21 | 1.31 | 3.97 | 5.29 | 3.50 | 8.79 | 100.00 |
| 1925 |  | 72.99 | 18.29 | 91.28 | 1.63 | 4.02 | 5.64 | 3.08 | 8.72 | 100.00 |
| 1926 |  | 75.20 | 17.37 | 92.56 | 1.06 | 3.67 | 4.73 | 2.70 | 7.44 | 100.00 |
| 1927 |  | 75.28 | 16.91 | 92.19 | 1.15 | 3.77 | 4.92 | 2.89 | 7.81 | 100.00 |
| 1928 |  | 74.55 | 16.75 | 91.30 | 1.70 | 3.94 | 5.64 | 3.06 | 8.70 | 100.00 |
| 1929 |  | 74.50 | 16.67 | 91.17 | 2.25 | 4.08 | 6.33 | 2.50 | 8.83 | 100.00 |
| 1932 |  | 74.48 | 13.02 | 87.50 | 2.69 | 8.90 | 11.59 | 0.91 | 12.50 | 100.00 |
| 1934 |  | 71.52 | 18.31 | 89.83 | 2.38 | 6.76 | 9.14 | 1.03 | 10.17 | 100.00 |
| 1935 |  | 70.88 | 18.63 | 89.51 | 3.38 | 5.79 | 9.16 | 1.33 | 10.49 | 100.00 |
| 1936 |  | 72.87 | 18.48 | 91.34 | 2.57 | 4.98 | 7.55 | 1.11 | 8.66 | 100.00 |
| 1937 |  | 74.27 | 17.55 | 91.82 | 2.05 | 4.80 | 6.85 | 1.33 | 8.18 | 100.00 |
| 1938 | , | 73.72 | 17.94 | 91.67 | 2.00 | 5.14 | 7.14 | 1.19 | 8.33 | 100.00 |

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For notes see page 683.



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16th－20th
Top 20
Lower 80

11th－15th
Top 15
16th－20th
Top 20
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## Table 125 （concl．）

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Top 20
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## Notes to Table 125

Because of rounding, details may not add to total.

* Basic data are not available for separate estimates of dividends and interest in this year.
The percentage share of the given income group in each type of income (Table 123) is multiplied by the percentage the respective income type constitutes of total income receipts (Table 114, Part B). The products for the various types are added and the total distributed percentagewise.




| Dividends | Interest |  |
| :---: | :---: | :---: |
| (4) | (5) |  |
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 әл！ income type constitutes of income of nonfarm population（Table and the total distributed percentagewise．



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Notes to Table 126
Notes to Tause of rounding， ＊Basic data are not available for separate estimates of dividends and interest in this year．

## Addendum: Corrections and Revisions

In a protracted statistical study of the type reported here, the completion of analysis is almost inevitably followed by the unearthing of slips that occurred in making the computations and by revisions in the source material. When such errors and revisions are major, either in magnitude or in their effect on the analysis, there is no recourse except to recalculate and revise. Fortunately, some errors are so minor that laborious recalculation is unwarranted; and some current revisions of recent data may affect only so short an interval or so small a component that it is permissible not to incorporate them into the analysis. We can then merely indicate the errors and revisions in an addendum, tacked on like the present one to the body of the report, for technically minded readers who might wish to use them in any recalculations of their own.

Addendum Table 1
Correction of Nonfarm Population and of Percentage Shares of Upper Income Groups in Income of Nonfarm Population
Basic Variant, Nonfarm Population, 1913-1947*
NONFARM POPULATION,

| MIDYEAR | SHARES Of |  | GIVEN | PERCENTAGE BAND |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| estimate | Top | 2nd \& | 4th \& | Top | 6th \& | Top |
| (000) | 1 | 3rd | 5th | 5 | 7th | 7 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

1913
1914
1915
1916
1917
1918
1919

| 1919 | 73,887 | 13.85 | 6.42 | 4.17 | 24.44 | 3.43 | 27.86 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- |
| 1920 | 74,953 | 12.87 | 5.92 | 3.84 | 22.62 | 3.14 | 25.76 |
| 1921 | 76,960 | 13.49 | 6.68 | 4.46 | 24.63 | 3.98 | 28.61 |
| 1922 | 78,789 | 13.43 | 6.53 | 4.49 | 24.45 | 3.58 | 28.02 |
| 1923 | 81,135 | 12.37 | 5.90 | 4.09 | 22.37 | 3.60 | 25.97 |
| 1924 | 83,426 | 13.04 | 6.55 | 4.44 | 24.03 | 3.76 | 27.79 |
| 1925 | 85,229 | 14.00 | 6.82 | 4.44 | 25.25 | 3.95 | 29.20 |
| 1926 | 87,113 | 14.08 | 6.94 | 4.15 | 25.17 | 3.89 | 29.06 |
| 1927 | 88,946 | 14.66 | 6.90 | 4.28 | 25.84 | 4.07 | 29.91 |
| 1928 | 90,353 | 15.19 | 7.06 | 4.42 | 26.68 | 4.12 | 30.80 |
| 1929 | 91,638 | 14.76 | 6.94 | 4.36 | 26.05 | 4.00 | 30.05 |
| 1930 | 92,750 | 13.82 | 6.65 | 4.44 | 24.91 | 4.24 | 29.15 |
| 1931 | 93,283 | 13.05 | 6.67 | 5.12 | 24.84 | 4.58 | 29.42 |
| 1932 | 93,310 | 12.60 | 6.49 | 5.22 | 24.30 | 4.67 | 28.98 |
| 1933 | 93,589 | 12.01 | 6.32 | 5.20 | 23.54 | 4.40 | 27.94 |
| 1934 | 94,500 | 12.07 | 6.48 | 4.78 | 23.34 | 4.29 | 27.63 |
| 1935 | 95,660 | 12.27 | 6.51 | 4.63 | 23.41 | 4.23 | 27.65 |
| 1936 | 96,910 | 13.66 | 6.70 | 4.24 | 24.61 | 4.14 | 28.74 |
| 1937 | 98,060 | 13.28 | 6.63 | 4.22 | 24.12 | 3.92 | 28.04 |
| 1938 | 99,273 | 11.64 | 6.53 | 5.11 | 23.27 | 4.13 | 27.40 |
| 1929 | 91,638 | 14.89 | 7.00 | 4.39 | 26.28 | 4.04 | 30.32 |
| 1930 | 92,750 | 14.09 | 6.77 | 4.52 | 25.39 | 4.32 | 29.71 |
| 1931 | 93,283 | 13.10 | 6.70 | 5.14 | 24.95 | 4.61 | 29.55 |
| 1932 | 93,310 | 12.93 | 6.66 | 5.36 | 24.95 | 4.80 | 29.74 |
| 1933 | 93,589 | 12.28 | 6.47 | 5.31 | 24.07 | 4.50 | 28.57 |
| 1934 | 94,500 | 12.19 | 6.55 | 4.82 | 23.56 | 4.33 | 27.89 |
| 1935 | 95,660 | 12.35 | 6.55 | 4.66 | 23.55 | 4.26 | 27.81 |
| 1936 | 96,910 | 13.16 | 6.46 | 4.09 | 23.70 | 3.98 | 27.68 |
| 1937 | 98,060 | 13.19 | 6.58 | 4.19 | 23.95 | 3.89 | 27.84 |
| 1938 | 99,273 | 11.54 | 6.47 | 5.07 | 23.08 | 4.10 | 27.18 |
| 1939 | 100,506 | 11.89 | 6.74 | 4.33 | 22.95 | 4.23 | 27.18 |
| 1940 | 101,842 | 12.01 | 6.53 | 4.30 | 22.84 | 3.48 | 26.32 |
| 1941 | 103,685 | 11.60 | 6.36 | 4.23 | 22.19 | 3.39 | 25.58 |
| 1942 | 106,811 | 10.49 | 5.63 | 3.58 | 19.70 | 2.96 | 22.65 |
| 1943 | 110,407 | 9.73 | 5.41 | 3.30 | 18.44 | 2.72 | 21.15 |
| 1944 | 112,727 | 8.84 | 5.16 | 3.22 | 17.23 | 2.68 | 19.91 |
| 1945 | 113,601 | 9.00 | 5.56 | 3.38 | 17.94 | 2.70 | 20.64 |
| 1946 | 114,035 | 9.19 | 5.98 | 3.66 | 18.83 | 2.90 | 21.73 |
| 1947 | 116,529 | 8.70 | 5.70 | 3.60 | 17.99 | 2.86 | 20.86 |

## Addendum Table 1: Correction of Nonfarm Population, 1913-1947

Because of inadequate labeling in the original source, the figures for farm population used in our basic calculations and interpreted as applying to the middle of the calendar year were in fact for the beginning. Our calculations for 1913-47 are, therefore, in error in that we derived nonfarm population for each year by subtracting from midyear figures for total population beginning-of-year figures for farm population.

Column 1 of Addendum Table 1 presents the correct figures, which can be compared with the series used in our calculations and given in column 1 of Table 115. The differences are naturally minor. But the question of most importance to us is not the error in the population figures but in the income shares of the upper percentage bands of the nonfarm population. We therefore recalculated the shares, using the corrected nonfarm population figures (col. 2-7); these can be compared with those for 1913-47 used throughout the analysis (Table 116, col. 4 and 5, successive sections; also Tables 119 and 121).

The difference between the corrected and the originally calculated shares is so minor as to be of little analytical significance. For example, in comparing the two series on the share of the top 1 percent, we find (using the series based on National Bureau of Economic Research income totals through 1938, and that based on Department of Commerce income totals beginning with 1939) that in fifteen years the entries are identical through the second decimal place, and that in almost all the remaining twenty years, the difference is either 0.01 or 0.02 percentage points. In only two years, 1942 and 1945 , is it larger -0.05 and 0.03 percentage points respectively. Obviously, substitution of the corrected series would have made no difference in our conclusions, and the laborious recomputations would have been useless.

## Notes to Addendum Table 1

* The estimates for 1948 are not subject to this correction.

Column
1 Correction of column 1 of Table 115 through 1947: total population, Table 69 , column 5 , minus midyear estimates of the farm population calculated by averaging pairs of January 1 figures shown in the Farm Income Situation, August 1950, Table 3, p. 26.
2-7 Shares in the basic variant in Tables 116, 119, and 121 recomputed to take account of the corrected population series in column 1.

## Addendum Tables 2 and 3: Revision of Population and Income Series, 1940-1947

After the basic calculations for the report had been completed, minor revisions of the total population series for the years beginning with 1940, and somewhat larger revisions of the Department of Commerce income estimates for the years beginning with 1942, were published. (A revision of the Department of Commerce income estimates for 1948 was disregarded as too slight to warrant the necessary recomputations.) These new series are presented in Addendum Table 2, and the notes to it provide references to the tables in the report that contain the corresponding old series.

Here again our interest is exclusively in the effect of the revisions on the estimates of income shares of upper percentage bands and we therefore recalculated them. The results are given in Addendum Table 3, together with the shares computed from the unrevised series and used throughout the analysis.

A glance at the entries for 1940 and 1941 in Part A shows that the effects of the revision of population alone are quite minor. The revised shares differ from the unrevised by just a few points in the second decimal place; and the differences are, to all intents and purposes, so small that they can be safely disregarded.

The revisions of the income series beginning in 1942 have a more perceptible effect. But even these are negligible for the shares in total income (Part A). The only change worth noting is in 1947: the revision increases slightly the shares of upper income groups - from 8.49 percent to 8.63 for the top 1 percent of total population, and from 17.41 to 17.70 for its top 5 percent. In comparison with the major decline in the shares from 1940 to 1947, these changes are so small that they can hardly affect any of our conclusions.

This is true also of the effects of revisions by income type even though the changes in the shares in some types are more marked (Part B). The largest changes are in the shares in entrepreneurial income and in rent. For most years beginning with 1942 the revision raised the level of entrepreneurial income, and hence lowered the shares received by upper income groups. For most years the revision of the level of rent was downward, which increased the upper group shares in it. But even for these two income types, the revisions are not so large that either the level of the upper group shares or their movement over time is significantly affected. And this is all the more true of the revisions of the shares in the other income types (employee compensation, dividends, and interest) which are quite insignificant.
Addendum Table 2
Population and Income Aggregates Revised to Take Account of Latest Published Estimates, 1940-1947*

| Total Income |  |
| :---: | :---: |
|  | Of |
|  | Non- |
| Total | farm |
| $\text { (col. } 7+$ | Popu- |
|  | lation |
| (14) | (15) |
| $\dagger$ | 66,531 |
|  |  |
| 118,035 | 103,240 |
| 144,078 | 127,244 |
| 157,485 | 140,290 |
| 162,983 | 145,024 |
| 172,472 | 151,681 |
| 185,570 | 163,163 |

- 




Service Incomes
Onfarm
Nonulion
(col. 15-
$i o n ~ s$
(8)

*The series for 1948 in the body of the report are comparable with
those for preceding years in this table. The revision of the under
the Survey of Current Business, 1951 National Income Supplement, was disregarded as too slight to warrant the necessary recomputaSame as unrevised series.




$$
\begin{gathered}
\text { Column } \\
\\
\\
4 \\
7,8,11,1 \\
14 \\
15
\end{gathered}
$$

37, and 39, pp. 9-27, and an unpublished estimate of net rent on owner-occupied farm dwellings supplied by the Department of cated in the notes to the unrevised series.
Revision of column 2 of Table 114: column 8 minus column 6.
Revision of columns 5, 6, 9, and 11 of Table 114. Revision of column 12 of Table 114 and column 2 of Table 72.
Revision of column 13 of Table 114 and column 2 of Table 115: Revision of column 13 of Table 114 and column 2 of Table 115 by
column 14 minus the income of the farm population calculated by the procedure indicated in the notes to Appendix 3, Section 3, column 8, from the series in the Farm Income Situation, August 1950, farm population supplied by the Department of Commerce, National Income Division.
Addendum Table 3
Percentage Shares of Upper Income Groups Revised to Take Account of Latest Published Estimates of Population and Income

|  |  |  | Share | F Grv | Percenta |  | TA | COME, |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | p 1 |  |  |  |  |  |  |  | \& 7th |  |  |
|  | Revised <br> (1) | Unrevised <br> (2) | Revised <br> (3) | Unrevised <br> (4) | Revised <br> (5) | Unrevised <br> (6) | Revised <br> (7) | Unrevised <br> (8) | Revised (9) | Un- revised (10) | Revised <br> (11) | Unrevised <br> (12) |
|  |  |  |  |  | T A L | P O P | L A T I | N | . |  |  |  |
| 1940 | 11.89 | 11.89 | 6.55 | 6.54 | 4.28 | 4.28 | 22.72 | 22.71 |  |  |  |  |
| 1941 | 11.39 | 11.39 | 6.26 | 6.25 | 4.25 | 4.24 | 21.90 | 21.89 |  |  |  |  |
| 1942 | 10.03 | 10.06 | 5.31 | 5.33 | 3.54 | 3.55 | 18.87 | 18.94 |  |  |  |  |
| 1943 | 9.34 | 9.38 | 5.09 | 5.12 | 3.23 | 3.25 | 17.66 | 17.75 |  |  |  |  |
| 1944 | 8.53 | 8.58 | 4.87 | 4.89 | 3.14 | 3.16 | 16.54 | 16.62 |  |  |  |  |
| 1945 | 8.72 | 8.81 | 5.24 | 5.30 | 3.24 | 3.28 | 17.20 | 17.39 |  |  |  |  |
| 1946 | 8.96 | 8.98 | 5.67 | 5.69 | 3.52 | 3.53 | 18.16 | 18.20 |  |  |  |  |
| 1947 | 8.63 | 8.49 | 5.54 | 5.45 | 3.54 | 3.48 | 17.70 | 17.41 |  |  |  |  |
|  |  |  |  | N | N F A R | M P O | U L A T | 10 N |  |  |  |  |
| 1940 | 12.02 | 12.01 | 6.54 | 6.53 | 4.30 | 4.29 | 22.85 | 22.83 | 3.49 | 3.48 | 26.34 | 26.30 |
| 1941 | 11.61 | 11.58 | 6.37 | 6.35 | 4.24 | 4.22 | 22.21 | 22.15 | 3.39 | 3.38 | 25.60 | 25.53 |
| 1942 | 10.44 | 10.44 | 5.60 | 5.61 | 3.56 | 3.56 | 19.60 | 19.60 | 2.94 | 2.94 | 22.54 | 22.55 |
| 1943 | 9.68 | 9.71 | 5.38 | 5.40 | 3.28 | 3.29 | 18.34 | 18.40 | 2.70 | 2.71 | 21.04 | 21.11 |
| 1944 | 8.76 | 8.84 | 5.11 | 5.16 | 3.20 | 3.22 | 17.07 | 17.22 | 2.65 | 2.67 | 19.72 | 19.89 |
| 1945 | 8.91 | 9.03 | 5.51 | 5.58 | 3.35 | 3.39 | 17.77 | 17.99 | 2.67 | 2.71 | 20.44 | 20.70 |
| 1946 | 9.20 | 9.20 | 5.98 | 5.98 | 3.67 | 3.67 | 18.85 | 18.85 | 2.91 | 2.91 | 21.76 | 21.76 |
| 1947 | 8.88 | 8.70 | 5.81 | 5.69 | 3.67 | 3.60 | 18.36 | 17.99 | 2.92 | 2.86 | 21.28 | 20.85 |

Addendum Table 3 (cont.)
B Shares of Given Percentage Band of Total Population in Various Types of Income

| Top 1 |  | 2nd \& 3rd |  | 4th \& 5th |  | Top 5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Re- | Unre- | Re- | Unre- | Re- | Unre- | Re- |  |
| vised | vised | vised | vised | vised | vised | vised |  |
| (1) | $(2)$ | $(3)$ | $(4)$ | $(5)$ | vised |  |  |
|  |  | $(6)$ | (7) | (8) |  |  |  |


| Ployee compensati |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1942 | 4.89 | 4.89 | 4.37 | 4.37 | 3.80 | 3.81 | 13.06 | 13.07 |
| 1943 | 3.75 | 3.75 | 3.70 | 3.70 | 3.42 | 3.42 | 10.87 | 10.86 |
| 1944 | 3.33 | 3.33 | 3.38 | 3.37 | 3.23 | 3.22 | 9.94 | 9.92 |
| 1945 | 3.33 | 3.33 | 3.33 | 3.32 | 3.08 | 3.08 | 9.74 | 9.73 |
| 1946 | 3.76 | 3.76 | 3.54 | 3.54 | 3.07 | 3.07 | 10.37 | 10.37 |
| 1947 | 3.89 | 3.90 | 3.59 | 3.60 | 3.10 | 3.11 | 10.58 | 10.61 |


|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1942 | 18.57 | 18.84 | 7.49 | 7.61 | 2.78 | 2.83 | 28.84 | 29.27 |
| 1943 | 22.65 | 23.35 | 9.20 | 9.50 | 2.74 | 2.83 | 34.60 | 35.68 |
| 1944 | 20.99 | 22.00 | 9.32 | 9.78 | 2.91 | 3.06 | 33.22 | 34.83 |
| 1945 | 21.34 | 23.00 | 10.92 | 11.78 | 3.86 | 4.16 | 36.12 | 38.94 |
| 1946 | 18.16 | 18.28 | 11.17 | 11.26 | 4.82 | 4.86 | 34.15 | 34.39 |
| 1947 | 16.51 | 15.16 | 11.12 | 10.22 | 5.07 | 4.66 | 32.71 | 30.04 |


|  | SERVICE INCOMES |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: |
|  | 7.852 | 7.88 | 5.05 | 5.07 | 3.60 | 3.61 | 16.50 | 16.57 |  |
| 1943 | 7.56 | 7.60 | 4.81 | 4.84 | 3.30 | 3.32 | 15.67 | 15.76 |  |
| 1944 | . 6.83 | 6.89 | 4.56 | 4.60 | 3.16 | 3.19 | 14.56 | 14.67 |  |
| 1945 | 7.05 | 7.16 | 4.90 | 4.98 | 3.24 | 3.29 | 15.19 | 15.42 |  |
| 1946 | 7.12 | 7.13 | 5.32 | 5.33 | 3.50 | 3.50 | 15.94 | 15.97 |  |
| 1947 | 6.62 | 6.50 | 5.22 | 5.13 | 3.53 | 3.47 | 15.37 | 15.11 |  |


|  | DIVIDEND |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1942 | 52.74 | 52.72 | 9.54 | 9.56 | 2.98 | 2.98 | 65.27 | 65.26 |
| 1943 | 52.13 | 52.30 | 10.59 | 10.64 | 2.59 | 2.60 | 65.31 | 65.54 |
| 1944 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 1945 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 1946 | 50.91 | 50.90 | 12.81 | 12.81 | 4.22 | 4.23 | 67.95 | 67.94 |
| 1947 | 53.74 | 50.23 | 12.14 | 11.35 | 4.2 | 3.86 | 69.99 | 65.43 |


|  | interest |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1942 | 25.86 | 25.98 | 8.06 | 8.11 | 2.94 | 2.95 | 36.85 | 37.04 |
| 1943 | 22.80 | 22.70 | 7.90 | 7.87 | 2.47 | 2.46 | 33.17 | 33.03 |
| 1944 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ |
| 1945 | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | $\dagger$ | + | $\dagger$ |
| 1946 | 19.39 | 19.17 | 8.78 | 8.68 | 4.13 | 4.08 | 32.30 | 31.94 |
| 1947 | 16.60 | 17.20 | 7.22 | 7.48 | 3.16 | 3.27 | 26.97 | 27.95 |
|  | DIVIDENDS AND interest |  |  |  |  |  |  |  |
| 1942 | 41.48 | 41.55 | 8.92 | 8.95 | 2.96 | 2.97 | 53.36 | 53.47 |
| 1943 | 40.19 | 40.19 | 9.49 | 9.51 | 2.54 | 2.54 | 52.22 | 52.24 |
| 1944 | 39.27 | 38.88 | 10.22 | 10.13 | 3.31 | 3.28 | 52.81 | 52.30 |
| 1945 | 37.90 | 37.80 | 10.90 | 10.87 | 3.58 | 3.57 | 52.37 | 52.24 |
| 1946 | 37.77 | 37.59 | 11.13 | 11.08 | 4.19 | 4.17 | 53.09 | 52.83 |
| 1947 | 38.46 | 37.46 | 10.11 | 9.85 | 3.72 | 3.63 | 52.30 | 50.94 |

For notes see page 706.

Addendum Table 3 (concl.)
B Shares of Given Percentage Band of Total Population in Various Types of Income (concl.)

| Top 1 |  |  | 2nd \& 3rd |  | 4th \& 5th |  | Top 5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Re- | Unre- | Re- | Unre- | Re- | Unre- | Re-- | Unre- |  |
| vised | vised | vised | vised | vised | vised | vised | vised |  |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ | (7) | (8) |  |


| 1942 | 10.11 | 9.96 | 5.68 | 5.61 | 2.71 | 2.67 | 18.50 | 18.24 |
| ---: | ---: | ---: | ---: | :--- | :--- | :--- | :--- | :--- |
| 1943 | 10.00 | 9.76 | 5.94 | 5.81 | 1.94 | 1.90 | 17.88 | 17.47 |
| 1944 | 9.41 | 8.94 | 5.21 | 4.96 | 1.99 | 1.90 | 16.61 | 15.79 |
| 1945 | 10.29 | 9.11 | 6.12 | 5.43 | 2.57 | 2.28 | 18.98 | 16.82 |
| 1946 | 9.84 | 10.15 | 6.04 | 6.23 | 2.72 | 2.81 | 18.60 | 19.20 |
| 1947 | 10.71 | 10.98 | 6.17 | 6.32 | 3.01 | 3.09 | 19.88 | 20.39 |


| 1942 | 31.47 | 31.36 | 7.89 | 7.87 | 2.88 | 2.88 | 42.24 | 42.11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1943 | 29.97 | 29.73 | 8.29 | 8.24 | 2.34 | 2.32 | 40.60 | 40.29 |
| 1944 | 29.30 | 28.60 | 8.55 | 8.36 | 2.87 | 2.81 | 40.72 | 39.77 |
| 1945 | 29.21 | 28.02 | 9.39 | 9.02 | 3.26 | 3.13 | 41.87 | 40.17 |
| 1946 | 29.32 | 29.50 | 9.59 | 9.65 | 3.75 | 3.77 | 42.66 | 42.93 |
| 1947 | 30.22 | 29.87 | 8.94 | 8.84 | 3.51 | 3.48 | 42.67 | 42.19 |

Notes to Addendum Table 3

* See Addendum Table 2, asterisk note, regarding series for 1948.
$\dagger$ Basic data are not available for separate estimates of dividends and interest.
Column


## Part A

$1,3,5$, Shares in columns $2,4,6,8,10$, and 12 recomputed to take account of 7, 9, 11 revised countrywide series in Addendum Table 2, columns 1, 2, 14, and 15.
$2,4,6$, Total population: column 1 of Tables $106,107,108,116,118$, and 120.
8, 10, 12 Nonfarm population: Table 116, columns 4 and 5; Table 119, column 1;
Table 121, column 1.

## Part B

$1,3,5,7$ Shares in columns $2,4,6$, and 8 recomputed to take account of revised countrywide series in Addendum Table 2, columns 1, 3, 5, 7, and 9-14. Since the revised shares for 1940 and 1941 differ only slightly from the unrevised they are not repeated here. We have not recomputed the shares of the upper income groups of nonfarm population in Table 124.
2, 4, 6, 8 Tables 109 and 123.


[^0]:    ${ }^{8}$ This difficulty has led to some curious definitions of total income recipients. In the first National Bureau study (Income in the United States, Its Amount and Distribution, 1909-1919) and in A. J. Goldenthal's study (cited in note 1 and discussed briefly in Chapter 11), the total number of recipients was identified with the labor force or gainfully occupied population - which presumably includes some zero income recipients (unemployed) and some negative income recipients, and excludes persons who receive property incomes alone. In recent Census sample studies (discussed in Chapters 4, 5, and 11), income recipients are limited to persons 14 years of age and over, thus excluding youngsters who receive some income. In 1949 the Census Bureau estimated the number of income recipients to be 71.8 million (Current Population Reports, Series P-60, No. 7, Table 15, p. 29), whereas the maximum number in the labor force in any single month was 65.3 million and the maximum number employed, 59.9 million (Economic Report of the President, January 1951, p. 181).
    ${ }^{9}$ This decision naturally yields upper group shares somewhat different from those that would be obtained from a distribution among income recipients. However, the

[^1]:    differences are, on the whole, minor. This point is discussed in Chapter 4 (see also comparisons in Ch. 11).

[^2]:    ${ }^{4}$ One may ask whether it is legitimate to add all the adjustments, rather than try to calculate their combined effect in a single operation. Unfortunately, the latter is impossible, and we have to add; which implies that the adjustments are not intercorrelated.

[^3]:    ${ }^{6}$ This was done in W. I. King's National Income and Its Purchasing Power. For a recent discussion of the theoretical bases for treatment, as well as for a wealth of information on the tax and statistical aspects of capital gains, see Lawrence $H$. Seltzer, The Nature and Tax Treatment of Capital Gains and Losses (NBER, 1951).

[^4]:    ${ }^{0}$ A Lorenz curve is a graphic device in which the cumulative proportions of a given population, ranked by increasing size of a given characteristic (in this case, income receipts per capita), are plotted on the $X$ axis; and the proportions of the total magnitude of that characteristic or some other characteristic (in this case, countrywide dividends) assignable to the proportional groups of total population are plotted on the $Y$ axis. If perfect equality exists, the Lorenz curve coincides with the diagonal line that connects the $0-0$ point with the $100-100$ point (if the proportions are in percentages and if there are no negative items). Inequality is measured by the area between the actual Lorenz curve for a given distribution and the diagonal line of perfect equality.

[^5]:    ${ }^{11}$ The assumption is extreme in two respects. First, it means that between one-third and four-tenths -10.0 out of 26.9 percent (see Table 3, lines 2 and 3 ) - of the entrepreneurial income received by the top 5 percent group is assigned to property income, surely an excessive proportion. Second, the application of the assumption for each percentage band involves an extreme implication - that of this 10 percent, 7.2 is received by the top 1 percent, 2.5 by the 2nd and 3rd percentage band, 0.4 by the 4 th and 5 th percentage band, and none by the groups below the top 5 percent.

[^6]:    ${ }^{1}$ The series on shares underlying the calculations in this chapter and in Chapter 1 are those that use as denominator (after minor adjustments) the countrywide income totals for 1919-38 in National Income and Its Composition, 1919-38 (NBER, 1941). In the detailed calculations we used also as denominators (after certain adjustments) the Department of Commerce countrywide income totals from 1929 onward, and W. I. King's series from 1913 through 1919. For the analysis here it did not seem worth while to present the overlap. We therefore extrapolated the 1919-38 series backward and forward, using 1919 as the splicing base with King's series and the average for 1936-38 as the splicing base with the Department of Commerce series. The splicing was applied directly to the shares; and it is the resulting continuous series for 1913 to 1946 (or to 1948) that are analyzed in this chapter and appear in Charts 2 and 3.

[^7]:    ${ }^{2}$ A 100 percent decline in the shares is impossible: the share of the top 1 percent can go down only to 1 percent, the share of the 2 nd and 3 rd percentage band only to 2 percent; and so on. For this reason there may be some merit in using the difference between the actual and the equality share as a base. (I am indebted to Geoffrey H. Moore for calling my attention to this point.) I was reluctant to do so, however, because of the strong suggestion thus conveyed that arithmetical income equality is a goal, either desirable or actual, by which we should measure any observed changes. Also, the difference so derived would show a much wider range than the upper group shares themselves show; and for a lower percentage band, such as the 6th and 7 th, the difference between the actual and the equality share is so small, absolutely, that percentages based on it are erratic.

[^8]:    ${ }^{3}$ Federal Reserve Bulletin, August 1951, Table 9, p. 929. However, the Survey estimates are not fully consistent with ours. Like ours, they show a rise in the share of the upper tenth from 1945 to 1946 and a decline from 1947 to 1948; but unlike ours, they show a rise from 1946 to 1947.

[^9]:    ${ }^{4}$ The combined evidence of several field surveys on income distribution not yet cited (the Consumer Purchases Study for 1935-36; the survey for 1941 made jointly by the Bureaus of Labor Statistics and of Human Nutrition and Home Economics; and the surveys for 1944-48 conducted by the Census Bureau) further corroborate the marked decline in the shares of upper income groups since the end of the 1930's and its persistence to recent years. Taking advantage of the recent evaluation of these data by Selma F. Goldsmith (Statistical Information on the Distribution of Income by Size in the United States, Papers and Proceedings of the American Economic Association, May 1950, pp. 320-41), and limiting our comparison to the upper 20 percent of family units in a distribution of family money income by size, we find its share (as a percentage of money income) to be: 1935-36, $53.0 ; 1941$, 48.8; 1944, 45.4; 1945, 43.4; 1946, 45.3; 1947, 44.3; 1948, 43.8 .(based on Tables 2 and 3 of Mrs. Goldsmith's article, the figures in Table 2 being extrapolated by those in Table 3, pp. 332-4). The decline in this share from 1935-36 to 1948 was over a sixth. The decline from 1941 to 1948 was only about a tenth of the share in the earlier year. The extension of the upper group to cover 20 percent instead of 5 or 7 percent of total population, and the use of a distribution by family units have probably reduced the decline in comparison with that characterizing our narrowly selective top groups in a distribution by economic income per capita. Also, Mrs. Goldsmith's estimates are for a distribution of money income whereas ours are for total income including income in kind. But the figures cited clearly support the broad conclusions discussed in the text.

[^10]:    ${ }^{5}$ Midyear Economic Report of the President, July 1951, Table B-11, p. 235.
    ${ }^{6}$ This simple calculation can be set forth as follows. In 1939, of the 55.6 million labor force, 9.5 million were unemployed. Since the lower 95 percent of population in that year received 71.9 percent of total income receipts (economic income variant), income per million employed of the lower 95 percent of the working force [their total being 43.3 million, i.e., $(55.6 \times 0.95)-9.5$ ] was 1.66 percent of total income receipts. In 1944, only 1 percent of the labor force was unemployed. Assuming the same labor force as in 1939, this means an addition of 8.94 million to the employed (i.e., $9.5-0.56$ ), and additional income, to the base of 1939 , of 14.8 percentage points (i.e., $8.94 \times 1.66$ ). Hence total income in 1944, to the base of 1939, on the basis of the factors accounted for in the calculation above, is 114.8 percent, of which the lower 95 percent of the population receives 86.7 (i.e., $71.9+$ 14.8), and the top 5 percent, 28.1, the same as in 1939. The share of the latter in this total thus becomes 24.5 percent.

[^11]:    ${ }^{9}$ This surmise is strengthened by the fact that the inverted pattern is more prominent in the share of the 4th and 5th percentage band than in that of the 2nd and 3rd (total population); and one could reasonably assume that such inverted conformity would characterize the 6th and 7th and lower percentage bands - as long as we stay in the income distribution above the cyclically sensitive wages, salaries, and entrepreneurial income (which are reached at somewhat lower income levels).

    Estimates of the basic variant for total population, available through the 10 percent line from 1919 through 1924, confirm the surmise in some degree. During the two cycles covered in this period, the shares of both the top 5 and 10 percent groups moved invertedly without exception. But for the 5 percent group, the average difference (per year) between the change per year during expansion and the following contraction was +3.47 relative to an average level (for this period) of 23.7 percent; that for the 10 percent group was +5.18 relative to an average level of 33.2 percent. The relative amplitude of the counter-cyclical movement for the 10 percent group was thus slightly wider. The results are similar in the variant for nonfarm population.

[^12]:    ${ }^{10}$ We have not included here or in the averages in Chapter 3 the evidence for cycles following 1938, largely because the period was dominated by World War II and changes during it are not likely to be typical of business cycle patterns.
    ${ }^{11}$ This finding confirms the value of Horst Mendershausen's emphasis upon distinguishing the several components of inequality in the family income distribution (see his Changes in Income Distribution during the Great Depression, NBER, 1946).

[^13]:    ${ }^{1}$ It did not seem desirable to force the two components to add to the total as was done in National Income: A Summary of Findings, Tables 32 and 33, pp. 99 and 102, since it resulted in overweighting the change due to inter-type shifts.

[^14]:    ${ }^{2}$ The series of shares for 1919-38 and those beginning with 1939 are based on different sets of countrywide totals (entering the calculations as denominators) those of the National Bureau and of the Department of Commerce. The two series of shares in the countrywide total of each income type were spliced into a single continuous series, as was done for the two series of shares in total income receipts for analysis in Chapter 2 (i.e., by using 1936-38 as an overlap), although the relative difference between the two series is fairly sizeable for some income types (e.g., entrepreneurial income and rent). It seemed justifiable, however, to deal with these breaks in continuity in a simple fashion, since whatever errors might result could scarcely affect our conclusions.

[^15]:    * Less than -0.005 .

[^16]:    ${ }^{8}$ May we correct an unfortunate error in National Income: A Summary of Findings (pp. 99-106), where the column headings were switched: inter-type shifts were described as-shifts within the income types, and intra-type as shifts among the income types. This error did not produce any untoward consequences in interpreting the results for the top 1 percent, but did lead to a mistaken exaggeration of the importance of inter-type shifts in discussing the change in the share of the 2nd through 5 th percentage band.

[^17]:    "The family in this use is defined as a unit that pools its income for tax return purposes, which means, in the overwhelming proportion of cases, pooling for purposes of expenditures. The concept thus corresponds roughly to that of a spending or consuming unit. In a limited proportion of families, however, more than one tax return is filed.

[^18]:    ${ }^{8}$ In the income size distributions by F. R. Macaulay for 1918, W. I. King for 1921 and 1928, and A. J. Goldenthal for 1918-37 the recipient is the unit of classification. But we cannot use any of these earlier distributions because the corresponding distributions by income per spending unit are not given. This is not true of the Brookings distribution for 1929 where a classification by income per spending unit is available together with the distribution by income per recipient (America's Capacity to Consume, Washington, 1934, pp. 177-238). However, the former was derived from the latter, not from primary data.
    ${ }^{3}$ The Minnesota data are from Analyses of Minnesota Incomes, 1938-39, by R. G. Blakey, William Weinfeld, J. E. Dugan, and A. L. Hart (University of Minnesota Press, 1944) and Minnesota Incomes, 1938-39, Volumes I-III, prepared under the supervision of William Weinfeld (Minnesota Resources Commission, St. Paul, Minn., June 1942, litho.). The two sources are referred to below as Minnesota Analyses and Minnesota Incomes.

[^19]:    ${ }^{6}$ We have in Census Report, 1947 a distribution of families and single persons by number of paid workers (Table 9, p. 20). Units with no paid workers are also shown. Assuming that each of the latter is represented by one income recipient, and that the average number of paid workers in families with 3 or more earners is 3.45 (as derived from ibid., Tables 9 and 17) we can calculate the average number of recipients per unit for units classified by total income. This calculation yields a smaller number of recipients than the true (as revealed by an average of 1.40 per spending unit compared with the true average, 1.51). But this qualification does not affect the validity of the main showing, namely, that the number of recipients per unit in the top groups of spending units is well above the average. Similar calculations for 1948 and 1949 do not yield consistent estimates of the number of earners for families with 3 or more earners, and cannot, therefore, be used in the present connection.

[^20]:    ${ }^{\top}$ See his Resource Distribution Patterns and the Classification of Families, Studies in Income and Wealth, Volume Ten (NBER, 1947), pp. 266-97.

[^21]:    ${ }^{8}$ In this conversion to income per person the results for the top 10 percent (but not the top 5 percent) differ from those for the top 10 percent for the total sample (see lines 19 and 20, col. 2). This may well be due to the exclusion of the farm population from the bracketed entries in lines 37 and 38.

[^22]:    ${ }^{0}$ Margaret G. Reid analyzes the problem of evaluating nonmoney income and the effect different bases of evaluation have on the distribution of total income (Distribution of Nonmoney Income, Studies in Income and Wealth, Volume Thirteen, NBER, 1951, pp. 124-85). Table 25 is derived from the published data without any of the adjustments Miss Reid uses. The broad results are the same; and we thought it best to retain the distributions as they have been used in other chapters of this study.

[^23]:    ${ }^{10}$ This is confirmed by Minnesota Incomes, II, Table 27, p. 206: almost half of all lump sum payments are received by units in the $\$ 5,000$ and over income class, the highest in the Minnesota distributions.
    ${ }^{11}$ Delaware Income Statistics (University of Delaware, Bureau of Economic and Business Research, 1941, litho.), I, Table G, pp. xxxiv-vii.

[^24]:    ${ }^{12}$ And this after the exclusion of returns that report no income. When we include them and recalculate column 6, the results are: no income, 14.1 percent; one type, 63.8 percent; two types, 13.9 percent; three or more types, 8.1 percent. Single type returns and those with no income account for 77.9 percent of the total.

[^25]:    ${ }^{13}$ The percentages in Table 27 are of the amounts received by the tax return population, not by the total population of Wisconsin or of Delaware. For purposes of the analysis of the effects of combination, this qualification is not significant.

[^26]:    ${ }^{15}$ It would have been interesting to calculate the proportion of countrywide property income of various types received by the small fraction within the top 1 percent group depending upon those types alone. Such a computation could be made, however, only for the Delaware state tax data, since tax returns for other states do not yield complete state totals of property incomes; nor do federal tax returns yield complete national totals. But the income structure of Delaware is so unlike the national that the figures, however striking, would be quite misleading. (They would, obviously, show a really exceptional concentration of property holdings.)

[^27]:    ${ }^{10}$ For a discussion of the transitory factors in the income size distribution, the consequent regression to the mean, and an attempt to isolate the effects of these factors, see Milton Friedman and Simon Kuznets, Income from Independent Professional Practice (NBER, 1945), Ch. 7 and its Appendix, pp. 300-64.
    ${ }^{17}$ Returns were selected that reported a certain absolute net income for any year of the period, regardless of the net income in the other years.

[^28]:    ${ }^{19}$ Frank A. Hanna's analysis of the sample of identical returns for Wisconsin, 1929-35, corroborates our conclusions concerning the brief duration and limited extent of dispersion from the base year. He measures its persistence by coefficients of correlation (see Analysis of Wisconsin Income, NBER, 1948, Table 15, p. 232).

[^29]:    Note 18 concluded:
    These coefficients for economic income with 1929 as the base year decline to 0.64 in 1933, then rise to 0.65 and 0.69 in 1934 and 1935 respectively. The cessation of the decline in 1933 and the fairly high level at which the correlation remains even in the lowest year are consistent with our conclusions. The same measures with 1935 as the base show, on the whole, a higher correlation, but there is not as definite a reversal of the downward movement before the terminal year.
    ${ }^{19}$ The evidence of the samples may be biased in favor of showing less mobility than actually exists. In selecting identical units for several years, collectors and compilers of data must omit those that drop out because of death, change in status, and disappearance or reduction of income to a point where reporting may not be expected. It is the omission of units in this last category that causes the mobility of the sample to be less than it is in reality. One may doubt, however, that if the process is studied for the very top group in a distribution, as it is in Table 31, the effect of such omissions can be significant. Such omissions affect somewhat more the regression of the group mean; but even here, because of the distance the units would have to descend in order to slip out of the reported distribution completely, the effect on the mean of the top income group of a given year would tend to be minor.

[^30]:    taxable income (total or excluding wages and salaries) of returns of $\$ 5,000$ and over to that of all returns.

    11, 12 Calculated from ibid., Tables $3.07-3.12$; ratio of the arithmetic mean net taxable income (total or excluding wages and salaries) of returns of $\$ 4,000$ and over to that of all returns.

[^31]:    ${ }^{1}$ The characteristics discussed below were studied for each year then available in the Census distributions. But since year-to-year variations were so minor as to be almost negligible, only arithmetic means of the annual percentages are presented in the tables.

[^32]:    ${ }^{8}$ This explains the results in Table 33: the higher proportion of persons 65 and older in the top group of earners than among all earners in Minnesota; and the opposite showing in the Census samples because they include nonearners, exclude income in kind, and possibly have a different occupational structure.

[^33]:    'For a detailed analysis of the extent to which higher incomes of professional practitioners represent compensation for extra costs entailed in longer training, see Income from Independent Professional Practice, Ch. 4, pp. 95-173.

[^34]:    ${ }^{5}$ To include 1949 would require special additional calculations which did not seem worth while.

[^35]:    ${ }^{6}$ See, e.g., Consumer Incomes in the United States, Table 7, p. 23.

[^36]:    ${ }^{7}$ The data for 1949 employ a different community-size classification, and cannot be easily compared with those for 1947 and 1948. Hence, they have not been included in the averages in Table 43.

[^37]:    ${ }^{1}$ We used ranks instead of the actual ratios because lack of confidence in the series on individuals' total savings made the ratios suspect.
    ${ }^{2}$ There is some hint that the decline in the ratio of upper group to total savings reaches a trough somewhat before the peak in general business conditions (in 1919 rather than 1920, 1936 rather than 1937). But the data are too crude to reveal leads or lags.

[^38]:    ${ }^{8}$ Since $R_{u}$ has an average level of 30-40 percent, it cannot rise much more than twice as high; nor, in view of the large average income involved, is it likely to decline to a negative value. At lower income levels, where $R_{l}$ is well below 10 percent, the ratio can easily rise to 2 or 3 times its average level and as easily drop to a negative value. With the decline in the income shares of upper groups in recent years, their savings-income ratio may be lower than the $30-40$ percent cited above. But even so, it is high enough, and sufficiently higher than that for the lower groups for the conclusion in the text to hold.
    ${ }^{4}$ For an analysis of the concept of savings in the first two studies, see also National Income and Its Composition, 1919-1938, pp. 292 ff.

[^39]:    ${ }^{5}$ Elements of discontinuity still remained as far as the scope of intended coverage differed among the studies. The most notable example is the limitation of the Surveys of Consumer Finances to money income.

[^40]:    ${ }^{6}$ Horst Mendershausen found a similar function connecting savings-income ratios and income multiples for income distributions in 8 large cities in 1935-36 ('The Relationship between Income and Savings of American Metropolitan Families', American Economic Review, Sept. 1939, pp. 521-37).

[^41]:    sales of assets. These units, with their low true savings (on Assumption 1), should not be allowed to depress the savings-income ratios at the high multiples of a true distribution by economic income. In other words, the savings-income ratios as we can calculate them on Assumption 1 are, at upper income levels, lower than they would have been could we have applied Assumption 1 to a true distribution bv ecnnomic income. At these upper levels the savings-income ratios on Assumption 2 may be nearer the ratios on Assumption 1 as properly applied than are the ratios on Assumption 1 as they were calculated in Table 48.
    ${ }^{8}$ Federal Reserve Bulletin; August 1947, p. 953.

[^42]:    ${ }^{0}$ The published data for the Surveys of Consumer Finances and other data kindly provided us can be used to reduce the income distribution to a per capita basis. But this cannot be done as easily for the savings-income ratios; and we did not deem it worth while to apply this refinement to the Survey sample.

[^43]:    ${ }^{10}$ See my comment in Studies in Income and Wealth, Volume Ten, pp. 304-5.

[^44]:    ${ }^{14}$ In other words, we must revise our original calculations in which we did not assign any part of the adjustment to the income of farm families. A similar rough check on the 1941 data shows that income per farm family may be somewhat too high. The aggregate income of the 6.1 million farm families estimated for 1941 (BLS Bulletin 822, p. 68) is $\$ 10.4$ billion. Our estimate of income received by the total farm population, based on Department of Commerce data, is $\$ 10.3$ billion. The possible discrepancy is within 10 percent; and considering the crudity of these comparisons, we thought adjustments were unwarranted.

    In drastically reducing income per farm family for 1935-36 we do not mean to imply that the overestimate is so large. Full analysis and the establishment of the true level are beyond the scope of this report. Our purpose is merely to see how even such a drastic revision would affect our analysis of savings-income ratios.

[^45]:    ${ }^{18}$ Of the 1,587 questionnaires, only 59 did not cover all the years.
    ${ }^{18}$ Of the 20 significant year to year changes in income, only 3 were positive; and of the 13 changes from 1928, 1929, or 1930 to 1932, only 1 was positive. The sample is, therefore, preponderantly one in which declines in income cause declines in savings-income ratios.

[^46]:    ${ }^{14}$ Our analysis can be restated in terms of average and marginal propensity to save (spend). $R$ and $R_{+}$are the average propensities to save, i.e., $s / i$ and $s_{+} / i_{+}$, where $s$ and $i$ are savings and income for the respective years. Marginal propensity to save (and spend) is defined as $d_{s} / d_{i}$ (and $d_{e} / d_{i}$ ), where $d_{s}$ is the change in savings, $d_{e}$ the change in expenditures, and $d_{i}$ the change in income.
    $a$ in the text equation is the relative marginal propensity to spend and equals $\left(d_{o} / R\right):\left(d_{i} / i\right)=\left(d_{e} / d_{i}\right) \cdot(i / R)$. The absolute marginal propensity to save (spend) equals the product of the relative marginal propensity and the savings-(spendings-) income ratio in the initial year of the period.

[^47]:    ${ }^{15}$ If income per capita continues to increase for some time the effects of the preceding contraction are likely to diminish, perhaps vanish. At the end or in the later phases of a long cyclical expansion accompanied by a substantial increase in real income per capita, expenditures at the lower incomes multiples may become fully responsive to an increase in income, giving $a$ a value not much lower than at the upper multiples.
    Another complicating factor is the effect of consumer credit. If consumer credit is of major importance in budgets at the lower multiples, the net addition to it during cyclical expansions enhances the responsiveness of expenditures to increases in income; likewise, the net contraction of consumer credit during cyclical declines enhances the sensitivity of expenditures to declines in income. However, it may well be that consumer credit is more important at the intermediate than at the very low income levels. If so, its cyclical responsiveness would tend to make the $a$ values for the intermediate income groups higher than for the low groups, and bring them closer to those for the upper groups to whom consumer credit may be of little moment.

[^48]:    ${ }^{10}$ This conjecture, as far as it refers to absolute income displacement, is not confirmed by the Wisconsin sample of identical returns for 1929-35. But this sample does show that displacement measured relatively to the income level of a given class declines in amplitude as we pass from the lower to the upper income brackets another factor accounting for the stability of savings-income ratios at upper levels. In view of the limited value of the Wisconsin data, which do not reach far down the income distribution, it did not seem worth while to present the results or to attribute much significance to them.

[^49]:    * The corresponding savings-income ratio on Assumption 1 is 32.1 percent; on Assumption 2, 48.8 percent.

[^50]:    ${ }^{1}$ For brevity, 'tax returns' designate federal income tax returns by individuals. Other types are distinguished by an adjective.
    ${ }^{2}$ For a more detailed discussion of the reasons for choosing the person instead of the recipient as the unit of classification in our analysis see Chapter 1.
    ${ }^{8}$ Because of paucity of data for statutory net deficit returns, and of the consequent difficulty of using them in our analysis, they were omitted. Hence, the tax return population throughout the analysis is that represented by statutory net income returns (see Sec. 3).

    - Statistics of lncome, 1942, Part 1, Table 1, pp. 88-9.

[^51]:    ${ }^{5}$ In 1916 nonresident aliens filed 4,294 of the total 437,036 returns; their net income, tax definition, was $\$ 65.8$ million of the total, $\$ 6,299$ million. In 1917 the numbers were 3,602 and $3,472,890$, and the net income $\$ 75.9$ million and $\$ 13,652$ million respectively (Statistics of Income, 1916, Table 11, p. 44; 1917, Table 21, p. 71).

[^52]:    ${ }^{6} 1940$ Census, Population and Housing, Families, General Characteristics (Washington, 1943), p. 2. The percentages quoted in the text are from Table 8, p. 24. Neither the 1910 or 1920 Census classified families by size.
    ${ }^{7}$ Consumer Incomes in the United States (National Resources Committee, Washington, 1938), Table 1, p. 4. For the definition of single individuals, see ibid., p. 30.

[^53]:    In an unpublished revision in 1943, the families were estimated to number 30.2 million and single individuals, 8.1 million. The definition of a family and of a single individual was not changed. With this revision, the percentage of individuals in total consuming units becomes 21.2 instead of 25.5 . The excess of the proportion of single persons in income tax returns becomes, therefore, even larger. I am indebted to Hildegarde Kneeland for making these unpublished revisions available.
    ${ }^{8}$ The resulting means are $36.8,38.4$, and 39.3 . For family heads a minor break in the first period should be noted between 1923 and 1924, the exemption having been raised in 1924 from $\$ 2,000$ to $\$ 2,500$.

[^54]:    ${ }^{\circ}$ Op. cit., Table 3, p. 18, and Table 15, p. 30.
    ${ }^{10}$ The revised NRC figures would yield a ratio of single person to family returns of 6 to 10 - almost the ratio actually observed in the number of income tax returns.
    ${ }^{11}$ Table 7, p. 23. The inclusion of rural nonfarm communities would not increase the average size of family significantly, since their average number per family is only 3.7. Nor would we get a substantially different average were we to weight community size means (of the number per family) by the number of tax returns, given for 1936 in Statistics of Income Supplement Compiled from Income Tax Returns for 1936 (Treasury Department, June 1940), Section 1, Table 5, pp. 65 ff.

    Making a similar calculation for nonrelief families classified by family income (see the distribution in App. 6, Sec. A, using number per family from Table 4, p. 21,

[^55]:    ${ }^{13}$ The special study for 1936 , mentioned in note 11 , shows that of total tax returns fewer than 30 percent came from communities with population under 10,000; and further reduction for urban communities of $2,500-10,000$, and for rural nonfarm communities would leave a relatively small fraction for the farm population; see also Chapter 8.
    ${ }^{18}$ It is significant that with the change in the tax law in 1944, which permitted claiming dependents regardless of age or physical status, the number per family rises about 5 percent, reversing the downward trend observable during most of the period in the number per family return.
    ${ }^{14}$ The revision of the NRC estimates of single individuals would give an excess of 18.4 percent, which is 46.4 percent of the single person return population. The transfer of the latter to the family return population would raise the average number per family to 3.3 .

[^56]:    ${ }^{10}$ An attempt to compensate for this omission and to study its effect on the shares of upper income groups is presented in Chapter 9. Because of the necessarily approximate character of the adjustment, it is not given here; and the tax return data in our tables exclude this item for the years before 1939.

[^57]:    ${ }^{20}$ We could have experimented with extrapolations from the 1930's, but the smallness of the item, and particularly the difficulty of estimating it by income brackets, made such an adjustment inadvisable. The item, it should be noted, covers only such net loss as is entered under deductions rather than applied as an offset to derive a net income total under the positive income items on the face of the return.

[^58]:    ${ }^{5}$ These qualifications are: (a) before 1939 wages and salaries of nonfederal employees are omitted; (b) imputed net rent on owner-occupied dwellings is omitted throughout; (c) income derived through financial intermediaries without current distribution, i.e., insurance companies and the like, is omitted; (d) the reincluded deductions contain some business expenses that should not be reincluded in precise calculations. Tentative adjustments for items (a) and (b) are presented and discussed in Chapter 9.

[^59]:    - This check involves identifying in Table 113, column 2, the net income classes that changed rank; then observing for them columns 2 and 8 in Table 111, and the columns in Table 112 that show net income, tax definition, and economic income. Thus, for 1917 we note in Table 113 that the net income class $\$ 1,000-2,000$ shifted above the $\$ 2,000-3,000$ class. In Table 111, we find that for the $\$ 1,000-2,000$ class, the tax return population is estimated to be 2.3 million for 1.6 million returns; for the $\$ 2,000-3,000$ class, 2.4 million for only 0.8 million returns. Thus for the former class, the number of persons per return is 1.4 ; for the latter class, 2.8. In Table 112, net income, tax definition; for the $\$ 1,000-2,000$ class is $\$ 2.46$ billion and economic income, $\$ 2.66$ billion - an increase of about 8 percent; the corresponding totals for the $\$ 2,000-3,000$ class are $\$ 2.06$ and $\$ 2.24$ billion respectively, an increase also of about 8 percent. Clearly, the change in rank is due to the number of persons per return factor, not to the shift in income base. Every shift in rank can be similarly traced and analyzed from Tables 111 through 113.

[^60]:    ${ }^{5}$ However, the basic variant for nonfarm population does involve shares of a top percentage that is less than 1 percent of total population (Sec. 3).

[^61]:    ${ }^{6}$ The additional error involved in the basic variant for nonfarm population is not measured by the percentages in columns 7 and 11 of Table 76. If we could exclude the returns that report income from farming, they would be replaced by returns from additional members of the nonfarm population (to fill out to the proper percentage of the nonfarm population whose share is being estimated). The estimate would, therefore, be modified only because the nonfarm units shifted into the given percentage band might have a slightly smaller per capita economic income than that on the returns from the farm population excluded. The implicit error would thus be only a minor fraction of the percentages in Table 76.

[^62]:    'This, however, might be more than offset by the effect of the preponderance of entrepreneurial income in the income of the farm population, which may make for greater dispersion and inequality in the size distribution of income of the farm population (see Ch. 6, Sec. 3).

[^63]:    ${ }^{\text {B }}$ An illustrative calculation of the raising factor for 1929 is provided in Appendix 3, Section D.

[^64]:    For notes see pages 306-7.

[^65]:    ${ }^{2}$ Because imputed rent on owner-occupied farm dwellings could not be separated from net income of farmers for 1919-38, our total income receipts for that period do include this item even though they exclude imputed rent on nonfarm owneroccupied dwellings. However, judging by figures for other years, imputed farm rent is only 10-15 percent of the imputed rent for the country as a whole; and the consequent error in our denominator is fairly small (much less than 1 percent of total income receipts).
    ${ }^{8}$ Consumer Expenditures in the United States, Table 7, p. 46.

[^66]:    ' While the Consumer Expenditures Study distribution can be converted to one by income per capita, and has in fact been so converted by us for purposes of other analysis, it is not possible to do so and still determine the proportion of imputed rent in total income.

[^67]:    ${ }^{5}$ The calculations can be carried through in terms of the proportion of taxes in income, either excluding or including taxes consistently throughout. The present calculations use proportions of taxes in economic income excluding taxes.

[^68]:    ${ }^{6}$ See Lawrence H. Seltzer, The Nature and Tax Treatment of Capital Gains and Losses (NBER, 1951), especially Chapter 5, Sections 1, 2, 8, pp. 109-12, 122-31; and Tables 4-6 in Appendix Two, pp. 374-7. Seltzer not only discusses the theoretical interpretation of capital gains in an illuminating way but also presents a rich store of statistical information.

[^69]:    ${ }^{7}$ An estimate of the excess of profits over losses from sales of real estate, stocks, bonds, etc. for 1929 is given in Leven, Moulton, and Warburton, America's Capacity to Consume (Brookings Institution, 1934), p. 163. The total, $\$ 6.2$ billion, is considerably larger than that reported in Statistics of Income and used by us, $\$ 2.9$ (Table 115, col. 8). The Brookings total of profits was estimated by: (a) raising the profits reported on tax returns with incomes over $\$ 5,00065$ percent for underreporting; (b) approximating profits by persons with incomes less than $\$ 5,000$ (America's Capacity to Consume, p. 167). Losses were taken as reported in Statistics of Income, but those on which a $121 / 2$ percent tax credit was claimed were disregarded. The biggest source of the excess of the Brookings figure over ours is the allowance for underreporting on tax returns with incomes over $\$ 5,000$. A comparison of the Brookings Tables 27 and 29 (pp. 206 and 208) indicates that only $\$ 0.4$ billion of net capital gains is assigned to persons with incomes under $\$ 5,000$. The basis for the Brookings adjustment for underreporting of capital gains does not seem sufficiently firm to merit acceptance.
    ${ }^{8}$ Op. cit., Chapter 5, Sections 1 and 2, pp. 109-12; Appendix One, pp. 321-56; and Appendix Two, pp. 361 ff.

[^70]:    ${ }^{0}$ In this calculation of the shares to include gains and losses from sales of assets we continue to use the income classes as given in the published tabulations without allowing for possible shifts of returns from one class to another as a result of adding capital gains and losses to their income. In this respect the procedure is similar to that used in our other adjustments for scope of income. In Chapter 10, where we study the effect of excluding capital gains and losses (and other items) from the income used as the basis of classification by size (Sec. 4-6), an attempt was made to take account of possible shifts of returns from one income class to another.

[^71]:    Columns 2 and $5{ }^{\circ}$ of Part I extended to show the $\$ 10,000$ 11,000 net income class separately.

    See Part I, columns 8 and 11 . The separate coverage of the $\$ 10,000-11,000$ net income class does not alter the rank
    of the per capitas, those for lines 1 and 2 being $\$ 16,695$ and $\$ 4,513$ respectively.

    For nonfarm population see Table 115, column 1.
    For income of nonfarm population and excess of aggregate gains over losses from sales of assets, see Table 115, columns 2 and 8 respectively.

[^72]:    ${ }^{1}$ This is not exactly true. Tabulations of tax returns for recent years, which show credits for dependents classified by the family status of the returns claiming them, reveal some credits on returns by nonheads. The amounts involved are, however, quite small and can justifiably be neglected.

[^73]:    ${ }^{2}$ See Appendix 5, Section A. The Statistics of Income classification by family status for 1944 and later years does not indicate the distribution of single person returns between head of family returns and nonhead; but for these years returns were classified by the number for whom exemption was claimed. We treated all returns of single persons claiming one exemption as nonhead, and all others as head.

[^74]:    ${ }^{8}$ As an alternative measure of this gain factor we tried the proportion of nonhead returns in the $\$ 4,000-5,000$ net income class. But net income classes in this income range cover large numbers of people - numbers that make our percentage band comparisons difficult. At any rate; the correlation between the proportion of nonheads in the $\$ 4,000-5,000$ net income class and the adjustment in the 2nd and 3rd percentage band was not as close as in Panel E.

[^75]:    Change in Share of Given
    
    

[^76]:    ${ }^{4}$ The validity of this statement is not affected by the modification of the adjustment by the regression analysis. The correction attempted deals only with the effects of the smallness of the tax return population on the annual level of the adjustment, not with its effects on any differences in income level between successive percentage bands.

[^77]:    ${ }^{5}$ Here and in Section 5 we might have refined the analysis by experimenting with the combinations of net income classes, tax definition, to fit more exactly the composition of our percentage bands. Also, it would have been more effective to take unwarranted inclusions (and subsequently, deductions) as percentages of economic income than of net income, tax definition. But this more laborious analysis was not justified, since the purpose is to explain the general nature of the factors that determine the average level and the short term fluctuations in the adjustments, not to account completely for them.

    Taking unwarranted inclusions in percentages of economic instead of net income, tax definition, would not modify the direction and general swings in the percentages as they are portrayed by the dash lines in Charts 22 and 23. All that would happen would be that the amplitude would be wider in the percentages of economic income than they are of net income, tax definition. Taking unwarranted deductions (Sec. 5) in percentages of economic income, on the contrary, would make the amplitude narrower than that in the percentages of net income, tax definition.

[^78]:    ${ }^{6}$ For details and an illustrative calculation, see Appendix 5, Section C. The effects of allowing for unwarranted deductions were measured jointly with those for unwarranted inclusions. But there is little error in deriving the specific adjustment for unwarranted deductions by simple subtraction, as we did for the present analysis from Tables 120 and 121. The calculations were carried through 1943 only. For 1944 and later years, when returns are classified by gross income, an adjustment for deductions is not called for.

[^79]:    ${ }^{7}$ This differs from our concept of economic income in allowing for occupational labor expenses and in including types of income receipt (withdrawals for family use and insurance) that are not covered in the federal returns.

[^80]:    ${ }^{8}$ In the 1936 study the proportion of statutory net capital gains and losses, signs disregarded, in net income for roughly the top 45 percent of returns (corresponding to the top 5 percent of total population) is 6.5 percent whereas in our basic variant for total population the proportion of capital gains alone in net income for the top 5 percent is 5.9 percent.
    ${ }^{\circ}$ A rough check is possible. For Wisconsin the difference between 'income bracket' income and net taxable income (various items, signs disregarded) for roughly the top 15 percent of returns (by net taxable income) amounts to the following percentages of net taxable income: 33 in 1938; 18 in 1934; 21 in 1935; and 28 in 1936. For the federal data the sum, signs disregarded, of unwarranted inclusions and deductions in percentages of net income, tax definition, for roughly the top 45 percent of returns amounts to: 41 in 1928; 21 in 1934; 21 in 1935; and 20 in 1936 (Table 112).

[^81]:    ${ }^{10}$ Delaware data for 1936 afford another confirmation of the substantial exaggeration in our adjustments for unwarranted inclusions and deductions. The federal tax returns for the state were reclassified by total income per return, a concept close to our economic income (Delaware Income Statistics, I, University of Delaware, 1941, Table 13, pp. 184 ff .). From the double classification of the same body of returns by net income, tax definition, and by total income, we can see the effect of the income base on the shares in total income. We estimated the percentage share of total tax reported income received by the top 8.1 percent of returns to be 63.98 in the distribution by total income and 63.45 in the distribution by net income, tax definition. The difference, +0.54 , is thus only 0.0085 of the unadjusted share, 63.45 . Our adjustments for 1936 are much larger relatively -0.068 for the top 1 percent of population (Table 102, line 10).

[^82]:    * Because it raises the income share of the 6th and 7th percentage band above that of the 4th and 5th percentage band, the modification was disregarded in this year.

    For notes see page 434.

[^83]:    ${ }^{1}$ For a brief description of the sampling procedures see the article by Crum, Harriss, and Keith in Studies in Income and Wealth, Volume Five (NBER, mimeo., 1943), Part II, pp. 1-44 to 1-46.

[^84]:    ${ }^{2}$ Statistics of Income, 1928, pp. 19-20.

[^85]:    ${ }^{8}$ National Income and Its Composition, 1919-1938, Table 32, p. 251.

[^86]:    ${ }^{4}$ See the Use of Audit Reports for Correcting Statistics of Income Compiled from Individual Income Tax Returns by J. R. Turner, submitted to the April 1949 meeting of the Conference on Research in Income and Wealth. Even with the new data, the extent of underreporting in 1919-38 will be difficult to measure. The increase in the relative income tax burden in recent years may well have made for more underreporting. See, however, Section 5 below.

[^87]:    ${ }^{5}$ We do not compare our estimates with the Brookings estimate for 1929 largely because it contains, at the top levels, little evidence independent of the tax returns themselves, partly because it is affected by the inclusion of capital gains and losses. It could be, and was, used for associating savings-income ratios with income levels; but it is of little value in any comparison of size distributions where income tax data are one term of the comparison.

[^88]:    ${ }^{7}$ For an analysis of the NRC distributions see Tucker's articles in the Review of Economic Statistics, Nov. 1940, pp. 165-82, and Feb. 1942, pp. 9-21, and in the Journal of the American Statistical Association, Dec. 1942, pp. 489-95; this third article is especially useful.

[^89]:    ${ }^{8}$ We calculated these entries by raising the share in the basic variant a fifth, the relative difference between the two variants for the top 5 percent. But for the 4th and 5th percentage band the adjustments raise the share of the basic variant a third.

[^90]:    ${ }^{9}$ The excess in the 2nd and 3rd percentage band may well be due to the use of a rather large top income class in the NRC distributions. Because size of family data were not available for the detailed income classes at the top, we had to use a large open-end class ( $\$ 10,000$ and over; see App. 6, Sec. A) and a single class mean which, divided by the number per family, yielded the per capita income for that class. Such a class mean is adequate for cells that, in fact, do enter the top 1 percent. But for the cells entering the 2 nd and 3 rd percentage band, it is too high. Clearly, if in our conversion of the NRC data to a per capita basis we had used more detailed income classes at the very top, the calculated share of the top 1 percent would have been somewhat larger and that of the 2nd and 3rd percentage band somewhat smaller.
    ${ }^{10}$ For a detailed description of the data see Rural Family Spending and Saving in Wartime (Department of Agriculture Miscellaneous Publication 520) and Family Spending and Saving in Wartime (BLS Bulletin 822).

[^91]:    ${ }^{11}$ For a detailed account of these data see Family and Individual Money Income in the United States: 1945 and 1944, Family and Individual Money Income in the United States: 1945, and Income of Families and Persons in the United States: 1947 (Bureau of the Census, Series P-S, 22, May 8, 1947, Series P-60, 2, March 2, 1948, and Series P-60, 5, Feb. 7, 1949, respectively). We omitted comparison for 1946 when the Census sample data cover nonfarm population alone; and for 1948 because the income tax data became available after most of our computations had been completed and because there were other means of testing our estimates for that year (see Sec. 5).

[^92]:    ${ }^{12}$ See Selma F. Goldsmith, Appraisal of Basic Data Available for Constructing Income Size Distributions, Studies in Income and Wealth, Volume Thirteen (NBER, 1951), pp. 267-377.
    ${ }^{19}$ This judgment is not contradicted by the fact that the Census totals are particularly short on such items as interest and dividends as well as on entrepreneurial income. These shortages can easily be interpreted as due both to underrepresentation of numbers in the top brackets and to the tendency not to report when the amounts received are small. Such differential shortages do not mean any distortion in weights of groups below the top 1 percent.

[^93]:    ${ }^{14}$ As in the case of the Census samples, we omitted comparison for 1948 for the reasons indicated in note 11.
    ${ }^{15}$ See Robert Wasson, Abner Hurwitz, and Irving Schweiger, An Appraisal of Field Surveys of Consumer Income, Studies in Income and Wealth, Volume Thirteen, pp. 482-559.

[^94]:    ${ }^{18}$ Since the percentage in line 9 takes account of only the tax change on returns whose major source of error has been indicated to be adjusted gross income, and since such returns may have minor errors in itemized or standard deductions, personal exemptions, and arithmetic, we assumed that these minor nonincome errors are more or less offset in their tax effects by the minor income errors on returns whose major error is in nonincome sources.

[^95]:    ${ }^{17}$ Marius Farioletti of the Bureau of Internal Revenue suggested this method. I am greatly indebted to Mr. Farioletti for numerous improvements he made in reviewing this section.

[^96]:    Total $29,400,300 * 24,913,177 * 4,487,123$

[^97]:    Representing the ranks of the per capitas as shown in Parts $c, e, f$, and $g$.

[^98]:    ${ }^{2}$ Several minor items of imputed income are not included in these percentages.

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[^100]:    For notes see pages 544-5.

[^101]:    

[^102]:    For notes see pages 565-9.

[^103]:    ${ }^{\text {a }}$ The coverage is necessarily less complete in some tables than in others.
    ${ }^{\circ}$ See entries in Table 116 for the top 15 percent for 1919-24 and 1939-48.

[^104]:     のコココ

[^105]:    For notes see page 683.

