The Kaleckis in the garden of the London School of Economics, 1937

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Contents

I. RATIONING OF CONSUMPTION

A Scheme of Curtailment of Consumption[1] (1940)

1. The fundamental problem of the war economy is to curtail the purchasing power of the population so as to prevent a violent rise in prices, which is bound to come, since the productive resources are limited. Steeply increasing government expenditure and difficulties on the supply side—both as regards labour and raw materials—are liable to render this problem particularly acute in the months to come. A solution of it—now generally known—has been proposed by Mr Keynes. His scheme of compulsory saving raises, however, two important objections:

(i) Compulsory savings will be in many cases offset by reduction in voluntary savings, or even by dissaving. Moreover, compulsory savings may be made by reducing expenditure on rent, entertainments, and other services which release no resources in terms of raw materials and little in terms of labour. Thus the scheme may fail to a great extent to achieve its purpose. If somebody's compulsory savings are made by saving less voluntarily, reducing his dwelling space, or giving up the cinema—he does not, indeed, contribute much to the war effort.

(ii) Mr Keynes's scheme does not attempt to establish a certain maximum for the consumption of the rich before compulsory saving is imposed on the poor. Moreover, it is clearly chiefly the rich who may elude the curtailment of consumption by dissaving.

We shall outline below briefly a scheme for reducing expenditure which is free of these two major disadvantages of Mr Keynes's solution.

2. The general principle of our scheme is rationing of expenditure; and since, as mentioned above, reduction of enjoyment of services releases little in the way of raw materials and labour we concentrate here on the expenditure in retail shops.[1] Thus a maximum for such expenditure of,

[1] This has also the advantage of not interfering with existing contracts and commitments.

say, £60 p.a. per adult person and £35 per child below 14 is fixed, and to this extent coupons are issued, any sale by a retailer without coupons being prohibited under heavy penalty.

Apart from services (inclusive of gas and electricity) the following goods could be bought coupon-free: (i) second-hand goods; (ii) repairs; (iii) medicines; (iv) newspapers, journals, and books. (For furniture etc. for newly married couples a special allowance could be made).[2]

The control of retailers may be based on arrangements not being made for collection of purchase tax; the retailers must surrender to the authorities the amount of coupons covering their turnover.[3] By this, however, the problem of control is not fully exhausted. Indeed people of low income will, of course, not fully use their coupons, and thus may be tempted to sell the residue of coupons or to use them to purchase goods for other persons against reward. To prevent this, apart from the *absolute* maximum of expenditure, a maximum *percentage* of income to be spent in shops must be fixed, at a level approximately equal to the actual percentage spent in shops by the poorer population. If this percentage were, say, 75 per cent, then a family with an income of £160 is permitted to spend in shops only £120, though the absolute maximum expenditure of a couple with one child on the basis of £60 per adult person and £35 per child would be £155. The enforcement of this part of the scheme may be easily carried out by making people send in the old coupon books with the declaration of their incomes. The authorities may then check in collaboration with HM Inspector of Taxes whether the unused coupons represent the due amount, and fine people who have exceeded appreciably the percentage prescribed.

3. In the following Appendix the calculation is given of the extent to which the operation of the scheme will curtail the expenditure in shops, on the assumption of maximum expenditure of £60 per adult person and £35 per child. We arrive at the figure of £400m. (This is, of course, only a crude estimate which has no claims to precision.) The yield of Mr Keynes's scheme (after deduction of family allowances, etc.,) comparable with the above figure is about £500m.[4] But, as mentioned

[2] The coupons required for purchase of meals in restaurants must be only a certain definite proportion of their price, since it includes the cost of service.

[3] The control must be particularly tight for shops selling luxury goods, since they will suffer most as a result of the operation of the scheme and thus will be most tempted to increase their turnover by selling without coupons.

[4] Out of which about £350m. is derived from those with incomes over £250.

above, the actual money yield may be much smaller, owing to the reduction of voluntary savings or dissaving, and the yield in terms of raw materials and labour will be relatively smaller than in our scheme. Thus the £400m. of the 'general rationing scheme' are likely to release rather more resources than the £500m. of compulsory savings, and this without imposing any burden on low incomes.

Appendix

1. We shall estimate here by what amount total expenditure in shops will be curtailed if its maximum is fixed at £60 p.a. per adult person, and at £35 per child below the age of 14. We take into account only the reduction in expenditure by people who earned in 1937 more than £250 a year. Actually our scheme affects also some higher grades of the remaining incomes, but we neglect it since the bulk of the yield comes from the category with incomes over £250 a year; this, of course, causes our estimate to be rather pessimistic.

The general course of the calculation is as follows. We establish the total consumption of the over £250 income-earners in 1937 and the number of such incomes in that year, and so obtain the average consumption per income. We estimate the percentage they spend in shops and thus have their expenditure in shops per income. We estimate roughly how much this changed from 1937 up to the present. We then estimate the expenditure per income corresponding to the maxima of expenditure assumed above. The difference between the actual expenditure per income and this maximum multiplied by the number of incomes gives us the aggregate reduction of expenditure in shops.

2. The consumption of people earning more than £250 in 1937 is given by Mr Clark as about £1,640m. The number of incomes above £250 in 1937 is given in *Home Market* as 3.2m.[2] This estimate is, however, very unreliable (for 1934 the *Home Market* gave 3.5m). Thus we take for this number 3–4m. and consequently for the average consumption per income £410–540.

3. The next problem is to establish the percentage of expenditure spent in shops by people with incomes over £250. The data on this point are extremely deffcient. We base our estimate on N. Balchin's *Income and Outcome*,[3] where thirty-two budgets of families with incomes above £250 are given. The classification of expenditure is not sufficiently detailed to permit a correct assessment of items spent in shops and elsewhere, and therefore only a crude estimate is possible. The results obtained are as follows:

Annual income (£)	Expenditure spent in shops (%)
250–400	62
400–500	57
500–700	51
700–1500	48
1500–2000	41

There are no precise data available about the distribution of consumption among various income groups, but from the data on distribution of incomes and the aggregate consumption out of incomes over £250 it may be concluded that the average percentage of expenditure spent in shops by people with incomes over £250 is, according to the above, about 55 per cent.

4. Since, however, the above data are very unreliable, we shall make another indirect estimate of this figure. From the family budgets with an income below £250, given in *Home Market*, we obtain, as above, a crude estimate of the percentage in question for lower incomes. It proves to be pretty uniform about 71 per cent for various grades of income below £250. Since, according to Clark, the relative shares of incomes below and above £250 in the total expenditure in 1937 were 62.5 per cent and 37.5 per cent respectively, the general average percentage of expenditure spent in shops was:

$$71 \cdot 0.625 + 55 \cdot 0.375 = 65.$$

Now from the estimates of Mr Fearvearyear it follows that in 1937 this percentage (the ratio of expenditure in shops to total expenditure *exclusive* of direct taxation) was also 65 per cent, which gives a check on our figure of the percentage of expenditure spent in shops out of incomes over £250.

5. With the average consumption out of incomes over £250 in 1937 equal to £410–540, and the percentage spent in shops equal to 55 per cent, the amount spent in shops per income is £226–95. The rise in prices of goods bought in shops since 1937 up to the present may be estimated at about 15 per cent. Assuming further (which is, I think, plausible) that real consumption of people who earned over £250 in 1937 is now about the same as then, we obtain for its present value £260–340.

We may take as a representative income over £250 a married couple with one child. Thus at our standard of maximum expenditure in shops of £60 per adult person and £35 per child there corresponds to an income over £250 the maximum expenditure in shops of £155. Since we estimated above the actual average expenditure per income over £250 at £260–340 the difference makes £105–185 per income. Thus, with the number of incomes over £250 in 1937 equal to 3–4m. this gives a reduction in respective expenditure in shops of £420–550m.

General Rationing[1] (1941)

The Problem

In a recent article in the *Bulletin*,[1] the conclusion was reached that all over the second half of the year the financial situation was 'inflationary': stocks of consumption goods were run down and/or a rise in prices of these goods out of proportion to costs took place. After a certain time this development must lead to scarcity of goods and still greater price increases, and the only way in which this may be prevented is the curtailment of total expenditure on consumption.

Broadly speaking there are two ways, other than the *laissez-faire* method of inflation, of adjusting consumers' spending to available supplies: taxation and rationing.

The common disadvantage of all *taxation* schemes is that their effect is not much different from that of price increases. This is quite clear in the case of flat income taxation, which affects the real consumption of the various income groups in much the same way as a rise in prices. The difference between these two ways which is in the back of the mind of people who advance such proposals is probably based on a rather arbitrary assumption that workers will not ask for higher wages when taxed while they usually do it when the cost of living rises, and thus the 'vicious spiral' will be prevented. Even granted that the assumption is right, the only people for whom the difference is essential are those with fixed incomes. For workers it does not, of course, matter whether their wages will be cut by 10 per cent by taxation or whether prices will rise by 100 per cent and wages by 80 per cent.

Is taxation of the higher incomes an adequate solution to the problem of fair curtailment of consumption? Such taxation will undoubtedly tend to reduce to some extent the expenditure of the well-to-do, but to what extent is most uncertain, for the latter are likely to reduce the amount currently saved and in many cases even to dissave. Moreover, they may curtail their expenditure in an unhelpful way by cutting,

[1] See M. Kalecki, 'The Third Quarter', this volume.

say, education and entertainment while the actual problem is the scarcity of food, clothing, etc.

Mr Keynes's scheme does not differ essentially from income taxation. For the working class the consolation offered by prospective post-war enjoyment of compulsory savings is of a rather shadowy character. As to the well-to-do, on whom in the last version of Mr Keynes's scheme falls the chief burden of compulsory saving, it is even less efficient than income tax in cutting their consumption: seeing compulsory savings accumulating on blocked account they are more likely to save less on a voluntary basis or to dissave than they would if taxed to the same extent.

The most direct way of controlling expenditure is *specific rationing* over a wide range of shop goods, on the lines of the existing rationing schemes for, say, butter or meat. But here also the disadvantages are serious. To be comprehensive such a scheme must embrace an enormous number of commodities which involves considerable inconvenience for consumers and shopkeepers, as also difficulties in control. Moreover, it is difficult to prevent the transfer of coupons from poorer people, who do not consume fully their rations, via shopkeepers or otherwise, for the benefit of those who can afford to consume more, and among the latter this 'surplus' is distributed in a haphazard and unfair way. Finally at the moment when rationing is introduced shopkeepers are in possession of certain stocks of commodities which they are able to sell without coupons unless their inventories are permanently watched; and a general running down of stocks is obviously undesirable.

The General Rationing Scheme

Is there another way of restricting consumers' spending which is free from the disadvantage of specific rationing of individual groups of commodities?

It seems to us that a scheme limiting consumers' total expenditure in shops attains the end by a less cumbrous way and with less inconvenience to consumer and shopkeeper. The scheme is based on a simple principle. A total maximum expenditure in retail shops is fixed at, say, 25*s*. a week for an adult and 15*s*. for a child under 14.

Expenditure on services is not included in our scheme, because some of them are not scarce (e.g. education, entertainments) while

others may, if necessary, be controlled much more simply by direct methods: dwelling-space by billeting; travelling by reducing the number of trains and abolishing first class; gas and electricity by direct rationing; domestic services by fixing the maximum number of servants, etc., etc.

Apart from services, certain categories of goods could be bought coupon-free: (i) medicines; (ii) newspapers and books; (iii) repairs. For people who have lost their chattels as a result of bombing, newly married couples, etc., a special allowance should be made. The coupons required for the purchase of meals in restaurants must be only a certain definite proportion of their price, since it includes the cost of service.

If all people are issued coupons for the same amount those of low-income grades will not be able to use them fully and might sell the residue to the well-to-do (or buy goods on their account). This problem may be handled in two ways. As in the case of specific rationing of commodities, we may make the transfer of coupons a punishable offence. Nevertheless transfer may take place to some extent. The reduction in expenditure which can be fully relied upon is then limited to the difference between the present actual expenditure and that which would ensue from the full use of their coupons by all people. The possible transfer of coupons from the poor to better-off people is undesirable for the same reasons which were mentioned in the discussion of specific rationing of commodities: the 'surplus' coupons will be redistributed among the well-to-do and the rich in a haphazard and unjust way.

One may, however, take another course and reduce the possibility of the transfer of coupons in the following way. Apart from the *absolute* maximum of expenditure a maximum *percentage* of income to be spent in retail shops is fixed at a level equal approximately to the upper limit of the actual percentage spent in shops by the poorer population, say 80 per cent. Coupons must then be issued for the amount corresponding to the lower of these two maxima. With a percentage maximum of 80 per cent, a couple with a child, having an income of 60*s*. per week, get coupons only for 48*s*., although on the basis of absolute maximum expenditure of 25*s*. per adult person and 15*s*. per child they are entitled to 65*s*.

This device clearly helps very much to reduce the transferability of coupons; it complicates, however, to a great extent the administration of the scheme.

Administration of the Scheme

A flat-rate issue of coupons could be arranged on very much the same lines as the existing rationing of specific commodities. If the income-percentage maximum is also adopted the administrative procedure would work in the following way. Any income-earner receives a form from the Coupon Office, on which he states the number of dependants and their age, his income, the reference number of income tax assessment if above exemption limit, the name of employer if below it. This makes possible a check whether or not income has been declared too high. (It is, of course, not necessary to check all returns, but only one in ten, say, to make a false declaration risky.) Then on the basis of the principle described in the preceding sections coupons are issued. There may arise certain hardship cases if, for example, family budget composition is unusual, and thus the maximum percentage of income to be spent in shops appears to be too low, or if because of a sudden drop in income the person concerned lives partly on his reserves. In such cases appeals will be considered by the Coupon Office.

A certain difficulty in the running of the scheme may arise from the possible destruction of coupons by bombing. This may be prevented by issuing not actual coupons but books of PO Savings Banks model, in which the maximum expenditure for a certain period is credited to the owner, and on which he may draw the actual coupons from the Post Office, the procedure being exactly the same as with PO Savings Banks.

The most difficult problem is to ensure that goods are not sold without coupons. For this purpose a Retailers' Controlling Office might be established to which the retailers return all coupons received and obtain there 'retailers' coupons' which they must in turn surrender to wholesalers when buying from them. These return the 'retailers' coupons', which must cover their full turnover as ascertained for payment of purchase tax, to the authorities. The Retailers' Controlling Office will be in this way in possession of data on purchases of each retailer and will be able to compare them with the amount of 'consumers' coupons' surrendered. The amount of consumers' coupons should exceed that of retailers' coupons by an amount corresponding to retailers' margin *plus* the fall in retailers' stocks or *minus* their rise. The retailers will be requested to supply in addition the value of their stocks at certain intervals, and so the Retailers' Controlling Office will be able to see whether the retailer's margin—as calculated from his purchases, coupons returned, and changes in his stocks—is at a level

customary for his line of business. In all doubtful cases an investigation of the actual margin must be carried out on the spot and heavy fines imposed if the case of selling without coupons is proved. Also the declared value of stocks must be checked by samples and fines imposed if a misleading declaration is discovered.

Final Remarks

This scheme presents, I think, certain definite advantages. First and foremost it constitutes a real safeguard against inflation, and it can easily be adapted to the most stringent supply situation. Secondly, it is comprehensive and more convenient than the specific rationing of a corresponding range of goods; instead of struggling with an avalanche of coupons, for boots, clothing, electric torches, pots and pans, etc., etc., the consumer and the shopkeeper have to master only one set of coupons. Finally, although, for particular reasons—e.g. nutrition—some goods must be rationed specifically, among the remainder the consumer has, in our scheme, the widest possible freedom of choice. Against this must be set the disadvantages of complex administration, although it must be stressed that the administrative problem of our scheme will be simpler than that involved by the specific rationing of all goods.

The complication of the issue of coupons according to incomes is introduced only to reduce the transferability of coupons. In so far as this device cannot be applied in the case of specific rationing of commodities it constitutes another advantage of our scheme. It may be, however, dropped, should the difficulties involved outweigh the advantages to be gained.

We estimate in the Appendix that if all people were to spend per week in shops 25*s*. per adult person and 15*s*. per child the total expenditure would be about £2,700m. a year, and that the actual present expenditure in shops may be placed at £3,200m. This means that the standard of 25*s*. maximum expenditure in our scheme would reduce expenditure at least by £500m. Actually, however, the yield of the scheme would be much higher, because the expenditure of a considerable number of the poorer population even with the flat distribution of coupons would be much less than the standard maximum. But by how much this would increase the yield depends, of course, on the amount of transfers of coupons (or of goods bought for coupons) from the poorer to the richer population.

If the graduation principle were applied the yield of the scheme may be expected to be greater, and therefore the maximum expenditure may be set higher than in the case of the distribution of equal amounts of coupons to all people, irrespective of their incomes, to effect the same reduction in expenditure.

Although income tax and specific rationing of commodities have been criticized above as methods for curtailment of general expenditure, they not only do not interfere with this scheme but actually supplement it. The savings accumulating as a result of the functioning of the scheme should be at least partly collected not by borrowing but by taxation, and for this reason the income tax rate should be raised. In some cases this will bring a certain pressure on expenditure and so reduce the possibilities of evasion from our scheme.

The rationing of some essential commodities is necessary also within our scheme, because the latter only reduces but does not abolish fully the inequality of expenditure. For this reason it may also be advantageous to differentiate our scheme by introducing food and non-food coupons.

Appendix

The present population of the United Kingdom after deduction of soldiers is 45–6m. The percentage of children under 14 in the total population was in 1931 about 23 per cent. Allowing for the deduction of soldiers this percentage must be raised to 24 per cent. It follows that the expenditure in shops of the total population at 25*s*. per week per adult person and 15*s*. per child would be about £2700m.

According to Mr Feavearyear expenditure in shops was in 1937 £2,830m. In the first half and in the third quarter of 1940 the Bank of England index of the value of retail sales was higher than in the same periods of 1937 by 10 per cent and 13 per cent respectively. The last figure is swollen by pre-purchase tax buying. On the other hand, owing to evacuation from London the index based on the Bank of England sample probably underestimates the wartime rise in the value of sales.[2] We therefore estimate the present value of retail sales by adding 13 per cent to £2,830m., which gives £3,200m.

[2] The customers of London department stores when evacuated are likely to transfer a part of their purchases to independent retailers, which are much less strongly represented in the sample.

Notes on General Rationing[1] (1941)

The Problem of Coupon Distribution

In presenting the rationing scheme for retail expenditure I gave two alternatives of distribution of spending coupons: (i) coupons are distributed at a flat rate of, say, 25*s*. per week for an adult and 15*s*. for a child under 14, and (ii) apart from the *absolute* maximum of expenditure of, say, 25*s*. per week, a maximum *percentage* of income to be spent in shops is fixed at a level equal approximately to the upper limit of the actual percentage spent in shops by the poorer population, say 80 per cent.

The first alternative has the disadvantage of creating a situation in which the poor, being unable to use all their coupons, are likely to sell a part of them to the rich. The second alternative complicates to a great extent the administration of the scheme and does not make any attempt to use its introduction as an opportunity to increase the consumption of the poorest population. The following seems to me a satisfactory solution of these difficulties.

The government distributes the spending coupons at the flat rate, but at the same time declares that it is prepared to buy back unused coupons at the values to which they relate. As a result anyone who is unable to use a certain amount of his coupons because his income is too small, will be able to sell *half* of the unused coupons to the government and, with the proceeds, make use of the other half for purchases.[1] This arrangement has the following advantages:

(1) The transfer of coupons from the poorer to the richer population is prevented. For a poor man, being able to sell his coupons to the government on the above terms, is likely to prefer to do this, rather than sell them illegally, even if the price offered were higher. On the other hand, the rich will be discouraged from buying coupons illegally because they will have to pay for the coupons more than their face value, and thus pay for the purchase of any particular good more than *twice* its price.

[1] He will be able, of course, to adopt another policy: he may e.g. sell more than a half of the unused coupons and increase his expenditure on services.

Towards Comprehensive Rationing[1] (1941)

1. After a short period of optimism which followed the new budget the problem of inflation has come now before the public with increased urgency. The view expressed in this *Bulletin* that the new budget is not likely to prevent inflation[1] has, unfortunately, been proved true by the hard fact of everyday experience. The recent White Paper on wage and price policy also warns against the danger of inflation and recommends wage stabilization as a remedy. It has been argued many times in this *Bulletin* that the only radical, fair, and efficient way of preventing inflation is some type of comprehensive rationing.[2] In particular in the last *Bulletin* the argument in favour of it as opposed to the remedy of wage stabilization has been put very convincingly by Mr Burchardt.[2] I do not propose, therefore, to return here to this problem but only to examine what in the present circumstances is the simplest way of achieving fairly comprehensive rationing of consumption goods.

The plan of rationing of expenditure in shops which I presented in this *Bulletin* in its final version at the beginning of this year has been superseded to a certain extent by a substantial expansion of specific rationing which has taken place in the meantime. To superimpose rationing of expenditure on the now existing specific rationing of food and clothing would create a system of great complexity, since for a wide range of goods two types of coupons would have to be surrendered. I propose now, therefore, that rationing of expenditure should be used for closing the loopholes in the existing rationing system. The most important of these loopholes is unrationed food—which still represents about two-thirds of total food consumption—and drink and tobacco. I thus suggest as a minimum programme the rationing of joint retail expenditure on these items; in addition the clothes rationing scheme should be amended and stringent rationing of coal, gas, and electricity started immediately. This would still leave many non-food commodities outside the rationing system, and its

[1] See M. Kalecki, 'The Budget and Inflation', this volume.

[2] See 'General Rationing', 'The Financial Position on the Eve of the Budget', 'The Budget and Inflation', and 'What is Inflation?', this volume.

further extension may have to be considered in the future, but for the present the above seem to be the most urgent demands for rendering it fairly comprehensive. We are now going to consider the above points in some detail.

2. The limitation on the total expenditure on food at present unrationed, drink, and tobacco has two important advantages over a further extension of specific rationing in this field: (i) further additions to the list of rationed foodstuffs would render the rationing system very complicated and cumbrous; and (ii) more important still is that while the commodities so far rationed are universally consumed this is not the case for many commodities unrationed at present. The striking examples are drink and tobacco, but in the case of many foodstuffs also, consumption depends much on individual tastes and habits. It is therefore important to secure freedom of choice in consumption of the goods in question.

The control of rationing by value is in general more difficult than that by weight or points, because of the difference between wholesale and retail prices. However, in the case of food, drink and tobacco this difficulty may be easily overcome.

Indeed most retail prices of food, drink, and tobacco have now a definite level all over the country. It is therefore possible to enforce the following rule: when the shopkeeper buys these goods from the wholesaler or manufacturer he must surrender coupons for the amount representing their *retail* value. In this way rationing by value operates much like rationing by points, and may be organized by the Ministry of Food and the Board of Trade on the same lines as the rationing schemes now in existence.

The value of the 'expenditure ration' on food not rationed specifically, drink and tobacco must be fixed at such a level that: (i) running down of stocks should stop; (ii) prices should cease to rise in general and should fall in the case of such commodities where the price advance up till now was very sharp; and (iii) acute shortages, queues, etc., should become uncommon. Since statistics of food imports and production are at present not available I shall not attempt here to make even a rough estimate of the 'expenditure ration' in question. But it may be difficult to estimate it even with full knowledge of the situation and thus it may be necessary to determine it by trial and error.

The fall of prices of certain commodities as a result of the proposed rationing scheme may render their production unprofitable. If its

continuation is found desirable it will be necessary to grant subsidies to the producers. There will also be among the trade stocks certain luxury foods which will become unsaleable under the operation of our scheme. Such goods should be bought off by the government at cost price and distributed to hospitals etc.

Restaurant customers are so far not affected by rationing. It has been argued that their inclusion in rationing schemes would raise the average rations only slightly, since the food consumed in restaurants is only a small percentage of total food consumption. Now, however, when it is commonly recognized that heavy workers must have higher rations, it is pretty clear that 'mobilizing' restaurant food for this purpose would be very useful. It is possible to elaborate rules as to how many coupons of various categories must be surrendered for various types of meals and this must be indicated in the menus. The general principle is that the total coupon value of a meal must be equal to the retail value of the ingredients and thus lower than the price of the meal by the cost of services involved. In this way restaurant customers will be treated equally with the rest of the population.

Heavy workers must be allowed higher rations both of foods now rationed and also higher 'expenditure rations' which we propose for other food, drink, and tobacco.

3. The main drawback of the point rationing of clothing and footwear now in operation is that it puts no limit to the *value* of goods purchased. This tends to induce richer people to buy clothing of very high quality and thus leads to waste of labour for manufacturing such goods (and also of foreign exchange in cases when it requires more expensive raw materials). The simplest way of dealing with this problem is to prohibit the manufacture (or import) of clothing (or dress materials) over a certain price limit. This will release labour for manufacturing goods of more durable qualities which as a result of point rationing are in greater demand and whose supply may thus become inadequate.

Another important rationing problem arises in connection with the coal shortage. Here the best method of meeting the difficulties is to introduce stringent combined point rationing of gas, coal, and electricity. This must be made at once before people with sufficient means and storage space have accumulated large stocks for the winter. On the other hand if coupons are issued for, say, half-yearly periods people will not be prevented from purchasing coal now for the winter, but

only get correspondingly less later on. If, however, rationing, by assuring future supplies, would unduly reduce present purchases—which would lead to congestion of railways in the winter—it is possible to enforce in the next months purchases and storage by local authorities and merchants.

4. In the operation of every rationing system there arises the problem of low incomes being unable to purchase the full ration. This causes rationing to be inequitable, and the more so that the poor, being unable to spend some of their coupons, are likely to use them for the benefit of the rich against reward. This difficulty may be remedied in the following way.[3] The government declares that it is prepared to buy unused coupons of every description at the values to which they relate (in the case of point coupons for clothes and footwear their 'average' value would be paid). As a result anyone unable to use a certain part of his coupons because his income is too small would be able to sell *half* of the unused coupons to the government and so obtain the means for using the other half.[4] In this way both allowances are granted automatically to the lower groups and the transfer of their coupons to richer people against reward is prevented.

This scheme implies, it is true, a certain increase in government expenditure, but every coupon bought by the government makes sure that the consumption of rationed goods will be by so much lower as compared with the level corresponding to full use of coupons issued.

5. The measures outlined above will create, I think, a fairly comprehensive and equitable system of distribution of goods in short supply. After the most urgent demands have been satisfied it will probably be necessary to include in the rationing system some additional categories of non-food goods and services.

[3] See my 'Notes on General Rationing', this volume.

[4] He may, of course, also sell more than a half and increase his expenditure on unrationed goods and services.

Inflation, Wages, and Rationing[1] (1941)

The inflation controversy that has been in progress ever since war began was recently carried a stage further by the White Paper on price stabilization and industrial policy, which in effect advocated stabilization of wages as the remedy. My object in this article will be to examine this proposal and to advocate comprehensive rationing as a preferable alternative. The problem of inflation arises in wartime because the volume of employment is maintained or even increased, whereas the output of consumption goods falls considerably, partly because manpower must be diverted from civil to armament production, partly because of difficulties in importing food and raw materials. Thus, unless the consumption of those other than wage-earners is reduced (to the full extent of the decline in consumption goods output, or even more), the amount of goods purchased by workers for their hourly wage must fall. Consequently, prices rise in relation to wages so as to equilibrate the demand for and supply of consumption goods. In an endeavour to restore the previous level of real wages, the workers demand higher money wages, which leads to the vicious spiral—not, it will be noted, as the cause, but only as a symptom of inflation, in the sense of a deficiency of goods relatively to the volume of purchasing power.

What happens in this situation if money wage-rates are stabilized? Prices must increase in the first instance up to the point at which real wage-rates are reduced sufficiently to equate the demand for consumption goods to their supply. But because wages are kept stable no *subsequent* rise of prices ensues. Real wages are reduced, but this no longer sets in operation the vicious spiral. It is important to notice that *real* wages will not be stabilized at the lower level they first reach. Any further fall in the supply of consumption goods will automatically cause a further decline in real wages. If, for instance, the deficiency in the output of consumption goods is at first made good to a certain extent by depletion of stocks, the rise in prices and fall in real wages may be moderate. But after stocks are exhausted, prices must rise to a level which equalizes demand and current output. Or if, because of

increased difficulties of importing food, there is a further fall in supplies, real wages decline again correspondingly.

Thus both *laissez-faire* inflation and stabilization of money wages will have this in common: that the lower-income groups are hit, and it is the reduction in their consumption which keeps in balance the demand for and supply of consumption goods. This is not only an evil in itself, but it tends also to reduce the productivity of labour both in the war sector and in consumption-goods industries. There is consequently a danger that the war effort is impaired and the output of consumption goods falls further still, causing an additional rise in prices and fall in real wages.

It is sometimes assumed that inflation may be stopped directly by an all-round control of prices. No decrees about prices can, however, increase the supply of goods. The outcome of price-fixing measures is either that prices continue to rise illegally or that the discrepancy between demand and supply is reflected in a shortage of goods and queues. Inflation still exists, but its shape is altered. In this form it victimizes chiefly the people who have no time—or servants—to make the best of the state of haphazard distribution: in other words, those who work hard and have low incomes. That such a state of affairs is detrimental to the war effort need hardly be pointed out.

All this leads us to rationing as the true remedy against inflation. Comprehensive rationing of goods in short supply avoids rising prices, depletion of stocks, and also haphazard distribution. For demand is now adjusted to supply by the direct curtailment of expenditure. And in contrast with the position under *laissez-faire* inflation, wage stabilization, or price control without rationing, the largest cut in consumption is exacted from those with the highest standard of living. Of course, rationing of all goods by description would be quite impracticable. However, the purpose may be achieved *grosso modo* by rationing retail spending in the aggregate. This was the essence of my plan, the final version of which was presented at the beginning of this year.[1] Since that time, the piecemeal rationing of food has been considerably extended and rationing of clothing introduced. To superimpose rationing of total retail expenditure upon the amount of piecemeal rationing now in existence would create a system of great complexity, because for a wide range of goods two types of coupons would have to

[1] See 'General Rationing', this volume.

be surrendered. I have therefore suggested[2] that the rationing of expenditure should now be used for closing the gaps in the existing rationing system.

The most important of these gaps are unrationed food which still represents two-thirds of the total expenditure on food, drink, and tobacco. Rationing of joint retail expenditure on these items would have two important advantages over a further extension of specific rationing in this field: first, further additions to the list of rationed foodstuffs would render the rationing system very complicated and cumbrous; secondly, and more important still, whereas the commodities so far rationed are universally consumed, this is not the case for many of the commodities at present unrationed. It is, therefore, important to secure freedom of choice in consumption of these remaining goods.

The control of rationing by value is in general more difficult than rationing by weight or points, because of differences in wholesale and retail prices. However, in the case of food, drink, and tobacco this difficulty may be easily overcome, since in this field most retail prices have a uniform level all over the country. It is, therefore, possible to enforce the following rule: when the shopkeeper buys these goods from the wholesaler or manufacturer he must surrender coupons for the amount representing their *retail* value. In this way, rationing by value would operate much like rationing by points, and could be organized by the Ministry of Food and the Board of Trade on the same lines as the rationing schemes now in existence.

The value of the 'expenditure ration' to cover food not rationed specifically, drink and tobacco, must be fixed at such a level that: (i) running down of stocks ceases; (ii) prices in general cease to rise and in the case of such commodities where the price advance up to now has been very sharp should actually fall; and (iii) acute shortages, queues, and so on should become uncommon. Restaurant meals must be included in food rationing, but the total value of coupons surrendered should be equal not to the price of the meal—which includes the cost of cooking and all the other services involved—but to the retail value of the ingredients. In addition, I suggest: (i) supplementing the point rationing of clothes and footwear by prohibiting the manufacture (or import) of goods over a certain price limit, which would render rationing by points rather more similar to rationing by value; and (ii) the

[2] See 'Towards Comprehensive Rationing', this volume.

immediate introduction of a stringent combined point rationing of coal, gas, and electricity.

Finally, I propose the following solution to the problem of people with low incomes being unable to purchase the full ration. The government should declare that it will buy unused coupons of every description at the values to which they relate (in the case of point coupons for clothes and footwear their average value would be paid). As a result, anyone unable to use a certain part of his coupons because his income is too small would be able to sell *half* of the unused coupons to the government, and so obtain the wherewithal for using the other half. In this way, allowances are granted automatically to the lower-income groups, while at the same time the transfer of their coupons to richer people by sale on a black market is prevented.[3] This scheme implies, it is true, a certain increase in government expenditure, but every coupon bought by the government ensures that the consumption of rationed goods will be to that extent below the level corresponding to full use of coupons issued.

The above measures would, I believe, create a fairly comprehensive and equitable system of distributing goods in short supply, though it would probably be desirable to include in the rationing system some additional categories of non-food goods and services. On the other hand the scheme outlined would probably give rise to objections of various kinds. It might first be asked why it is necessary to curtail expenditure on consumption by the troublesome means of comprehensive rationing. Could not income tax or Mr Keynes's plan do the job? The answer to this is that an increase in income tax or the imposition of 'blocked saving' may result *chiefly* in a reduction in 'free saving' or even in dissaving. Still more important, perhaps, is that even if expenditure *is* curtailed, this may happen in an unhelpful way: for example, people may spend less, say, on entertainment and education, whereas it is food which is actually scarce. To achieve the same result as the direct rationing of food expenditure by taxation or any other indirect methods is for these reasons impossible.

Another question is: what will be the repercussion of possible wage increases on the system of comprehensive rationing? It must first be emphasized that what drives wages up in the vicious spiral is the rise in the cost of living. Once this problem has been tackled by comprehensive rationing, the rise in wages will have the character of adjustments

[3] Such a black market already exists in clothing coupons.

and thus will be on a moderate peacetime scale. Further, wage increases could then affect the demand for goods in scarce supply only in so far as they made possible a fuller use of their rations by the lower-income groups. This might conceivably entail some reduction in the general ration. But if the system of granting allowances by buying up of unused coupons is adopted, such changes could be only small. In other words, the problem of a rise in wages is to a great extent divorced from that of the demand for goods in scarce supply.

There still remains to be considered, however, the influence of a rise in wages on prices *via* costs. But this is only a special case of a more general problem; a rise in the price of foreign raw materials would create exactly the same difficulties. It is here that the policy of price control and subsidies may play its proper part. While these measures cannot solve the problem of inflation arising out of the scarce supply of goods, they may be used effectively to prevent price increases coming not from the demand, but from the cost side. Lastly, it may be objected that comprehensive rationing considerably reduces the incentive to work harder or more efficiently, because it makes it impossible to spend earnings over a certain limit. It must be noticed first that there still remains the accumulation of savings as an incentive, and that a certain range of goods, and particularly services, would remain unrationed. In addition, however, the incentive may be strengthened by differential rationing. It has now been officially recognized that heavy workers need higher food rations. A more refined differentiation could be introduced in addition based upon working time, etc. Nor would there be anything to prevent the introduction of non-food coupon premia for extra work or more efficient work. It is finally important to stress that comprehensive rationing of food would remove those *obstacles* to work which at present result from shortages and queues.

Differential Rationing[1] (1942)

The necessity for differential rationing may arise for two reasons: (i) some workers, because of the character of their work, may require more than the average of a particular product; and (ii) flat rationing may be unjust to poor people either because the product in question represents a higher proportion of their consumption than of that of the more well-to-do; or because the higher-income groups may more easily compensate for the reduction in the consumption of this product by more expensive substitutes; or finally because the rich may be in possession of some stocks of this product.

1. A good example is offered by rationing of bread and flour (including spaghetti and biscuits) which may become necessary in this country as a result of the shortage of shipping space. Not only do manual workers require more bread, which is an energy food, but also flat rationing would mean a much greater hardship for the poor than for the well-to-do. The rations of manual workers should therefore be *considerably* higher than those of the rest of the population, not only on account of their greater physical effort but also because in general they belong to the poorer strata of the population. Even so, the workers' families with many children will be at a great disadvantage both because they are usually the poorest and because the higher bread ration would be given to *earners*. This, however, can be partly remedied by giving relatively high rations to children in general, and would also be mitigated by the fact that large families would usually find it easier to substitute potatoes for bread. These considerations do not aim, of course, at minimizing the importance of the 'technical' problem of compensation for greater physical effort, and this requires that rations should be differentiated also among manual workers: heavy workers, for instance miners, should get higher rations than other manual workers.

2. What would be the repercussions of the reduction in bread consumption upon consumption of other food? The consumption of potatoes will increase; this does not present any particular difficulty

because the supply of potatoes is ample and may be easily increased.[1] However, there would also most probably be a certain pressure in the demand for other goods. This may necessitate some additional rationing, in particular of products which are more or less close substitutes for bread, as for instance cake. Cake can be included in the points scheme or the scheme for sweets. This measure is in any case overdue, quite apart from the problem of bread rationing. To relieve the position of the poorer population it would be advisable to reduce the prices of products included in the points scheme. This would enable people who do not at present use their ration to buy more. If the supply of 'points foods' is kept constant this would, of course, necessitate the reduction of the ration.

As was indicated in the last *Bulletin*,[2] the problem of bread rationing would be made very much easier if a small part of the shipping space saved thereby could be used for larger imports of cheese or dehydrated meat. It is generally known that bread consumption in wartime is much higher than in peacetime because people compensate in this way for the deficiency in protein foods. The increase in the supply of the latter would reverse this development and thus it would allow of lower bread rations without imposing great hardship, and would also relieve the pressure on the market for other goods. It is, however, by no means certain whether such a scheme is possible. Larger imports of cheese are dependent on rationing of cheese in the USA.[3] As to dehydrated meat it is difficult on the one hand to estimate the possibilities, and on the other hand it will perhaps be necessary to use this import to compensate for reduced imports of fresh meat as a result of losses in refrigerator ships. But even if we abstract from the possibility of increasing imports of cheese and meat, there still remains a way of easing the bread position to a certain extent by differential rationing of meat.

3. Actually, the differential rationing of meat already exists, but it is of a peculiar character. At present all people who have meals in restaurants and canteens enjoy a differential ration of meat, because no coupons are surrendered when eating out. This privileged position of

[1] The substantial admixture of potato flour in bread which is sometimes proposed to save wheat is really equivalent to a flat rationing of wheaten bread, and should therefore be rejected on the same grounds.

[2] See F. Burchardt, 'Shipping—The Bottleneck,' 4/10 (1942).

[3] See ibid.

people taking meals in restaurants can hardly be justified. As to the canteens, they *are* a substitute for differential rationing in favour of manual workers, but even here the rationing is of a haphazard nature, not all workers being able to use the facilities of canteens. The situation should be ordered by making it obligatory to surrender meat coupons in restaurants and canteens,[4] and use the surplus of meat saved in this way for increasing uniformly the rations of the manual worker.

This would mean, of course, shifting a certain amount of meat from the better-off population to the workers. In the event of bread being rationed this would permit a certain reduction in the workers' bread ration. But differential rationing of meat is useful from the point of view of shipping space even if bread is unrationed. If workers were to receive higher meat rations now this would probably cause a reduction in their present consumption of bread, which has increased, as mentioned above, in wartime as a result of the deficiency in protein foods. On the other hand people eating in restaurants are unlikely to compensate the cut in their consumption of meat by substantially increasing their consumption of bread. They will rather direct their demand to other goods which may—just as the differential rationing of bread—necessitate some expansion in the scope of rationing.

4. It has frequently been proposed that clothes rationing should be on a differential basis because rich people are in possession of considerable stocks. The most satisfactory solution of this is, I think, that proposed by Mr Burchardt in the article quoted. He argues there that 'Sir William Beveridge's idea of permitting the use of clothing coupons for fuel purchases (in the case of older people) may well be capable of wider application and may be operated the other way round too. The poor could use excess fuel coupons for buying clothes, the rich clothing coupons for buying fuel. Such a combined rationing by points would permit avoidance of differential rationing of each group taken separately, and it should be possible to devise a scheme which saves imports of clothing materials and does not throw coal consumption out of gear.'[5]

[4] A rough solution of the administrative problem involved is to fix a certain flat coupon value per meat meal. The caterer will then have to make his meat meals in such a way as to cover his meat purchases, for which he will have to surrender coupons according to general rules. He may, of course, try to give meals short of their actual coupon value, but this will probably be to a great extent prevented by competition.

[5] Ibid. 195–6.

I should like now to elaborate this proposal in some detail, namely the problem of fixing the point relation between clothing and coal.[2] Suppose that the number of clothes coupons, after a moderate reduction as compared with the present level, is a, and the unknown number of coupons to be added for coal is x. The total number of interchangeable coupons will be $a + x$. Let us denote further the amount of fuel per coupon by y. A poor man will not be able to cut his consumption of clothing and footwear, therefore his fuel consumption will be xy. If we denote by b the level at which we want to fix it we have the equation

$$xy = b.$$

Now a very rich man may abstain from buying clothes at all and spend all his coupons on fuel. His fuel consumption will therefore be $(a + x)y$. Let us now assume it is decided that he should not exceed the fuel consumption of the poor by more than m per cent. We then obtain the second equation

$$(a + x)y = b\left(1 + \frac{m}{100}\right).$$

It may easily be obtained from these two equations that $x = a \cdot \frac{100}{m}$ and $y = \frac{b}{a} \cdot \frac{m}{100}$ If, for instance, m is 75 per cent, then $x = 1.33a$ and $y = \frac{b}{1.33a}$.

The scheme would also have the advantage of settling the difficulty arising out of the fact that families with many children require more clothes but usually less fuel, because they will be able to spend more of their coupons on clothes and less on fuel.

The value b of the fuel consumption per head of a poor household must be determined so as to balance the total demand for and supply of fuel for household use. The difference in climatic conditions of various regions may also be accounted for by varying the number of cloth-fuel coupons distributed in these regions.

Some Problems of Non-Food Rationing[1] (1942)

While food rationing, although still far from being comprehensive has been making steady progress, non-food rationing did not expand after the introduction of the point system for clothing and footwear.[1] The most important bottlenecks in non-food consumption seem to be fuel, household goods, and long-range travelling. We shall deal below with the problem of rationing of these three items.

1. It seems fairly likely that the present measures to cope with the scarcity of coal cannot be relied upon to balance demand and supply beyond this winter because they involve drawing on stocks. If output does not increase substantially rationing will finally prove necessary. It has been argued in this *Bulletin* that a satisfactory solution of fuel rationing could be obtained by combining it in one scheme with clothes and footwear rationing.[2] Indeed the requirement of a household for fuel is not necessarily proportionate to the number of persons because it depends to a certain extent on the number of rooms. Now households with a relatively large number of rooms per person will be as a rule those of the more well-to-do. Such households, however, will in general be in possession of larger stocks of clothing and may thus more easily abstain from buying new clothes.

The problem of the point relation between clothing and coal in a combined rationing scheme has been considered in one of the articles quoted.[3]

The number of clothing-fuel coupons which should be given to children would depend on the balance of two considerations: (i) large families require less fuel per person if they heat only one or two rooms; and (ii) children require more clothes and footwear, which is accounted for in the present clothing scheme. The difference in climatic conditions of various regions can be taken into account by varying the

[1] Except that towels, tea towels and curtains have been included in the clothing scheme. Rationing of soap is managed by the Ministry of Food.

[2] See F. Burchardt, 'Shipping—The Bottleneck', op. cit. and M. Kalecki, 'Differential Rationing', this volume.

[3] See p. 28, this volume.

number of clothing–fuel coupons geographically. It has been indicated that such regionalization of the rationing of fuel cannot take account of all differences in climatic conditions. In the clothing–fuel scheme the hardships due to this factor would be lessened to a certain extent by the possibility of buying less clothing and more fuel.

2. The problem of shortages and high prices in the sector of household goods cannot be solved by utility schemes and price control now in operation. The utility schemes apply to new production of household goods which probably will fall short of demand at utility prices. The price control for household goods in stock amounts to freezing prices at the level they were when the control was recently introduced. This price level is very high and in many cases probably not fully justified by the wartime increase in prime costs (inclusive of purchase tax). Moreover an effective price control even on this basis presents serious difficulties.

The missing link in the present system of distribution is clearly rationing. It may, however, be easily seen that in the case of household goods rationing must be supplemented by licensing. Rationing may take account only of demand arising out of wear and tear of durable goods in existing households; adequate supplies for newly married couples or people bombed out must be made available 'off the ration'. (Such an arrangement exists already in the clothing scheme for bombed-out people; priority for utility furniture is also given to newly married couples and people bombed out.)

The scheme of distribution of household goods should thus be based on a small personal point or value ration corresponding to the wear-and-tear requirements and on licensing in 'extraordinary' cases. Such a scheme would be fairly easy to operate on new production which is now fully (or almost fully) on utility lines. Its extension to goods in stock is fairly difficult because they are not standardized and because the coupon control would not be very effective.

One way would be, of course, to leave the 'old goods' outside the distribution scheme (this was actually the course taken by the Board of Trade in licensing of furniture which applies only to newly produced utility furniture). Such a solution may, however, be objected to on the following grounds: (i) it is inequitable, everybody with sufficient means being able to buy from 'old stock' at high prices; and (ii) to include 'old' stock at least partly in the rationing and licensing scheme would permit reduction of current production even more, or the preparation

of an emergency reserve of household goods in case the bombing of this country were renewed.

A better solution may be achieved in the following way. A government agency earmarks in shops and stores household goods suitable for mass consumption, pays a reasonable price to the dealers for them, and fixes on them prices comparable with those of utility goods (which may and probably will be lower than the prices paid to the dealers). These goods are then either made available to the rationing and licensing scheme or (which is probably easier from the point of view of administration) stored for emergency. The proceeds of their sale would, of course, be transferred to the government agency which would control the shops by making inventories from time to time of the earmarked goods.

3. The bottleneck in long-range travelling has been dealt with so far mainly by reducing the number of passenger trains and suspending certain long-range bus services. As a result average utilization of all passenger trains has approximately doubled.[4] This was quite a reasonable way of coping with the situation. People were forced to travel less conveniently or to give up travelling altogether. If, however, the demand for travelling facilities increases further or the number of trains (or bus services) is further reduced, the system may cease to work because passengers will frequently be stranded. At such a point some kind of rationing, difficult though it is, becomes imperative. The increase in fares (and the recent abolition or cheap daily return tickets actually amounted to this) is either ineffective in cutting down travelling or curtails it in an inequitable way.

It is indeed obvious that travelling does not lend itself easily to rationing, the demand for this service being extremely uneven. The natural system for a just curtailment of travel is comprehensive licensing, but the amount of administrative work involved is clearly prohibitive. We try to outline below a kind of licensing-rationing scheme, which is far from being easy in operation but at least seems practicable.

The 'licensing part' of the scheme would be as follows: (i) workmen's tickets would be not affected by rationing; (ii) present holders of season tickets would be entitled to renew them; (iii) season tickets would be sold in addition to persons who are not in possession of such tickets at present but who require them by virtue of their occupation (travelling to and from work or on duty); (iv) people who travel regularly in

[4] See E. T. Buckatzch, 'Reorganisation of Inland Transport,' *Bulletin*, 7/16 (1942).

connection with their work but not frequently enough to make it worth buying a normal season ticket would get cheaper season tickets of special type; and (v) for 'irregular' travelling on duty emergency tickets would be sold.

The rest of travelling (except that of those in the forces) would be rationed by distance. The personal ration should be relatively high (say an equivalent of £5 to £10 worth of third-class return tickets per annum), because the demand of some for travelling services is high (for instance that of members of dispersed families) while many people travel very little. In particular cases even a relatively high ration may involve serious hardship. To remedy it the scheme would permit the exchange of coupons of other non-food and perhaps also some food schemes for travelling coupons (but not vice versa) at established exchange rates. This would give to the travelling scheme some elasticity, but at the same time more travelling would require a sacrifice in other sectors of consumption. A cut in travelling could be affected both by the reduction of the 'basic ration' and by the increase in the exchange rate between other coupons and the travelling coupons.

Because of the uneven demand for travelling services strong precautions should be taken against transfer of coupons. (For instance, coupons should be cancelled by a date stamp in the booking office and controlled in the train together with the ticket. Otherwise one person might buy a ticket for another.)

The scheme outlined still clearly involves substantial administrative work, but with further straining of the railway and bus services something of this type may become necessary.

Rationing and Price Control[1] (1944)

1. It has been stated time and again that price control without rationing is not effective in combating inflation.[1] The inflationary tendency arises when the demand for consumption goods exceeds their supply at current prices, and therefore prices tend to increase. If they are fixed at the existing level the discrepancy between demand and supply must show itself in queues and shortages and the distribution becomes haphazard. The reply to the opposite question, whether rationing makes price control unnecessary, is much less obvious. We shall start from the simple case of rationing of one commodity and then pass to the more complex one of the point rationing scheme.

2. Imagine that rationing of a certain commodity has been introduced. The first requirement that it shall be effective in preventing the increase in price of this commodity is that the rations should be fixed at such a level as to match the available current supplies. If the ration is 'too high' the price will tend to increase. In some cases, however, prices may rise after rationing even if the ration *has* been properly matched with the available supply.

Imagine that rationing is introduced at the stage where there is a *tendency* for inflationary price increases, i.e. for the rise of prices out of proportion to prime costs, but that this has not happened in the past. In other words, the ratio of price to prime costs is still 'normal', but there is a tendency for this ratio for increase under the pressure of demand. The introduction of rationing brings into equilibrium the quantities demanded and supplied. Prices may nevertheless increase for a different reason. It seems fairly likely, at least for some commodities, that rationing reduces the sensitiveness of customers to price differences as between various sources of supply. Thus the market becomes more imperfect; competition becomes less keen; and the price may increase although the disequilibrium between demand and supply has been removed by rationing. To prevent this, price control is required.

[1] See e.g. M. Kalecki, 'What is Inflation?', this volume.

3. We see that there are some reasons for accompanying rationing by price control if we want to keep the price at the level which prevails at the time when rationing is introduced. We are going to show now that price control is even more important if we want to reduce the price. Such will be the case, for example, when rationing is introduced after a certain measure of inflation has taken place, i.e. after the price of a given commodity has risen appreciably in proportion to its prime costs under the pressure of demand. Can we expect that rationing by itself will do the trick? The reply is rather negative.

First, rationing is usually combined with a quota system, i.e. the allocation of supplies to firms in certain fixed proportions. As a result, after rationing which matches the current supplies has been introduced the firms cannot tend to increase their sales by competing with one another. But even if we assume that this factor is not effective because rations have been fixed somewhat below the level matching the available supply, there is another reason why it is very uncertain whether prices would fall. As already mentioned, rationing may cause the market to become much more imperfect and this will prevent competition from bringing the price down.

The most effective way, then, to reduce the prices to the 'normal' level, i.e. to the level which shows a 'normal' ratio to prime cost, is price control. It should be added, however, that if prices are reduced considerably below the level they have previously reached, it may necessitate some reduction in the ration. For the reduction in price may increase demand somewhat by inducing those people who at the old price did not use fully their coupons to increase their purchases.

To sum up: in order to reduce the inflated price it is necessary to accompany rationing by price control. The ration in general must be somewhat lower than that which would match current supplies at the price which was in existence at the moment of introduction of rationing.

4. All the conclusions arrived at above are applicable to a point scheme. The ration in terms of points must match the current supplies in terms of points. Price control is desirable if it is intended to keep the prices at the level prevailing at the moment when rationing is introduced. It is necessary if it is intended to reduce the prices below this level. There are, however, additional problems to be considered. We are now dealing not with one good but with an aggregate of goods. That demand and supply are equilibrated by rationing for all goods in

terms of points does not mean that such an equilibrium exists for each of the goods in question taken separately. Demand and supply for single goods may be adjusted either by the automatic movement of uncontrolled prices or by changes in point values, i.e. in points necessary to purchase a unit of a given good.

We shall argue that the latter is the preferable way. The system of prices should be controlled while demand and supply for single commodities should be brought into equilibrium by varying the relative point values. This may be supplemented by changes in the relations of controlled prices.

It may be shown that if such adjustments are left to the 'free play' of prices it is by no means certain that the price index of the commodity group considered would not increase. Take, for instance, the case when we have two commodities A and B in the point scheme. Let us assume that the total number of points in the ration is divided equally between these two commodities, and so is their value in terms of money. Imagine now that the demand shifts from A to B, while the supply of either commodity is fixed. Imagine further that A has closer substitutes among the commodities outside the group than B. Then the relative price rise in B will be higher than the relative price fall in A and the price index of the group will rise. Of course, when demand shifts from B to A there will be a decrease in the price index of the group.

There is, however, a factor which makes for a tendency for the price index of the group rather to rise than to fall when demand shifts from one commodity to another. So far we have assumed that price changes have to be such that the volume of sales of either commodity would remain unchanged. In fact, that will be true only of the commodity in greater demand if its supply cannot be increased. But the price of the less demanded commodity may not fall at all or at least not enough to prevent a decline in the volume of its sales; the fall in demand may cause a reduction in supply or an increase in stocks.

It follows that the best way to stabilize the price index of the group is to keep the prices of commodities concerned under control and change the relative point values until equilibrium of supply and demand is achieved for all commodities. It may be useful to supplement this measure by changes in the relations of the controlled prices, in particular when a large part of the consumers do not use their coupons fully and thus are not subject to the influence of changes in relative point values. We may thus conclude that in the case of a point scheme price

control is desirable for additional reasons and that it should be combined with variable point values.

5. An interesting illustration of the above may be found in the developments which took place in the first year of rationing of clothing and footwear when it was unaccompanied by price control. After the introduction of rationing in June 1941, the retail price index of the Ministry of Labour continued to rise until March 1942, the total rise in that period having been about 10 per cent. It is true that in the same period there was some rise in the prices of raw materials and wages in this sector, but from all that we know the order of these changes was not such as to justify the increase in the prices of finished products by 10 per cent. We also know that in the same period a shortage of cheaper goods was noticeable and probably it is mainly their prices that caused the increase in the price index.

The rise in prices after the introduction of rationing might have been due to the rations being too high in relation to the available supply. But the shortage of cheaper goods points to another factor which might be even more important in this context. The shortage of cheaper goods was most probably due to a *relative* shift in demand. The rationing of clothes and footwear cut severely the consumption of the higher-income groups while that of the poor was little or not at all affected.[2] The structure of production, however, did not adapt itself to this change for some time. (The quota of firms specializing in production of cheap and expensive clothing was probably reduced in the same proportion initially.) As a result there was a tendency for cheaper goods to increase in price while the prices of more expensive goods did not fall.[3] Thus there was a tendency for the price index of clothing to increase even independently of the fact that the rations might have been fixed a little too high in relation to the available current supply.

After a certain time, in order to accelerate the change in the structure of production, price-controlled utility goods were introduced. As a result after March 1942 the price of clothing ceased to rise and in September started to fall. The analysis of the extent to which this fall was due to the pressure of price control or to the reduction in costs of

[2] This influence was probably more important than the tendency of individuals to buy better-quality goods for their coupons.

[3] The increased market imperfection resulting from rationing, in particular in goods bought by richer people whose consumption had been cut by rationing much below the level they could afford out of their incomes, may have contributed to this.

production of utility goods and their exemption from purchase tax is beyond the scope of this paper.

6. It follows from the above argument that it is always useful and in most cases necessary to supplement rationing by price control. This conclusion is of some practical importance for the post-war transition period. As long as some commodities are in scarce supply both rationing and price control must be maintained. And even after rationing is made unnecessary by ample supplies, price control may be usefully applied for pressing down prices which are 'high' owing to a considerable degree of market imperfection or the existence of industrial monopolies.

II. WAR FINANCING AND ECONOMIC EQUILIBRIUM

Wage Bill and Cash Circulation[1] (1940)

1. The purpose of this note is to establish and discuss the correlation between the wage bill of the country and the circulation of coins and notes. This correlation may then be used as the basis of an extrapolated estimate of the current wage bill.

On the basis of wage-rates, and of a plausible guess as to the present level of employment, another estimate for the wage bill may be prepared and the two estimates may be shown to confirm each other, which means that our guess as to employment is consistent with the indirect evidence on the wage bill furnished by the notes and coin in circulation.

The theoretical arguments on the connection between cash-paid incomes (inclusive of cheque encashment to self) and cash circulation first deserve some consideration.

2. It may seem prima facie that if the cash-paid income Y is constant so is the cash circulation C. However, in fact the distribution of Y between various income groups has also a bearing upon C. Indeed higher-income groups are in general likely to hold larger amounts of cash in proportion to their cash-paid incomes.[1] A shift in the distribution of Y from lower to higher incomes will therefore result in the increase in C though Y remains constant.

Let us now divide C into the coin circulation, C_1, and the note circulation, C_2. It is easy to see that a shift from lower to higher incomes is accompanied by a fall in C_1 in relation to C_2, the proportion of cash held in coins being much less for the higher-income groups. From this it follows that there exists a weighted average of C_1 and C_2 which remains constant in spite of the change in the distribution of incomes

[1] This for two reasons: (i) people with higher incomes may afford to keep a relatively larger cash reserve; and (ii) salary-earners are paid monthly and wage-earners weekly.

$$a_1 C_1 + a_2 C_2 = \text{constant}. \tag{1}$$

And since according to the above $C_1 + C_2$ has increased, $a_1 > a_2$ (for if $a_1 < a_2$, $a_1 C_1 + a_2 C_2$ must rise).[2]

The value of a_1 and a_2 may vary with the degree and type of change in the distribution of incomes, but still they are likely to be pretty stable.

So far we have considered the influence upon the cash circulation of the changes in the distribution of cash-paid income Y, whose value was assumed given. We want now to introduce into our formula (1) the influence of changes in the absolute value of Y. Imagine that all money incomes increase in the same proportion. It may then be assumed that $C = C_1 + C_2$ also rises approximately in that proportion.[3] However, the coin circulation C_1 increases in a lesser proportion than the note circulation C_2. Since in our formula (1) $a_1 > a_2$, it follows that $a_1 C_1 + a_2 C_2$ increases in a lesser proportion than $C_1 + C_2$ and thus in a lesser proportion than Y. Or the constant in equation (1) is a function of Y which rises more slowly than Y. As a first approximation we may therefore assume

$$a_1 C_1 + a_2 C_2 = pY + q, \tag{2}$$

where p and q are positive.

3. We have no adequate data to establish the value of Y. However, it is easy to calculate a series with which Y is likely to be strongly correlated. We shall, namely, compute the product of the number of insured in employment by the average wage-rate. Let us call this series W. It may be assumed that Y is strongly correlated with W, but that it varies more slowly than the latter, since the cash-paid incomes (inclusive of cheque encashments to self) of the higher-income classes not represented in W are likely to be more stable than W. Another reason is that unemployment relief varies inversely with the wage bill. Thus equation (2) may be written

$$a_1 C_1 + a_2 C_2 = kW + 1,$$

where k and 1 are again positive. Or if we denote

$$\frac{a_1}{k} = b_1; \quad \frac{a_2}{k} = b_2; \quad \frac{1}{k} = m$$

[2] If C_1, while falling in relation to C_2, rises in absolute value, a_2 is negative.

[3] Provided real incomes do not increase strongly, for in such a case according to the above the amount of cash would rise appreciably more than incomes, since people with higher real incomes hold more cash in proportion to their incomes.

we have

$$W = b_1 C_1 + b_2 C_2 - m, \qquad (3)$$

where b_1 and m are positive and $b_1 > b_2$. We shall now calculate W for the period 1929–38, and correlate it with C_1 and C_2. This will enable us to establish the coefficients b_1, b_2, and m and to see whether they fulfil the above requirement.

4. The calculation of W is given in Table 1.

Table 1. *Employment, Wage-Rates, and Income in Great Britain, 1929–1938 (1929=100)*

Year	Employment[a] (1)	Wage-rate[b] (2)	$W = (1) \times (2)$[c] (3)
1929	100	100	100
1930	95.5	99	94.5
1931	92	98	90
1932	91.5	97	89
1933	94.5	96	90.5
1934	99.0	97.5	96.5
1935	101.5	99	100.5
1936	106.5	102	108.5
1937	112.5	105.5	118.5
1938	111.0	109	121

[a] After allowing for strikes and sickness. *Ministry of Labour Gazette.*
[b] Up to 1936: A. L. Bowley, *Wages and Income in UK since 1860*, Cambridge, University Press, 1937; 1930–8: *London and Cambridge Economic Service.*
[c] W is *not* a precise index of wage and small-salary bill: (i) small-salary-carners are included in employment but their weight in it is lower than in the wage and salary bill; (ii) the changes in wage-rates may not be representative for changes in salaries.

In Table 2 W is compared with C_1 and C_2. C_1—the coin circulation outside banks—is computed as the difference between the total coin circulation as given in the *Bank of England Statistical Summary*, and the amount of coin held by the banks computed from the *Annual Reports of Deputy Master of the Royal Mint*. (Details of the computation are given in the Appendix.) C_2—the note circulation outside banks—is then obtained by subtracting C_1 from the total circulation of coin and notes outside banks as given in the *Bank of England Statistical Summary*.

We obtain from these data the regression equation of W in terms of C_1 and C_2

Table 2. *Wage Bill and Cash Circulation in Great Britain, 1929–1938*

Year	W[a]	C_1[b]	C_2[b]	W calculated from the regression equation
1929	100	53.9	287	99
1930	94.5	52.4	287	95.5
1931	90	50.6	291	91.5
1932	89	48.2	301	87.5
1933	90.5	49.6	395	91
1934	96.5	51.5	311	96.5
1935	100.5	53.0	324	102
1936	108.5	53.2	356	107
1937	118.5	55.2	402	117.5
1938	121	56.7	406	121.5

[a] 1929 = 100
[b] £m. average

$$W = 2.37 C_2 + 0.136 C_1 - 68.$$

As will be seen from Table 2, W calculated from this equation gives a very good approximation to the original series: the deviation does exceed 1.5 per cent. It is also easy to see that the coefficients b_1, b_2, and m fulfil the conditions following from our theoretical argument, indeed

$$b_1 = 2.37, \quad b_2 = 0.136, \quad m = 68$$

and thus

$$b_1 > b_2 \quad \text{and} \quad m > 0.$$

5. We shall now apply our regression equation for estimating the wage bill in the first half of 1939 and of 1940.[4] For the first half of 1939 the data on employment and wage-rates are available as in the preceding years and thus the comparison of W computed directly and calculated from the regression equation will be only another test for the validity of the latter. The position in the first half of 1940 is entirely different as mentioned at the beginning of this note. Because of withdrawal to the Forces, extra entries (i.e. entries over the 'normal' level) and unusually high degree of overtime, it is impossible to calculate the volume of employment from the available data of Unemployment Insurance and any estimate of it is bound to have an extremely precarious basis. Thus here our regression equation may provide a valuable check on such estimates.

[4] For the second half of 1939 C_1 and C_2 are not available owing to the use of postal orders as legal tender in the period Sept.–Dec.

After having considered the influence of the withdrawal to the Forces[5] on one hand and that of extra entries and overtime[6] on the other, we have come to the conclusion that the balance of these factors is not likely to be great. If this is true the volume of employment may be calculated approximately for the first half of 1940 in the usual way, i.e. by subtraction of the number of unemployed from that of insured (which is calculated from its level in July 1939 by adding the 'normal' entry at a rate of 200,000 per year). It is quite clear, however, that the result obtained is extremely unreliable, and must be checked in some other way. It is for this purpose that we shall use our regression equation.

In Table 3 we give the figures of employment (that for the first half of 1940 is put in brackets in order to stress its hypothetical character), the wage-rates,[7] the resulting W, the circulations of coin and notes, C_1 and C_2,[8] and finally W calculated from the regression equation. The perfect agreement between actual and calculated W in the first half of 1939 is another test of the validity of the regression equation. The agreement between our guess of W in the first half of 1940 and the value calculated from the regression equation is also perfect, and this may be considered

Table 3. *Employment, Wage-Rates, Wage Bill, and Cash Circulation in Great Britain, 1939 and 1940*

Year	Employment[a]	Wage-rates[a]	$W = (1) \times (2)$[a]	C_1[b]	C_2[b]	W calculated from the regression equation
	(1)	(2)	(3)	(4)	(5)	(6)
First half of 1939	113.5	110	125	58.5	402	125
First half of 1940	(120.5)	118	142	62.5	453	142

[a] 1929 = 100
[b] £m. average

[5] Total withdrawals were estimated on the basis of the number of territorials, volunteers, and registered conscripts (taking into account the delay in calling up) and percentages of rejected and reserves. The figures so obtained were reduced in the proportion the number of insured bears to the total occupied population.

[6] This was estimated on the basis of rather arbitrary but plausible assumptions.

[7] The series is continued on the basis of *London and Cambridge Economic Service*.

[8] The details of the estimate of C_1 are given in the Appendix. C_2 is obtained as for preceding years by substraction of C_1 from the total circulation outside banks as given by the Bank of England *Statistical Summary*.

a confirmation of our hypothesis that the extra entries and overtime were balanced approximately by the withdrawal to the Forces and the figures of employment (and W) in Table 3.[9] It thus follows that employment in the first half of 1940 (allowing for overtime) was probably 5–6 per cent higher than in the same period of 1939.

Appendix

In Table 4 we give the total coin circulation (taken from *Bank of England Statistical Summary*) and the amounts of coin held by banks at the end of June (*Annual Reports of the Deputy Master of the Royal Mint*). From the latter series the annual averages are calculated (in default of other data) on the assumption of a linear change from June to June. The coin circulation outside banks is obtained by subtracting the latter series from the total coin circulation.

Table 4. *Coin Circulation in Great Britain, 1928–1938 (in £m)*

Year	Total coin circulation	Coin held by banks		Coin circulation outside banks (1) –(3)
		at end of June	estimated yearly average	
	(1)	(2)	(3)	(4)
1923		15.6		
1920	69.0	14.8	15.1	53.9
1930	69.3	18.6	16.6	52.4
1931	68.7	18.2	18.1	50.6
1932	67.0	19.1	18.8	48.2
1933	67.0	17.4	17.4	49.0
1934	67.8	16.1	16.3	51.5
1935	69.6	16.5	16.6	53.0
1936	71.3	18.0	18.1	53.2
1937	75.3	20.3	20.1	55.2
1938	78.0	21.3	21.3	56.7

For the first half of 1939 and 1940 the data on the amount of coin held by the banks are not available. They were estimated as follows. The above figures of coin held by banks were compared with those of coin and notes held by

[9] It is likely that the note circulation in June was affected to a certain extent by hoarding, for this factor would, however, reduce the 'calculated W' for the first half of 1940 not more than by 0.5 (i.e. from 142 to 141.5).

them (as given in the Bank of England *Statistical Summary*) and it was discovered that since 1932 the proportion of coin to coin and notes varied within rather close limits: between 13 and 15 per cent. Thus the amount of coin held by banks in 1939 and 1940 was estimated as 14 per cent of that of coin and notes (£149m. and £165m. respectively) which gives £21m. and £23m. per cent respectively. After deduction from the total coin circulation (£79.7m. and 85.7m.) we obtain in round figures £58.5m. and £62.5m. respectively.

Wage Bill and Cash Circulation: A Supplement[1] (1940)

1. In the article under this heading published in the last *Bulletin* I tried to establish a correlation between the wage bill and the circulation, of coin and notes, and to apply it to the estimate of the present volume of employment. It has been indicated to me since that the series of circulation of coin and notes require certain corrections, and this has made desirable a revision of the calculation in question. As will be seen, however, this revision leaves almost unaffected the estimate of the present level of the wage bill and employment. In the meantime there has been published another estimate of these, based on a sample enquiry.[1] We compare it with ours at the end of this note.

2. The first correction relates to the amount of coin held by banks which it is necessary to deduct from the total coin circulation, in order to obtain that outside banks. This amount is given in the *Annual Report* of the Deputy Master of the Royal Mint for the last day of June; thus in various years it is a different day of the week, and this affects to a certain extent the figures in question, because the amount of coin held by banks fluctuates during the week, reaching its highest on Thursday and its lowest on Saturday. I tried to eliminate these 'seasonal' variations, and thus arrived at a new series for coin circulation, C_1, given in Table 5.[2]

[1] 'Changes in Wage Rates and Earnings in 1939–1940', *Economic Journal*, 50/2–3 (1940).

[2] This was done as follows. The amounts of coin held by the banks at the end of June in the years 1925–38 were divided by the June averages of cash (coin and notes) held by London clearing banks (as given in their monthly returns for June). In this way the 'non-seasonal' factor was partly eliminated and the 'seasonal' factor stressed. The ratios corresponding to years with the same end-of-June day were averaged, and the indices of 'seasonal variation' were assumed to be proportionate to these six averages. Finally in order to obtain an estimate of the yearly averages of coin held by banks the original ratios of coin held by banks at the end of June to June averages of cash held by clearing banks were divided by the indices of 'seasonal variations' and multiplied by the yearly averages of cash held by clearing banks.

As to the circulation of notes outside banks, this was affected in the period after 1935 by foreign hoarding, which factor should be eliminated before correlating wage bill with cash circulation. The foreign hoarding is reflected in a sharp rise in the quantity of notes of higher denomination after 1935. It is on this basis that we estimated the deductions to be made: 1936—£15m., 1937—£30m., 1938—£30m. The series C_2 thus obtained is given in Table 5.[3]

Table 5. *Corrected Wage Bill and Cash Circulation in Great Britain, 1929–1938*

Year	W (1929 = 100)	u = unemployment benefit[a] as percentage of wage and small-salary bill in 1929	$W_1 = W + u$	C_1^b	C_2^b	W_1 calculated from regression equation
1929	100	2.5	102.5	51.4	290	99.5
1930	94.5	4	98.5	50.9	289	98
1931	90	5.5	95.5	50.8	291	98
1932	89	5.5	94.5	49.4	300	95.5
1933	90.5	5	95.5	49.6	305	97
1934	96.5	4.5	101	50.4	312	100
1935	100.5	4.5	105	51.8	325	105
1936	108.5	4	112.5	53.5	341	111.5
1937	118.5	4	122.5	55.5	372	121
1938	121	4.5	125.5	58.2	375	128

[a] Approximate
[b] £m. average

3. The correlation between W (i.e., employment multiplied by wage-rate) and C_1 and C_2 is still close but much less so than that in the original article. The latter has proved 'too good to be true'. Since W is but an imperfect symptom of cash-paid income it could be hoped that the correlation with the cash circulation might become closer if some improvement were brought about in this respect. This was done by allowing for unemployment benefit the amount of which is small as compared with the wage and small-salary bill, but fluctuates violently. In Table 5 unemployment benefit is expressed as a percentage of wage and small-salary bill in 1929. By adding this series to W the series denoted by W_1 is obtained. This has been correlated with C_1 and C_2. The regression equation is

[3] Other small changes as compared with the corresponding series in the original article are due to changes in the coin circulation, C_1. (C_2 is obtained as the difference between total net cash circulation and C_1.)

$$W_1 = 2.5C_1 + 0.138C_2 - 69.$$

As may be seen from Table 5 the correlation is quite satisfactory, the deviation only once reaching 3 per cent.[4]

4. We are now going to use our formula to calculate W in the first half of 1939 and 1940. The amount of coin held by banks calculated by the method mentioned above has been in the last few years very close to 17 per cent of the cash (coin and notes) of the London clearing banks. Applying this percentage to their cash in the first half of 1939 and 1940 we obtain £20.5m. and £22.5m. respectively.[5] With the total coin circulation in this period of £19.7m. and £85.7m. we obtain for C_1 in round figures £59m. and £63m. The net note circulation C_2 is obtained by deducting from the total cash circulation the coin circulation C_1 and the estimated amount of foreign hoards in 1938 (i.e. £30m.) which gives £37m. and £422m. respectively. In Table 6 we compare the actual W in the first half of 1939 and a guess of W in the first half of 1940 (see the original article, p. 42) with W obtained by means of our regression equation. (We calculate by means of it W_1 and then deduct unemployment benefit.) It must be added that on the basis of complete data on wage-rates the index in the first half of 1940 is not 118 as given in the original article, but 119.

Table 6. *Corrected Employment, Wage-Rates, Wage Bill and Cash Circulation in Great Britain in 1939 and 1940*

Year	Employment[a]	Wage-rate[a]	W^a	C_1^a	C_2^b	W_1 calculated	u unemployment benefit[a]	$W = W_1 - u$ calculated
First half of 1939	113.5	110	125	59	372	129.5	4.5	125
First half of 1940	(120.5)	119	143.5	63	422	147	3	144

[a] 129 = 100
[b] £m. average

5. According to the above figures the rise in the average volume of employment (inclusive of overtime) in the first half of 1940 as compared with the same period of 1939 was about 6 per cent and that in W,

[4] If W is correlated with C_1 and C_2 the maximum deviation appears to be 4.5 per cent.

[5] In the original article we used for this purpose the ratio of coin held by banks to cash held by *all* banks. In the latter figure, however, the cover for Scottish and Irish note issues is included, and therefore the present method seems more reasonable.

15 per cent. The sample enquiry mentioned above gives for the increase in the wage bill between March 1939 and March 1940 20.5 per cent. It follows, however, from a remark in the *Journal*, 50/2–3 (1940), 190 that if the industries represented in the sample were given weights proportionate to the total numbers of operatives employed in them this increase would be reduced to 19 per cent. The difference of 3.5 per cent (199/115 = 103.5) between this result and the percentage increase we obtained for W may be easily accounted for by the following factors: (i) the sample enquiry embraced only operatives; however W is the product of insured employment and wage-rate of those employed, which included also the insured salary-earners the employment of whom is likely to have increased less than that of operatives; (ii) the sample enquiry seems not to include construction and some other industries whose employment is likely to have expanded less than in the branches represented in it. Taking this into consideration the agreement between the results of the two enquiries may be considered satisfactory.

War Finance in the First Half of 1940[1] (1940)

Introduction

1. The purpose of this paper is to give a crude outline of how the war effort was financed in the first half of 1940. We start by establishing a pre-war correlation of wage and small-salary bill and 'other incomes' (salaries over £250, rent, interest, and profits gross of depreciation) with employment and wage-rates. On the basis of these correlations and the present level of employment (as estimated in a recent article in the *Bulletin*[2] and wage-rates, hypothetical figures for wage and small-salary bill and 'other incomes' are then evaluated and from them, by making certain assumptions on the propensity to save, a hypothetical figure for savings is derived. This figure is compared with the budget deficit, allowing for the negative balance of payment on current account and private investment in fixed capital. As will be seen below, a considerable gap between the two amounts in question appears to exist, which may be accounted for: by our hypothesis underestimating the propensity to save; by our pre-war correlations not holding good in wartime; by the decrease in stocks, etc. The analysis of these factors leads up to the discussion of whether there was any inflation in the first half of this year. The position in July and August is also briefly considered. Finally, we give a definition of what is actually meant by 'paying for the war' and try to estimate what was the burden of the war on incomes below £250 and 'other incomes'.

It must be pointed out that the results of this enquiry have no claims to precision; they give only the most approximate picture of the developments, whose chief merit is that it is better than none.

Pre-war Correlations of Wage Bill and Other Incomes with Employment and Wage-Rates

2. We shall first establish a correlation of the gross home-produced national income with employment and wage-rates. By gross national income is meant here the sum of all private income (exclusive of transfers) + undistributed profits + depreciation and maintenance − income from overseas. The theoretical reasons for the existence of such

a correlation are as follows. Let us denote the gross national income by Y and the index of prices by which it is necessary to deflate Y in order to obtain the real national output, by p (Mr Clark calls it an index of output prices). Then by definition Y/p represents the national output. The latter is a more or less close function of employment and changes in labour productivity due to technical progress. If we denote an index reflecting the latter by l, then Y/pl will be approximately a function of employment only. l is an index of the productivity of labour, from which changes due to increasing or diminishing returns are eliminated. Thus pl is an index of the 'value added', produced by a labour unit after elimination of increasing or diminishing returns. It follows that pl depends on wage-rates and factors determining the distribution of the national income in the short period. One of these factors being employment, a significant correlation may be expected to exist between pl on the one hand and wage-rates and employment on the other. Now Y/pl being closely correlated with employment, it follows that Y is likely to exhibit a rather close correlation with employment and wage-rates. We are going to examine it for the period 1929–38.

In Table 7 are given the figures of gross home-produced national income Y in the above sense according to Mr Clark; employment e; and the index of wage-rates w.

Table 7. *Correlation of National Income with Employment and Wage-Rates in Great Britain, 1929–1938*

Year	Home-produced national income (Y)[a] £m.	Employment (e)[b] 1929 = 100	Wage-rates (W)[c] 1929 = 100	Y calculated from regression equation (£m).
1929	4,160	100	100	4,147
1930	3,967	95.5	99	3,914
1931	3,738	92	98	3,724
1932	3,633	91.5	97	3,665
1933	3,684	94.5	96	3,764
1934	3,994	99.0	97.5	4,016
1935	4,259	101.5	99	4,179
1936	4,540	106.5	102	4,514
1937	4,870	112.5	105.5	4,890
1938	4,908	111.0	109	4,940

[a] See C. Clark, 'Determination of the Multiplier from National Income Statistics', *Economic Journal*, 48/3 (1938) and his estimates in Pritchard Wood & Partners, *A Commercial Barometer*, Mar. 1939. These figures are thus those of Clark's gross national income exclusive of income from overseas and 'Government income'.

[b] After allowing for strikes and sickness, *Ministry of Labour Gazette*.

[c] Up to 1936, A. L. Bowley, *Wages and Income in UK since 1860*, and for 1936–8, *London and Cambridge Economic Service*.

The regression equation of Y in terms of e and w is:

$$Y = 44.2e + 34.8w - 3753.$$

As may be seen from Table 7, Y calculated from this equation gives a very good approximation to the original series: the maximum deviation is about 2 per cent.

3. We are now going to establish a correlation of wage and small-salary bill y with the product of employment and wage-rate, or ew, in the period 1929–38. (By small salaries we mean those below £250.) It may seem that both values are more or less the same, but actually this is not the case. Although small-salary earners are included in e, their weight in the latter is less than in the wage and small-salary bill (their average income being higher). Moreover, changes in wage-rates are not fully representative of changes in small salaries. It must be expected that ew changes more rapidly than the wage and small-salary bill. For, since the employment of operatives fluctuates more strongly than that of salary-earners and the weight of the former in e is 'too high', ew fluctu-ates more strongly than y. The usually greater stability of the salary-rate as compared with the wage-rate works also in the same way.

There is still another factor which affects the relation between y and ew. There was in the period considered a tendency for the number of small-salary earners to increase relative to that of operatives, i.e. to the same number of operatives there corresponded a higher number of small-salary earners in the later than in the earlier years. Since salary-earners enter with a greater weight into y than into e, this makes for a positive trend of y in relation to ew. We therefore correlate y with ew and the time, t.

In Table 8 we give the wage and small-salary bill according to Clark, and ew calculated from e and w given in Table 7.

The regression equation expressing y in terms of ew and t is

$$y = 15.5ew + 11t + 393,$$

where t is reckoned in years from 1929 taken as 0. In conformity with a priori reasons, this equation shows that y changes more slowly than ew. The trend is slight—about 0.5 per cent per year. The y calculated from the regression equation is very close to the original series, the maximum deviation being about 1 per cent.

4. Having regression equations for Y and y we may now, of course, calculate easily the 'other incomes' (home-produced) (salaries over

Table 8. *Correlation of Wage Bill and Small-Salary Bill with the Product of Employment and Wage-Rate in Great Britain, 1929–1938*

Year	Wage and small-salary bill, y (£m.)	Employment × wage-rate, ew (1929 = 100)	y calculated from regression equation (£m.)
1929	1,926	100	1,943
1930	1,890	94.5	1,869
1931	1,824	90	1,810
1932	1,789	89	1,805
1933	1,827	90.5	1,840
1934	1,934	96.5	1,943
1935	2,036	100.5	2,016
1936	2,161	108.5	2,151
1937	2,293	118.5	2,317
1938	2,373	121	2,367

Table 9. *Original and Calculated 'Other Incomes' in Great Britain, 1929–1938*

Year	'Other incomes' (home-produced) = $Y - y$	
	Original series (£m.)	Calculated from regression equations (£m.)
1929	2,234	2,204
1930	2,077	2,045
1931	1,914	1,914
1932	1,844	1,860
1933	1,857	1,924
1934	2,060	2,073
1935	2,223	2,163
1936	2,379	2,363
1937	2,577	2,573
1938	2,530	2,573

£250, rent, interest, and profits gross of depreciation but exclusive of income from overseas) $Y - y$. In Table 9 we compare the original series of 'other incomes' with the difference of Y and y obtained from the respective regression equations.

The agreement between the original and calculated value is here slightly worse than in the two cases examined above, but the deviation reaches still only once 3.5 per cent (in 1933) remaining in the rest of the years below 3 per cent.

Hypothetical Figures of Wage Bill, 'Other Incomes', and Savings in the First Half of 1940

5. We shall now apply the regression equations obtained above to estimate national income, 'other incomes', and wage and small-salary

bill in the first half of 1939 and 1940. As regards the latter period, the question naturally arises whether the connections established still hold good. This seems to be likely as concerns the wage and small-salary bill.[1] As regards 'other incomes', however, the figure obtained by such extrapolation is purely hypothetical and a possible inflationary excess over it will be discussed below as one of the factors of war finance in the period considered.

The results of extrapolation by means of our formula are given in Table 10. Employment and wage-rate indices in the first half of 1939 are taken as estimated in a recent article in the *Bulletin*.[2]

Table 10. *Employment, Wage-Rate, National Income, 'Other Incomes', and Wage and small-salary Bill in Great Britain, 1939 and 1940*

Year	Employment, e^a	Wage-rate, w^a	t in years[a]	National income, Y^b	Wage and small-salary bill, y^b	'Other incomes' (home-produced), $Y - y^b$
First half of 1939	113.5	110	$9\frac{3}{4}$	5,080	2,440	2,640
First half of 1940	120.5	119	$10\frac{3}{4}$	5,710	2,740	2,970

[a] 1929 = 100
[b] Calculated from regression equation (£m. per year)

It must be noticed that employment in the figures here in the table are taken net (incomes of soldiers also are not accounted for).

6. We are now going to establish a hypothetical figure for savings in the periods considered.

We mean here by savings the gross amount (i.e. inclusive of maintenance and depreciation) of all savings except those of the central government. These savings are equal to the aggregate value of private home investment in fixed and working capital or stocks (inclusive of any such investment by local authorities) *plus* the balance of payment on current account and *plus* the budget deficit. The sum of the first two items, which may be called private (home and foreign) investment, amounted in 1938, according to Mr Clark's estimate, to £716m.[3] The

[1] The existence of trend component in our formula might make the extrapolation rather risky; fortunately, however, the trend discovered is, as mentioned above, very slight (0.5 per cent p.a.) and therefore this matter is of no importance.
[2] See M. Kalecki, 'Wage Bill and Cash Circulation', this volume.
[3] Pritchard Wood & Partners, *A Commercial Barometer*, Mar. 1939.

budget deficit was in 1938 £124m., and thus the aggregate savings in our sense may be estimated at £840m.

To determine the rate of savings in the first half of 1939 and 1940 we shall estimate the increase in it between 1938 and these periods. For this we shall use the figures of 'other incomes' established above, and the data on the volume of direct taxation. But in addition we must assume here two hypotheses which, however, we consider only the first approximation, and the possible deviations from them will again be accounted for in our discussion of war finance in the next section.

The first hypothesis is that the change in savings of workers and small-salary earners may be neglected as a relatively small amount. The basis of this hypothesis is that the real income per head of this class was more or less stable. Indeed their money income in 1938 was £2,373m. (see Table 6), while the estimates for the first half of 1939 and 1940 gave £2,440m. and £2,740m. per year respectively. The cost of living was 1 per cent lower in the first half of 1939 and 15 per cent higher in the first half of 1940 than in 1938. It follows that the real income in the first half of 1939 was about 4 per cent higher, and in the first half of 1940 about the same as in 1958. Allowing for the withdrawal to the Forces, the real income per head in the latter period increased by about 3 per cent as compared with 1938. Changes of this order are unlikely to affect appreciably the small savings in normal conditions.[4] However, the psychological factors might have increased the propensity to save and the rise in small savings might be still of certain importance; this contingency will be taken into account in the subsequent discussion of deficit financing.

7. Our second hypothesis relates to the change in the consumption out of 'other incomes'. According to Mr Clark it may be estimated for pre-war at £1,600–1,700m. The maintenance of its real value at this level would require a certain increase in terms of money owing to the rise in prices. The cost-of-living index of the Ministry of Labour was in the first half of 1940, as mentioned above, 15 per cent higher than in 1938. Because of the higher proportion of services in the expenditure of the rich the relevant cost of living has risen less, probably only by some 10 per cent. Thus the increase in the expenditure out of incomes over £250

[4] This is strictly speaking true of real savings and thus money savings are likely to have increased in the first half of 1940 by 15 per cent as compared with 1938 (such was the rise in cost of living). Since, however, the pre-war 'small' money savings were of the order of £100m. such an increase is of no importance in our calculation.

necessary to maintain the pre-war standard of living may be estimated at £160m. or £170m. per year. Now we know about one type of expenditure of the rich which for particular reasons has diminished: the value of purchases of new motor-cars was in the first half of 1940 £30m. lower than in the same period of the previous year, which makes £60m. per annum. If other consumption were to remain unchanged the value of expenditure of the rich would have increased by £100m. It is impossible to answer the question whether there was an increase in the incomes concerned to cover such a rise in expenditure. As we shall see below, 'other incomes' after deduction of direct taxation show in the first half of 1939 a rise of about £200m. p.a. over the same period of the previous year, but a great part of this amount, if not all, could have been accumulated as undistributed profits. But even if the 'spendable incomes' of the rich were unchanged in money terms a reduction of current savings or dissaving is not at all unlikely to provide an amount of the order of £100m., and I should consider this figure a fair guess of the increase in the expenditure of the rich. Of course the psychological factor might have increased the propensity to save above normal, but on the other hand 'buying for investment' must be taken into account.

8. It is now possible to proceed to the estimate of savings in the periods considered. According to our hypothesis on savings of people with incomes below £250 we assume them to be at the same level as in 1938. Further we do not take into account the increase in saving of public funds, such as unemployment insurance, as compared with 1938, since they are within the range of error of other items entering this calculation. Thus our task is now to determine the rise of savings out of 'other incomes' over the 1938 level. The figures of 'other incomes' given in Table 10 do not include incomes from overseas and interest on the National Debt, and they do not allow for direct taxation (in which we include here motor vehicle duty and Excess Profit Tax). Both incomes from overseas and interest on the National Debt changed little since 1938. Consequently to obtain the rise in the rate of savings over the 1938 level we shall deduct from the increase shown by our figure of 'other incomes' the increase in direct taxation and for the first half of 1939 in addition the increase of the expenditure of the rich estimated at £100m. per year.

The calculation of savings in the first half of 1939 and 1940 is given in Table 11. It must be remembered that there is a strong seasonal rise in the payment of direct taxes in the first half of the year. *As a result, the*

annual rate of direct taxation in the first half both of 1939 and 1940 is much too high and the rate of savings much too low for comparison with 1938. But the figures of savings so calculated are quite correct for the purpose of discussion of deficit-financing, which is, of course, also correspondingly smaller in the first half of the year. We give also in Table 11 the sum of savings and direct taxation which is not affected by seasonal factor and thus comparable for all three periods concerned.

Table 11. *Estimate of Savings in Great Britain in the First Half of 1939 and 1940*

	1938[a]	First half of 1939[a]	First half of 1940[a]
'Other incomes' (home-produced)	2,530	2,640	2,970
Direct taxes	493	772	918
+Increase over 1938 in 'other incomes'	—	+110	+460
−Increase over 1938 in direct taxes	—	−279	−425
−Increase over 1938 in expenditure of the rich	—	—	−100
−Increase over 1938 in savings	—	−169	−65[3]
Savings	840	671	775
Savings + direct taxes	1,333	1,443	1,693

[a] £m. per year

Was There Any Inflation?

9. We may now use the hypothetical figures of gross savings arrived at above for the analysis of budget-deficit-financing in the periods considered. The total amount available for financing the budget deficit and home private investment is equal to savings in our sense *plus* the sale of gold and foreign assets to cover the negative balance of payment on current account. After subtracting from this latter sum the budget deficit we obtain what is available for gross private home investment. This figure is of great significance since if it falls short of the likely figure of investment in fixed capital, it shows that on our working hypothes either the amount of savings is underestimated, or stocks were run down, or, finally, the budget deficit was not 'genuine', i.e. a part of it was not due to actual expenditure, but to increase in advances given to contractors.

The comparison of savings and budget deficit is given in Table 12. The negative balance of payment on current account has been evaluated on the basis of the balance of trade and a crude estimate of invisible items.

Table 12. *Comparison of Savings and Budget Deficit in Great Britain, in the First Half of 1939 and 1940*

	First half of 1939 (£m. per year)	First half of 1940 (£m. per year)
Savings	671	755
+Negative balance of payment	35	350
	706	1105
−Budget deficit	−52	−1278
Available for private home investment	654	−173

Let us first consider briefly the level of private home investment in the first half of 1939. It agrees very well with Mr Clark's estimate for private investment in the first quarter of 1939, which was according to him £152m, or £608m. per year.[5] The private home investment was higher by the amount of the negative balance of payment. This having been estimated above at £35m., the private home investment makes £643m.

10. Turning now to the first half of 1940, it must be remembered that the amounts available for investment are gross of depreciation and maintenance, which according to Clark may be assumed at £400m. It is thus rather unlikely that the gross private home investment fell in the first half of 1940 below, say, £250m. Since the amount available for home private investment we arrived at = −£173m., a gap of about £400m. appears which must be accounted for by factors mentioned briefly in the preceding paragraph. We are now going to consider them in detail.

There is first the possibility that the propensity to save was higher than according to our hypothesis. We assumed the rate of savings of workers and small-salary earners unaltered because their real income did not change. However, in spite of that, they could have been saving more owing to psychological factors. Their pre-war rate of savings being of the order of £100m. it is difficult to believe that the extra saving was more than this amount.[6]

[5] See Pritchard Wood & Partners, *A Commercial Barometer*, June 1939.

[6] This may be corroborated in the following way. The wage and small-salary bill increased from £2440m. in the first half of 1939 to £2740m. in the first half of 1940, i.e. by 12 per cent. Now the retail sales as given by the Bank of England increased between these two periods by 5 per cent. If the discrepancy between these two percentage increases were due to extra saving this would amount to £170m. However, the rise in the retail sales of the Bank of England sample by only 5 per cent is a result of much

As to 'other incomes', the psychological factors inducing to save more could have been, as already mentioned above, easily counterbalanced by 'buying for investment'. We shall therefore assume that the possible total extra saving is of the order of £100m., the more that this amount is rather high for working-class extra saving alone.

There may arise here a question whence come the subscriptions of National Savings Certificates and 3 per cent Defence Bonds which amounted to £160m. in the first half of 1940, or £320m. per year. To a great extent, however, this may result from diversion of 'new' and 'old' savings from other types of investment (not necessarily by people with incomes below £250). As an instance may be indicated funds usually finding their way into building societies in either increasing the amount of shares and deposits or as repayment of advances on mortgages. In 1938 this flow amounted to £120m. Grants of new advances by building societies seem not to have been considerable since the outbreak of war (*inter alia* because of the slump in house building). On the other hand they seem to have been hard pressed by withdrawals (the symptom of this is the ruling introducing a 6 months' notice for withdrawals of deposits). From this it may be concluded that a considerable part of the normal flow of funds into building societies is diverted into direct investment in National Savings.

11. Even if there actually was an extra saving (resulting from increased propensity to save) of £100m., this still leaves 'uncovered' £300m. out of the 'gap' of £400m. We shall next consider another factor which is likely to have accounted for it, namely that not all the deficit in the period considered was genuine. That this was probably the case may be seen from the trend of the expenditure on supply services (see Table 13).

There was a sudden jump in the expenditure on supply services in June. It is very unlikely that the corresponding value of production increased in the same proportion. A considerable part of the increase must have been rather absorbed by advances to contractors; this revolving fund must have risen strongly in connection with the expansion in genuine expenditure. (That this was actually the case is

greater increase (by about 10 per cent) in all districts except London and a drastic fall in Central London and the West End. Now it is rather likely that evacuees who were previously customers of department stores in the latter districts shifted partly their purchases to independent retailers, which are much less strongly represented in the Bank of England sample. Therefore £170m. is very likely to be an overestimate of extra savings.

Table 13. *Expenditure on Supply Services in Great Britain, 1940*

Quarter or month of 1940	Expenditure, £m. per month
First quarter	140
April	156
May	160
June	297
July	257
August	337

confirmed by the falling figure of expenditure in July.) We shall assume that, say, only a half of the May to June increase in expenditure was genuine, which reduces the half-yearly figure of deficit by about £70m., and thus the corresponding annual rate by £140m., or in round figures £150m.

12. Out of the gap of £400m. it remains still to explain £150m. This figure, taken for what it is worth, must be accounted for by a reduction in stocks or extra profits. By the latter we mean an excess of actual 'other incomes' over the figure calculated from our regression equation resulting from an 'abnormal' rise in prices due to inelastic supply, i.e. to shortage of labour, raw materials, or plants. Both factors are inflationary; 'excess profits' are really the essence of inflation, while destocking, though it provides a breathing-space, cannot go on for ever and must after a certain time end in an 'abnormal' rise in prices.

It must be stressed, however, that the relevant amount of £150m. is relatively small and its value most uncertain. It may actually be both greater and smaller, owing to errors in the figure of employment on which our calculation is based, to the approximate character of our regression equation, and to the uncertainty as to the actual value of private investment in fixed capital, of extra saving, and of genuine deficit. The balanced judgement would be, I should think, that if the situation in the first half of the year was to a certain extent inflationary it was not acutely so.

13. The war financing in the second half of this year is actually beyond the scope of this paper. However, the developments in July and August differed so much from the situation in the first half of the year that a brief outline of them seems desirable. As may be seen from Table 13, the expenditure on supply services was on the average at the June level and this stabilization suggests that the expenditure was probably genuine. The total deficit in the two months in question was £429m.,

the direct taxes £97m., which makes altogether £526m., or £3,150m. p.a. Now direct taxes in the first half of 1940 were £918m. p.a. (see Table 11) and the budget deficit in this period £1,278m. p.a. (see Table 12). Allowing for our assumption that £150m. of the expenditure (p.a.) was not genuine we reduce the deficit figure by this amount and so arrive at £1,128m. p.a. The annual rate of genuine deficit and direct taxes taken together was thus in round figures £2,050m. *It follows that the annual rate of the budget deficit and direct taxes in July–August period exceeded the corresponding figure in the first half of the year by £1,100m.*

Since the rise in the negative balance of payments or in savings of people with incomes below £250 could have covered but a fraction of this increase, a great part must have been provided by an expansion of 'other incomes' or running down of stocks.[7]

Now taking into account that wages in the period July–August were about 5 per cent higher than the average of the first half of the year, we find that our regression equations require a rise in employment by one-third in order to secure a rise in 'other incomes' calculated from them of £1,100m. Since it is quite certain that a rise in employment of this order is out of the question (even allowing for overtime), it is clear that a substantial part of the £1,100m. increase in deficit *plus* direct taxes must have been covered by 'extra profits' (as defined above) and/or running down of stocks. This means that inflationary factors which were probably of no great importance in the first half of the year gathered momentum in the third quarter.

Who Paid for the War?

14. This question is frequently answered by calculating approximately the burden of direct and indirect taxation upon the poor and well-to-do. Such a setting of the problem is, however, definitely too narrow. If the cost of living increases owing to the rise in freights due to longer trade routes and higher cargo insurance, it is just as genuine paying for the war as that involved in additional duties on beer and tobacco. On the other hand it is impossible to consider *all* the rise in the cost of living as paying for the war because a part of it is due to and offset by the rise in wage rates. I should think that the best approximate answer to the question may be given in the following way.

[7] Unless in government expenditure are included huge payments to the USA for future deliveries.

In the first half of 1940 both employment and wage- and tax-rates were higher than in the same period of 1939. We may calculate by means of our regression equations how great would be the wage and small-salary bill and other incomes (net of direct taxes) if wage- and tax-rates were at the level of the first half of 1939. We then deflate the wage and small-salary bill and 'other incomes' (as estimated above) by the appropriate cost of living index so as to obtain their value at the first half of 1939 prices. The former calculation shows how much incomes would increase owing to the rise of employment only, the second how much they changed in real value. The percentage paid for the war we determine as that by which the latter figures fall short of the former.[8] The method is a little complicated, but the actual calculations carried out below will, I hope, make the matter clearer.

15. We start with wages and small salaries. Their aggregate value in the first half of 1939 was £2,440m. (see Table 10). For the level of employment in the first half of 1940 and that of wage-rates in the first half of 1939 our formula gives £2,570m. (The rise from £2,440m. to £2,570m. measures actually the increase in employment provided that labour units are weighted according to their pay.) The actual value of the wage and small-salary bill in the first half of 1940 was estimated above at £2,740m., while the Ministry of Labour cost-of-living index increased from the first half of 1939 to the first half of 1940 by 16 per cent. Thus the real wage and small-salary bill at prices of the first half of 1939 was £2,360m. Now the percentage the workers and small salary earners pay for the war out of their income is, according to our definition, $(2,570 - 2,360)/2,570 = 8$ per cent, measuring the default of their real income in war in respect to what they would obtain at the actual level of employment with pre-war wage-rates.

16. We shall apply the same method to 'other incomes'. The problems arising here are, however, much more complicated than in the case of the wages and small salaries. The figures of 'other incomes' established above do not include incomes from overseas and interest on the National Debt; on the other hand they are gross of direct taxes and depreciation.

[8] It may be objected that prices would have risen owing to the mere increase in employment even in peacetime conditions. The rise of employment in question being, however, only 6 per cent, and employment not quite 'full' in the first half of 1939, this factor is not likely to be important.

To make the relevant adjustments we must first agree what to consider direct taxes paid in the first half of the year. It does not seem to be correct to take into account the amount actually paid because it is too high on account of seasonal factors and reflects conditions rather of the preceding year than of the current period. I think it a reasonable assumption to take for the measure of direct taxation burden, for the first calendar quarter, one-quarter of the direct taxes actually paid in the financial year ending on the respective 31 March, and for the second calendar quarter one-quarter of the direct taxes anticipated in the new budget statement. The figures given in Table 14 are calculated according to this principle.

For income from overseas in which no great change could have occurred from the first half of 1939 to the first half of 1940, the same amount is taken for both periods. The pre-war depreciation is taken as £400m., that in the first half of 1940 as £450m., to allow for the rise in prices of investment goods.[9]

In Table 14 we compute (i) the aggregate net 'other incomes' in the first half of 1939 and 1940; (ii) the same incomes calculated on the basis of wage- and tax-rates in the first half of 1939 and employment in the first half of 1940.

Table 14. *Net 'Other Incomes' in Great Britain, 1939 and 1940*

	Estimates of actual amounts		Calculated on the basis of employment of first half of 1940 and wage- and tax-rates of first half of 1939
	in the first half of 1939 (£m. per year)	in the first half of 1940 (£m. per year)	
'Other incomes' (home-produced)	2,640	2,970	2,820
+Income from overseas	+235	+235	+235
+Interest on National Debt	+216	+220	+216
−Direct taxes	−540	−657	−540[a]
−Depreciation	−400	−450	−400
Net 'other incomes'	2,141	2,318	2,321

[a] Actually direct taxes should be assumed higher because so are the incomes. However, it follows from figures given in this year's April budget statement that the rise in taxes which would ensue from a rise in incomes of this order would be small and thus may be neglected here.

[9] The prices of iron and steel increased from the first half of 1939 to the first half of 1940 by 15 per cent, building materials by 12 per cent (both according to the Board of Trade indices). Engineers' wage-rates increased by 5 per cent between Sept. 1939 and Mar. 1940 (see 'Changes in Wage-Rates and Earnings in 1939–1940', *Economic Journal*, 50/2–3, (1940) 194).

In order to bring our calculation to an end we now need only the price index for deflating net 'other incomes'. The cost of living of people with incomes over £250 changed, as mentioned on p. 000, less than that of the Ministry of Labour. We assumed there that the increase in the former is something like two-thirds of that in the latter. The Ministry of Labour index rose from the first half of 1939 to the first half of 1940 by 16 per cent; thus for the cost of living relevant for higher incomes we obtain on the above assumption 11 per cent. (This figure being very uncertain, we give below also the final results obtained under assumption of a rise of the relevant cost of living by 13 per cent.) The difficulty of deflating net 'other incomes' is that they include a considerable amount of savings chiefly in the form of undistributed profits. The most natural index for deflating this item is the cost of finished investment goods. According to n. 9 above, their rise seems not to differ much from what we obtained for the cost of living relevant for higher incomes. Thus we shall calculate the real net 'other incomes' at prices of the first half of 1939 by deflating £2,318 by 111 which gives £2,095. The percentage paid for the war from 'other incomes' is then, according to our definition: $(2,821 - 2,095)/2,321 = 10$ per cent.

If for the increase in the cost of living relevant for higher incomes we adopt 13 per cent instead of 11 per cent, this percentage becomes 11.5 per cent.

It must be noticed, however, that it was assumed in this calculation that the actual level of 'other incomes' in the first half of 1940 coincided with the amount obtained from our regression equations. In fact the former could have been higher than the latter owing to 'extra profits' (see p. 59). If this were the case the percentage paid for war from incomes over £250 would be lower than established above.

It is at any rate clear that the poor pay for the war a percentage of their incomes which is much nearer to that of the rich than is usually supposed.

The 'Mysteries' of the Money Market[1] (1940)

1. In the reviews of the London money market there prevails generally an idea that the floating debt, except the part absorbed by public departments, is financed by 'creation of credit' by banks, and any discrepancy between the rise in floating debt and in bank deposits is attributed to the role played by public departments; although for this reason they must sometimes (as, for example, recently) be endowed with a fantastic lending capacity. We attempt here to show that these 'mysteries' are nothing but a result of a wrong theory.

2. The funds borrowed during a certain period, say a month, against Treasury bills (or ways and means advances) in so far as they are not used to increase the public deposits, are 'returned to the market' by government expenditure in the same period, and are eventually invested in the Treasury bills issued. A part of these funds find their way into public departments—the Exchange Equalization Fund if it is selling gold or foreign securities, the issue department of the Bank of England in the case of increases in the note circulation, the savings banks, the Unemployment Insurance Fund, etc.—which acquire Treasury bills (or grant ways and means advances). The rest is used to increase deposits in banks, to repay bank advances, to grant new loans to the discount market, and finally to acquire Treasury bills directly. On what depends how the funds returned to the market by government expenditure are divided between these categories?

First let us consider bank deposits. These consist of the current and deposit accounts. The changes in the former are chiefly determined by those in the volume of transactions. A certain influence may also be exerted by the short-term rate of interest; for if it is low one will on the whole afford the convenience of having more ready cash and not bother to convert it into an earning asset. But if both the volume of transactions and the rate of interest are stable there is no reason to use the funds returned by government expenditure to increase current accounts.

This may seem to be in contradiction with the theory that banks are able to increase their deposits by, say, buying bills in the market. It is

not. For by doing so the banks reduce the short-term rate of interest and so induce to hold more current accounts, but they cannot succeed in expanding the latter while *keeping this rate stable*. If this is the case the funds returned to the market by government expenditure will be used to increase current accounts only in so far as more is needed owing to a greater volume of transactions. If, for example, the output and prices are stable, however great the rise in the floating debt, current accounts will not increase.

There exists, of course, the possibility of these funds accumulating on deposit account, but if a sufficient margin exists between the rate on bank deposits and that on loans to the discount market they are likely to be diverted into the latter channel.

If bank advances are repaid, it is usually offset by banks' purchase of investments in order not to allow a fall in the amount of higher yielding assets and consequently is without influence on absorption of Treasury bills by banks.

We thus arrive at a conclusion that if the increase in output and prices is not so great as to cause the current accounts to rise by an amount which is equal to the funds returned to the market by government expenditure and the short-term rate of interest is stable—the rest of these funds is likely to be invested directly in short loans to the discount market or bills. We shall try to show that this was actually the position during the first year of the war.

3. We consider the development in the floating debt in three periods: from the end of September 1939 to the end of March 1940; the 'funding period' from the end of March to the end of April; and finally the period from the end of April to the end of August.

Table 15 shows at a glance that the increase in current accounts played a predominant role in the financing of the floating debt by the banks. The differences between changes in the net current accounts

Table 15. *Floating Debt in Great Britain, September 1939–August 1940 (£m.)*

Increase		Floating debt			Clearing banks	
From the end of	to the end of	tender bills and Treasury deposit receipts	tap bills and ways and means advances	total	discounts, short-loans and Treasury deposit receipts	net[a] current accounts
Sept. 1939	Mar. 1940	+221	+32	253	+95	+80
Mar. 1940	Apr. 1940	−56	−38	−94	+14	+9
Apr. 1940	Aug. 1940	+191	+383	+574	+113	+139

[a] i.e. after deduction of balances with other banks.

and in the money market assets are of course due to changes in the cash basis and to minor changes in the deposit accounts and in the item advances and investments. This is in full agreement with the preceding argument and also with common views. But what about the relation between the expansion in floating debt and that in the money market assets of the banks?

4. Before we deal with this problem it is necessary to consider the intricate question: to what extent tap bills and ways and means advances represent the lending of public departments, and tender bills and Treasury deposit receipts that of private institutions or persons?

In the period from the end of September 1939 to the end of March 1940 the increase in tap bills and ways and means advances was rather small—£32m. This tallies not badly with what we know about the lending capacity of public departments in this period. The Exchange Equalization Fund is unlikely to have lent much during it: the negative balance of payments was then largely covered by the reduction of UK bank balances in USA, and sales of US securities by British owners. In addition the Exchange Equalization Fund acquired at the beginning of March a considerable amount of dollar securities. Other public departments, savings banks, Unemployment Insurance Fund, etc., may be estimated to have lent about £10m. per month, which makes £50m. for the period in question.[1] Thus some tender bills probably found their way into public departments, but this constituted rather a small proportion of the total rise of this part of the floating debt (the latter was £221m.).

The moderate reduction in tap bills and ways and means advances during April may be attributed to the participation of public departments in the 3 per cent War Loan.

As to the period from the end of April to the end of August, however, the lending by public departments seems to have been appreciably less than the rise in tap bills and ways and means advances. Indeed, the current negative balance of payments probably did not exceed £150m. in the four months in question; since the Exchange Equalization Fund acquired at the beginning of this month dollar securities for about £60–70m., its lending power is likely to have been below £100m. If we take into account the £10m. per month contribution of savings banks, Unemployment Insurance, etc., or £40m. for the

[1] The Issue Dept. of the Bank of England did not contribute anything, the note circulation not having changed during the period in question.

four months considered, and £70m. absorbed by the issue department of the Bank of England in connection with the expansion of note circulation, we arrive at a figure of £200m. as the maximum lending capacity of the public departments. This is still about £180m. lower than the rise in tap bills and ways and means advances (£383m.). A part of this difference may have been due to sales of bonds by public departments, which replaced them by tap bills, but a substantial amount is likely to be accounted for by tap bills having been sold to the banks. If this is true, the private short-term lending in the period from the end of April to the end of August was substantially higher than the increase in tender bills and Treasury deposit receipts.

5. If we look now again at the table we come to the conclusion that in the periods from the end of September 1939 to the end of March 1940 and from the end of April to the end of August the increase in the money market assets of banks was much lower than private short-term lending; for it was much lower than the increases in tender bills and the latter were, as shown above, probably only slightly higher than private short-term lending in the first of these two periods, and substantially lower in the second.

As regards the 'funding period' in April, there was a substantial repayment of the floating debt to private institutions and persons, while the money market assets of banks increased. This is explained by the fact that funding depended on people who accumulated liquid funds in the form of short loans to the discount market or bills in the preceding period. Funds used in the preceding period to increase current accounts could not take part in funding operations since other current accounts have been increased previously by just as much as was required by the rise in the volume of transactions.

To sum up: in the first year of the war a considerable part of floating debt was financed from sources outside public departments and banks. The financing of budget deficit by floating debt is *not* closely connected with the rise in bank deposits and bank money market assets.

The Third Quarter[1] (1940)

1. The third quarter of this year marks a new stage in the development of war economy in the UK. The violent jump of government supply expenditure in June brought its annual rate to £3,500m. in the third quarter, as compared with £2,070m. in the first half of the year. On the other hand the changes on the European continent which resulted from the *Blitzkrieg* influenced fundamentally the conditions of supplies from overseas: ships carrying imports are now exposed to the attacks of German or Italian submarines and the naval situation makes it more difficult to spare warships for convoys. As a result the rate of imports of food in the third quarter was, after elimination of the rise in prices, 25–30 per cent, and that of industrial raw materials about 20 per cent lower than in the first half of the year.

2. What was the influence of these tremendous changes upon the total volume of employment and output? On the basis of an estimate of the volume of employment (allowance being made for overtime) carried out by two alternative methods, described in Nos. 5 and 6 of the *Bulletin*,[1] I arrived at the conclusion that the rise in it was probably only slight, if any. Rise in overtime, reduction in unemployment, and new entries were fully or to a great extent offset by withdrawals to the Forces. In spite of the violent increase in government expenditure the total volume of employment seems to have been not appreciably higher in the third quarter than in the first half of the year.

This means that the strong rise in the production for government needs must have been accompanied by a fall in the rest of industry producing for export and home consumption (private new investment in and replacement of fixed capital was probably already very low in the first half of the year, and it is rather unlikely that the reduction in the relevant production was of great importance). Now the fall in exports measured by the difference between their annual rate in the third quarter and that in the first half of the year, revalued at the third

[1] See M. Kalecki, 'Wage Bill and Cash Circulation' and 'Wage Bill and Cash Circulation: A Supplement', this volume.

quarter prices, amounts to about £150m. per year. A comparison between this figure and the rise in government expenditure given above reveals clearly that the fall in employment in export industries was much smaller than the rise in those producing for the government. Thus it follows that there must have been also an appreciable fall in the production of goods for home consumption.

This picture tallies well with the fall in imports of raw materials mentioned above. A part of it may correspond to a reduction in their stocks; a part, however, probably reflects the fact that armament industries have a much smaller share in the imports of raw material than in total employment; and thus a shift from the industries producing for export and home consumption to armament industries, with total volume of employment approximately unchanged, must be associated with a decline in raw material imports.

Moreover, it is probably not so much the labour scarcity but the restrictions in raw material imports which prevented the expansion of total employment. This may be an important reason for the stabilization of unemployment at a relatively high level. It is the scarcity of imported raw materials which probably constitutes the actual bottleneck in many industries.

From all data given above there arises clearly the picture of a falling supply of goods available for home consumption. We are now going to examine the development in the demand for them.

3. The Ministry of Labour index for the cost of living was about 5 per cent higher in the third quarter than in the first half of the year. If we take this figure as reflecting the 'true' change in the cost of living it follows that real wages were more or less unaltered, for money wage-rates have increased in approximately the same proportion.[2] And since, as stated above, the volume of employment is also not likely to have changed appreciably, 'purchasing power' did not change substantially either.

Retail sales in the third quarter as shown by the sample of the Bank of England, after a crude elimination of rise in retail prices, are 6 per cent lower than in the first half of the year in food, and 2 per cent in non-food. This may be partly accounted for by the usual seasonal change; on the other hand, however, the sales of non-food are swollen

[2] The rise in the average hourly earnings caused by there being more overtime which is paid at a higher rate was probably more or less offset by the increase in the proportion of cheaper female and juvenile labour.

by pre-purchase-tax buying. Thus with purchasing power more or less unaltered, some increase in the propensity to save is likely to have taken place. This is quite intelligible against a background of a strong differentiation of wages which arose recently: while many workers in the armament industries are earning even in real terms much more than in the first half of the year, others are earning less; the former are obviously inclined to save more and the latter may be unable or willing to dissave (or save less). At any rate the above reductions in retail sales if applied to their totals amount to no more than some £150m. p.a. It follows from the discussion in the preceding sections that the tremendous rise in government expenditure must have resulted in a dwindling in the *supply* of consumption goods of an altogether higher order. A gap between demand and supply thus appears, which may be accounted for by the actual price increases being higher than indicated by the cost-of-living index of the Ministry of Labour and/or by the running-down of stocks; although both these factors might have been relevant, it is the latter which probably played the predominant part in the third quarter.

The discrepancy between supply and demand is particularly obvious in the case of food: while real imports declined from the first half to the third quarter of the year by 25–30 per cent, retail sales (also in real terms) did so by 6 per cent; and it must be still taken into account that food consumption by those in the forces has risen owing to the increase in their number.

4. We are now going to supplement the preceding argument by considering government finance. The annual rate of the budget deficit in the third quarter was £2,620m., and the rate of direct tax revenue (inclusive of the EPT and motor vehicle duties) £500m., which makes together £3,120m. In the first half of the year the sum of the budget deficit and direct tax revenue was £2,200m. p.a. Thus the rise in this joint item was £920m. It is also very likely that a part of the June deficit was not genuine since the expenditure probably included then considerable amounts advanced to contractors over and above the current rate of output of armaments. The rise in the genuine deficit *plus* direct tax revenue was probably above £1,000m.

Now by means of methods established in No. 7 of the *Bulletin*,[3] it is possible to estimate the value of the increase in incomes other than

[3] See M. Kalecki, 'War Finance in the First Half of 1940', this volume.

wages and small salaries (inclusive of undistributed profits) corresponding to a given increase in employment and wage-rates on the assumption that pre-war correlations hold good—i.e. that there is no 'abnormal' rise in prices causing 'extra profits'. Taking into account the changes in employment and wage-rates described above, I arrived at the conclusion that the 'normal' rise in the annual rate of 'other incomes' from the first to the third quarter of this year probably did not exceed £200m. How much of this addition was saved and paid in direct taxes depends of course on the changes in consumption out of 'other incomes.' If the real value of this consumption had been maintained, its money value would have increased owing to the rise in the cost of living and only some £100–150m. out of the £200m. would have been available for these purposes. If we add to this amount the fall in retail sales estimated above at £150m., which gives £250–300m., we allow approximately both for the possible reduction of consumption out of 'other incomes' and for increase in savings of wage and small-salary earners (for the total real income of the latter was more or less unchanged). We may thus conclude that if we abstract from the possible 'extra profits' due to an 'abnormal' rise in prices, the amount of savings *plus* direct tax revenue increased from the second half to the third quarter of the year by less than £300m. per annum.

Since, as we stated above, the budget deficit and direct tax revenue increased by more than £1,000m. p.a., a gap of over £700m. remains to be accounted for. One of the possible sources of funds to cover it is the sale of gold and foreign assets. However, judging from the figures of foreign trade, an appreciable rise in the rate of these sales could not have taken place from the first half to the third quarter of the year—unless considerable amounts were disbursed by the government in the USA as advances for future deliveries and/or on building there plants for armament manufacture. Such government expenditure seems, however, unlikely to be so great as to account for more than a certain part of the £700m. gap. A substantial part must have been covered by: (i) reduction in private new investment and replacement; (ii) running down of stocks; and (iii) 'abnormal' rise in prices creating 'extra profits' and thus causing an increase in savings greater than established above.

As to the factor (i) we have already stated that not much can be expected from this source, since private investment and replacement probably were severely depressed in the first half of the year. Factors (ii) and (iii) might both have operated in the third quarter, but we have

already expressed the opinion that it was rather the running down of stocks that played the more important part.

5. Although, owing to the lack of relevant data, the argument is founded on a rather shaky basis, the possible errors in our estimates do not seem to be of such an order as to affect the final conclusion. Pressed between the enormous war expenditure and restricted supplies from overseas this country is using up its stocks, probably at a considerable rate. After a certain time this must lead to scarcity of goods and price increases, and forerunners of this development are already noticeable. The remedy is to extend rationing to most commodities, or to ration the total expenditure in shops.

Notes on Finance[1] (1941)

1. The Excess Profits Tax and Efficiency

In the recent discussion on the reduction of the Excess Profits Tax it has been overlooked, I think, that it is possible to extract 100 per cent EPT from an *industry* while leaving a certain excess over the standard profits to the more efficient firms. Imagine that EPT levied in the present way is reduced to 70 per cent and that the remaining 30 per cent is levied on all firms—both those which paid the 70 per cent EPT and those which did not (having profits below the standard)—proportionately to their profits after deduction of 70 per cent EPT. It is easy to see that then firms whose present profits increased more than on the average as compared with their standard profits will make certain gains over the 'standard' level. The following example will perhaps make the point clearer.

In a certain industry the present level of aggregate profits is £128m. Out of this firms with £8m. profits are not subject to EPT having present profits below the standard. The rest of the firms with present profits of £120m. have aggregate standard profits of £80m. The 'excess profits' are thus £40m., the 70 per cent EPT is £28m. The rest of the 'excess profits', i.e. £12m., is levied on total profits after the deduction of 70 per cent EPT, which makes £128–28 = £100m. It follows that any firm pays apart from the 70 per cent EPT 12 per cent of the remaining profits.

Now a firm with £10m. 'standard profits' and £18m. present profits would pay 70 per cent of £8m., or £5.6m., and 12 per cent of 18 –5.6 = 12.4, or 1.5m. This makes together about £7m., and leaves the firm with the excess profit of £1m.

If the above device is applied any industry pays the 100 per cent EPT, but nevertheless there remains for the individual firms an inducement to expand profits in a greater proportion as compared with the 'standard' than that which operates in the industry as a whole.

2. 'Small Savings'

'Small savings' amounted in 1940 to about £160m. in National Savings Certificates, £180m. in the 3 per cent Defence Bonds, and

£130m.[1] in savings banks deposits, making a total of £460 million. In the year ending 31 August 1939, the savings in National Savings Certificates were nil, the 3 per cent Defence Bonds did not yet exist, and the increase in savings banks deposits was about £50m.[2] This tremendous rise in 'small lending' to the government tends to be represented sometimes as being due to an increased propensity to save of small-income earners. On the other hand doubts have been expressed whether a great part of this over £400m. increase in 'small lending' is not a result of transfers of 'old' savings and diversion of 'new' ones from banks' and building societies' deposits to the types of investment in question. The data given in a recent article by Mr Madge[3] may be used to support the latter view, although they still do not suffice to provide a definite proof.

It follows from Table XI of Mr Madge's article that the percentage of gross income saved by working-class families in Bristol (before bombing) fluctuates between 3.5 and 5, and the average is close to 4. Now 'Bristol has a reputation of economic stability, because its industries are very mixed.' For this reason it is quite likely to reflect the average state of prosperity to save in Great Britain, and, since there are no reasons to assume that its propensity to save should be exceptionally low or high, the above percentage may give an idea about the percentage saved by working-class families in the whole country.

Now the aggregate wage and small (under £250) salary bill has been estimated for the first half of 1940 at about £2,750m. p.a. It was certainly higher in the second half of the year, but for the year as a whole it is still unlikely to exceed £3,000m.[4] Applying to this 4 per cent we obtain only £120m. of saving out of small incomes in 1940, and it must further be noticed that Mr Madge includes in savings such items as clubs, insurance, and trade union contributions. Thus it appears that the *increase* in small savings over the pre-war level available for investment in national savings is unlikely to exceed greatly £50m.—provided, of course, that the assumption that the Bristol percentage of income saved is valid for the whole country, does not involve a very

[1] Inclusive of interest accrued.
[2] Inclusive of interest accrued.
[3] Charles Madge, 'The Propensity to Save in Blackburn and Bristol', *Economic Journal*, 50/4 (1940).
[4] See M. Kalecki, 'War Finance in the First Half of 1940', p. 53 above.

grave error. If the Bristol figure is reasonably representative, the above shows that the share of actual increase of 'small savings' in the rise in national savings is not very important.

The Financial Position on the Eve of the Budget[1] (1941)

1. In the first half of 1940 inflationary factors, i.e. rise in prices out of proportion to costs, and the running down of stocks, were probably not very important.[1] The rise in government expenditure on the one hand and the fall in imports on the other, which started in the middle of the year, have changed the situation fundamentally; it is this change which we shall try to examine here in order to establish the present amount of inflation.

2. The annual rate of the budget deficit in January–February 1941 was £1,400m. that of direct tax revenue (inclusive of Excess Profit Tax and motor vehicle duties) £2,330m., which makes together £3,730m. The corresponding figure for the first half of 1940 was £2,200m. p.a. The rise in this joint item is thus £1,530m.

Let us first examine to what extent this amount is covered by the rise in the excess of private incomes over private expenditure on the assumption that from incomes are excluded 'extra profits' due to 'abnormal' rises in prices. (Such profits are the essence of inflation and together with the running-down of stocks they may be considered to constitute the 'dangerous gap'.) This we shall do in the following way. On the basis of a pre-war correlation of private home-produced national income with employment and wages it is possible to calculate the rise in private incomes corresponding to a given rise in employment and wages.[2] From this we subtract the actual increase in private expenditure, obtaining thus the rise in excess of private incomes over private expenditure *exclusive* of 'extra profits' due to abnormal rises in prices; for the rise in private incomes is taken not at its actual value but calculated according to a *pre-war* correlation.

[1] Cf. M. Kalecki, 'War Finance in the First Half of 1940', this volume.

[2] See ibid. The regression equation in question is: $Y = 44.2e + 34.8w - 3,753$ where Y is the gross home-produced national income in £m., e the index of insured employment 1929 = 100, w the index of wage-rates 1929 = 100 (up to 1936 according to A. L. Bowley, *Wages and Income in UK since 1860*, and for 1936–8 *London and Cambridge Economic Service*).

3. An estimate made as to the change in the volume of employment, allowance being made for overtime, by two alternative methods[3] has shown that the rise between the average of the first half of 1940 and the present level was of the order of 3 per cent. Further, wage-rates are now higher by 6 per cent as compared with the average of the first half of 1940.[4] On the basis of the pre-war correlation of private home-produced national income with employment and wage-rates it may be calculated that to these increases there corresponds a rise in private home-produced income of about £400m.[5]

To obtain the rise in aggregate private incomes we must still add the change in income from overseas, interest on the National Debt, and government paid social services.[6] The first item is probably not important. The interest on the National Debt in the period January–February 1941 was about £150m. p.a. as compared with £220m. in the first half of 1940, or £70m. less. This fall is of seasonal character but we must account for it since it affects the above figures of the rise in the deficit and the direct tax revenue. Of changes in government-paid social services the most important is the increase in soldiers' wives' and children's allowances; it may be estimated at about £100m. p.a.[7] We thus obtain a rise in private incomes of £430m.[8]

[3] One is a guess made by considering the balance of withdrawals to the Forces on the one hand and diminution in unemployment, increase in overtime, and new entries on the other. The other is based on the correlation between wage bill and coin and note circulation (see M. Kalecki, 'Wage Bill and Cash Circulation', and 'Wage Bill and Cash Circulation: A Supplement', this volume).

[4] According to *London and Cambridge Economic Service*. This does not allow for the rise in the average hourly earnings caused by there being more overtime which is paid at a higher rate. But the latter was probably more or less offset by the increase in the proportion of cheaper female and juvenile labour.

[5] The index of employment e was estimated for the first half of 1940 in the articles quoted above at 120.5 and the index of wage rates w at 119 (1929 = 100). From this and the formula given in n. 2, the rise in private home-produced national income Y corresponding to the percentage increases in employment and wage-rates may be easily obtained.

[6] In so far as such services are paid by autonomous funds as e.g. Unemployment Insurance Fund, the change in them need not be accounted for in this context. Indeed for our purpose the net surpluses of such funds must be included in 'private' (i.e. non-government) incomes. And a correction of our income figure by subtracting contributions towards the fund in question and adding its services and its surplus amounts to nought.

[7] Inclusive of the part of soldiers' pay transferred to their wives.

[8] Soldiers' keep and pay (exclusive of the part transferred to their wives) are not included in the private incomes. The former does not, of course, affect at all and the second to a very small degree the changes in private expenditure calculated below on the basis of retail sales.

4. We shall estimate the change in private expenditure between the first half of 1940 and the beginning of 1941 on the basis of Bank of England figures of retail sales. These show between the first and second half of 1940 a rise of 6 per cent. If, however, we eliminate roughly the rise in prices we obtain a decline of sales in real terms of 1 per cent. There is also a seasonal tendency for real sales to rise in the second half of the year as compared with the first. After elimination of this seasonal factor the retail sales in real terms in the second half of 1940 show a fall of 5 per cent as compared with the first half of the year.

We now assume that private expenditure in real terms changed in the same way as retail sales and since the cost of living increased from the first to the second half of the year by 6 per cent this would mean that the (money) private expenditure was about the same in both periods (if the seasonal variations are eliminated).

The same procedure applied to January 1941 gives a fall in private expenditure by 3 per cent as compared with the first half of 1940.[9] However, retail sales were in January this year exceptionally low owing to the absence of the usual sales. It is, therefore, I think reasonable to assume, on the basis of the above calculations, that the present level of private (money) expenditure is about the same as in the first half of 1940.

5. We assumed above that private incomes exclusive of 'extra profits' are now higher by £430m. p.a. as compared with the first half of 1940, while private expenditure is at about the same level. This means that the surplus of the former over the latter has increased by £430m. After deducting this amount from the £1,530m. rise in the budget deficit and direct taxation a 'gap' of £1,100m. is still to be accounted for.

An important source of funds to cover it is the sales of gold or foreign assets or the accumulation of Dominions' balances in this country. These items may be subdivided into (i) 'ordinary' balance of payment on current account; and (ii) advances for future deliveries from overseas and overseas expenditure on capital account.[10] As to item (i) the adverse balance of trade was lately about £100m. p.a. *lower* than in the first half of 1940. So that assuming other constituents of the balance of payments remained unchanged, we have to raise the gap to

[9] The fall in retail sales as compared with the first half of 1940 is 4% in money terms and 14% in real terms. The correction for seasonal variations reduces this figure to 12%. The rise in the cost of living is 10%.

[10] Inclusive of direct deliveries of war material from America to Africa.

£1,200m. However, the rate of outstanding advances and capital expenditure overseas must have been increasing rapidly since the middle of 1940 and is likely to have reached now a very high level, while in the first half of 1940 it was not very important. Various fragmentary data suggest[11] that the increase in this item may be well over a half of the £1,200m. gap thus reducing it to something of the order of £500m.

Since the reduction in private investment in and replacement of fixed capital as compared with the first half of 1940 seems to be not important—because these items were probably already then severely depressed—the chief sources to cover this gap are the running-down of stocks and 'extra profits' due to abnormal rises in prices. Thus in so far as the above estimates are correct inflation gap in our sense is of the order of £500m.

6. An important check upon the conclusions arrived at above is to discover symptoms of 'abnormal' rises in prices since the first half of 1940 and of running-down of stocks.

The 'price problem' is treated by Mr Nicholson in another article in this *Bulletin*.[12] He arrives at the conclusion that prices of manufactured goods in January show a higher percentage increase compared with the first half of 1940 than the relevant prime costs (i.e. cost of raw materials and labour).

The most striking instance of the running-down of stocks is provided by the disproportion between the trend of food consumption and food imports. The retail sales of food, according to the Bank of England figures, show, after a rough elimination of the rise in prices, a fall from the first half to the second half of 1940 by 5 per cent and after a correction for seasonal variations by 3 per cent. For January 1941, the fall in real value of the sales of food as compared with the first half of 1940 is 8 per cent and after correction for seasonal variations 2 per cent. We may thus assume that the present real expenditure for food is only a few per cent lower than in the first half of 1940. Allowing for the rise in the food consumption of the Forces corresponding to their numerical rise we may say that the present aggregate food

[11] (i) Mr Morgenthau's report on the UK gold and dollar position in conjunction with the fact that a great part of the recent (Nov.) increase in government expenditure was probably overseas. (ii) Tap bill issues in the last four months (Nov.–Feb.), allowance being made for lending of savings banks, Unemployment Insurance Fund, etc., and 'ordinary' balance of payments on the one hand and calling up of US and Canadian securities in the period in question on the other.

[12] See J. L. Nicholson, 'Signs of Inflation', *Bulletin*, 3/4 (1941).

consumption is now in real terms about the same as in the first half of 1940.

Now the present level of food imports may be taken as £300–350m. p.a. Imports of food in the first half of 1940 were at the rate of £475m. p.a. which, revaluated at present prices, gives £500–550m. Consequently since food consumption has not diminished there is an annual deficiency in food imports of £150–250m. or of the order of £200m. p.a. which makes a substantial part of the £500m. 'gap' arrived at above.

7. If the picture which emerges from our argument corresponds more or less to the actual position a cut in private consumption seems to be necessary. The fair and efficient solution of this problem cannot, I think, be achieved by orthodox budgetary methods but must be based on some type of comprehensive rationing.

The Budget and Inflation[1] (1941)

The new budget proposals are based entirely on an increase in income tax. The standard rate is raised from 8*s.* 6*d.* to 10*s.* and the 'reduced rate' from 5*s.* to 6*s.* 6*d.* in the pound. This will add about £125m. to revenue. At the same time allowances and relief for earned income are substantially reduced and are estimated to yield also £125m. This measure cuts deeply into the lower-income groups, and is expected to bring in 2,000,000 new taxpayers at the lower end of the scale. The revenue from reduced allowances and relief is to be put to the credit of the taxpayer 'to be made available to him after the war in such manner as Parliament may determine'; but this future advantage is likely to be heavily discounted by the taxpayers. The level of tax-free income for a childless couple is now fixed at £3 a week.

It should be noticed that the new tax will practically cancel out the extra rate of overtime over normal time work and will also diminish the financial inducement for married women to enter industry.

Is the budget realistic? Does it really solve the problem of inflation?

The Chancellor assumes that without the new tax and government expenditure 'at home'[1] of £3700m. the 'inflationary gap' would be of the order of £500m. Out of this £250m. he considers covered by the new tax while for the other half he relies on an increase in personal savings.

The Chancellor of the Exchequer calculates the inflationary gap as the difference between the future government expenditure 'at home' of £3,700m. and the sum of the tax revenue expected at 'old' rates (about £1,600m.) *plus*, what he calls, the present level of savings (also about £1,600m.). On closer examination, however, these savings appear to be the total sum available for government borrowing from domestic sources; it thus includes the considerable amounts (perhaps about £400m. p.a.) released by running down of stocks or provided by 'inflationary savings'—i.e. by savings out of profits due to rises in prices disproportionate to costs. Even if it is assumed that the 'new'

[1] By this is meant the expenditure exclusive of Lease and Lend aid and after deduction of net overseas payments of UK.

£500m. gap will be wiped out by the new tax and the increase in 'non-inflationary saving', there remains still the gap which exists at present.

It must be noticed, however, that for the financial year 1941–2 the actual yield of the new tax is estimated at £150m. And it is this amount which should be compared with the 'inflationary' gap. True in the 'full year' this yield is £250m., but this rate of revenue will be actually achieved only in the period autumn 1941–autumn 1942, when the 'inflationary gap' may well be altogether different. Moreover the estimate of the future increase in 'non-inflationary' savings is rather optimistic especially if considered in conjunction with the increased taxation.

Thus a sober view upon the situation is that the new budget will not prevent inflation, that running down of stocks of consumption goods which takes place now will go on and will be followed by strong rises in prices in relation to costs. The symptoms of the latter process are already in sight.

The Chancellor of the Exchequer promised to stabilize the cost of living approximately at the present level by means of subsidies. The subsidies are a very valuable instrument to keep down prices of certain consumption goods in spite of increases in cost of raw materials used for their manufacture (due, for instance, to the rise in costs of freight) and may be so in the future. But this will not be the case if prices of consumption goods rise not owing to their cost but to their shortage. Subsidies cannot produce goods. If supply is short of demand, prices tend to rise to adjust the former to the latter and subsidies cannot remedy the situation.

The only way to prevent the rise of prices of goods in short supply is rationing. And it is important to have it introduced *before* stocks are exhausted and this for two reasons. First, a higher uniform ration is secured for a longer period, the alternative being unnecessarily high and unfairly distributed consumption until stocks are exhausted, followed by a very low ration afterwards. Secondly, low stocks mean always serious disturbances in the process of distribution such as temporary shortages and queues.

The present budget which imposes a heavy burden upon low- and medium-income groups cannot be considered a safeguard against inflation. The only fair and efficient way to stop the inflationary tendencies is some type of comprehensive rationing which should be organized before stocks fall to a dangerously low level.

What is Inflation?[1] (1941)

Although the fundamental problem of war finance is: 'How to avoid inflation?' no generally accepted definition of inflation actually exists. Even less is known about how to measure the extent inflation. In this paper we review briefly the most important current definitions of inflation and then try to elaborate a concept of inflation which gives a basis for its measurement.

Budget Deficit Theories of Inflation

Inflation is sometimes identified with the existence of a large budget deficit. It is not difficult to prove that this definition is not satisfactory. It is now more or less generally recognized that with considerable unused plant capacity, unemployed labour, and adequate raw material imports, even a big rise in the budget deficit may not have any appreciable influence upon prices, and result merely in an increase in employment and output.

Thus a budget deficit does not necessarily involve inflation. On the other hand it may be shown that a balanced budget is not a safeguard against it. Imagine that income tax on higher-income groups has been raised so much that the budget deficit disappears, but that the rich people concerned do not curtail consumption but merely reduce their saving. Nothing happens then except that the amounts in question are taxed away instead of being borrowed.[1] The conditions of demand for and supply of goods remain unaffected: if there was already 'inflation' it has not been stopped by balancing the budget. In actual fact the rise in income tax *is* likely to press down consumption of the tax-payers to a certain extent and affect the general economic situation through this channel. However, the extreme case considered above is not at all excluded.

Since identifying the existence of large budget deficit with inflation proves to be obviously unsatisfactory, an attempt is often made to

[1] We abstract from the influence of income tax on investment in fixed capital which in wartime is anyhow severely restricted by direct controls.

determine inflation as the amount by which the deficit is 'too great' in relation to available 'savings'. But here also a fundamental difficulty at once arises. In fact a budget deficit always creates automatically just enough savings to finance itself. If, for instance, government expenditure increases by an amount d without an increase in tax revenue, and private consumption increases by c, while private investment (i.e. increase or decrease in fixed and working capital, in stocks, or in gold and foreign assets) remains constant, the total value of current production and thus current incomes increases by $d + c$. Since private consumption has increased by c, the excess of private incomes over private expenditure, or saving, increases by the amount d by which the deficit has risen.

Since the deficit always provides automatically just enough saving to finance itself, the theory in question has tried to distinguish between 'genuine' and 'non-genuine' savings. The argument runs usually as follows. To the extent to which the deficit is financed by long-term securities it is assumed to be covered by 'genuine' savings as opposed to its financing by floating debt. In particular, if Treasury bills are sold to banks and a corresponding amount of deposits accumulates, the budget deficit is said to be financed by 'credit creation' not by 'genuine savings', and it is this way of government borrowing which is held responsible for the evils of inflation.

It is evident, however, that the accumulation of bank deposits corresponding to the accumulation of Treasury bills in blanks means an increase of the claims of the public against the government. Thus it is just as true saving as the accumulation of long-term securities in the hands of the public, in the sense that both mean an increase in the assets owned by individuals and institutions. Further, savings are 'invested' in deposits either because more of them are needed as cash balances for transactions, or because this type of reserves seems for various reasons more attractive than the holding of bonds. In the first case deposits accumulating on current account are 'tied up' in settling transactions (chiefly by firms) and are not available for spending on consumption. The second case, the accumulation of deposits mainly on deposit account, does not differ fundamentally from investment in long-term securities. It is sometimes said that it is easier to liquidate deposits than bonds and to use the proceeds for consumption. This, however, is relevant only when actual dissaving takes place: as long as consumption is below current income the form in which past savings are held is of no importance. And even in the case of dissaving the

obstacles in parting with a bond as compared with withdrawing a deposit seem to have been rather exaggerated. It follows clearly that the way of financing the budget deficit cannot be considered the essence of inflation.

The 'Vicious Spiral'

Inflation is sometimes defined as a state in which a rising, effective (money) demand for goods is not met by a similar increase in supply. In its crudest form this theory identifies any rise in the general price level with inflation. This is obviously confusing the issue. For there are many causes making for a higher price level which are not 'inflationary' in the proper sense. A rise in the price level due to devaluation of the currency, or to an increase in wage-rates followed by a rise in prices in an economy with unemployed resources will not start the type of self-generating spiral process for which the term 'inflation' is generally reserved.

However, if the above definition of inflation is understood in the sense that a growing demand for goods *cannot* be met by their growing supply owing to scarcity of plant, labour, or raw materials, it comes very near to the truth. But even in this modified form the definition is too general. In particular it does not indicate how to measure the extent of inflation. Since prices may and do usually rise not only owing to the scarcity of the factors of production but also to the subsequent rise in wages, the increase in prices cannot be considered such a measure.

These shortcomings may be remedied if we focus our attention on the fact that the 'vicious spiral' arises because, after a fall in real wage-rates, money wages cannot 'catch up' with prices and restore the real wage-rates to the previous level. This is caused by the fact that in the periods in question the supply of consumption goods is for one reason or another inelastic.

If, for instance, employment and consequently the wage bill in the war industries rises, and it is impossible to increase the production of consumption goods, the prices of these must rise even if the costs of labour and raw materials remain unaltered. For unless purchasing power is cut by taxation or rationing, the increasing demand is confronted with a constant supply and it is the rise in price which brings them into equilibrium. The rise in money wage-rates cannot restore the previous level of real wage-rates, and only produces a new rise in

prices. For the root of the problem is the increase in total employment not accompanied by a rise in the supply of consumption goods. Thus if the consumption of non-wage-earners is not reduced correspondingly, the average remuneration for an hour's work in terms of consumption goods must fall. This is the actual cause of the vicious spiral.

It must be noticed that not every fall in real wages leads to a vicious spiral. If it is a result of adverse terms of trade (for instance an increase in the prices of imported raw materials) it may be always made good by a sufficient rise in money wages.

Size and Structure of Inflation

It follows that the characteristic of inflation will be a rise in price of consumers' goods in relation to the relevant costs of labour and raw materials. In 'normal times' when factors of production of a certain consumption good (say, cotton piece-goods) are in ample supply, there will be a more or less close correlation between its price on the one hand and the costs of labour and raw material (say, cotton)[2] on the other. The supply curves are then on the whole horizontal or slightly rising over the relevant range of output and therefore an increase in employment need not be accompanied by a significant fall in real wages. During inflation the steeply rising part of the supply curve comes into the picture. Prices jump significantly above the value corresponding to the 'normal relation' between price and prime costs. Imagine that this discrepancy is 10 per cent of the price. We may then say that 10 per cent of the total sales of goods in question constitute inflationary profits. And the sum of all such profits wherever they exist may be taken as the measure of inflation.

This approach has the advantage of not only measuring the global phenomenon, but showing in what sections of the economy it really exists. This is very important from the point of view of remedies. It follows directly that to prevent 'inflation in general' one must deal with 'inflations' in particular groups of commodities, and this may be done only by rationing: to avoid inflation it is necessary to cut purchasing power in those sectors of the economy where it is directed on goods in short supply.

It is, of course, necessary to take into account the fact that rationing of certain commodities will increase expenditure on others the supply

[2] And excise or duty if any.

of which might have been previously adequate to meet demand and thus may create inflation in new sections. Rationing, therefore, should be sufficiently comprehensive to make impossible such shifting of inflation from one section of the economy to another.

The above theory permits us to put into the true perspective the rôle of the budget deficit in developing inflation. If government expenditure is very large and taxation relatively low, there will be a considerable increase in spendable incomes. Moreover, government expenditure absorbs manpower into the armed forces and war industries on a large scale. In such a situation bottlenecks are likely to develop in various sectors of consumption-goods industries, and this leads to inflation in the above sense. However, the connection between the budget deficit and inflation is not at all close. First, as emphasized in the first paragraph, a balanced budget does not mean necessarily that expenditure on consumption has been restricted sufficiently to prevent inflation, because increased taxation may reduce chiefly not personal expenditure but saving. We may add now that even if taxation does press down expenditure on consumption it may do so just with respect to goods which are not in short supply, and thus it does not relieve the pressure on 'inflationary sectors' of the economy. Secondly, shortages in supply do not necessarily arise as a result of absorption of factors of production by government expenditure, but for quite different reasons, as for instance curtailment of imports as a result of enemy action. Indeed, such shortages are very often more acute than those caused by the scarcity of labour.

Two Forms of Hidden Inflation

It is not difficult to see that running down of stocks may delay for a certain time actual inflation. If demand for a certain commodity increases while the factors required for its production are in short supply, its price may not rise if the deficiency in output is supplemented out of stocks. Such a state of affairs is, however, clearly temporary: after exhaustion of stocks the inflationary rise in prices must set in. It is, therefore, reasonable to consider the running-down of stocks of consumption goods a *latent inflation* which may be measured by the rate at which stocks are being exhausted. Here again, although the global amount of latent inflation may be easily calculated by adding the value of particular items, the latter have a great significance for locating in what sectors of the economy the latent inflation takes place.

And the remedy against exhaustion of stocks will be exactly the same as against the inflation proper: rationing of expenditure on goods in short supply. Latent inflation may, of course, and often does, go hand in hand with inflation proper: running down of stocks is accompanied by inflationary price increases.

What happens if stocks of some commodities are exhausted, no rationing is introduced, but prices are kept from rising by a rigid control? There arises then what may be called haphazard distribution. It is not a state of inflation proper because prices do not rise. But bidding for goods concerned goes on. It takes the form of customers trying in as many shops as possible, illegal additions to the official price, etc. One can say that is a state of *repressed inflation*. It is not measurable, but it has this in common with inflation proper, that it causes an inequitable distribution of scarce goods. It discriminates against people having no spare time or servants for 'thorough' shopping, being not *persona grata* with a shopkeeper, etc. In addition it creates temporary shortages and queues which complicate enormously housekeeping and shopping.

Inflation cannot thus be considered overcome by mere control of prices. The only radical, fair, and efficient way of dealing with it is rationing.

The Share of Wages in the National Income[1] (1941)

The White Paper[1] contains valuable information about the changes in the distribution of the national income from 1938 to 1940, which we give in Table 16. The most striking feature is the considerable rise in the relative share of wages. In general this share shows a remarkable stability: according to Professor Bowley the relative share of wages in the national income fluctuated between 39 and 41 per cent in the period 1924–38 and was nearly constant at 40 per cent in the period 1934–8.[2] One reason for the strong rise in the relative share of wages in the national income in 1940 is rather obvious. The stability of this share depends on certain factors determining the distribution of the

Table 16. *Distribution of National Income in Great Britain between 1938 and 1940*

	1938		1940		1940	
			Including payments to armed forces in wages		Excluding payments to armed forces from wages	
	£m.	%	£m.	%	£m.	%
Rents	352	8.0	370	6.6	370	6.9
Profits and interest before deduction of National Defence Contribution and Excess Profits Tax	1,178	26.7	1,154	27.1	1,154	28.3
Salaries	980	22.2	1,135	20.3	1,135	21.2
Wages (including earnings of shop assistants)	1,820	41.2	2,483	44.5	2,250[a]	42.0
Other Income[b]	85	1.9	84	1.5	84	1.6
Net national income (before deduction of direct taxes)	4,415	100.0	5,586	100.0	5,353	100.0

[a] Approximately.
[b] Salary-earners and independent workers below exemption limit.

[1] *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940*, Cmd. 6261, London, HM Stationary Office, 1993.
[2] See A. L. Bowley, 'Some Constituents of the National Income,' *Journal of the Royal Statistical Society*, 103/4 (1940), 517.

product of industry between prime cost on the one hand and overhead costs plus profits on the other. Now, calling up has created incomes outside industry proper, which consist only of wages, and this has clearly increased the relative share of wages in the national income. To show the influence of this factor we estimated roughly the payments to the armed forces[3] and deducted them from wages and the national income.[4]

After this correction the relative share of wages in the national income in 1940 is still higher than in 1938, but the increase is small. Actually, however, we have still not taken into account all the special factors which make for a higher relative share of wages in the national income of 1940. The margin added to full costs in armament contracts is usually 10 per cent and this is probably appreciably lower than the margin added in production for the market both in engineering and in manufacturing as a whole (according to Colin Clark's estimates, profit margins were in 1934 16.5 per cent for engineering and 15 per cent for manufacturing as a whole).[5] Thus, although the absolute profits of the armament industries are now very high, their profit margin in relation to costs is probably relatively low and this is likely to have contributed to the rise in the relative share of wages in the national income. Another factor working in this direction is the production carried out in government factories which yields no profits at all.

It is, therefore, quite probable that the relative share of wages in the net output of industries producing for the market has even fallen, although on the other hand this fall is unlikely to have been important. Such a development could have been expected on the basis of an analysis of costs and price changes. It has been noticed in this *Bulletin* that prices rose in 1940 disproportionately to prime costs, but this tendency appeared only in the second half of the year and was not very pronounced.[6]

[3] Inclusive of the remuneration in kind, for the White Paper includes this remuneration in the payments to the armed forces.

[4] We deducted actually the increment of this payment over 1938 to make comparable the distribution of national income in 1938 and 1940.

[5] See his *National Income and Outlay*, 133.

[6] See J. L. Nicholson, 'Signs of Inflation', *Bulletin*, 3/4 (1941).

Wartime Changes in Employment and the Wage Bill[1] (1941)

In this note an attempt is made to estimate the changes in the volume of employment and in the national wage bill in the period 1939–41 on the basis of contributions to the Unemployment Fund and the Ministry of Labour inquiries on earnings in 1938 and 1940. The results are compared with the estimates of the wage bill in 1940 published in the White Paper.

1. Payments of contributions to the Unemployment Fund can give a valuable indication as to the changes in insured employment (provided, of course, that changes in the rates of contributions are eliminated). In the 'General Scheme' of Unemployment Insurance the scale of contributions varies only according to sex and age, but even these differences are in general not very great: contributions from women aged 21–64 and men aged 18–20 are about 10 per cent less than those from men aged 21–64. The contributions from lower-age groups are much smaller but their share in the total number of insured does not exceed 20 per cent. It is thus obvious that the volume of contribution payments depends chiefly on the number of employed and that changes in sex and age structure are of minor importance.

It must be noticed, however, that contributions to the Unemployment Fund do not coincide exactly in time with the respective period of employment. It is on this account that the indices of employment are given below for half-yearly periods.

In the first part of Table 17 these indices for the period 1937–9 are compared with those obtained from unemployment statistics by subtracting the number of wholly unemployed from the number of insured.[1] The contribution payments are taken per day in order to eliminate the difference in the number of days in the first and second

[1] The number of insured has been obtained by linear interpolation between July figures. In both series we have eliminated the change in insured employment due to extension of unemployment insurance to certain classes of domestic employment at the beginning of the second quarter of 1938. Also the change in unemployment statistics in Sept. 1937 has been accounted for.

Table 17. *Index of Number of Insured in Employment in Great Britain, 1937–1941 (1938=100)*

Year	Half-year	Unemployment statistics	Contribution payments	Figure adopted
1937	I	98.5	99.5	—
	II	100.5	101.5	—
1938	I	99.5	100	—
	II	100.5	100	—
1939	I	101	101	101
	II	(103)	103.5	103.5
1940	I	(101)	103	102.5
	II	(99)	97.5	98.5
1941	I	—	103.5	104.5

half-year. There was no change in the contribution rates up to 1940. The differences of both series do not exceed 1 per cent.

In the second part of the table the series based on contribution payments is continued (the changes in contribution rates and in the scope of insurance in August and September 1940 have been eliminated).[2] The series in the first column is a guess at employment figures obtained as follows: to the number of insured in July 1939 is added the 'normal entry' assumed to be cumulated at a rate of 200,000 per year; further, as an 'extra entry', also cumulative, is added rather arbitrarily, 50,000 for the second half of 1939, 200,000 for the first half of 1940, and 500,000 for the second half of 1940; the number of wholly unemployed is subtracted; further, the withdrawal to the forces from insured employment is deducted; this withdrawal is assumed to be the same proportion of the total call up as the number of insured males aged 20–34 bore to the total male population of this age-group in 1937, i.e. about 75 per cent.[3]

The agreement between our two series is perfect in the second half of 1939, but in the first and second halves of 1940 there are discrepancies of 1.5 to 2 points. This is not too bad considering the precarious basis

[2] On the basis of the estimates of the Unemployment Fund as to how much these changes will increase contribution payments, it has been found that 'new' contribution payments must be reduced by about 12% to be comparable with the 'old' ones. From the dates of introduction of changes it has been estimated that payments of the second half of 1940 must be reduced by 8%; payments of the first half of 1941 have been, of course, reduced by the full 12%.

[3] The call-up has been estimated on the basis of registration figures (plus territorials and volunteers) taking into account the delay in calling up and hypothetical percentages of men rejected and reserved.

of our guesses at numbers of employed given in the first column. To diminish these discrepancies we reduce the figure obtained from contribution payments by 0.5 points in the first half of 1940 and increase it by 0.5 points in the second half of that year. In addition we take into consideration that, because of the replacement of men by women and juveniles, the same contributions mean slightly higher employment. To allow for this roughly we add a further 0.5 points in the second half of 1940 and 1 point in the first half of 1941. So we arrive at the figures shown in the third column which we finally adopt.

2. We have estimated above only the number of persons in employment without taking into consideration the working time. We shall estimate the changes in the volume of labour measured in man-hours and in the wage bill on the basis of the inquiries of the Ministry of Labour into earnings in October 1938 and July 1940. From the results of these inquiries Professor Bowley estimated the increase in average earnings per person in all industries between these dates at about 25 per cent.[4] This figure does *not* take account of the change in earnings owing to the shift to better-paid occupations. If the change in earnings due to the increase of the share of women and juveniles in total employment were also eliminated, this figure would probably rise to something like 27 per cent. Wage-rates increased between the two dates in question by 14 per cent. The discrepancy between these percentage increases, which amounts to 12 per cent, is due chiefly to overtime and overtime bonus.[5] The latter being usually 50 per cent, the average increase in working time may be estimated at 8 per cent.

We now assume that half of this increase occurred in 1939 and half in the first half of 1940 (both gradually). We further assume that from July 1940 onwards the average working time was unchanged. We thus arrive at the index of working time given in Table 18. By multiplying this index by the previously obtained index of persons employed, we arrive at the index of the volume of employment in man-hours.

3. We shall now proceed to an estimate of changes in the wage bill. We may call earning strength per person the average earnings divided by the index of wage-rates. Earning strength thus depends on working time, overtime bonus, and the industrial, age, and sex structure of employment. It seems that the influence of shifts to industries with

[4] See A. L. Bowley, 'Earnings, 1938 and 1940', *Bulletin*, 2/11 (1940).

[5] And to a small extent to less short-time.

Table 18. *Index of Volume of Employment in Great Britain, 1939–1941 (1938=100)*

Year	Half-year	Persons employed	Working time	Employment in man-hours
1939	I	101	101	102
	II	103.5	103	106.5
1940	I	102.5	106	108.5
	II	98.5	108	106.5
1941	I	104.5	108	113

higher earnings between October 1938 and July 1940 was approximately offset by the increased share of women and juvenile labour. If this is the case, earning strength in July 1940 was according to the preceding section 12 per cent higher than in October 1938. We estimate its index for the period considered in the same way as we have done for the index of working time. By multiplying this index by the index of the number of persons employed and by the index of wage-rates we arrive at a rough estimate of the wage bill (see Table 19).

Table 19. *Index of Wage Bill in Great Britain, 1939–1941 (1938=100)*

Year	Half-year	Persons employed	Earning strength per person	Wage-rates	Wage bill
1939	I	101	101	101	103
	II	103.5	104	102.5	110.5
1940	I	102.5	109	109.5	122.5
	II	98.5	112	115	127
1941	I	104.5	112	120.5	141

We shall now compare the indices of the wage bill for 1940 arrived at above with the estimate given in the White Paper.[6] According to this the wage bill in 1938 was £1,820m. and its annual rate in the first half of 1940 £2,368., while in the second half of that year it was £2,598m. These figures include payments to the armed forces. We must of course eliminate the large increase in these payments from the figures of 1940 in order to obtain an index comparable with ours. A rough correction gives £2,220m. and £2,270m. for the first and second half of 1940 respectively. The indices at these dates, with 1938 taken as 100, are 122 and 125, which agree well with our results.

It must be noticed, however, that these two sets of figures are not strictly comparable: the estimate of the White Paper relates to wages

[6] *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940*, Cmd. 6261, London, HMSO, 1943.

earned by manual labour while the insured employment which was the basis of our estimate excludes certain types of manual labour (for instance, domestic servants) and includes lower grades of salary-earners.

4. It is clear from the above description of our calculation that its basis is rather precarious. Nevertheless, it does seem to establish the important fact that the volume of employment measured in man-hours has been throughout the war period higher than in peacetime, and that now it is something like 10 per cent higher than just before the outbreak of war. In view of substantial withdrawals to the Forces this implies a high degree of intensity of the war effort.

Changes in Stocks of Commodities, 1940[1] (1941)

1. The White Paper[1] gives us only the general figure of disinvestment in 1940 without subdividing it into its various components. On the basis of the data contained in its first part it is still possible to divide roughly the total disinvestment into disinvestment at home and abroad, but no inferences whatever may be drawn about the various items contributing to home disinvestment. Particularly significant among these items is the fall in the volume of stocks of consumption goods which is alluded to in the White Paper as 'a reduction in the volume of stocks of finished and unfinished goods, which are no longer being produced on a peacetime scale (for example, motor-cars).' It is this item which is the chief object of the inquiry carried out in the Institute of Statistics.[2]

The inquiry was based on a sample of 391 companies with balance sheets for 31 December.[3] The value of their stocks at the end of 1939 was about £169m. They represent all lines of business conducted at home except retail trade, which has been excluded because the information about it may be drawn from the data published by the Bank of England. The companies were subdivided into two groups: 'armament' (iron and steel, engineering and shipbuilding, building materials and building) and 'non-armament' (all the rest). The first group embraced 149 companies with the value of stocks at the end of 1939 of about £62m., for the second group the respective figures were 242 companies and £107m. Needless to say, the 'armament' group covers production of durable consumption goods and the 'non-armament' group—some government orders (for instance for uniforms).

The results of our inquiry are as follows:

Change in value of stocks in 1940	
'Non-armament'	'Armament'
+3%	+39%

[1] *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940.*
[2] Under the supervision of Mr P. W. S. Andrews.
[3] Based on Moody's *Economist Service.*

A scrutiny of changes in stocks of particular firms has shown that strong reductions in the value of stocks (by more than 50 per cent) were very rare indeed. This suggests that taking over of stocks by the government in the sense of buying them off did not take place—as far as our sample goes. This does not of course mean that physical control or finance of stocks was not taken over, which might well have been the case.

2. The Bank of England retail trade sample shows a rise in the value of stocks in 1940 by 8 per cent. Thus the rise in 'non-armament' stocks inclusive of retail stocks may be assumed to be of the order of about 5 per cent (if both samples in question are representative).

We shall now try to find out something about the change in the volume of stocks, i.e. about their change after elimination of the appreciation of stocks in 1940. Stocks are valued in the balance sheets at current price or purchase cost whichever is lower. Both 1939 and 1940 were years of rising prices and therefore it is the latter method which is relevant here. The first approximation towards the extent of appreciation is to compare the commodity prices in the periods of stocks' turnover preceding the end of 1939 and 1940 respectively, say, the average of the last four months of these years. The rise in the Board of Trade index of prices of industrial materials and manufacturers, if we compare the last four months of 1939 and 1940, is about 26 per cent and is approximately the same in the 'armament' and 'non-armament' group (the rise in food prices is lower but food constitutes a rather small proportion of stocks). The rise in retail prices is of the same order. Thus the appreciation to be eliminated is of the order of 26 per cent for both kinds of stocks. In this way, however, the appreciation is overstated for the following reason. A part of stocks during war time are of the character of 'iron reserves' and are therefore not turned over. Here belong in particular those controlled by the government. For these appreciation (when valuation is based on purchase cost) will not take place. It seems therefore that an appreciation of say 20 per cent comes nearer to the truth than 26 per cent. On this assumption the change in the volume of stocks may be easily calculated:

Change in the volume of stocks in 1940	
'Non-armament' inclusive of retail	'Armament'
$1.05/1.20 = 0.88$	$1.39/1.20 = 1.16$
or	
−12%	+16%

The percentage decline in 'non-armament' stocks seems at a first glance not very high. It must be noticed, however, that in the first half of 1940 the stocks most probably did not fall at all and thus their fall in the second half of that year may have been at a rate of 25 per cent p.a. which, if it were to continue, would be definitely dangerous.

It is hardly necessary to add that the above results only indicate the order of magnitude of changes in stocks because the samples in question may not be sufficiently representative and the percentage of appreciation is a rough guess.

3. It may be asked what is the significance of the changes in stocks in private hands in view of possible offsetting changes in stocks in the possession of the government. The decline in the stock of consumption goods in private hands shows at least this: there was a discrepancy between actual consumption and the supply of consumption goods as determined by imports, home production, and the government's policy of increasing or reducing their stocks. As long as consumption is not diminished or supply, as ruled by the above three factors, is not increased, the reduction of private stocks will continue at the same rate.

But, of course, the problem how the stocks of the economy as a whole have changed is just as, or perhaps even more, important. We shall try to answer this question for only one item but one of particular importance, namely for food. For this purpose we shall compare agricultural production plus food imports in 1938 and 1940 on the one hand and food consumption in those years on the other.

The relation of sales of home agricultural produce to food imports in 1938 was about 44 : 56.[4] We assume that there was no important change in the volume of sales of home produce from 1938 to 1940 and, taking into account the fact that agricultural prices increased by 39 per cent[5], we find that the home component has risen by this percentage. Further, the value of food imports increased from 1938 to 1940 by about 5 per cent. It follows that the total rise in supply of food at wholesale prices may be estimated at 20 per cent. The calculation was based on the value of food supplies exclusive of excise and

[4] M. G. Kendall in 'The Financing of British Agriculture', *Journal of Royal Statistical Society*, 104/2, (1941), 2, estimates the income of farmers taken as a whole (National Farm) in 1937–9 at £285m. p.a. Food imports exclusive of feeding stuffs, alcohol, and tobacco, were in 1938 about £360m.

[5] See *Journal of the Ministry of Agriculture*, 47/4 (Mar. 1941), 266.

duty; but a tentative estimate shows that their inclusion leaves the percentage increase practically unchanged.

Now retail sales of food (inclusive of consumption of armed forces) may be estimated to have increased from 1939 to 1940 by about 13 per cent.[6] To find out how much the wholesale value of these sales increased we must take into account the relative changes of wholesale and retail prices. The Ministry of Labour index of retail food prices shows an increase of 17 per cent, while the Board of Trade index of wholesale food prices rose by 36 per cent.[7] Thus the wholesale value of retail sales has changed as follows:

$$(1.13/1.17) \times 1.36 = 1.31 \quad \text{or by} \quad 31\%.$$

Now since supply of food increased only 20 per cent and consumption by 31 per cent (both in wholesale prices), $(31 - 20)/131 = 8$ per cent of consumption has been covered out of stocks.[8]

The basis of calculation is also here rather precarious and the results must be therefore treated with caution. In particular, it is necessary to remember that even relatively small errors in the indices involved will be rather strongly reflected in the final result which therefore can indicate only the order of magnitude of the percentage of food consumption covered out of stocks.

[6] On the basis of White Paper and Bank of England retail trade statistics (see G. D. N. Worswick, 'Retail Sales during the War: Turnover and Population Movements', *Bulletin*, 3/10 (1941), 209).

[7] This index includes also prices of tobacco but their elimination changes it very little.

[8] This is on the assumption that consumption and supply in 1938 was in balance which was probably approximately the case.

Recent Trends in the Financial Situation[1] (1941)

1. In this article an attempt is made to analyse the changes which occurred in the financial situation between the half-year September 1940 to February 1941 and the first half of the current budget year (April to September 1941). September 1940 to February 1941 has been chosen as reference period because it is the last half-year still covered by the estimates of the White Paper.[1]

The annual rate of government expenditure on supply services rose from about £3,950m. in the first period to about £4,200m. in the second. These figures are actually not quite comparable because in the second period purchases in the USA under the Lease and Lend Bill are not included. This, however, is irrelevant to our considerations because what is of interest in this context is the 'supply expenditure financed at home', by which is meant the actual supply expenditure *minus* the adverse balance of payments on current account. The latter was, according to the White Paper, about £950m. p.a. for the period September 1940 to February 1941, which leaves about £3,000m. for the supply expenditure financed at home in this period. For the second period in question only a very rough estimate of this figure is possible.

In the April budget statement the adverse balance of payments on current account for the budget year was estimated at about £500m. exclusive of government purchases under Lease and Lend and payments on existing orders in the USA. According to the statement of Mr D. Bell, under-secretary of the US Treasury, the latter payments were about £220m. between 11 March and 1 September 1941; we thus estimate the annual rate of these payments in the period April–September 1941 at about £450m. Together with the estimated £500m. of the 'normal' balance of payments this makes £950m. p.a. This figure does not include the Lease and Lend supplies for government use[2] which are, however, excluded also from supply expenditure. It must be

[1] *An Analysis of the Source of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940*, Cmd. 6261.

[2] The Lease and Lend supplies for 'civilian use' *are* included in this figure: the sales of these supplies to the public leads to an accumulation of extra-budgetary funds which are lent to the government.

noted that £950m. is rather an overestimate since £500m. rate of the 'normal' balance of payments relates to the whole financial year and it was probably lower in the first half of it. Subtracting £950m. from the £4,200m. rate of supply expenditure in the first half of the budget year, we get therefore the 'supply expenditure financed at home' at £3,250m., a little too low. An upper limit for this figure may be obtained as follows. In the April budget statement the 'supply expenditure financed at home' was estimated at about £3,450m. for the whole financial year. But its annual rate was probably lower in the first half of the budget year, for the 'supply expenditure financed at home' was increasing and in Sir Kingsley Wood's speech in September nothing was said about its exceeding estimates. It is therefore very likely that the actual rate of 'supply expenditure financed at home' was between £3,250 and £3,450m. p.a. Thus if we put it at £3,350m. the error is probably less than £100m.

2. 'Supply expenditure financed at home' was thus at a rate of £3,000m. p.a. in the period September 1940 to February 1941, and for the first half of the current financial year we estimated it roughly at £3,350m. This means a rise between the two periods in question by £350m. which was mainly in government expenditure on goods and services (the change in transfers like old-age pensions etc. was small). This increase must have been covered by changes in: (i) indirect tax revenue; (ii) excess of national income over private consumption, appearing in the form of direct tax payments[3] or savings; and (iii) disinvestment at home.

The chief item in the increase of indirect taxation is the rise in customs and excise (£110m. p.a.), and we take the total increase in the annual rate of indirect taxation between the two periods considered as about £100m. p.a.

The change in national income may be estimated only very roughly. The national income in the period September 1940 to February 1941, exclusive of payments to the armed forces, may be estimated according to the White Paper at about £5,400m. p.a. We shall calculate the increase of this item in the second half of the current budget year on the assumption that national income (exclusive of payments to armed forces) changes proportionately to the wage bill. The reason for this assumption is as follows. The relative share of wages in national

[3] In which we include the Excess Profit Tax, the motor vehicle duties, and the payments under the War Damage Act.

income is in 'normal times' usually a very stable figure. In the period considered there were two abnormal factors at work, each influencing the relative share of wages in the opposite direction. On the one hand there was some 'inflationary' rise in prices (i.e. a rise in prices out of proportion with costs) in uncontrolled goods, which tended to reduce the relative share of wages in the national income. On the other, there was a shift from 'non-essential' to war industries, and since the percentage profit margin paid on government contracts is rather lower than on the 'free market',[4] this had a tendency to raise the relative share of wages. And since both these influences seem to have been not very important it is reasonable to assume as a first approximation that the relative share of wages in the national income was stable.

On this assumption it is possible to evaluate the rise in national income provided we know the percentage change in the wage bill. Now wage-rates increased between the two periods by about 5 per cent. The rise in the number of insured in employment may be estimated from contributions to the Unemployment Fund also at 5 per cent.[5] Assuming that additional factors determining the wage bill, such as overtime etc., remained unchanged, we arrive at a 10 per cent increase in the aggregate earnings of insured workers. These aggregate earnings, however, are not exactly the same as the wage bill, because on the one hand they include some salaries and on the other they do not include wages of uninsured workers. The rise from 1938 to 1940 of aggregate earnings computed in this way exceeded a little the rise in the wage bill according to the White Paper.[6] We therefore take the percentage increase in the wage bill as 9 per cent. Thus the absolute increase in national income, exclusive of payments to the armed forces (which was about £5,400m. p.a. in the first of the periods considered), may be estimated at about £500m. p.a.

It is still necessary to allow for the increase in payments to the armed forces. But since the change in consumption is estimated below on the basis of retail trade figures, we take into account only the increase in payments to soldiers' dependants, and this is the more justified in that a considerable number of soldiers were sent overseas in the time in question. The addition of the increase in payment to soldiers' dependants[7]

[4] This does not imply, of course, that the armament industries do not make much greater profits than civilian industries for the turnover of the former is much larger.
[5] See 'Wartime Changes in Employment and the Wage Bill', this volume, p. 93.
[6] Ibid., p. 94.
[7] Inclusive of amounts deducted from the soldiers' pay proper for their benefit.

will raise the increase in the annual rate of national income between the two periods considered to about £550m.

Finally, the Bank of England statistics of retail trade show that after elimination of seasonal variations retail sales were approximately the same in both periods compared. We assume the same to be the case for the value of consumption as a whole. Thus the rise in the annual rate of the excess of national income over consumption after elimination of seasonal variations would be, according to the above, £550m.

3. We may now give the sources of financing the increase in the supply expenditure (see Table 20). The change in disinvestment has been obtained as a residual and therefore this figure is most uncertain, since the margin of error is something like £200m. Nevertheless certain conclusions are possible. Disinvestment in the period September 1940 to February 1941 was according to the White Paper £480m. p.a. It seems very probable that home disinvestment in the first half of the current budget year was substantially smaller. The most likely cause of it is the easing in the first half of the current budget year in the running-down of stocks of consumption goods which had probably occurred on a considerable scale in the period September 1940 to February 1941.

Table 20. *Increase (+) or Decrease (−) between Annual Rates of Excess of National Income over Consumption in September 1940–February 1941 and April–September 1940 (in £m.)*

Expenditure on supply services financed at home	+350
Indirect taxation	+100
Excess of national income over personal consumption[a]	+550
Disinvestment at home[a]	−300
	+350

[a] Seasonal variations eliminated.

The most important factor in this favourable development in the financial situation is the fact that while incomes increased considerably the value of consumption was stationary. It is difficult to attribute this to any great extent to the increase in income tax which was the main feature of the April budget. Indeed, the new taxes were estimated to yield in the current budget year only £150m. and the respective deductions from salaries and wages were not yet in operation in the first half of the budget year. A much more important factor in curtailing con-

sumption was the extension of rationing (in particular the introduction of rationing of clothing and footwear) and shortages of goods, which reached a peak in the summer months. Such shortages curtail consumption in the same way as rationing but in a haphazard fashion, making it impossible for people who have no time or servants to buy the goods, although they have the necessary purchasing power. It is probable that a considerable part of the increase in the excess of incomes over consumption was enforced in this way. To the extent to which this was the case the situation cannot be considered non-inflationary. True, price control was effective in restricting price increases to a rather narrow field, and the rise in prices in relation to costs was probably responsible only to a minor degree for the rise in excess of incomes over consumption. But the divergence between the demand for and supply of consumption goods manifested itself in shortages and queues which may be justly considered a particular form of inflation.

The trend in the financial situation since the beginning of the war may be subdivided into three stages. In the first, lasting up to the end of the summer of 1940, there was really no inflation. Although prices rose sharply in that period they did so more or less in proportion to costs. In the second stage, covering approximately the period September 1940 to February 1941, with which we compared above the second half of the current budget year, prices started to rise out of proportion to costs, but the inflationary tendency manifested itself chiefly in the running-down of stocks. Finally, in the third stage, coinciding with the second half of the current budget year (April to September 1941), inflation appeared chiefly in the form of shop shortages and queues.

The Burden of the War on Wages and Other Incomes[1] (1942)

The question 'Who pays for the war?' is frequently answered by the compilation of direct taxes paid by various classes of the population. And in this way the rather biased result is arrived at that the poor do not pay for the war at all because they are not subject to income tax. Any serious attempt, however, to answer this question concerning the financial war burden on various classes should obviously take account of indirect taxation also. This calculation is, however, very difficult, because of the lack of reliable statistical data on consumption by the poor and the rich of drink and tobacco, which are the most important items of indirect taxation. Indeed, the sources of information of the shares of various income groups in the consumption of particular commodities are family budgets, in which the items of drink and tobacco are generally known to be understated. But apart from this technical difficulty there is a general objection against measuring the war burden by tax payments even if indirect taxation is accounted for.

The payment for war is, indeed, not limited to the payment of taxes. A good example of this is the repercussions of sinkings of cargoes by the enemy. The loss is covered by insurance, the cost of which is added to the price of imports. The resulting higher price paid for consumption goods surely means paying for the war. Another important example is a rise in prices disproportionately with costs, owing to the scarcity of goods. Assume that the extra profits arising in this way are taxed away. Although technically paid by producers or merchants, these taxes in fact are a charge on the consumer.

These and similar difficulties may be avoided if we introduce a broader concept of paying for the war. Imagine that it is possible to estimate approximately how the real income of a certain class of the population would change if employment had risen as it actually has during the war and there were no wartime abnormalities. We can then calculate that *potential* real income of this class, i.e. the real income they would get at the present level of economic activity in normal conditions, is higher by α per cent than in the year preceding the

war. Further we calculate by how much their *actual* real income is reduced. If we denote this latter percentage by β, the potential real income is $100 + \alpha$ (taking the year preceding the war equal to 100) and the actual real income is $100 - \beta$. The discrepancy between these two items may then be taken as the amount paid for the war by the class of the population considered.

Let us apply this method for an estimate of how much the wage- and non-wage-earners paid for the war in 1940. The increase in employment of wage-earners in man-hours between 1938 and 1940 may be estimated at 7 per cent.[1] If there were no war such a rise would probably cause an increase in the real income of both wage-and non-wage-earners of about 7 per cent. For the economy was in 1938 not so fully employed that a rise of 7 per cent would be subject to diminishing returns. And with constant returns the real output would increase more or less proportionately to employment and there would probably be no important shifts in the distribution of income between wage- and non-wage-earners.[2] Thus the *potential* real income in 1940 may be assumed to be 107 (1938 = 100) both for wages and other incomes. On the other hand, Mr Nicholson estimates in the first part of this article that the fall in the actual real income between 1938 and 1940 was 1–3 per cent for wage-earners and 6–9 per cent for non-wage-earners.[3] Thus their *actual* real income in 1940 was 97–9 and 91–4 respectively (1938 = 100 in each case). It follows that wage-earners paid in 1940 for the war 7–9 per cent and non-wage-earners 12–15 per cent of their potential income. This calculation, even allowing for its approximate character, clearly shows that what the wage-earners pay for the war is by no means negligible as compared with the contribution of non-wage-earners. And if the enormous difference in average income of the two classes compared is taken into consideration, the financial war burden on workers appears to be relatively high.

[1] See M. Kalecki, 'Wartime Changes in Employment and the Wage Bill', this volume, p. 94.

[2] The relative share of wages in the national income was, before the war, remarkably stable over a long period.

[3] See J. L. Nicholson, 'The Burden of the War: Changes in Real Incomes, 1938 to 1940', *Bulletin*, 4/1 (1942), 10.

Excess Profits Tax and Government Contracts[1] (1942)

1. The Excess Profits Tax (EPT) is often considered a brake on the war effort because it deprives entrepreneurs of the profit incentive and thus prevents the full use of existing resources. We propose here to examine this problem for industries working on government contracts and to show that the repercussions of 100 per cent EPT depend closely on the form of contract. It is in particular possible to construct such a form of contract that EPT would not hamper the expansion of output of the industries in question.

Imagine first that contracts are given on the basis of costs *plus* percentage profit margin. It is obvious that 100 per cent EPT by taking off the excess of total profits over the 'standard level' does not hamper production in this case for the simple reason that profits are here proportionate to *costs* and thus are no indicator of efficiency. Also if EPT were abolished there would be under this type of contract no tendency to get out of a given plant the maximum output by better organization etc.; the entrepreneurs would merely strive even more than under EPT to increase the costs by, say, working as much overtime as possible, even though it may not increase but reduce the output per worker.

If the contract is on the basis of cost *plus* fixed profit margin per unit of output, the total profit is proportionate to output and thus constitutes an incentive for its expansion. But the strength of the incentive is dependent on the level of the margin. If it is very high the entrepreneur may not—even in the absence of EPT—strive very hard for better organization, etc., his profit being anyhow very 'comfortable.'[1] And clearly with 100 per cent EPT any efforts to increase output are of no interest to him. But if the profit margins are fixed sufficiently low so that only at a high degree of utilization of available resources the 'standard profit' (i.e. the level of total profits the excess over which is

[1] The position is here different from peacetime because of scarcity of labour. With ample supply of labour (and provided equipment is not fully used) the increase in output does not require a particular effort.

taxed) is reached, even 100 per cent EPT will not hamper the entrepreneur's initiative; for he must then strive hard to increase the profit within the range not subject to EPT.

The position with a fixed-price contract is similar. In this case the entrepreneur has a double incentive to increase the output per worker: to expand the output and to reduce costs. But if the margin of profit is wide he may even in the absence of EPT make no great efforts to reorganize production. This the more so that the reduction of costs may bring him additional profits only for the contract in question, while the next contract may be given to him on the basis of reduced costs; 100 per cent EPT will, of course, in this as in the previous case, wipe out any incentive for improvements of the methods of production. On the other hand, with a sufficiently low profit margin even 100 per cent EPT will not disinterest the entrepreneur in such improvements.

2. We are now going to describe in some detail a form of contract which would reconcile incentive for an optimum use of available resources with 100 per cent EPT. Let us assume first for the sake of simplicity that a factory is engaged only in production of one type of goods on contracts from one government department. Imagine now that contracts are given on the following conditions: (i) the actual costs of production are covered (not allowing, of course, for excessive repair and maintenance or unreasonably high managers' salaries), and (ii) the profit margin p is fixed at the level of the ratio of 'standard profit' as calculated for EPT and the maximum productive capacity M, or $p = S/M$. Thus if the entrepreneur reaches the 'target output' M he earns his standard profit S; if his rate of actual output is lower than M he gets proportionately less. In no case therefore is he subject to EPT and he has to strive to reach his 'target output' in order to earn his 'standard profit.'[2]

The concept of M requires, however, further elucidation. With a given crew, by M is meant that output which would be achieved if each worker worked the optimum time, and if the organization of production (inclusive of the system of wage payment) were reasonably good. For a clever technician with good experience such an estimate would

[2] Since firms working under this system will be unable to benefit from repayment of 20 per cent of EPT after the war, the 'standard profit' may be fixed a little more liberally, in particular where the pre-war profits were low (often the case with small firms).

be quite possible. (He must take into account to a certain extent the normal hitches in raw material supplies.)

There arises here, however, a difficulty because of a possible understaffing of the factory. It may absorb more labour than it actually employs at present. If M is fixed on the basis of the existing crew, the entrepreneur is not interested in employing more labour even if it were available. On the other hand it is impracticable to fix 'target output' on the basis of the productive capacity of equipment, because the entrepreneur may simply be unable to get additional labour.

This difficulty may be solved, I think, in the following way. The 'target output' is estimated on the basis of full employment of the factory, but after deduction from the latter of that number of vacancies communicated by the firm to the Ministry of Labour (or its agencies) which the Ministry has been unable to fill. If for instance the actual employment in a factory is 1,000 workers, if it is estimated that it may still absorb 500 workers, and if the number of vacancies unfilled by the Ministry of Labour is 300, then the target output is calculated on the basis of $1000 + 500 - 300 = 1200$ workers. With this arrangement the entrepreneur has a strong incentive to make use of available labour but is not penalized if he cannot get additional workers.

3. So far we have made for the sake of simplicity an assumption that the factory considered produces only one type of goods on contracts for one government department. Before considering the general case we shall transform a little our formula of the profit margin. This may be written also

$$p = \frac{S}{m} \cdot \frac{m}{M},$$

where m is the actual output; m/M may be called the degree of utilization. We denote it by u and thus obtain $p = (S/m)u$. If $u = 1$ the entrepreneur earns his full 'standard profit'; if $u < 1$, he earns proportionately less.

Let us now consider the case when a factory produces many types of goods and not necessarily for one government department. Let us number the respective contracts 1, 2, 3, ..., n. In application of our form of contract to this case there arises first the question what part of 'standard profit' should be charged to a particular contract. The same problem arises, however, as to the distribution of overheads. They are probably usually distributed proportionately to the respective prime costs. Anyhow whatever the method of charging of overheads to

particular contracts, the same method may be applied to 'standard profit'. We thus have a series of coefficients $\alpha_1, \alpha_2, \ldots, \alpha_n$ the sum of which $= 1$ and the 'standard profit' chargeable to each contract $\alpha_1 S, \alpha_2 S, \ldots, \alpha_n S$ respectively.

The formulae for the profit margins for particular contract may be now constructed as follows

$$p_1 = \frac{\alpha_1 S}{m_1} u; \quad p_2 = \frac{\alpha_2 S}{m_2} u; \quad p_n = \frac{\alpha_n S}{m_n} u,$$

where $m_1, m_2, \ldots, m_n$ are the respective rates of actual outputs and u is the *general* degree of utilization. It is, of course, a much more complex thing to calculate the degree of utilization of a factory when its production is heterogeneous than when it produces only one type of goods; but an expert may also here estimate approximately by how much the total production is below the level which could be obtained with optimum working time, reasonably good organization, etc. As to the difficulty arising out of understaffing, it may be solved in exactly the same way as in the simplified case considered in Section 2.

Now the profits p.a. obtained on various contracts by the firm will be according to the above formula $\alpha_1 Su, \alpha_2 Su, \ldots \alpha_n Su$ and the total profit $= \alpha_1 Su + \alpha_2 S_u \ldots + \alpha_n Su$.

Since $\alpha_1 + \alpha_2, \ldots, +\alpha_n = 1$ it follows that the total profit $= Su$. Thus as in the case of one commodity the entrepreneur earns his standard profit when the 'target output' is reached and $u = 1$, and proportionately less when actual output is below the target output.

It is clear that this system requires a high degree of co-ordination between Supply Ministries and the Inland Revenue Department, as also a high degree of insight into the conditions prevailing in the factories. The latter, however, which is more difficult to achieve, is necessary for the sound functioning of armament production in any case, and may probably be best achieved by the production executive and regional boards.[3]

[3] See J. Steindl, 'The Production Executive's Regional Boards', *Bulletin*, 3/12 (1941).

Employment, Wage Bill, and Cash Circulation[1] (1942)

The purpose of this note is to continue the estimates of employment and the wage bill given in *Bulletin*, 3/13, up to the first half of 1941 inclusive.[1] Next a connection between changes in the wage bill and in the cash circulation is examined, which has a double interest of providing a certain check upon the estimates of employment and the wage bill, and explaining the strong rise in cash circulation in 1941.

1. Table 21 is the continuation of Table 19 in the article quoted. The index of the number of persons employed is calculated from the unemployment insurance contributions by a method described there in detail. (The index represents the trend of *insured* employment after elimination of changes in the scope of insurance.)

The 'earning strength' means average earnings per person divided by the index of wage-rates; it depends on the length of the working day, overtime, night shifts, and production bonuses,[2] and the structure of employment according to occupation, age, and sex. In the article quoted we assumed 'earning strength' to be constant from July 1940 at 112 (1938 = 100). It follows, however, from the recent inquiry of the Ministry of Labour into earnings in manufacturing, building, and public utilities, that earnings per person increased from July 1940 to July 1941 by 9 per cent and wage-rates only by 7 per cent. This shows a rise in the 'earning strength' in these industries of 2 per cent. The change for all insured employment is probably of the same order. We estimate, therefore, the earning strength for the second half of 1941 at 114,[3] and for the first half of that year at 113 (1938 = 100).

[1] M. Kalecki, 'Wartime Changes of Employment and the Wage Bill', this volume.

[2] Through the application of piece rates.

[3] This figure multiplied by Professor Bowley's index of wage rates in July 1941, which was 123 (1938 = 100), gives 140 (1938 = 100) for the average earnings at that date. This is slightly lower than 142 given by the inquiry of the Ministry of Labour quoted above. The figures need not agree exactly because the latter relates only to manufacturing, building, and public utilities.

Table 21. *Index of Wage Bill in Great Britain, 1939–1941 (1938 = 100)*

Year	Half-year	Persons employed	Earning strength per person	Wage-rates	Wage Bill
1939	I	101	101	101	103
	II	103.5	104	102.5	110.5
1940	I	102.5	109	109.5	122.5
	II	98.5	112	115	127
1941	I	104.5	113	120.5	142
	II	105	114	124	148.5

We now multiply the index of persons employed by 'earning strength' and by Professor Bowley's index of wage-rates, and so arrive at a rough estimate of the index of the wage bill. (It should be noted that the wage bill computed in this way does not cover strictly the aggregate earnings of manual labour because insured employment excludes certain types of manual labour and includes lower grades of salary-earners.)

Judging from the series of persons employed and the 'earning strength', the rise in employment in man-hours between the first and second half of 1941 was only slight. For the first half of 1941 we estimated it in the article quoted at 113 (1938 = 100). We may thus say that (if this estimate is approximately correct) in the second half of 1941 the employment in man-hours was by about 15 per cent higher than in 1938.

2. In the *Bulletin*, 2/5 and 6, a formula relating the wage bill to the circulation of coins and notes has been established.[4] It was shown, first, that there are *a priori* grounds for postulating the existence of a relation between the circulation of coins and notes and the cash-paid income, and of a relation between the latter and the wage bill. Secondly, a close double correlation between the variables in question for the period 1929–38 was obtained. The formula arrived at there may be written:

$$W = 2.0C_1 + 0.11C_2 - 55.$$

W is here a combined index of the wage bill (product of insured employment by average earnings) and unemployment benefit, weighted, of course, according to the actual payments in 1938, which

[4] See M. Kalecki, 'Wage Bill and Cash Circulation' and 'Wage Bill and Cash Circulation: A Supplement', this volume.

is taken as the basis.[5] C_1 is the coin circulation which was obtained from gross coin circulation as given by the Bank of England *Statistical Summary*, by deducting from it coins held by the banks calculated from the *Annual Report* of the Master of the Royal Mint. C_2 was obtained as a difference between the net coin and note circulation as given by the Bank of England *Statistical Summary* and C_1.

It is interesting now to compare the wartime index of the wage bill given in the first section of this note with the values obtained from the above formula. Before that, however, a short discussion of the applicability of this formula is necessary. First, as stated above, W in the formula is the combined index of the wage bill and unemployment benefit and therefore in 1940 and 1941 it should be lower as compared with 1938 than the wage bill estimated in the first section of this note; for unemployment and unemployment benefit diminished considerably after 1938. For this factor it would, of course, be easy to introduce an adjustment so as to render both series comparable; there is, however, another factor which works in the opposite direction. The above formula is based on the relations between the coin and note circulation and the cash-paid income, and between the latter and the wage bill. Now this latter relation has been disturbed in wartime by considerable cash payments to soldiers and their dependants, so that the cash-paid income increased more as compared with the wage bill than it would have done in peacetime. For this reason W calculated from our formula is 'too high' as compared with the index of the actual wage bill, 1938 taken as 100. In this case an appropriate adjustment is difficult, but its order seems to be similar to that for unemployment benefit, but of course in the opposite direction. We may thus conclude that the wage-bill series as calculated in the first section is roughly comparable for 1940 and 1941 with W obtained from our formula.

This comparison is made in Table 22. C_1 has been calculated for 1940 and 1941 in the following way. The Bank of England *Statistical Summary* gives the gross coin circulation. The coins held by the banks bore in pre-war years a rather stable percentage—about 17 per cent—to the coins and notes held by the clearing banks. We thus estimate C_1 in 1940 and 1941 by deducting from the gross coin circulation 17 per cent of the coins and notes held by the clearing banks (also published in the Bank of England *Statistical Summary*). C_2 is obtained as the

[5] In the paper quoted the formula is different because there the wage bill in 1929 has been taken as 100. The weight of unemployment benefit is obviously small but its proportionate changes are very violent.

Table 22. *Wage Bill and Cash Circulation in Great Britain, 1940 and 1941*

Year	Half year	C_1	C_2	W	Wage Bill[a]
		Average in £m.		1938 = 100	
1940	I	63	453	121	122.5
	II	64	509	129	127
1941	I	69	525	141	142
	II	71	595	152	148.5

[a] The series given in Table 21.

difference between the net circulation of coins and notes as given by the *Statistical Summary* and C_1.[6]

There is, as we see, a surprising agreement between W calculated from our formula and the estimates of the wage bill obtained in the first section. If this is not a mere coincidence it provides a certain check for these estimates and also shows that the rapid rise of note circulation in 1941 may be accounted for simply by the increase in note balances corresponding to the rise in the wage bill according to the 'normal' relation.[7] It is, however, by no means excluded that certain particular factors, such as the black market, might have contributed to it in a minor degree: the excess of W over the wage bill in the second half of 1941 is equivalent according to our formula to about £30m. of note circulation.

It is perhaps not out of place to point out that whatever are the reasons for the increase in note circulation it has no bearing upon whether the situation is 'inflationary' or not. If the rise in note circulation is 'normal', i.e. due to the fact that cash balances increase with cash-paid incomes, it is only a symptom of the rise in cash payments which may, but need not, be 'inflationary'. And clearly hoarding, i.e. accumulation of notes over the normal level, has even less to do with 'inflation' because it is entirely independent of the effective demand exercised. It may perhaps be maintained that ample note balances encourage consumption, which is made more difficult if savings are held, say, in saving certificates and not in notes. But this factor seems to be of rather secondary importance. Most purchases are made out of

[6] In the 'Wage Bill and Cash Circulation: A Supplement' allowance has been made for the foreign hoarding of notes in 1936–8. In the present calculation it has been assumed that most of these notes returned to the UK in the first stage of the war (which seems likely) and therefore no deductions have been made from C_2 as calculated above.

[7] See Diary Note: 'Increasing Note Circulation,' *Bulletin*, 3/16 (1941), 376.

current income, and in the case of an urgent need it is always possible to sell the saving certificates and so obtain the wherewithal for the purchase intended. True, withdrawals of National Saving Certificates have so far been very small, but this is just due to people's holding ample balances in notes and savings bank deposits.

The Problem of Profit Margins[1] (1942)

1. The purpose of this note is to discuss the connection between the influence upon production of the Excess Profits Tax (EPT) and the level of profit per unit of output (profit margins). The problem may be illustrated by two examples. Imagine a government contract given on a fixed-price basis to a firm which could do much to improve its organization of production. If the level of the price is such that with the present methods of production the firm is able to earn a total profit which is above or at the level of the 'standard profit' the incentive for reorganization is lacking because any additional profits which would be obtained by it would be taken away by 100 per cent EPT.

The second example is provided by conditions prevailing now in coalmining. It is alleged that collieries often work their worst seams because with the existing level of costs and prices they make in this way their standard profits and have the advantage of leaving the best seams for future exploitation. It is clear that thereby the coal output is reduced below the level which could be achieved with the same labour, and in addition there is a general deterioration of working conditions.

It is interesting to note that in both instances EPT is not the only cause of ill effects. It should be remembered that even with the present EPT there is some inducement to make profits above the standard level; 20 per cent of 'excess profits' are repayable after the war and this item is not without some significance as a reserve; further, if the firm does not reach its standard profit in some years (which may easily happen even in armament industries owing to war damage), the deficiency is reimbursed out of its previous payments. The firms have thus an incentive to make excess profits, but a rather weak one. If appropriate labour were in ample supply the firms on war contracts would certainly increase output because taking in trained workers does not require any particular effort. But to reorganize production so as to obtain higher output with the same labour or to train workers is a different proposition which requires stronger incentives. The collieries would also increase their output to satisfy the existing demand if more miners were available (although even then they would still work the

bad seams). The effects of EPT upon production are thus due to some extent to shortage of labour. It is for this reason that a moderate reduction of the rate of EPT (say from 100 per cent to 75 per cent) would not make matters much better, because the incentive to increase output with the same labour would be still too weak.

However, the problem of incentives may be solved even with 100 per cent EPT by fixing appropriate profit margins per unit of output. If these are fixed so low that the firm cannot reach its standard profit unless it makes a reasonable effort for expanding output EPT ceases to be a brake on production. The armament producer is compelled to reorganize production because otherwise he will get much less than his standard profit; the colliery must work its best seams just to earn its standard profit, etc. The producers move all the time within their standard profit. EPT does not come into the picture because excess profits do not accrue. In other words EPT should be managed in such a way that it brings in as little revenue as possible. Its ideal is the same as that of a prohibitive customs duty.

2. I have dealt in this *Bulletin*[1] with the question of profit margins in government contracts given on the basis of cost *plus* fixed profit margin per unit of output. My proposal there was, generally speaking, that profit margins should be fixed in such a way that the firm gets its standard profit upon reaching its 'target output' (fixed on the assumption of a reasonable efficiency of management) and thus proportionately less if the output is below the target level. (I allowed for complications arising out of the fact that a firm usually manufactures a variety of products. In the case when the factory is understaffed it was proposed that the 'target output' be estimated on the basis of full employment of the factory but after deduction of that number of vacancies communicated by the firm to agencies of the Ministry of Labour which the latter have been unable to fill.)

It is easy to devise a similar scheme for contracts given on a fixed-price basis (with a clause allowing for possible increases in prices of raw materials and wages). The price for goods concerned must be fixed at such a level that the 'target output' renders to the firm its 'standard profit.' Here, if the efficiency of the management is inadequate to reach the 'target output,' not only is the actual output lower than the 'target output' but in addition the unit costs are higher than those on which was based the fixing of the contract price. Therefore the firm which

[1] See 'Excess Profits Tax and Government Contracts', this volume.

does not attain its 'target' is penalized here more severely than in the previously described case of a cost *plus* fixed profit margin contract. This should be perhaps counterbalanced by exempting from EPT the excess profits which the firm can make if it *exceeds* the target output.

3. So far we have applied our 'principle of low profit margins' only to government contracts where profit margins or prices are fixed for each firm individually. We shall now consider the problem of incentives under EPT for marketable commodities where prices are not differentiated according to firms.

The problems arising in the industries concerned as a result of EPT are similar to those mentioned above in connection with coalmining. Firms will be inclined to use their most out-of-date equipment if they can make in this way their standard profit. In addition there will be no inducement for them to lower their costs by standardization of their products etc., if the additional profits obtained as a result are taken away by EPT. Although the position in some of the industries is different from that in coalmining, because the main bottleneck is not labour but raw materials, there still exists the problem of economizing labour, either to release it for armament industries or to use it in the industries concerned to produce goods of more durable qualities.

Imagine now that the price is fixed at such a level that a medium-cost producer gets his standard profit when working with reasonable efficiency. There arises then the following situation. The medium firms will tend to achieve a reasonable efficiency. The lowest-cost producers may still afford some 'slacking'. Some high-cost producers (although not necessarily an important part of them) may be unable to cover even their current costs. If these are deemed to be worth maintaining—either because medium- and low-cost producers are working up to capacity or for other reasons such as their geographical situation—subsidies may be paid.

A disadvantage of this solution is that the best establishments may still afford to work below their possible efficiency. If these, as is often the case, are large-scale units they may be perhaps dealt with by direct control. In any case pegging of prices at such a level that the average producer is compelled to work with reasonable efficiency is a great improvement as compared with the situation which arises when prices are above that level.

The position in agriculture differs from other industries, in so far as the greater part of output is produced by small units, which are exempt

from EPT because their profits are lower than £1,500 p.a. The policy of low profit margins if not accompanied by other devices, would be here double-edged. On the one hand it could increase the incentive to expand output for the large farms, on the other hand it could diminish it for the small ones.[2] In any case higher prices of agricultural commodities by no means strengthen always the incentive for more intensive cultivation. The best solution would be to have a differential price policy for large and small farms.

4. The above analysis shows a new aspect of price control. This has usually been considered from the angle of the fight against inflation. As such it is efficient only when accompanied by rationing, because otherwise the discrepancy between demand for and supply of consumption goods reappears in the form of shortages and queues. We have seen that price control may perform a quite different task also, by restoring the production incentive under a regime of EPT.

[2] And possibly also for some marginal large producers.

The Budget[1] (1942)

No Inflation?

In the part of the budget speech dealing with the review of the developments in the last financial year, Sir Kingsley Wood stated rather confidently 'that during the last year we have definitely held our own against the onset of inflation. The enemy is still at our gates. Our vigilance must not be relaxed for a moment, but we can at least claim that as yet he has not established a bridgehead against our financial defences.'[2] This statement seems to be a little too optimistic. The Chancellor of the Exchequer rightly pointed out that the prices of controlled goods, especially of those entering into the cost-of-living index, have been kept nearly stable since April of last year. There has, however, been a violent increase of prices in the uncontrolled sector both in food and in household goods. In these sectors a typical inflationary development has taken place.

However, price increases out of proportion with costs are not the only symptom of an inflationary situation. Another indication of divergency between demand and supply is the depletion of stocks. Now what is called home disinvestment amounted in 1941, according to the White Paper, to about £500m., and its rate in the last quarter of 1941 was probably substantially higher. Depletion of private stocks is certainly an important item in home disinvestment. Sir Kingsley Wood said on the subject: 'I can say with some confidence that there has been no dangerous inroad into private stocks, although the supply of non-essential goods no longer currently produced is naturally and properly gradually drying up.' It is rather difficult to imagine that there are sufficient statistical sources to show that the 'drying up' was chiefly in goods no longer currently produced, and indeed the White Paper formulates this rather more cautiously, saying that depletion of stocks 'mainly affected finished products and non-necessary materials.'[1] Now there are two aspects of this process. First, it indicates that there was a discrepancy between actual consumption and the supply of consumption goods as determined by imports, home production and the government's policy of increasing or reducing their stocks, and as long as consumption is not diminished or supply, as ruled by the above three factors, is not increased, the reduction of private stocks will continue at the same rate. Secondly, the inroad into the stocks of 'unessential' goods is by no means without danger. Among these 'unessential' goods there are, for instance, household goods, the supply of which may be very important if the bombing of this country is renewed.

[1] Cmd. 6347, p. 4.[3]

Sir Kingsley Wood stressed with satisfaction the rise in personal saving from 1940 to 1941. It should be noticed, however, that in this item there is a part which has not been saved voluntarily or as a result of orderly rationing, but was enforced by the difficulty of buying goods owing to shortages and queues, which are a symptom of *sui generis* inflation.

As one of the tools which greatly contributed to preventing inflation the Chancellor of the Exchequer mentioned rationing. That was undoubtedly so, but rationing was rather a windfall to the Treasury. We found no mention of its being planned in the Chancellor's speech last year. And indeed it was introduced last year rather under the pressure of events than as part of a comprehensive plan to prevent a divergency between demand and supply from arising. This time the position is different because Sir Kingsley Wood explicitly relies in his speech on an extension of rationing in the next year to fight the 'enemy round the corner.' Let us hope that the extension will be this time introduced *before* the urgent necessity arises.

Direct Taxation

Although direct taxation plays but a small part in the budget proposals, the problems connected with it were prominent in the budget speech. The spreading of income tax to wage earners in the budget of last year is generally known to have created severe difficulties. As was anticipated in this *Bulletin*[2] it tended to hinder the war effort by taxing overtime pay severely, and to a lesser degree, but still very strongly, the wages of married women. The other problem was the formidable difficulty encountered in the collection of income tax—which was originally designed for taxing the high and middle incomes—from wage earners. One of the problems involved was tackled radically by

[2] See M. Kalecki, 'The Budget and Inflation', this volume.

the Chancellor by increasing the allowance to married women in employment from £45 to £80. There was, however, no mention of the problem of overtime although, for instance, the representatives of the shipyard workers stressed a few months ago the urgency of the problem. A small improvement in the technique of the collection of the tax has been introduced, but it can hardly be considered as satisfactory. Whether it would not be better to increase the earned income allowance and exempt thereby a great part of the wage earners from income tax altogether is an open question. The essential accompaniment of such a step, which would increase purchasing power and so be a weakening factor in the fight against inflation, is the greatest possible extension of rationing.

Sir Kingsley Wood tried to show also that the taxation of the rich as a serious contribution to revenue is out of the question. 'If we were', he said, 'to take away every penny of income above £2,000 from those whose incomes at present exceed £2,000, the gain to the Exchequer and the decrease in current purchasing power would be about £30m.' However, an estimate published in this number of the *Bulletin*[3] shows that the excess of net incomes of those who at present earn more than £1,100 after taxation is about £90m. and therefore it remains an important source of revenue. It is quite true that this 'taxing of the rich' cannot be expected to contribute much towards fighting inflation, because they will be able to maintain their consumption by dissaving or to cut such expenditure, for instance on rent, which does not help in reducing the danger of inflation. But if taxation is considered not only as a weapon to cut consumption but is also imposed to reduce the future government debt, this source of revenue should not be neglected. Another source of revenue for this purpose may be an annual capital tax.

Indirect Taxation

The indirect taxation on which the current budget relies may have two purposes: (i) to bring in more revenue and thus to reduce the future indebtedness of the government, or (ii) to curtail consumption and thus to prevent inflation. The first purpose is definitely the less important one, and might be best achieved by taxation of high incomes and/or an annual capital tax. Total consumption will probably be curtailed by indirect taxation, because it will be a serious new burden on low

[3] See *Bulletin*, 4/6 (1942), 143.

incomes and the people concerned will be compelled to cut the consumption either of the goods affected (tobacco, beer, and entertainment) or, while maintaining their present consumption of these goods, to reduce their expenditure on other goods and services. It is, however, paradoxical to maintain that such type of curtailment of consumption is a fight against inflation. To fight inflation by increasing prices is indeed self-contradictory. True, there is a difference between the price rises caused by indirect taxation and by *laissez-faire* inflation, because the first is planned by the government and thus affects only certain commodities. However, beer and tobacco are commodities of mass consumption quite comparable as necessities with certain types of food, and even in the luxury group which the new budget proposals subject to double purchase tax are some which are commonly used by large masses of the population, as for instance cosmetics. One might argue, of course, that in the present emergency the use of cosmetics could be abolished altogether, but it is no proper solution of this problem to make them so expensive that they will be accessible only to the relatively well-to-do.

The tax on entertainment suffers from the general disadvantages of indirect taxation and in addition it is likely to curtail consumption in a quite unhelpful way: the reduction in frequenting picture theatres does not release any raw material and hardly any labour for the war effort.

Conclusions

The danger of inflation in one form or another seems in the light of the above much graver than was depicted in the budget speech; the more so that further cuts in supplies must now be expected. At the same time no satisfactory remedy against inflation is proposed. As pointed out above, indirect taxation does not in fact differ substantially from *laissez-faire* inflation in its incidence upon consumers.

It is significant that the best parts of the present budget are the amendments to last year's and this year's budget proposals: the increase in the allowance to married women in employment, the exemption of men in the Forces from tobacco tax, the exemption of utility clothing from purchase tax. This is not accidental. Neither direct nor indirect taxation are satisfactory weapons to cope with the problem of inflation, which consists in cutting consumption in an equitable way. This function may be performed only by a scheme of comprehensive rationing.

Wages and the National Income, 1940 and 1941[1] (1942)

The data given in the White Paper[1] on the relative changes of wages and national income raise some interesting problems. The respective figures given there are as follows

	1938	1940 (£m.)	1941
Wages[2]	1,790	2,484	3,021
National income	4,595	5,585	6,338
Relative share of wages (%)	39.0	44.5	47.7

We see a very strong rise in the relative share of wages in the national income, which is the more surprising as some increase in prices relative to costs has undoubtedly taken place, so that we should have expected rather a fall in the relative share of wages. Two points relating to this problem arise immediately.

The first concerns the calculation of profits in 1938 in the latest White Paper. As opposed to the previous White Paper[3] the figure of profits obtained on the basis of Inland Revenue assessments has been corrected by adding a figure for writing down of inventories, which is estimated at £135m. As a ground for this procedure it is said that 'stocks were written down when they had fallen in value, but not written up when they had risen in value', and therefore 'no other year is affected by the change since this adjustment is only required in times of falling prices.' This statement may be questioned. Stocks are valued for the Inland Revenue assessments at cost or current price, whichever is the lower. That means that if the period of turnover is, say, four months, stocks are valued at the average prices of the last four months of the year or at prices at the end of the year, whichever is

[1] See Cmd. 6347.

[2] Inclusive of the pay and allowances (in cash and kind) of ranks other than officers in HM Forces and Auxiliary Services.

[3] See Cmd. 6261.

lower. Therefore the assymetry between the years of rising and falling prices exists only in so far as the prices at the end of the year are significantly lower than the average prices in the last few months of the year. This, however, was not the case in 1938, and therefore the procedure applied does not seem to be sufficiently well founded. We therefore subtract £135m. from the White Paper figure of national income in 1938.[4]

The second point is of an entirely different nature. The remuneration of soldiers cannot be considered as a usual type of wages, because they are paid, so to say, outside industry proper, and have no counterpart in overheads and profits. Their inclusion in the wage bill inflates artificially, therefore, the relative share of wages. If we want to know the changes in the distribution of income in industry proper, we must deduct this item both from wages and from the national income. The remuneration of soldiers[5] may be estimated (very roughly) at £250m. in 1940 and £500m. in 1941. After both corrections mentioned above are introduced, we obtain the following figures for wages and the national income.

	1938	1940 (£m.)	1941
Wages[6]	1,790	2,234	2,521
National income[7]	4,460	5,335	5,838
Relative share of wages (%)	40.1	41.9	43.2

It is interesting to notice that changes in the wage bill after deduction of soldiers' remuneration agree well with the estimates of wage bill which were given in this *Bulletin*.[8] If we take 1938 as 100 the index of

[4] The figures of national income which we are going to use include in all years the changes in the value of stocks calculated at cost. It may be shown that such figures are relevant to the problems of distribution, as arising out of the system of price formation, if prices are based not on current costs of the factors of production but on their cost of acquisition in the past. In other words the application of the figures of national income calculated as described above is based on the hypothesis that the time-lag between the cost of the factors of production and the selling price of a product is more or less the same as the period of turnover. This hypothesis is probably often true but not always so, and therefore a statistical analysis of the distribution of the national income involves a high degree of uncertainty.

[5] Except regulars whose remuneration is included also in 1938.

[6] Exclusive of soldiers' remuneration.

[7] After subtracting in 1938 £135m. for writing down of stocks, and exclusive of soldiers' remuneration.

[8] See M. Kalecki, 'Employment, Wage Bill, and Cash Circulation', this volume, pp. 111–12.

the wage bill is, according to the above, 125 in 1940 and 141 in 1941. Our estimates for these years were 125 and 145.

The rise in the relative share of wages in the national income is now much less than that which was obtained on the basis of the original figures. However, the problem why it has risen and not fallen still requires explanation.

The national income includes incomes in two sectors of the economy where wages are not paid, namely real estate and retail trade (the latter employs shop assistants, but in the present White Paper they are classified as salary-earners). In normal times this may not significantly influence changes in the relative share of wages because at least the gross income of the retail trade changes *pari passu* with the national income. In the last few years the position has been entirely different because an exceptionally great rise in the national income was not accompanied by a rise of incomes from rent and retail trade. To analyse, therefore, the changes in the relative share of wages we should subtract these two items from national income and see what will then be the change in the relative share of wages in the residual. Rents are given in the White Paper as £373m., £383m., and £379m. in 1938, 1940, and 1941 respectively. The gross income of the retail trade (retailers' profit, salaries of shop assistants, etc.) may be estimated only very roughly. On the basis of the available data it has been estimated that retail sales were approximately £2,050m., £2,970m., and £3,100m. in 1938, 1940, and 1941 respectively. It can be then assumed that the retail trade margin is about 25 per cent of the price and that the wartime change in indirect taxation has been passed to the consumer without it being 'marked up' by the retailer (this was definitely the line of the government price control). The rise in customs and excise from 1938 to 1940 was £134m., from 1938 to 1941—£337m. We thus calculate the gross income of the retail trade in 1938 by taking 25 per cent of £2,650m.; for 1940 we subtract from £2,970m. £134m., and take 25 per cent of the difference. The procedure for 1941 is analogous. We obtain in this way the gross income of the retail trade at £662m., £709m., and £691m. in 1938, 1940, and 1941 respectively. We can thus now eliminate from the national income rents and gross income of the retail trade.[9]

[9] The rent paid by retailers is included in each of these items but this duplication is not of great importance.

	1938	1940 (£m.)	1941
Wages (exclusive of soldiers' pay)	1,790	2,234	2,521
National income[10] less rents and gross income of retail trade	3,425	4,243	4,768
Relative share of wages (%)	52.3	52.7	52.9

We see now that the relative share of wages is approximately stable. It should be mentioned, however, that in the national income there is still one item which has no counterpart in wages: income from overseas, which in 1938 amounted to £235m. We do not know this figure for 1940 and 1941, but it is likely that it has fallen appreciably while the national income has considerably risen. If we were to subtract this item also from the national income the relative share of wages would be about 56 per cent in 1938 and lower in 1940 and 1941. The fall is unlikely to be considerable, but here still another point must be taken into account. A rough estimate of the relative share of wages in the income derived from wartime engineering shows that it is of the order of 56–60 per cent. Now if one takes into account that a considerable shift has occurred from other industries to wartime engineering, it is obvious that even to a small fall in the relative share of wages in all industries concerned there might have corresponded an appreciable fall in the industries working for the free market. That is particularly true for 1941 when the shift from other industries to wartime engineering as compared with 1938 was on a very large scale.

[10] After subtracting in 1938 £135m. for writing down of stocks, and exclusive of soldiers' remuneration.

War Finance, 1940 and 1941[1] (1942)

1. The White Paper[1] gives a number of data which enable us to analyse in detail the sources of war finance in 1940 and 1941. This analysis is presented in Table 23. The first three major items are current 'surpluses': excess of personal incomes (after deduction of employees' contributions to social insurance) over personal consumption, business income (after deduction of contributions to insurance funds) undistributed to persons, and surplus of public funds. The first and second items are divided into direct tax payments to the central government,[2] and savings;[3] the third—into the surplus of extra-budgetary funds (Unemployment Insurance Fund, war-risk insurance funds, etc.) and that of local authorities. After this there follows central government indirect tax revenue and miscellaneous income of the central government (income from public property, trading, etc.) Next come various types of disinvestment, the proceeds of which are lent to the government. Disinvestment at home except war damage means the excess of the depreciation of privately owned fixed capital over privately financed new investment in fixed capital, sales of fixed capital assets to public authorities, depletion in private stocks except that caused by war damage. The disinvestment in fixed capital and stocks due to war damage is covered by 'compensation for war damage'. Just as 'home disinvestment except war damage', these payments provide the public with means to absorb government loans.[4] (In so far as war damage is not compensated it does not, of course, come into the picture here.) Private disinvestment abroad results in similar transactions to disinvestment at home. The proceeds of sales of foreign privately owned assets supply the owners with funds which enable them to buy government loans. Finally government disinvestment abroad

[1] Cmd. 6347.
[2] Income tax, surtax, contributions under War Damage Act, and the EPT.
[3] Before paying death duties and stamps on the transfer of property.
[4] War losses made good are accounted for in the item 'home disinvestment except war damage' because they increase *pro tanto* the new investment in fixed capital or stocks.

consists of the loss of gold and foreign balances by the Exchange Equalization Fund, which absorbs to the same extent government securities, and foreign loans to the government (Reconstruction Finance Corporation Loan). The sum of all the items mentioned above gives the central government revenue and borrowing, which must be equal to central government expenditure. This is divided in the second part of Table 23 into (i) expenditure on goods, services, and compensation for war damage, (ii) transfers (interest on national debt, pensions, doles, etc.), and (iii) subsidies.

Table 23. *Revenue and Borrowing of the Central Government in Great Britain, 1938–1941 (£m.)*

	1938	1940	1941
Direct tax payments to the central government out of personal incomes	320	472	680
Personal savings[a]	233	640	909
Excess of personal incomes[b] over personal consumption	*553*	*1,112*	*1,589*
Direct taxes paid by enterprises	70	151	373
Undistributed profits	178[c]	268	213
Business income undistributed to persons	*248[c]*	*419*	*586*
Surplus of extra budgetary funds[d]	21	140	134
Surplus of local authorities	4	36	54
Surplus of public funds[d]	*25*	*176*	*188*
Central government indirect taxes	382	516	719
Miscellaneous income of the central government	23	29	41
Indirect taxes and miscellaneous government income	*405*	*545*	*760*
Compensation for war damage	—	36	249
Disinvestment at home except of war damage	−271[e]	286	493
Total home disinvestment	−271[e]	322	742
Private and government disinvestment abroad	*55*	*759*	*798*
CENTRAL GOVERNMENT REVENUE AND BORROWING	**1,015**	**3,333**	**4,663**
Central government expenditure on goods, services, and compensation for war damage	658	2,891	4,099
Transfers	342	372	425
Subsidies	15	70	139
CENTRAL GOVERNMENT EXPENDITURE	**1,015**	**3,333**	**4,663**

[a] Before paying death duties and stamps on the transfer of property.
[b] After deduction of contributions to social insurance.
[c] After writing down of inventories and therefore £135m. less than the White Paper figure (see M. Kalecki, 'Wages and the National Income in 1940 and 1941', this volume, p. 124).
[d] Exclusive of the surplus arising out of contributions and payments under the War Damage Act.
[e] After writing down of inventories and therefore £135m. more than the White Paper figure (ibid.).

The Lease and Lend supplies are excluded from government expenditure: the supplies under government contracts are not shown in the expenditure of the ordering departments and the 'civilian' supplies of food and raw materials are subtracted from the expenditure of the Ministry of Food and the Board of Trade. If imports from the USA were the same but Lease and Lend aid was not in existence, the government expenditure would be higher by the total amount of this aid, and foreign disinvestment would also be higher by exactly the same amount.

2. It is sometimes disputed that savings or proceeds of disinvestment are always lent to the government. It is implied that they may be hoarded. It must be remembered, however, that any hoarding is a form of lending. Notes, for instance, are nothing else but deposits in the Bank of England and their counterpart are the government securities in its portfolio. Thus there must always be an equality between the central government expenditure and the above sources of government finance. (Indeed, the item 'disinvestment at home except war damage' has been calculated in the White Paper as a residual to balance both sides of the account.) Any increase in government expenditure not covered by taxation therefore causes automatically an increase either in savings or in disinvestment. This sometimes seems paradoxical, because the direct rise in income caused by government expenditure is to a great extent spent on consumption. But it must be taken into consideration that whatever the rise in consumption it always increases incomes in the consumption-goods sector *pro tanto* or causes additional disinvestment. Thus the sum of excess of incomes over consumption plus disinvestment always remains unaffected by the rise in consumption.

It is therefore useless to look to Table 23 for any indication of an 'inflationary gap'. The only significant item in this respect is home disinvestment, and here only that part of it which relates to the reduction of stocks, because it then indicates the divergency between the demand for and supply of goods in question. The White Paper does not contain any indication as to how large this part of home disinvestment is. It is likely, however, that the strong rise in disinvestment from 1940 to 1941 was to a great extent due to this factor. The existence or non-existence of price inflation which arises because the demand for consumers' goods at existing prices is higher than their supply cannot, however, be traced in Table 23 at all. True, one of the symptoms of

such inflation should be a considerable rise in undistributed profits, and these, as follows from Table 23, were lower in 1941 than in 1940. But it is easy to see that what should really come under consideration here are not undistributed profits *sensu stricto* but undistributed profits plus tax payments by enterprises: if price inflation causes an increase in profits of enterprises the situation is no less 'inflationary' if the profits, instead of being owned by enterprises and lent to the government are paid to the government in the form of EPT. And the combined item which we call 'business income undistributed to persons' increases considerably throughout the period. But neither can this give us any indication whether the situation was or was not inflationary. On the one hand, the rise in 'undistributed business incomes' was due to a great extent to the expansion of war output, and thus we do not know by how much the undistributed incomes in the consumption good sector have risen. On the other hand, these profits might have been earned on a reduced turnover. What one can, however, see from Table 23 is the enormous rise in personal savings. If these were lower, undistributed business income would be, with the same government expenditure, taxation, and disinvestment, accordingly higher, and to that there would correspond a more inflationary situation.[5]

3. Since the rise in personal savings is of such great importance, we shall analyse it in more detail. In Table 24 it is shown how personal savings have arisen out of personal incomes, direct tax payments and personal consumption.

To clarify the position fully, however, it is necessary to have at least a vague idea of how real personal incomes and real personal consump-

Table 24. *Personal Incomes, Tax Payments, Consumption, and Savings in Great Britain, 1938–1940 (£m.)*

	1938	1940	1941
Personal incomes[a]	4,594	5,536	6,139
–Direct tax payments by persons[b]	320	472	680
Personal incomes net of tax	4,274	5,064	5,459
–Personal consumption	4,041	4,424	4,550
Personal savings before paying death duties, etc.	233	640	909

[a] After deduction of employees' contributions to social insurance.
[b] Except employees' contribution to social insurance.

[5] Except in the case when the shift from personal savings to undistributed profits would be due to enterprises distributing less dividends without affecting thereby consumption of dividend receivers.

Table 25. *Real Personal Net Incomes and Consumption, 1938–1940*

	1938	1940	1941
Cost of living (1938=100)	100	118	128
Real personal incomes net of tax, £m.	4,274	4,280	4,260
Real personal consumption, £m.	4,041	3,750	3,550
Reduction of real personal consumption as compared with 1938, £m.	0	291	491

tion changed. For this purpose we deflated the figures of 1940 and 1941 by the Ministry of Labour cost of living index related to 1938 as a base, i.e. we expressed them in 1938 prices (see Table 25).

We see that real personal incomes are more or less stable. Thus if it were not for the wartime 'saving effort' real consumption could have been expected in 1940 and 1941 to have remained at the level of 1938. It follows that difference between the real consumption in 1938 and that in the war years measures this effort (see Tables 25 and 26). By multiplying these figures by the respective cost of living indices we obtain the money value of the wartime 'saving effort'.

Table 26. *Wartime 'Saving Effort' in Great Britain, 1940 and 1941 (in round figures £m.)*

	1940	1941
Wartime 'saving effort' in 1938 prices	300	500
In current prices	350	650
In per cent of current consumption	8	14

It may be seen immediately that the war 'saving effort' has been very considerable. In 1940 it was probably due partly to rationing and shortage of some types of goods but in addition to a variety of other factors. However, the strong rise from 1940 to 1941 (by about 70 per cent) is probably almost entirely accounted for by the extension of rationing and by accute shortage of goods which made it difficult for many people to spend their income even if they wished to.[6] It is these factors which were decisive in the strong rise of personal savings given in Table 24; if we compare these figures with the wartime 'saving effort' in current prices as given in Table 26 we see that the increase in personal savings over 1938 is to a great part covered by the wartime

[6] In a sense this curtailment of consumption as a result of haphazard distribution may be also called *sui generis* inflation.

'saving effort.' The wartime 'saving effort' as a percentage of consumption given at the bottom of Table 26 shows by how much expenditure would have increased without this effort.

4. It is interesting to compare the rise in personal savings with the result of the saving campaigns as shown by the amount of so-called small savings. This comparison is made in Table 27. To small savings (increase in savings bank deposits, National Savings Certificates, and 3 per cent Defence Bonds) we add the increase in the note and coin circulation outside banks, because these additional coins and notes are most probably to a great extent in the hands of 'small men'.

Table 27. *'Small Savings' and Personal Savings in Great Britain, 1938–1940*

	1938	1940	1941
Increase in savings bank deposits, National Savings Certificates, and 3 per cent Defence Bonds	4	467	601
Increase in note and coin circulation	0	70	140
'Small savings'	4	537	741
Personal savings after paying death duties, etc.	143	555	815

One can see at a glance that the increase in 'small savings' in 1940 and 1941 as compared with 1938 is larger than in all personal savings although the latter are due by no means only to small savers. This shows unmistakably that a great part of small savings is due to transfers from other assets and to savings of rather large savers. Thus to attribute so-called 'small savings' chiefly to the current savings of small savers is most probably incorrect.

The Financial Situation in the First Half of 1942[1] (1942)

The White Paper[1] has given ample material for the analysis of the financial situation in 1941. We shall attempt here to estimate the changes in the most important elements of war finance between 1941 and the first half of 1942 and then proceed to the analysis of the financial position in the latter period. We shall start with the continuation of our series of employment and the wage bill given in the *Bulletin*, 3/13 and 4/3.[2] We shall then try to estimate the changes in the national income (on the basis of those in the wage bill) and in personal consumption (on the basis of the retail trade statistics of the Bank of England). These data will finally enable us to discuss the recent trend in war finance and draw certain conclusions with regard to the general economic situation.

Employment and the Wage Bill

In Table 28 the estimates of employment and the wage bill which have been given in the articles quoted above are continued. The index of the number of persons in insured employment (after elimination of changes in the scope of insurance) is calculated from the unemployment insurance contributions.[2]

The 'earning strength' means average earnings per person divided by the index of wage-rates (it depends on the length of working day, on overtime, night shifts, and production bonuses, and on the structure of employment according to occupation, age, and sex). The earning strength in the middle of 1941 was estimated in *Bulletin*, 4, at 114 (1938 = 100) and this figure was assumed provisionally for the second half of 1941. According to the Ministry of Labour inquiry average earnings in manufacturing, building, and public utilities were, in January 1942, 2.5 per cent higher than in July 1941. But after elimination

[1] See Cmd. 6347.

[2] The method is described in detail in M. Kalecki, 'Wartime Changes in Employment and the Wage Bill', this volume.

of the seasonal influence of the reduced earnings in building and other outdoor industries it appears that average earnings in January 1942 were higher than those in July 1942 by 6 or 7 per cent.[3] The corresponding rise in wage-rates was about 3.5 per cent, and thus the increase in 'earning strength' in the industries concerned was about 3 per cent. Assuming that the rise in all industries was of a similar order we can estimate the index of 'earning strength' at the beginning of 1942 at 117.5. Accordingly we correct this index in the second half of 1941 from 114 to 116 and assume provisionally 118 for the first half of 1942.

Table 28. *Index of Wage Bill in Great Britain, 1940–1942 (1938 = 100)*

Year	Half-year	Persons employed	'Earning strength' per person	Wage-rates	Wage bill
1940	I	102.5	109	109.5	122.5
	II	98.5	112	115	127
1941	I	104.5	113	120.5	142
	II	105	116	124	151
1942	I	106.5	118	129	162

The wage bill is now obtained as the product of the index of persons employed, the 'earning strength', and Professor Bowley's index of wage-rates. The wage bill computed in this way does not cover strictly the aggregate earnings of manual workers because insured employment excludes certain types of manual labour and includes lower grades of salary-earners. For 1940 and 1941 our index is 125 and 146.5 respectively (1938 = 100). The corresponding figures obtained from the White Paper by deducting from the wage bill figures given there a rough estimate of the soldiers' pay are 125 and 141. The agreement in 1940 is perfect; in 1941 the discrepancy is about 4 percentage points.

As follows from Table 28 the number of persons in employment continued to increase. The rise in 'earning strength' points—although not quite conclusively—to the same with regard to the average working day. This may have been caused by the increase of the weight of war industries, where longer hours are worked, in the total employment, and also by a lengthening of the working day in the non-war sector. The present level of employment in man-hours may be estimated at about 120 (1938 = 100).

[3] See a note by Professor Bowley, *Bulletin*, 4/10, 207.

National Income and Consumption

As may be seen from Table 28, our figure for the wage bill in 1942 is 10.5 per cent above the average of 1941. What is the plausible corresponding increase in the national income? It follows from the White Paper that the national income in 1940, after deduction of soldiers' pay, was about 20 per cent higher than in 1938,[4] the corresponding rise in our figure of wage bill was 25 per cent; thus the percentage rise in the national income was 80 per cent of that in the wage bill. The increase from 1940 to 1941 was 9.5 per cent in the national income[5] and 17 per cent in our figure for the wage bill, the former being thus 56 per cent of the latter. We shall therefore assume that the rise in national income corresponding to 10.5 per cent increase in the wage bill from 1941 to the first half of 1942 was 6 to 8 per cent.

National income in 1941, exclusive of soldiers' pay, was about £5,850m.,[6] of which 6 to 8 per cent makes £350 to £470m. Thus if we estimate the rise in the national income from 1941 to the first half of 1942 to be about £400m. a year, the error is of the order of £50m. This increase is exclusive of that of soldiers' pay, and therefore still requires some correction. We shall, however, take account only of the change in soldiers' pay in cash, because our figure for the increase in the national income will later be compared with the change in consumption, estimated on the basis of retail trade and consequently excluding soldiers' allowances in kind. The increase in cash payment to soldiers will raise our figure of the increase in the national income to something like £450m. p.a.

We shall now estimate roughly the rise in the rate of civilian consumption (money value) in the first half of 1942 as compared with 1941. The retail trade figures as given in the Bank of England *Statistical Summary* show, after the elimination of seasonal variation, a rise of 6 per cent. Since retail sales in 1940 were at a level of about £3,000 million this amounts to an increase of £180m. p.a. As the change in expenditure on services was probably not important, we may estimate the change in total civilian consumption between the periods in question as being of the order of £200m.

It follows that the increase in the excess of national income over personal consumption may be estimated at £450 – £200 = £250. It need hardly be emphasized that because of the large possible errors in both items their difference should be considered only a rough guess.

[4] See M. Kalecki, 'War Finance in 1940 and 1941', this volume.
[5] See ibid.
[6] See ibid.

War Finance

As has been shown in this *Bulletin*[7] the sources of financing the expenditure of the central government may be presented as follows:

1. Excess of personal incomes[8] over personal consumption,
2. Business income[9] undistributed to persons,
3. Surplus of public funds,[10]
4. Compensation for war damage,
5. Indirect taxes and miscellaneous government income,
6. Private and government disinvestment abroad, and
7. Disinvestment at home except war damage.

We shall now try to estimate roughly the changes in some of these items from 1941 to the first half of 1942. Since personal incomes include also 'transfer incomes' (interest on the National Debt, pensions, etc.), which one does not include in the national income, the sum of items (1) and (2) is the excess of national income + 'transfer incomes' over personal consumption. We shall, however, consider the financing of supply expenditure only, and thus the interest on National Debt must be deducted from the sources of finance. Other transfer incomes are rather stable and therefore we can identify the joint change in items (1) and (2) with the change in the excess of national income over personal consumption, which we have estimated in the preceding section at +£250m. (This amount covers thus the increase in personal savings, undistributed profits, and direct taxation.)

Item (3) covers the surpluses of social insurance funds, war-risk insurance funds and local authorities. The surpluses of social insurance and local authorities could not have changed significantly and thus the change which must be taken into consideration is that of war-risk

[7] See M. Kalecki, 'War Finance in 1940 and 1941', this volume.
[8] After deduction of employees' contribution to social insurance but before payment of direct taxes (in which are included contributions under the War Damage Act).
[9] After payment of contributions to social insurance and war-risk schemes (except those under the War Damage Act) but before payment of direct taxes.
[10] Inclusive of the surplus of local authorities but exclusive of the surplus arising out of contributions and payments under the War Damage Act.

insurance schemes. Now item (4) covers the compensation paid by these schemes and that paid under the War Damage Act. If we therefore consider the *joint* change in items (3) and (4) we see that this may be identified with the change in *contributions* to war-risk schemes + the change in *compensation* paid under the War Damage Act. There is not sufficient information about the change in the first of these items, but it is not likely to have been very important. From the budget accounts it may be concluded that the same is true with regard to the second item.[11] We shall therefore neglect in our calculation the changes in items (3) + (4); this makes, of course, its result even more uncertain.

The change in indirect taxation etc. (item 5) may be calculated from budget accounts to be, in round figures, £100m. (after a rough elimination of the seasonal factor).

Private and government disinvestment abroad (inclusive of the Canadian contribution but exclusive of Lend and Lease Aid) was estimated in the White Paper at £798m. in 1941 and at £775m. for the financial year 1942/3. We therefore assume no change in this item from 1941 to the first half of 1942.

We shall now calculate as a residual the disinvestment at home except war damage (item 7). The rise in the annual rate of supply expenditure from 1941 to the first half of 1942 was about £500m. According to the above it was covered to the extent of £250m. by the rise in the excess of national income over personal consumption, and to the extent of £100m. by the increase in indirect taxation. Thus the residual to be covered by home disinvestment is £150m.

In other words our calculation shows an increase in the rate of home disinvestment from 1941 to the first half of 1942 of £150m. Owing to the precarious character of our estimate this figure is, however, very uncertain and, therefore, the only thing we can say is that the rate of disinvestment has probably not been reduced in the first half of 1942 as compared with 1941. But home disinvestment in 1941 was according to the White Paper about £500m., and thus in the first half of 1942 it was at least at this high level, a substantial part of which must have been due to the depletion of stocks of consumption goods in private hands.

This is one aspect of the divergency between supply and demand or of an 'inflationary' situation. We shall discuss it in more detail in the

[11] The difference in the annual rate of Miscellaneous Receipts in the first half of 1942 and 1941 is about £30m. This difference is chiefly due to changes in sums credited to Miscellaneous Receipts corresponding to amounts paid out of Votes of Credit to meet the expenditure under the War Damage Act.

last section. For the moment we shall deal shortly with other elements which determine whether the situation is inflationary or not.

If by price inflation we mean a rise in prices out of proportion to costs, there are certainly many consumption goods in which such a development took place in the course of the three war years. If we compare the first half of 1942 with 1941, such an 'inflationary' rise in prices only occurred in a limited sector (for instance household goods), and the resulting increase in the aggregate extra profits was probably not a very large amount. (If our estimate of the increase in the national income is correct the role of these extra profits in war finance is accounted for by the excess of national income over personal consumption.)

In 1941 the discrepancy between demand for and supply of consumption goods appeared still in the form of shortages and queues. In this respect a definite improvement can be noted in the first half of 1942. The extension of rationing coupled with a certain increase in the supply of food[12] relegated the shortages to less important sectors of consumption.

General Remarks

The above survey raises certain interesting problems. The first relates to the depletion of privately owned stocks of consumption goods. This has continued at a considerable rate since the beginning of the war right up to the present. On the other hand in the first half of 1942 no acute shortage of goods, which should result from a low level of stocks, was felt. How can these two facts be reconciled? The answer is that since a strong reduction has taken place in the output of consumption goods, the working capital tied up in their manufacture and distribution was being released and such a depletion of stocks does not make itself felt to the consumer. At the point, however, when output is stabilized a further depletion of stocks must create shortages. From that moment onwards, if consumption is not reduced by rationing to the level of current supplies either prices increase or, with controlled prices, shortages and queues make their appearance. It follows that the gap between production and consumption which does not make itself felt in the period of declining output will have to be closed up when this decline comes to an end.

[12] See the next section.

The other problem arises in connection with the recent trend in consumption. Retail sales increased—after the elimination of seasonal variations—by 6 per cent in the first half of 1942 as compared with 1941. The rise in food was 5 per cent, that in non-food commodities 7 per cent (all after the elimination of the seasonal factor). The Ministry of Labour index of retail food prices showed for the same period—after the adjustment for seasonal variations—a fall of 2 per cent. Since, however, the prices of certain goods not included in the index have increased, it is safer to assume that food prices were approximately unaltered. The 'real' food consumption has thus risen by 5 per cent.

The prices of non-food goods included in the cost-of-living index increased by about 8 per cent. If we used this index for deflation of the non-food retail sales, their 'real' value would appear nearly unchanged. But in fact prices of goods other than food not included in the Ministry of Labour cost-of-living index have increased more in price and therefore the 'real' value of non-food sales has probably fallen by a few per cent. From this and the rise of 'real' food sales, estimated above at 5 per cent, we can conclude that total retail sales remained more or less unaltered in their 'real' value.

How was it possible to maintain the volume of civilian consumption from 1941 to the first half of 1942, although it is known that in the meantime transfers of labour from the 'unessential' industries to war production have been affected, and thus the output of many consumption goods was smaller in the first half of 1942 than in 1941? The answer is: (i) that the output of home food was not reduced but on the contrary perhaps increased; and (ii) that there was probably an appreciable increase in the supplies of food from overseas. (This is not incompatible with foreign disinvestment being probably at more or less the same rate in the periods considered and commercial exports from this country having fallen; for the rate of Lend and Lease supplies was higher in the first half of 1942 than in 1941.)

These two factors explain the increase in the volume of retail sales of food. The fall in the volume of non-food sales from 1941 to the first half of 1942 reflects the reduction of output in consumption goods mentioned above. This reduction might have been greater than that in retail sales because shrinking of stocks of the commodities in question might well have been at a higher rate in the first half of 1942 than in 1941.

The Fall in 'Small' Savings[1] (1942)

1. In the summer and autumn of this year 'small' savings showed, for the first time since the beginning of the war a definite tendency to decline. The fact was widely commented on in the financial press and it is interesting to enquire in some detail into the character and causes of this phenomenon.

In the Table 29 the various types of 'small' savings (3 per cent Defence Bonds, National Saving Certificates, and savings bank deposits) are shown separately in half-yearly intervals.

Table 29. *The Rate of Small Savings in Great Britain, 1940–1942 (£m.)*

Year and month	3% Defence bonds	National Saving Certificates[a]	Savings bank deposits[b]
1940 April–Sept.	94	88	71
1940/41 Oct.–Mar.	96	97	102
1941 Apr.–Sept.	90	109	111
1941/42 Oct.–Mar.	92	136	117
1942 Apr.–Sept.	55	99	115

[a] Inclusive of the accrued interest.
[b] Inclusive of the accrued interest not credited to depositor's account.

As we see, the various types of savings were very differently affected by the recent fall. It was very strong in the net sales of 3 per cent Defence Bonds and the level of this type of savings is much below the corresponding figure for last year. The fall of investments in National Saving Certificates was also considerable but still much smaller than in Defence Bonds and the level reached was not much below that of the corresponding period of last year. Finally, the increase in savings bank deposits remained nearly stable, and was higher than the level in the same period of 1941. To understand this divergency we must first say something about the general character of small savings.

2. It has been repeatedly stated in this *Bulletin*[1] that so-called small savings are by no means really the current savings of 'small men'. This

[1] See M. Kalecki, 'Notes on Finance' and 'War Finance in 1940 and 1941', this volume.[2]

may easily be confirmed by comparing the total amount of small savings in 1941 with a crude estimate of these savings of workers and small-salary earners in that year. It follows from the White Paper (Cmd. 6347) that the total wage and small-salary bill in 1941 was something like £3,500m. Further, according to the provisional estimate of Mr Madge, the percentage of income saved by the working class in the shape of 'small' savings may be estimated at less than 5 per cent.[3] This would mean that these savings of wage and small-salary earners in 1941 amounted to less than £200m. However, total 'small' savings in 1941 were £601m., so that the savings of wage and small-salary earners contributed only about 30 per cent to the total of small savings if the above estimate is correct.

It should be noted from what information is available that 3 per cent Defence Bonds are in general not bought by working-class savers, but the above estimate of their share in 'small' savings is much lower even than savings in National Certificates and savings bank deposits only, which amounted in 1941 to £427m.

It is thus clear that a major part of 'small' savings is to be accounted for either by transfers from other investments or by the current savings of large savers. This is not only due to the savings campaign, which makes people think that it is particularly patriotic to invest as much as possible in small savings at the expense of other types of investment, but to the very advantageous terms which small savings offer to an investor. All three types of small savings have terms of withdrawal not very different from bank deposits, on which the rate of interest is negligible, while the rate offered on small savings assets is about the same or much higher (for National Saving Certificates) than on medium- and long-term government securities. One may wonder whether, because of the limits of this type of investment, it is worth while for a large or medium investor to take this advantage into account. It is, however, easy to see that the total amount which could have been invested by a family in small savings, over the three years of the war, is not at all so small. A person can invest in 3 per cent Defence Bonds up to the limit of £1,000, in National Certificates up to the limit of £375, and in savings bank deposits £500 each year.[2] That means that over three years the total amount which could have been invested was £2,875, and for a family of four it would be £11,500. This amount

[2] Actually if a person has accounts both in the Post Office Savings Bank and in the Trustee Savings Banks he may increase his saving deposits at a rate of £1,000 p.a.

may be quite considerable, even for a rather wealthy person, especially with regard to the investment of his new savings during the three years of war.

3. Referring back to Table 29, we see that savings in 3 per cent Defence Bonds maintained a steady level up to the summer of 1942. As Defence Bonds are probably bought mainly by large and medium investors it may be asked why all the transfers were not made, say, in the first year and, after the limit had been reached, why they did not stop. The answer is that the advantages offered by Defence Bonds might have been insufficient for many people to induce them to sell their other investments. However, when they considered how to invest new savings or the proceeds out of the compulsory sales of foreign securities called up by the government and the redemption of home securities, it was quite natural for them to invest up to the limit in the securities which offered the greatest comparative advantage. But, of course, with the lapse of time, more and more people reached the limit and finally a decline in this type of investment was bound to occur.

The position with regard to National Saving Certificates was different in so far as a considerable proportion of these is accounted for by really small savers who have no chance to reach the limit for quite a considerable time. Their savings increased owing to the rise in the wage bill and the difficulty of spending the increased earnings on account of rationing, shortages of goods, and so on. This was sufficient to create a permanent rise in National Saving Certificates in spite of the fact that here also the limiting factor for large and medium investors[3] made itself felt. The effect of this latter factor on the recent fall of investment in National Saving Certificates may be partly due to the high pressure of the savings campaign during the London Warship Week in March 1942, which was responsible for the high figure in the October–March period of 1941/42. This pressure might have induced many transfers to National Saving Certificates and in this way accelerated the process of reaching the limit. However, the fall in National Saving Certificates was less drastic than in Defence Bonds owing to the important part played by small savers.

The position of savings bank deposits, is of course, quite different from that of 3 per cent Defence Bonds and National Saving Certifi-

[3] As stated recently by the Chancellor of the Exchequer, 60% of the persons who acquired National Saving Certificates during the war, and who by now have reached the limit, bought the maximum amount at one time.

cates, because what is here subject to the limit is not the total amount but the yearly increase in deposits. This explains why the savings bank deposits were not affected by the recent fall in 'small' savings. The increase in this type of savings in the earlier period was to a great extent due, as in the case of National Saving Certificates, to a strong rise in the current savings of the working class.

4. In discussions about the fall in small savings it has often been suggested as a remedy that the limit for National Saving Certificates should be raised in order to enable the 'small' saver to carry out his task.

If, however, the 'small' saver is really small it is highly unlikely that his wartime savings could reach the limit of National Saving Certificates even if we do not take into account the fact that for a family the limit is proportionately higher. For imagine a worker who, starting to save on a large scale only in wartime—and this is the case with most of the workers—has saved up till now £375. That would mean that he must save £125 a year, and because it is highly unlikely that he can save more than 20 per cent of income this would mean that he must have earned over £600 (tax free) a year, which does not seem to be a very plausible figure. And indeed, as stated recently by the Chancellor of the Exchequer, 95 per cent of the owners of National Saving Certificates have not reached the limit.[4]

The effect of raising of the limit for the National Saving Certificates would be in fact: (i) to secure on paper a high level of savings which would result from the advantageous terms of National Saving Certificates; and (ii) to provide for investors an additional profitable opportunity at the expense of the Treasury. Fortunately the government did not fully assent to this demand. The new issue of Saving Certificates, announced recently, yield less than a half as compared with the old issue. It is a little more advantageous than savings bank deposits after deduction of standard income tax, but a little less profitable than 3 per cent Defence Bonds after the same deduction. The limit for the new issue is £187½. However, even this limited concession is superfluous. If the public is anxious about the fall of small savings, the remedy is not to force them up at the expense of other investments and at an additional cost to the Treasury, but to explain that the figures of small

[4] 40% out of the remaining 5% bought the maximum amount in one lump. (The figure of 60% mentioned in the preceding footnote applies only to persons who bought their certificates during the war.)

savings are misleading and may show a fall, although the total amount of personal savings (and in particular that of genuine small savings) is on the rise.

Sources of Manpower in the British War Sector[1] (1943)

The 'Real Sources of War Finance'

The analysis of the sources of war finance consists mainly in showing how public expenditure on goods and services is covered by the excess of national income over personal consumption, disinvestment at home and abroad, and indirect taxation (see, for instance, the White Paper Cmd. 6347, Table I). By comparing these items in a given war-year with their pre-war level it is possible to say how much changes in the national income, personal consumption, investment at home and abroad, and indirect taxation contributed to the increase in public expenditure on goods and services. All these changes, however, are expressed in money terms; as prices usually increase considerably in wartime, there arises the problem of 'the real sources of war finance'. This may, I think, be best stated as follows. Let us assume that we are able to construct appropriate price indices for deflating personal consumption, home investment, and exports and imports (visible and invisible). We can then find the value of these items in a given war-year at pre-war prices. Adding these real values of personal consumption, public expenditure on goods and services, home investment, and exports, and subtracting the real value of imports, we obtain what may be called real national output. It is then possible, by comparison with pre-war data, to establish to what extent the increase in real public expenditure is covered by the increase in real national output, the fall in real personal consumption, the fall in real home investment, and the rise in the excess of real imports over real exports.

This procedure is, however, by no means easy in practice since the calculation of appropriate price indices usually presents formidable difficulties, in particular with regard to government expenditure. Apart from this, however, there arises the more fundamental question of the actual significance of the analysis of the 'real sources of war finance'. It is often implied that such an analysis gives a picture of the mobilization

of resources for war purposes either by increasing their utilization or by shifting them from peace to war uses. But a simple example will show that this is not the case.

Imagine that labour and raw materials are shifted from private investment to armaments. If the percentage profit margin is lower in government contracts the value of goods produced by the same factors will fall. As a result, private investment will be reduced by a greater amount than that by which government expenditure will rise, and the national output will decline although the utilization of resources is not diminished.

A similar 'loss in value' occurs when raw materials and labour are shifted from consumption to armaments. For the value of consumption goods is inflated by the retailer's margin and therefore the value of armaments increases by a smaller amount than that by which consumption is cut down, and as a result the national output falls. It may be argued in this case that the fall reflects a smaller utilization of the retailer's resources (premises, management, etc.), but the picture given by the analysis may be misleading because it may wrongly suggest a diminished utilization of the factors in which we are primarily interested, as for instance manpower.

It seems that a more satisfactory approach to the analysis of the real sources of the war effort may be achieved by considering this problem for various factors of production. We can try to estimate, for instance, how the increase in total employment and the reduction in consumption, investment, and exports contributed to the rise in the volume of manpower applied to war production. And analogous balance sheets could be set up—if adequate data were available—for shipping space or foreign exchange.

The Sources of Increase in Labour in the Government Sector

The purpose of this article is to estimate roughly the sources of the increase in insured labour embodied in government purchases between 1938 and 1941. Before we proceed, however, to the actual estimates a few definitions must be given.

We may distinguish in the output of an economy four sectors according to the ultimate use of the product: private investment in fixed capital (for the sake of replacement or expansion), personal consumption, exports, and government purchases. It is possible to calculate how much direct and indirect home labour (measured in

worker-hours) is contained in these four categories of products. For instance, for a building one might calculate the direct labour of building workers, the labour used in producing building materials, the labour of miners producing coal for the manufacture of building materials, etc. (The foreign labour embodied in imported timber must not, of course, be included.) However, the total volume of labour of all four sectors thus evaluated will not agree in general with the actual volume of labour because of changes in inventories, i.e. working capital and stocks. If these increase (decrease), the actual volume of labour exceeds (falls short of) that embodied in investment in fixed capital, consumption, exports, and government purchases by an amount which is equal to labour contained in the increase (decrease) in inventories. We shall add (subtract) this difference resulting from changes in inventories to the labour contained in the investment in fixed capital. In this way the *actual* volume of labour will be divided in four parts corresponding to the following categories: (1) gross private investment, including changes in inventories; (2) personal consumption; (3) exports; (4) government purchases.

With regard to government purchases of goods and services the following points should be made clear. (i) government expenditure includes purchases 'of fixed capital assets (such as sites, buildings, and stocks of goods) previously owned privately'[1] which are nothing more than financial transactions; we do not include them in our government purchases. (ii) government means central and local government; but it is convenient for our purpose to include all investment of local government (except that connected with civil defence) and of the Post Office in private investment. (iii) As we are dealing here only with *insured* labour the services 'produced' by soldiers do not come into the picture. (iv) Food and uniforms purchased by the government for soldiers are included not in personal consumption but in government purchases.

By considering only labour aged 16–64 insured under the General Scheme we leave out of account changes in the number of agricultural workers and domestic servants. Thus, for instance, domestic servants[2] going into munition factories will be reflected in our calculation as an increase in the volume of insured labour.

[1] Cmd. 6347, p. 3.

[2] If the new entrants *replace* people exempted from insurance the increase in insured employment is higher than the increase in actual employment. The resulting error is unlikely to be significant.

More complicated is the situation with regard to certain categories of railwaymen and employees of central and local government excepted from unemployment insurance. These have not applied to *new entrants* since the beginning of the war into these occupations. Such new entries are thus reflected in the increase of insured labour in the government sector.[3]

It remains to be added that in the period 1938–41 there were two changes in the scope of unemployment insurance: in the spring of 1938 domestic workers in businesses not carried on for gain and chauffeurs were included, and in the autumn of 1940 salary-earners between £250 and £420 p.a. To eliminate the resulting increases in the volume of insured labour the scope of insurance has been assumed throughout to be the same as in 1941.

Changes in the Volume of Employment

Our task is now to estimate to what extent the wartime increase in insured labour embodied in government purchases of goods and services as defined above is covered (i) by a net increase in the volume of insured employment, both in numbers and in working time, and (ii) by reduction of private investment, civil consumption, and exports respectively.

The increase in the volume of insured labour may be obtained from the estimates published in this *Bulletin*.[4] The rise in the number of insured in full- or part-time employment (i.e. number of insured *minus* number of *wholly* unemployed) between 1938 and 1941 has been estimated there at 4 to 5 per cent (on the basis of contributions to the Unemployment Fund after elimination of the influence of the changes in the scope of insurance). The absolute number of insured in full- and part-time employment in 1938 allowing for the scope of insurance in the middle of that year was 12.7m. If we add to this salary-earners between £250 and £420 p.a., the number of which has been estimated at about 0.4m.,[5] we obtain for the 1941 scope of insurance 13.1m. as the number of insured in employment in 1938. Thus the percentage increase of 4 to 5 per cent in the number of insured in employment

[3] See n. 2.

[4] See M. Kalecki, 'The Financial Situation in the First Half of 1942', this volume.

[5] See Report of the Unemployment Insurance Statutory Committee on the *Remuneration Limit for Insurance of Non-Manual Workers*, London, 1936, HMSO. I am indebted for this source to Mr T. Barna.

amounts in round figures to 0.5m. workers. This is, of course, the balance between newly employed people and the substantial withdrawals to the forces.

The rise in average working time can be estimated roughly on the basis of the index of 'earning strength' given in the article referred to. By this is meant the ratio of the index of earnings per worker to the index of wage-rates. Earning strength has been estimated to have risen from 1938 to 1941 by 14 to 15 per cent. This reflects the rise in working time, the overtime, night-shift and production bonuses, and the changes in the structure of employment according to age, sex, and occupation. The chief factor is the lengthening of working time and overtime bonus. If these were the *only* factors and the overtime bonus is assumed to be 50 per cent over the normal rate, the rise in working time would amount to 9–10 per cent. It seems that the influence of the shift to better-paid occupations was approximately offset by the increased proportion of women and juveniles. To take account of night-shift and production bonuses we take the percentage increase in average working time to be 8 per cent. This, applied to 13.1 + 0.5m., amounts to about 1m. '1938 workers', i.e. persons working the average time of 1938.

Thus the total increase in the volume of insured employment from 1938 to 1941 may be estimated at 1.5m. of '1938 workers' out of which 0.5m. is due to the increase in numbers and 1m. to the higher working time.

The Release of Labour from the Non-Armament Sector

We shall now estimate the release of insured labour by the reduction of civilian consumption, private investment, and exports between 1938 and 1941. As we shall see below it was chiefly labour in mining, manufacturing, and building which was released by these reductions, and our first step will be to find out how much of this type of labour (measured throughout in '1938 workers') corresponds to the reduction of the three items in question. Thus, out of civilian consumption of goods and services we shall first take into account only that of goods, i.e. retail sales. Further, the insured employment in the manufacturing of food, drink, and tobacco in 1938 was only 0.5m., out of which about 60 per cent was in manufacturing of flour, bread, beer, and tobacco, the consumption of which has not fallen. It is thus obvious that the food, drink, and tobacco industries are not important in our considerations and we may confine our argument to the fall of retail sales, excluding food, drink, and tobacco.

Our procedure will now be as follows: we shall estimate the wholesale value of the retail sales other than food, drink, and tobacco, of investment, and of exports in 1938 and 1941; we shall estimate the 1938 insured employment in mining, manufacturing, and building corresponding to these items; we shall roughly deflate their 1941 values so as to reduce them to 1938 prices; and on the basis of the results of this calculation we shall be able to get a rough estimate of the labour in mining, manufacturing, and building released by their curtailment.

1. Retail sales other than those of food, drink, and tobacco have been estimated at £1,000m. both in 1938 and 1941.[6] These figures do not include, however, motor cars and household coal. The necessary correction has been estimated to be of the order of £150m. in 1938 and £100m. in 1941. Thus for the retail sales in question £1,150m. and £1,100m. have been adopted for 1938 and 1941 respectively.

The retailers' gross margin, evaluated for a sample of department stores for the last pre-war years by Grant and Fowler, was about 30 per cent of retail sales.[7] As department stores deal chiefly in goods in which we are here interested we may use this margin to obtain the wholesale value of the sales. For 1938 we thus obtain about £800m. For 1941 the purchase tax must be taken into account. It may be estimated for that year at £90m. Assuming that this amount has not been marked up we subtract it from £1,100m. which makes £1,010m. and deduct from this 30 per cent which gives about £710m.

Net private investment in 1938 has been estimated in the White Paper (Cmd. 6347) at £406m. The changes in the value of stocks resulting from the valuation of stocks at lower prices at the end than at the beginning of the year has been eliminated, but according to the estimate of Mr Barna[8] this correction is too high by £40m. and thus we shall take into consideration £366m. The sinking funds and depreciation are assumed in the White Paper to be £475m. p.a. and thus gross private investment may be taken as about £840m. This figure includes the investment of the Post Office and of the housing and trading

[6] See J. L. Nicholson and G. D. N. Worswick, 'Consumption and Rationing', Bulletin, 4/6 (1942).

[7] See A. Grant and R. F. Fowler, 'The Analysis of Costs of Retail Distribution', *Transactions of Manchester Statistical Society*, Dec. 1938.

[8] Quoted in N. Kaldor: 'The 1941 White Paper on National Income and Expenditure,' *Economic Journal*, 52/2–3 (1942).

services of local authorities. As we include in private investment such investment of local authorities as roads, hospitals, etc. a correction is here necessary also. Local government investment of this type has been estimated on the basis of data given in *Public Investment and the Trade Cycle* by Bretherton, Burchardt, and Rutherford at £110m.[2] Thus for our purpose private investment in 1938 may be taken as £950m.

The net investment in 1941 is estimated in the White Paper at −£493m., which with £475m. of sinking funds and depreciation, amounts to −£18m. of gross investment. This figure is subject to the following corrections. First, no allowance has been made for the fact that stocks at the end of the year have been valued at higher prices than at the beginning. Mr Barna has estimated the increase of the value of stocks owing to this at £150m.,[9] and this amount must be subtracted from the above value of investment to eliminate the change in the basis of valuation of stocks. Secondly, disinvestment in the sense of the White Paper includes also sales of previously owned fixed assets to the government. As we consider government purchases exclusive of these financial transactions (see above p. 148) they must be eliminated from our figure of investment. This involves a positive correction of the White Paper figure, the amount of which is not known but which probably does not exceed £100m. Finally, we must add to the White Paper figure gross investment of local government in roads, hospitals, etc. which the White Paper does not classify as private investment. This amount was estimated at £110m. for 1938 and was most probably very substantially less in 1941.[10] The result will probably not be much different from nought. We thus assume the gross investment in 1941 = 0.

Finally, exports of UK produce and manufactures were (except small amounts of food, drink, and tobacco which are without significance in terms of employment) in 1938 about £430m. At the end of 1940 this item fell to an annual rate of about £250m. For 1941 the figures of foreign trade have not been published, but exports have most probably fallen further still. We shall assume for that year an arbitrary figure of £200m. But if the actual level were substantially lower this would not significantly affect our final results (see p. 155).

We may now put together the results arrived at (see Table 30).

[9] See ibid.

[10] The investment of the local government in connection with civil defence we include not in private investment but in government purchases.

Table 30. *Changes in Civilian Outlay in Great Britain, 1938–1941 (£m.)*

	1938	1941
Retail sales other than of food, drink, and tobacco, at wholesale prices	800	710
Gross private investment (inclusive of local government)	950	0
Exports of UK produce and manufactures except food, drink, and tobacco)	430	200
Total	2,180	910

2. We shall estimate the employment in mining, manufacturing, and building corresponding to the three items under consideration in 1938. The total number of insured workers fully or partly employed in mining, manufacturing (except of food, drink, and tobacco), and building in 1938 was 7.5m. This figure is exclusive of salary-earners between £250 and £420 p.a. A correction proportionate to that introduced for the total number of insured on p. 149, raises insured employment in mining, manufacturing, and building in 1938 to 7.7m. workers. This figure corresponds to the three items in question plus central government investment. This was almost fully for defence purposes and amounted to about £190m.[11] The three items considered above *plus* this amount make £2,370m., out of which central government investment accounts for about 8 per cent. By deducting this percentage from the total employment in mining, manufacturing, and building, which gives 7.1m., we obtain the approximate labour equivalent of our three items.

3. We shall now estimate roughly the indices for deflating the 1941 values given in Table 30.

The most important single item in retail sales (other than food, drink, and tobacco) is clothing and footwear (over 40 per cent of these sales in 1938). According to the Ministry of Labour the index of retail prices of clothing and footwear in 1941 was 176 if 1938 is taken as 100. According to an inquiry published in this *Bulletin*,[12] this figure seems too high and should be reduced by some 5 per cent, which gives 167. The rise in prices of many other non-food goods seems to have been of similar order. The average price index for goods other than food,

[11] According to Bretherton, Burchardt, and Rutherford, *Investment and the Trade Cycle*, Oxford: Clarendon Press, 1941. In this investment there are involved some workers excepted from unemployment insurance (in dockyards and ordnance factories) but their number is negligible.

[12] See G. H. Daniel, 'The Cost of Living in Bristol', *Bulletin*, 3/14 (1941).

drink, and tobacco was, however, probably a little lower (in particular owing to a smaller increase in the prices of household coal). We shall adopt an index figure of 160. This figure is inclusive of the rise due to purchase tax; as this makes in 1941 8 per cent of the total retail sales considered (see p. 151) we deduct this percentage from 160 and obtain 147.

For the movement of prices of investment goods we have the following symptoms. The prices of iron and steel in the index of the Board of Trade increased from 1938 to 1941 by 30 per cent, those of non-ferrous metals by 31 per cent, and those of building materials by 34 per cent. We adopt an index figure of 132. Finally, as the index for export prices we take the Board of Trade index of prices of manufactured industrial products which was in 1941 32 per cent higher than in 1938. The combined price index for the three items in question may be obtained by weighting the indices adopted above proportionately to the values of the respective items in 1938 as given in Table 30. This gives 137.

It need hardly be mentioned that the basis of the indices adopted is very precarious indeed, and therefore it is important to have a check upon the estimate. This may be obtained in the following way. We calculate an index of unit prime costs corresponding to the price index obtained above. The former should not differ much from the latter. The prime costs consist mainly of wages and the cost of imported raw materials and semi-manufactures. The relevant wage bill in 1938 may be calculated as follows. As shown above, the number of workers which corresponded in 1938 to the three items of Table 30 was 7.1m. It may be assumed[13] that about 10 per cent out of this are salary-earners and thus the number of wage-earners was about 6.4m. Their average weekly earnings may be estimated[14] at 53*s*. Finally, following Professor Bowley[15] we assume 48 weeks worked per annum. The wage bill in question is thus about £800m. Retained imports of raw materials in 1938 were £218m., but in addition roughly half of the import of manufactures, which were £215m., are really semi-manufactures. Thus the proportion of wage bill to the imports of raw materials and semi-manufactures may be taken as 5 to 2. The increase in wage-rates in mining, manufacturing, and building from 1938 to 1941 was about 20 per cent. The rise in the Board of Trade index of prices of industrial

[13] On the basis of the Census of Production.

[14] From the special inquiry of the Ministry of Labour into earnings and from the data of the Ministry of Labour on earnings of coalminers.

[15] See Bowley, *Studies in National Income*, p. 74.

raw materials (except fuel) and semi-manufactures was about 70 per cent. This index coincides more or less with that of unit costs of foreign raw materials and semi-manufactures. Thus to obtain the index of unit prime costs we shall weight the 120 and 170 in proportion 5 to 2, which gives 134. This corresponds to the product price index estimated above at 137. The result may be considered satisfactory and we adopt the index figures mentioned at the beginning of this paragraph for deflating the 1941 values in Table 30 (147, 132, and 132 respectively).

4. The results of this deflation are given in Table 31. It follows from this table that the real value of retail sales, other than of food, drink, and tobacco, at wholesale prices, gross private investment, and exports has fallen from £2,180m. in 1938 to £630m. in 1941, i.e. by 71 per cent. It is plausible to assume that the home labour employed in mining, manufacturing, and building which was embodied in the three items considered fell by approximately the same percentage. For imports of finished goods constitute only a small proportion of the total and the relation of imports of raw materials to labour could not have changed significantly. We estimated above that the mining, manufacturing and building labour corresponding to the three items considered was 7.1m. '1938 workers'. Thus a 71 per cent fall means a 'release' of 5m. '1938 workers'.

In order to have a rough idea about the distribution of the 'labour release' between civilian consumption of goods other than food, drink, and tobacco, gross private investment, and exports, we subtract the respective real values in 1941 from the corresponding 1938 figures and divide the labour release (5m. workers) proportionately to these reductions (see Table 31).

So far we have considered only the 'release' of insured labour employed in mining, manufacturing, and building. The total number

Table 31. *Labour Release in Great Britain, 1938–1941 (at 1938 prices)*

	1938 (£m.)	1941 (£m.)	Reduction (£m.)	'Labour release' (million)
Retail sales other than of food, drink, and tobacco at wholesale prices	800	480	320	1.1
Gross private investment	950	0	950	3.0
Exports of UK produce and manufactures (except food, drink, and tobacco)	430	150	280	0.9
Total	2,180	630	1,550	5.0

of workers employed in these trades in 1938 (except manufacturing of food, drink, and tobacco) was estimated above at 7.7m. (out of which 0.6 corresponds to central government investment and 7.1 to the three major items considered above). The total number insured in full- or part-time employment was given above as 13.1m. The difference, i.e. 5.4m., represents workers employed in the manufacture of food, drink, and tobacco (0.5m.) and in services (inclusive of those in transport, wholesale and retail distribution, and central and local government officials in so far as they are insured). A scrutiny of all occupations in question leads to the conclusion that the release of this labour as a result of the reduction in civilian consumption, private investment, and exports is unlikely to be beyond the limits of 0.3 and 0.7m. and the major part of it will be due to the reduction of civilian consumption. We shall estimate consequently the total 'release' of insured labour (cf. Table 31) by the reduction of civilian consumption, private investment, and exports at 5.5m. workers. The distribution of this 'release' among the three items considered may be in round figures estimated at: civilian consumption 1.5m., private investment 3m., and exports 1m.

Summary of Results

We may now present the results of our inquiry as in Table 32.

Table 32. *Insured Labour Embodied in Government Purchases: Sources of Increase from 1938 to 1941*

	Million workers
Increase in the number of insured in employment	0.5
Increase in the average working time	1.0
Total	1.5
Reduction in civilian consumption	1.5
Reduction in private investment (inclusive of local government)	3
Reduction in exports	1
Total	5.5
Increase in government purchases	7

The following points must be made clear: (i) By workers we mean '1938 workers' (i.e. working the average 1938 hours); thus the number of *persons* absorbed by government purchases is smaller. (ii) Even after such a correction this number would exceed that of engaged on

government contracts for two reasons: first, in goods produced on government contracts there is also embodied the indirect labour used in production of the respective raw materials and semi-manufactures which may not be on government contracts; secondly, government purchases include those of services and, in so far as these involve insured labour, they are reflected in our figure (for instance civil defence, but not the increase in the armed forces, which are not insured). (iii) The reduction in civilian consumption, etc. does not involve necessarily direct transfer of the corresponding labour to the government sector; it is frequently connected with the withdrawal to the forces while the influx into insured employment is *pro tanto* larger than the *net* increase in insured employment.

The figure of the increase of insured labour in the government sector indicates, of course, only the order of magnitude because some of our estimates were rough guesses. On the other hand, it may be shown that even relatively high deviations in doubtful items do not influence the results very much. For instance, the three most doubtful items were: private investment in 1941, exports in 1941, and the price index for deflating the 1941 values. If investment in 1941, which we estimated at 0, is taken as ±£100m.; if exports estimated at £200m. are taken as £150 to 250m.; and if the price indices for deflation of the 1941 values are subject to an error of ±5 per cent we still obtain for the increase of insured labour in the government sector relatively narrow limits of 6.5 to 7.5m. workers. This results from the fact that the fall in non-food civilian consumption, investment, and exports was so great that even considerable errors in the value of 1941 level do not affect the calculation much.

Local government investment[16] has been included in our inquiry in private investment. Central government investment, except that of defence services, was negligible before the war. If we assume in addition that there were no important changes in the personnel devoted to 'normal' central or local administration, the increase in labour in the government sector calculated above coincides roughly with the increase of labour in the war sector (provided that we include in it such activities as the building of merchant ships on government account). As we estimated the insured labour employed directly and indirectly in armaments in 1938 at 0.6m., the total volume of insured labour employed in the war sector in 1941 may be estimated at about 7.5m. '1938

[16] Except that connected with civil defence.

workers'. (This figure would not be significantly changed if we took into account the 'labour release' of the exempted railwaymen.)

Insured workers in employment in 1938 were given above as 13.1m. and the increase in the volume of insured labour in 1941 has been estimated at 1.5m. '1938 workers'. The total volume of insured labour in 1941 may thus be estimated at about 14.5m. '1938 workers'. It follows that the war sector absorbed in 1941 something like 50 per cent of the insured labour. This percentage would not be significantly changed if we added to the total volume of insured labour workers exempted from unemployment insurance. It may thus be said that roughly a half of all manual workers (except those in agriculture and domestic service) and lower-grade salary-earners (below £420 p.a.) were employed in 1941 in the war sector.

The Wartime Trend of Deposits[1] (1943)

1. It has been frequently maintained that bank deposits are fully determined by bank credits; and, in particular, that the movement of deposits in wartime depends on the amount of government borrowing from the banks. The statement is correct, but subject to the condition that the short-term rate of interest is allowed to vary. If, for instance, banks buy more bills while the total volume of business transactions is unchanged, bank deposits will rise but the short-term rate of interest must fall. If the short-term rate of interest is unchanged, as was approximately the case in the period 1940–2, current accounts will increase more or less proportionately with the volume of transactions.[1] The rise in deposit accounts depends on the rate of accumulation of liquid reserves of the public and the relative attractiveness of deposit accounts as compared with other relevant assets. The 'lending power' of the banks is then limited by these determinants of the movement of deposits. We shall examine below the connection between the rise in current accounts and that in the volume of transactions and then compare the movement of current and deposit accounts in the period 1940–2.

2. As a symptom of the volume of transactions we take our series of the wage bills of insured workers calculated from the figures of insured employment and average earnings.[2] With this series are compared current accounts net of balances with other banks, etc. To eliminate seasonal variation we consider yearly averages: in calendar years and in yearly periods stretching from one mid-year to another.

The results are plotted in Figure 1. We see that the points, 1940, 1940/1, and 1941 lie very close to the straight line *AB* but the points corresponding to the following yearly periods 1941/2 and 1942 are appreciably below it. This slowing down of the rise of current accounts as compared with that of the wage bill may be accounted for by the issue of tax-reserve certificates which started in December 1941. They

[1] Provided there is no change in the habits of cash holding and there is no considerable shift between accounts of high and low velocity.

[2] See the Diary Note in this *Bulletin*, 5/4 (1943), 71.

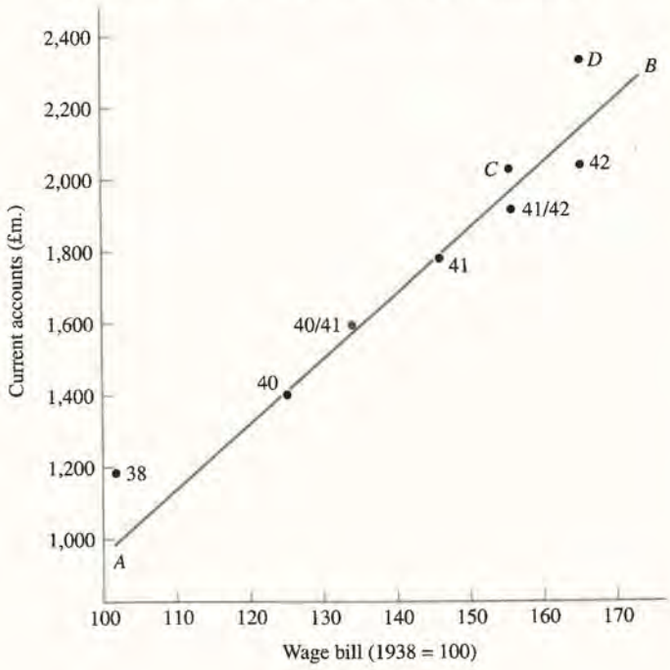


FIG. 1

bear 1 per cent per annum tax-free if they are used for payment of taxes due not later than two years from the date of acquisition and may be resold to the government with 10 days' notice[3] (the interest is not paid in this case). It is clear that these terms may attract to tax-reserve certificates certain amounts from current accounts, deposit accounts (which bear 1/2 per cent p.a. and are usually subject to notice of 3 months), and perhaps even from other short-term assets. The average of outstanding tax-reserve certificates was £100m. in 1941/2 and £294m. in 1942. If we add these amounts to the respective figures of current accounts, we should expect the corresponding points (*C* and *D*) to be above *AB* because only *a part* of tax-reserve certificates may be assumed to have resulted from the transfer from current accounts. This is in fact the case.

The pre-war 1938 point also is above the straight line *AB*. This may be explained by two factors: (i) the short-term rate of interest was lower in 1938 than in 1940–2 (the rate on Treasury bills was in 1938 at

[3] Not earlier than two months from the date of acquisition.

about 0.6 per cent and in 1940–2 approximately stable at about 1 per cent), and (ii) a certain reduction in transactions in wartime as compared with 1938, has been brought about by the closing down of the commodity exchanges and by centralizing a great part of the trade in raw materials in the hands of government authorities.[4]

The fact that the wage bill of insured labour is only an imperfect symptom of the volume of transactions constitutes an obvious weakness of the preceding analysis. It should be noticed, for instance, that the equation of the line *AB* is $y = 17.6x - 780$ where y is written for current accounts and x for the index of the wage bill, and this implies that current accounts were increasing at a higher percentage rate than the wage bill. (For instance from 1940 to 1941 current accounts increased by 27 per cent and the wage bill by only 17 per cent.) This is probably due to the fact that the volume of transactions was not moving proportionately to the wage bill, for with a stable short-term rate we can expect a rise in current accounts more or less proportionate to the volume of transactions. One important reason for a slower rise in the wage bill than in the volume of transactions may be the shift of labour to munitions from other production. Indeed there seems to have been in general more non-integrated stages of production in munitions than in other industries and this increases the volume of transactions corresponding to a given wage bill.

3. The movement of current and deposit accounts is also compared in Table 33.

The two series show a very different picture; the rise in current accounts (both absolute and percentage) is very much higher than

Table 33. *Yearly Averages of Current and Deposit Accounts and the Wage Bills in Great Britain, 1938–1942*

Year	Current accounts (£m.)	Deposit accounts (£m.)	Wage bill (1938 = 100)
1938	1,184	1,033	100
1940	1,400	1,018	125
1940/1	1,582	1,028	134.5
1941	1,778	1,085	146.5
1941/2	1,915	1,112	156.5
1942	2,033	1,128	166.5

[4] These two factors outweighed the opposite influence of a greater rise in raw material prices than in wage-rates from 1938 to 1940 which tended to inflate the volume of transaction relative to the wage bill.

that in deposit accounts. Up to 1940/1 this may be partly due to the withdrawal of foreign deposits which are usually placed on deposit account. But the discrepancy is obvious from 1940/1 onwards as well, although from the middle of 1940 the withdrawal of foreign deposits was made impossible by exchange restrictions. True, the figures of 1941–2 and 1942 are distorted by the issue of tax-reserve certificates, but this affects *both* series and is unlikely to change seriously the general picture.

Actually, however, there is no reason to expect a similar pace in the movement of current and deposit accounts, for—as stated at the beginning of this note—with a given short-term rate of interest current accounts increase more or less proportionately with the volume of transactions while the rise in deposit accounts depends on the rate of accumulation of liquid reserves and the attractiveness of deposit accounts as compared with other relevant assets.

The Burden of the National Debt[1] (1943)

1. The problem of the burden of the national debt has three important implications. It is, firstly, more or less generally accepted that it is essential in wartime to keep the budget deficit as low as possible in order that future interest payments on the debt should be reduced. This consideration plays an important rôle in wartime increases in indirect taxation of necessities and semi-luxuries, which can hardly constitute a proper device to fight inflation because they themselves contribute to the rise in prices.

The other two implications affect not war finance proper but the discussion of post-war economics, as, for instance, the Beveridge Plan. It is frequently maintained that the burden of the debt has increased very much up till now and this, together with the future rise, will make it impossible to embark upon costly reforms. And even more general is the conviction that it is impossible to have a budget deficit in peacetime whenever it is necessary to maintain full employment if this leads to a long-run rise in the burden of the debt.

We propose in this paper to show: (i) that in spite of the great increase in the amount of the national debt in the course of the war up to the present, the future 'burden' of the present debt is not likely to be higher than in 1938–9; and (ii) that it is possible to devise special taxes for financing the interest on national debt which will render its increase harmless in the sense that it will have no repercussions on output and employment; that therefore it is not necessary to consider the reduction of the budget deficit as such to be an important problem of war finance; and that a regime under which budget deficits would be used whenever necessary to maintain full employment does not involve insuperable difficulties.

2. In the financial year 1938–9 the interest on national debt was £223m.[1] Not all this sum can be considered a 'financial burden' because a part is returned to the Treasury through income tax and surtax paid on this income. (The precise definition of the amount returned by

[1] Inclusive of interest accruing on National Saving Certificates.

taxation is that it is equal to the loss of yield of income tax and surtax if the payment of the interest on national debt were suspended.) This amount may be roughly estimated as standard income tax charged on the interest on national debt, because the balance of the influence of income tax exemptions, allowances, and reduced income tax rate on one side and of surtax on the other is probably relatively small.[2] With the standard rate of 5*s.* 6*d.* in the £ in 1938–9 the tax-free interest on national debt may thus be estimated at £162m.

In 1942–3 the interest on national debt was about £330m. Now the post-war standard rate of income tax may be conservatively assumed—7*s.* 6*d.* in the £. Taking into account that in the £330m.[3] there is about £20m. of tax-free interest on National Saving Certificates, we may estimate, on the above assumption, the future tax-free interest on the present national debt at £214m. But this is not the end of the story. The post-war level of prices will be hardly less than 30 per cent higher than pre-war, and the tax-yielding capacity may be assumed to increase in roughly the same proportion. Thus to compare the future burden of the present debt with the pre-war burden it is necessary to deflate £214m. by 1.30, which gives £164m. as compared with £162m. of the pre-war tax-free interest on national debt.[4]

It may be objected to this calculation that, since a large part of the national debt is in the form of floating debt, the future burden of it would be higher if the short-term rate of interest increased after the war. To that it may be replied that the present short-term rate is higher than in the last seven pre-war years; and that the short-term rate of interest may be easily controlled by the government in combination with the Bank of England. There is thus no reason to expect its rise in the future as compared with the present level.

3. We have shown that the future burden of the present national debt is on plausible hypotheses approximately the same as it was before the war. But the war is not yet over and, as endeavours are made to keep

[2] The influence of income tax exemptions, allowances, and reduced income tax rate was in 1938/9 greater than that of surtax for unearned income as a whole. (As a result the average rate of income tax and surtax on unearned income was of the order of 4*s.* in the £, while the standard rate was 5*s.* 6*d.* in the £.) It must not be forgotten, however, that if interest on the national debt were suspended it would 'come off the top'.

[3] Inclusive of interest accruing on National Saving Certificates.

[4] Even considerable changes in the rate adopted for the calculation of the tax-free interest on national debt are of small importance for the results of this comparison if these changes are proportionate for the two cases compared.

prices stable and thus no further reduction in the real value of the national debt can be expected, the burden of the debt will certainly rise. This will continue for a few years after the termination of hostilities, in particular in connection with the payment of compensation for destroyed property and of post-war credits. Thus it is important to consider the general problem of dealing with the burden of the debt.

Imagine first that interest on national debt incurred after a certain date, for instance from now onwards, will be financed by a special annual capital tax on all private capital (inclusive, of course, of government securities). A rise in the national debt will increase the amount of capital tax to be collected, but will at the same time increase the interest-yielding assets in private possession, which would not have come into existence if the budget had been balanced. The capitalists as a body gain by an increase in the national debt as much in interest as they lose in capital tax.

Moreover, it may be shown that the increase in the national debt does not involve any disturbances in output and employment if interest on it is financed by a capital tax. The current income after payment of capital tax of some capitalists will be lower and of some higher than if the national debt had not increased, but their aggregate income will remain unaltered and their aggregate consumption will not be likely to change significantly. Further, the inducement to invest in fixed capital is not affected by a capital tax because it is paid on any type of wealth. Whether an amount is held in cash or government securities or invested in building a factory, the same capital tax is paid on it and thus the comparative advantage is unchanged. And if investment is financed by loans it is clearly not affected by a capital tax because it does not mean an increase in wealth of the investing entrepreneur. Thus neither capitalists' consumption nor investment is affected by the rise in the national debt if interest on it is financed by an annual capital tax.

4. We shall now briefly consider the order of magnitude and the administration of the annual capital tax. As we propose this for financing the interest on the national debt incurred after a certain fixed date, say from now onwards (the interest on the 'old debt' being already accounted for in the budget), the relevant average interest on the national debt may be assumed to be about 2 per cent, as this is approximately the present average cost of (short- and long-term) borrowing and there is no reason to assume that it would be increased

in the future.[5] The annual capital tax will thus be substantially lower than 2 per cent because the tax to finance the interest on the 'extra debt' will be collected from all types of privately owned capital, of which the 'extra debt' constitutes only one item. If, for instance, this debt were one half of all privately owned assets the annual capital tax would amount to 1 per cent. Moreover, it should be noticed that even if there is a long-run increase in the national debt as a result of a full employment policy, the rate of the annual capital tax need not necessarily increase. Indeed, permanent full employment in conjunction with the increase in population and technical progress will certainly cause expansion in private capital equipment. Whether the *rate* of capital tax will rise or not depends on the relation between the budget deficit necessary to maintain full employment and the rate of expansion of capital equipment.

The above argument still requires some elucidation. It seems reasonable to deduct the capital tax from income before income tax is paid, as is done in the case of capital depreciation. For instance, if an asset yields 4 per cent and the capital tax is 1 per cent, the income of 3 and not 4 per cent would be subject to income tax. This causes, of course, a certain reduction in the average yield of income tax, but this is offset by the income tax yielded by the interest on national debt. If the national debt increases, the national income being constant, and the interest on national debt is financed by a capital tax, the aggregate yield of income tax is unchanged. It is true that it is being reduced by the increasing amount of capital tax, but it is being *pro tanto* raised by the increasing interest on national debt.

The annual capital tax would have to be higher if small property were exempted from it. This would be desirable both for social and administrative reasons. If, for instance, property below £1,000 were exempted, the rate of capital tax would have to be increased by something like one-fifth.[6]

The simplest way to administer the capital tax would probably be to collect it by taxing own capital of enterprises and persons, not including shares and debentures in the valuation of wealth. The balance

[5] The government can continue to have on tap the long- and medium-term issues and finance the rest by floating debt. It is true that the cost of borrowing will increase if sales of long- and medium-term issues rise in proportion to the budget deficit, but then nothing prevents the government from reducing the rate of interest on these issues.

[6] See H. Campion, *Public and Private Property in Great Britain*, London, Oxford University Press (1939), 109.

sheets of enterprises in combination with existing valuations of fixed assets by tax authorities would then provide the basis for the valuation of the great part of private capital. The smallness of the capital tax as shown by the above estimates will facilitate the collection of the tax.

5. If, however, the administration of the capital tax is considered likely to involve serious difficulties, it is possible to replace it by a modified income tax, the influence of which upon the national economy as a whole would be more or less equivalent to that of a capital tax. This income tax would be imposed on unearned income only and thus would affect the same people as the capital tax. However, income tax, as opposed to capital tax, weakens the inducement to invest because it reduces the net rate of profit. The following modification may remove this adverse effect. Imagine that income tax is charged on gross unearned income, i.e. before deduction of depreciation. On the other hand all investment in fixed capital, whether for the sake of replacement or expansion, is deducted from the taxable amount. (If it exceeds the taxable income the excess is carried over for deduction in the following years.) It is easy to show that such a tax does not affect the rate of profit expected on new investment. Indeed, suppose that an entrepreneur expects for each £100 invested in fixed capital a gross profit of £10p.a. One shilling in the pound of our income tax reduces this expected profit to £9 10*s*. p.a. But by investing £100 he gets £5 reduction in his current income tax and thus the cost of investment is reduced to £95. Consequently the expected gross rate of profit is the same 10 per cent p.a. as if the tax were not in existence. Thus the repercussions of the modified income tax will be more or less the same as those of the capital tax.

6. It follows that if the interest on national debt incurred after a certain date is financed by a special annual capital tax or by a special modified income tax the rise in the national debt will not involve a burden and will not have any significant repercussions on output and production. Consequently, to keep down the budget deficit in wartime in order to reduce the increase in the national debt ceases to be the primary objective of war finance. And, if to maintain full employment in peacetime requires budget deficits there is no reason to be scared by the rising national debt.

The Budget, 1943[1]
(1943)

1. In the present budget, as in the last, the Chancellor relies for the increase in revenue on indirect taxation. The new taxes are expected to yield about £100m. in a full year and the leading roles are played again by beer and tobacco.

There may be two reasons for imposing indirect taxes. One is that, like any tax, they reduce the budget deficit and thus ease the future 'burden of national debt'. The second is that they press down consumption of either the article taxed or of other goods and services and thus are supposed to counteract the danger of inflation.

With regard to the 'revenue aspect' it has been argued in this *Bulletin* that it is not of primary importance.[1] The increase in the national debt does not constitute any burden for the economy as a whole, because the payment of the interest on it represents a mere transfer problem. It is only necessary to arrange the transfer in such a way that it should not disturb output and employment. This may be achieved by financing the interest on national debt by an annual capital tax or a modified income tax.[2] For such a financing of the interest on national debt does not affect significantly the total volume of investment and consumption and thus is more or less neutral with regard to output and employment.

2. Even though many people may disagree with this argument most of them will probably accept the view that in the present emergency considerations of the future burden of national debt are of secondary importance. However, for people concerned with the revenue aspect (or with the prices of tobacco shares) it may be of interest that the prospects of tobacco consumption are now rather worse than a year ago. The heavy increase in tobacco duty in the last budget caused only a slight reduction in consumption in 1942–3 as compared with 1941–2. It must be taken into account, however, that almost throughout 1941–2 there was a (sometimes acute) scarcity of tobacco which resulted

[1] See M. Kalecki 'The Burden of the National Debt,' this volume.
[2] Ibid.

frequently in rationing of customers by shopkeepers. The rise in tobacco prices in 1942–3 cut out the weaker consumer, reduced the pressure of demand, and thus enabled quite a number of people to *increase* their consumption. As tobacco is now plentiful, however, this process of compensation will not happen again, and although the price increase is this time less, the fall in consumption may be much heavier than in the last financial year. It may be seen, however, from the budget estimates of the revenue from tobacco duties that only a slight fall in consumption of tobacco has been assumed.

3. We shall now consider in turn the 'curtailing-of-consumption aspect' of indirect taxation. An increase in indirect taxes will normally reduce both consumption of the article taxed or of other goods, and savings. In the case of beer and tobacco which are consumed by poor and rich alike the effects are roughly as follows. The poor man saves rather little and his saving is of what may be called an inelastic type (insurance, etc.), he must therefore cut either his consumption of beer and tobacco or the expenditure on clothing, household goods, and entertainment. The more well-to-do are able to reduce their saving and thus to evade the pressure on consumption. Thus even if expenditure on beer and tobacco took the same percentage of lower and higher incomes the consumption of the poor would be likely to be curtailed more than that of the rich. However, above a certain income limit the expenditure on beer and tobacco in relation to income is lower the higher the income. Thus there are three reasons for the poor being penalized by beer and tobacco taxes: (i) the same percentage cut in consumption means greater hardship on the poor than on the rich; (ii) the same percentage cut in the real income of the poor means usually a higher percentage cut in their consumption than in that of the rich because of their inability to reduce savings; and (iii) the percentage cut in real income of the higher grades as a result of increase in prices of beer and tobacco is smaller than in that of the lower grades.

It is precisely for these reasons that curtailing consumption by a general price increase, i.e. by inflation, is considered undesirable. It is therefore paradoxical to fight inflation by taxation of semi-necessities which has similar repercussions. Indeed, indirect taxation *is* nothing else but a government-controlled inflation. Also its repercussions with regard to the 'vicious spiral' are much the same. The workers asking for wage increases as a result of the rise in the cost of living are not interested in what way this rise has been brought about. The only

important advantage of taxation of tobacco and beer in this context consists in the fact that tobacco is heavily underweighted in the cost-of-living index of the Ministry of Labour and beer is not represented in it at all. But if an index deviates too much from the actual state of affairs it gradually loses its significance.

But then what taxes should have been introduced by the present budget? None at all? That perhaps would be the most reasonable course to take. At the present juncture the fight against inflation is being actually waged not by the Treasury but by the Ministry of Food and the Board of Trade. For they have at their disposal the most effective weapon: the ration book.

Profits, Salaries, and Wages[1] (1943)

1. The new White Paper on the Sources of War Finance and on National Income and Expenditure (Cmd. 6438)[2] gives data on the national income and its components which for 1940 and 1941 differ appreciably from those contained in the White Paper published last year (Cmd. 6347). It is to the credit of the authors of the White Paper that they have succeeded in obtaining new information and have not hesitated to revise their previous estimates. The revision raises considerably the figures of profits and interest, and salaries in 1940 and 1941 and also reduces somewhat the figure for wages. On balance the national income is increased and this, in conjunction with some reduction of the estimates of personal consumption, causes the figures of disinvestment (which are calculated as a residual and thus are very sensitive to changes in the figures estimated directly), to be much lower than those published last year.

The present results seem to be much more reasonable than those contained in the last White Paper; in particular the wartime rise in salaries according to the latter was too small to be plausible. With regard to the figures of disinvestment which, as mentioned above, are now estimated at a much lower level than previously, this does not necessarily disturb the conclusion that substantial disinvestment in fixed and working capital of the non-war industries was actually taking place. For as the authors rightly observe, allowance must be made for the increase in working capital in the war industries carried by private business finance and thus offsetting the disinvestment in the non-war sector. It should be added that because changes in inventories are calculated without eliminating changes in the basis of valuation, the figures of disinvestment are reduced as a result of rising prices, i.e. they would be higher if the valuation of inventories at the beginning and the end of a given year were carried out on the basis of the same prices.

This leads us to another change introduced in the new White Paper. In the previous White Paper the authors corrected the figures of profit and disinvestment for 1938, which was a year of falling prices, but they assumed that a similar correction was not necessary for the war years

because these were years of rising prices. This asymmetrical treatment, which had been criticized, is now recognized to be unjustified,[1] and no attempt is now made in *any* year to eliminate the change in the basis of valuation of inventories from the beginning to the end of the year. This actually amounts to the valuation of stocks being made on a cost basis throughout, for in the period of continuously rising prices (1940, 1941, 1942) firms preferred (for tax purposes) to value their inventories at cost rather than at current prices; and for 1938, the valuation at cost and at current prices would have given similar results.

It follows, as mentioned above, that the figures of disinvestment do require correction for the changing basis of valuation of inventories. It may be shown, however, that for an analysis of the distribution of the national income such corrections are probably not necessary. With the valuation of inventories at cost, profits in a given year are equal to sales *minus* the factors of production *purchased* during the year *plus* inventories at the end of the year at cost *minus* inventories at the beginning of the year at cost. This means that profits are equal to sales *minus* the cost of factors actually *used* in the production of goods sold during the year.[2] Now if entrepreneurs, as seems usually to be the case, do their pricing on the basis of purchase cost, then profits, as defined above, *plus* overheads correspond to gross margins assumed in pricing. It is this figure, therefore, which must probably be taken into account in the analysis of the distribution of the national income.

2. We shall now analyse the distribution of the national income on much the same lines as we did last year.[3] We first show the relative

Table 34. *Distribution of National Income in Great Britain, 1938–1942*

	1938	1940	1941	1942
Wages (£m.)	1,787	2,425	2,970	3,409
National income[a] (£m.)	4,490	5,726	6,619	7,384
Relative share of wages (in per cent)	39.8	42.4	44.9	46.2

[a] Inclusive of the pay and allowances (in cash and kind) of HM Forces and Auxiliary Services.

[1] See M. Kalecki 'Wages and the National Income in 1940 and 1941', this volume.

[2] If a is the value of sales b = the value of the factors of production *purchased* during the year, b' = the value of the factors *used* in manufacture of the goods sold during the year, c_1 = inventories at the beginning of the year, and c_2 = inventories at the end of the year, profits are equal to $a - b + c_2 - c_1$ or $a - (b + c_1 - c_2)$. But $b' = b + c_1 - c_2$ and thus profits $= a - b$.

[3] See M. Kalecki, 'Wages and the National Income, 1940 and 1941.

share of wages in the national income as follows directly from the figures of the White Paper (see Table 34)

We shall exclude now, from both wages and the national income, the remuneration of soldiers, because this cannot be considered as a usual type of wages, being paid, so to say, outside industry proper and having no counterpart in overheads and profits. For the same reason we shall also deduct from the national income the remuneration of officers, which the White Paper includes in salaries. It has been roughly estimated[4] that the remuneration of soldiers amounted, in round figures, to £40 million in 1938, £300m. in 1940, £500m. in 1941, and £550m. in 1942. Officers' remuneration is assumed, as in the article quoted, to be approximately one-tenth of the pay of other ranks (i.e. of soldiers). After these deductions are made we obtain the figures for wages and the national income (see Table 35).

Table 35. *Wages and National Income in Great Britain, 1938–1942*

	1938	1940	1941	1942
Wages (£m.)[a]	1,747	2,125	2,470	2,859
National Income (£m.)[b]	4,446	5,396	6,069	6,779
Relative share of wages (%)	39.9	39.4	40.7	42.2

[a] Exclusive of soldiers' remuneration.
[b] Exclusive of soldiers' and officers' remuneration.

It is interesting to compare the changes in the wage bill after deduction of soldiers' remuneration with the estimates of those changes given in this *Bulletin*[5]. If we take 1938 as 100 the index of the wage bill according to the table there is 121.5 in 1940, 141.5 in 1941, and 163 in 1942. Our respective estimates are 125, 146.5, and 166.5 Our estimates are consistently higher in all the years which may be partly accounted for by the fact that they relate only to insured labour and therefore do not take into consideration the drastic reduction in the number of domestic servants in wartime. In no year, however, does the difference exceed 3.5 per cent.

The relative share of wages shows a certain increase in 1941 and 1942 over the 1938 level, even after the correction for soldiers' remuneration has been made. As we shall see, however, this is due to the relative fall in the income of 'non-wage industries', namely real estate and retail

[4] See J. L. Nicholson, 'The Distribution of the War Burden', *Bulletin*, 5/7 (1943).

[5] See the Diary Note, *Bulletin*, 5/4 (1943), 71.

trade (the latter employs shop assistants, but they are classified in the White Paper as salary-earners). To eliminate this factor, which obscures the trend in the relative share of wages, we shall subtract rents and the gross income of retail trade from the national income.

As regards rents we shall take into consideration only those of a residential character, because rents on factory buildings etc. (mostly imputed) must rather be considered a part of incomes of the respective business. We estimate roughly residential rents on the basis of figures given in the White Paper (Table B) for residential rents, rates, and water charges, and a guess at residential rates and water charges. We put the residential rents at £350m. for 1938 and £360m. for the war years.

The gross income of retail trade may be estimated as follows. Total retail sales (inclusive of motor cars and coal) may be put on the basis of the information given in the White Paper (Table B) and of an estimate of sales of motor cars and coal at roughly £2,700m., £2,900m., £3,000m., and £3,250m. in the years 1938, 1940, 1941, and 1942 respectively. The retailers margin may be assumed to be something like 25 per cent of the value of sales.[6] And from what information is available it may be judged that the wartime change in indirect taxation has been passed to the consumer without being marked up by the retailer. The rise in indirect taxation of 'retail goods' over the level of 1938 may be roughly estimated from the increases in customs and excise which are mainly on 'retail goods' and this may be checked by the information contained in the White Paper (Tables I and IV). The figures obtained are about £135m. for 1940, £335m. for 1941, and £510m. for 1942. We thus calculate the gross income of retail trade by taking 25 per cent of £2,700m. in 1938; while in 1940, 1941, and 1942 we take 25 per cent of the differences: £2,900m. *minus* £130m., £3,000m. *minus* £335m., £3,250m. *minus* £510m. respectively. We obtain in this way the gross income of the retail trade in round figures at £670m., £690m., £670m., and £680m. in 1938, 1940, 1941, and 1942 respectively. We can now eliminate from the national income residential rents and gross income of the retail trade (See Table 36).

As we see, the relative share of wages in the national income in wartime is, after the above deductions, lower than in 1938. It should be added that in the national income there is still an item which has no

[6] See H. Smith, *Retail Distribution: A Critical Analysis*, London, Oxford University Press (1937), 141.

Table 36. *Wages and National Income after Elimination of Residential Rents and Gross Income of the Retail Trade in Great Britain, 1938–1942*

	1938	1940	1941	1942
Wages (£m.)[a]	1,747	2,125	2,470	2,859
National income less rents and gross income of retail trade (£m.)[a]	3,426	4,346	5,039	5,739
Relative share of wages (%)	51.0	48.9	49.0	49.8

[a] Exclusive of remuneration of HM Forces.

counterpart in wages, namely income from overseas, which in 1938 amounted to £235m. If we subtract this item from the national income in 1938 the relative share of wages in that year is 54.8 per cent. The level of the income from overseas was no doubt very strongly reduced from 1938 to 1942, and in the latter year the relative share of wages in the national income after the deduction of income from overseas is not likely to differ significantly from 50 per cent. For the intermediate years we may put this figure tentatively at 51 and 50. The thus obtained results are shown in Table 37.

Table 37. *Hypothetical Relative Shares of Wages in National Income in Great Britain, 1938–1942*

	1938	1940	1941	1942
Hypothetical relative share of wages after the exclusion from national income of residential rents, gross income of retail trade, and income from overseas[a] (per cent)	54.8	51	50	50

[a] Remuneration of HM Forces is excluded from both wages and the national income.

3. 7Looking at the above figures we see first a significant fall in the relative share of wages from 1938 to 1940. This may be explained as follows. The rise in prices of raw materials was, in the period considered, very much greater than that in wage costs. If, as is it plausible to assume, the entrepreneurs calculate in general their prices by marking up prime costs, i.e. cost of materials and wages, profits increase roughly in the same proportion as prime costs. Thus if raw material prices rise more than wage costs, profits increase more than wages.[3] This factor was operative in 1940. From 1940 to 1941 the slight fall in the relative share of wages may be attributed to the inflationary increase of prices in certain sectors of the economy, that is to the increase in prices out of proportion to prime costs. It should be noticed

that such a trend may be assumed only for consumption goods. It is likely that in war industries a movement in the opposite direction took place because of more rigid handling of contract prices, and this has partly offset the effect of the inflationary factor. This offsetting influence might also have contributed to the stability of the relative share between 1941 and 1942. In actual fact there has probably been an inflationary rise in the prices of some goods in this period which would have caused a further fall in the relative share of wages in the industries concerned.

It must be added that all this discussion is rather conjectural because of many factors which, in addition to those taken into consideration, influence the relative share of wages in the national income. A very important factor, for instance, is the violent relative shift which was taking place between various industries. This latter factor is, however, unlikely to invalidate our conclusions for the following reason. The most important shift was that from the sector of civilian consumption to engineering industries. Now the relative share of wages in the net product of the engineering industry seems, on the basis of available information, to have been higher than the figures obtained for the relative share in the national income (after the above deductions have been made). Thus the increase in the weight of engineering industry would, if anything, tend to increase the average relative share of wages, and thus to offset the fall in the relative share of wages in the civilian sector.

War Finance, 1940, 1941, and 1942[1]

1. The purpose of this paper is to give an analysis of the sources of war finance on the basis of the White Paper (Cmd. 6438). The argument follows much the same lines as in the paper on this subject published last year.[1] The results of the analysis are presented in Table 38. The differences in the figures in this and last year's article are due to the revision in the present White Paper of estimates given in the preceding one. The significance of the first four main items in Table 38 for financing government expenditure (excess of personal incomes over personal consumption, business income undistributed to persons, surplus of public funds, and indirect taxes and miscellaneous government income) is straightforward. However, the various types of disinvestment which come next require some explanation. Private disinvestment at home, except war damage, means the excess of the depreciation of privately owned fixed capital over privately financed new investment in fixed capital, sales of fixed capital assets to public authorities, and the reduction in the value of privately financed stocks (calculated at cost) except that caused by war damage. All this disinvestment provides firms and persons with funds which are lent to the government directly or indirectly. The same is true of disinvestment in fixed capital and stocks due to war damage in so far as it is compensated. Private disinvestment abroad results in similar transactions to disinvestment at home. The proceeds of sales of foreign privately owned assets supply the owners with funds which are lent to the government directly or indirectly. Finally, government disinvestment abroad consists of the loss of gold and foreign balances by the Exchange Equalization Fund, which absorbs to the same extent government securities, and foreign loans to the government (sterling balances of the Dominion Central Banks and Reconstruction Finance Corporation Loan).

The Lease and Lend assistance and the expenditure equivalent to the Canadian contribution are excluded from government expenditure. If imports from the USA and Canada were the same but Lease and Lend aid and the Canadian contribution were not in existence, both

[1] See M. Kalecki, 'War Finance, 1940 and 1941', this volume.

government expenditure and foreign disinvestment would be higher by this amount (see Tables 38 and 39).

2. In last year's article on war finance (mentioned above) it was argued at some length that the above tables cannot give us any indication of an

Table 38. *Revenue and Borrowing of the Central Government in Great Britain, 1938–1942 (£m.)*

	1938	1940	1941	1942
Direct tax payments to the central government out of personal incomes[a]	330	477	645	755
Personal savings[b]	241	807	1,004	1,271
Excess of personal incomes[c] over personal consumption	*571*	*1,284*	*1,649*	*2,026*
Direct taxes paid by enterprises	77	172	422	602
Undistributed profits	182	358	413	338
Business income undistributed to persons	*259*	*530*	*835*	*940*
Surplus of extra budgetary funds	22	148	122	163
Surplus of local authorities	7	38	66	80
Surplus of public funds[d]	*29*	*186*	*188*	*243*
Central government indirect taxes	372	502	705	883
Miscellaneous income of the central government	22	23	34	70
Indirect taxes and miscellaneous government income	*394*	*525*	*739*	*953*
Compensation for war damage	—	36	248	215
Private disinvestment at home except war damage	–287	22	200	173
Total private home disinvestment	*–287*	*58*	*448*	*388*
Private and government disinvestment abroad	*55*	*756*	*797*	*632*
CENTRAL GOVERNMENT REVENUES AND BORROWING	1,021	3,339	4,656	5,182

[a] Inclusive of contributions under the War Damage Act.
[b] Before paying death duties and stamps on the transfer of property.
[c] After deduction of contributions to social insurance, estimated roughly.
[d] Exclusive of the surplus arising out of contributions and payments under the War Damage Act (taken from budget returns).

Table 39. *Expenditure of the Central Government in Great Britain, 1938–1942 (£m.)*

	1938	1940	1941	1942
Central government expenditure on goods, services, and compensation for war damage	464	2,680	3,871	4,333
Transfers	318	343	394	441
Subsidies	15	70	142	150
Transfers to other authorities	224	246	249	258
CENTRAL GOVERNMENT EXPENDITURE	1,021	3,339	4,656	5,182

'inflationary gap'. The two sides of the balance sheet must agree; any increase in expenditure is always automatically balanced by an increase in savings, tax revenue, or disinvestment. The only item which could signify a 'gap' is private home disinvestment, in particular to the extent to which it relates to the reduction of stocks. The White Paper does not contain any estimates of this part of home disinvestment. We shall try here to make a hypothetical calculation of the order of magnitude of this item.

It must first be remembered that the White Paper figures reflect changes in the *value* of stocks. As prices were increasing throughout the period considered, the reduction in the value of stocks calculated at purchase cost was much smaller than if stocks at the beginning and at the end of the year were valued at the same prices. Mr Barna has estimated that the reduction in the *volume* of stocks multiplied by the average prices of a given year was higher than the reduction in the *value* of stocks by about £400m. in 1940 and £150m. in 1941.[2] For 1942 this adjustment may be roughly estimated at £50m. If we add these amounts to the White Paper figures of disinvestment we obtain about £420m. in 1940, £350m. in 1941, and £220m. in 1942.

As indicated above, home disinvestment (not due to war damage) may be subdivided into the following three categories: excess of depreciation of privately owned fixed capital over privately financed new investment in fixed capital; sales of fixed capital assets to public authorities; and depletion in privately financed stocks. The value of depreciation in 1938 has been estimated at about £450m. No doubt in wartime some part of depreciation has not been made good. As, however, some replacement is always taking place, and in war industries, probably to the full extent, private investment in fixed capital cannot be assumed to have fallen very considerably below this level. For 1941 and 1942 it may then be assumed at a guess that private gross investment in fixed capital was of the order of £300m. at 1938 prices, which makes something like £400m. at current prices. We shall assume the same figure at current prices for 1940, which means only a slightly higher figure in real terms for 1940 than for the two subsequent years. This may be justified by the fact that although deliveries of new fixed capital were higher in 1940 than in 1941 and 1942, there was a strong diminution of the fixed capital under construction in that year because

[2] See T. Barna, 'Valuation of Stocks and the National Income', *Economica*, 9/36 (1942), 351.

the rate of deliveries diminished rapidly from the beginning to the end of the year. From the assumption that gross investment in private fixed capital was at the rate of £400m. per year throughout the period considered and that depreciation was £450m. a year, it follows that the rate of disinvestment in fixed capital was £50m. a year. If we add to this figure the sale of fixed assets to public authorities, we shall obtain probably something of the order of £100–150m. p.a. If we deduct this figure from the corrected home disinvestment we obtain for depletion of privately financed stocks for 1940, 1941, and 1942 something of the order of £300m., £200m., and £100m. It is hardly necessary to add how very much of a guess these figures are. Apart from our hypothetical assumptions there is a great degree of uncertainty in Mr Barna's adjustments. We shall reduce somewhat the uncertainty of the figures if we consider the depletion of stocks for the three years together, which, according to the above, was £600m. from the beginning of 1940 to the end of 1942 at current prices.[3] At 1938 prices the depletion of stocks over these three years would then amount to something like £400m. We shall now try to check whether this figure is reasonable.

It is plausible to assume that a substantial part of the depletion of stocks was due to the reduction of working capital in the production for export and in manufacturing of non-food consumption goods (exclusive of drink and tobacco) for the home market. It may be roughly estimated that the value of non-food home consumption at wholesale prices plus exports was in 1938 of the order of £1,150m. It may be further estimated that in 1942 the value of these two items at 1938 prices was something like £450m.[4]

It may be concluded that from the beginning of 1940 to the end of 1942 exports and non-food home consumption fell by something like £700m. at 1938 prices. It may be further estimated that working capital and stocks in the manufacture of the products in question amounted in 1938 to something like six months' value of exports *plus* non-food

[3] There is a special reason which favours such a procedure. If stocks are valued at cost that part of them which has not been turned over remains unchanged in value. Mr Barna in calculating his adjustment could not have taken into account this factor. As a result his adjustment for 1940 may be substantially too high because in that year there were probably still ample reserve stocks and the increase in prices was steep. It is further likely that the stocks not turned over in 1940 were used and (partly) replaced in 1941 and 1942 and therefore the figures of adjustment for those years are too low.

[4] These estimates have been made on the same lines as those given in my 'Sources of Manpower in the British War Sector' (this volume), taking into account the new data given in the current White Paper.

home consumption at wholesale prices.[5] Thus if inventories had fallen proportionately to the output of finished goods in question,[6] the resulting reduction in working capital and stocks would amount to £350m. This figure is to be compared with the total depletion of stocks estimated hypothetically above at £400m. For this comparison it must be remembered, however, that £350m. relates to manufacturing industry only, while there was no doubt some reduction in inventories of traders as well. On the other hand there was no doubt some increase in the privately financed working capital of government contractors and if this factor were eliminated the figure of depletion of stocks would be correspondingly increased. The only thing we can say in these circumstances is that the two figures obtained as a result of the preceding discussion are by no means contradictory.

3. As may be seen from Table 38, the increase in personal savings was of great importance in financing the war. We shall now examine it in more detail. In Table 40 it is shown how personal savings have arisen out of personal income, direct tax payments, and personal consumption.

Table 40. *Personal Incomes, Tax Payments, Consumption, and Savings in Great Britain, 1938–1942 (£m.)*

	1938	1940	1941	1942
Personal incomes[a]	4,606	5,566	6,158	6,826
–Direct tax payments by persons[a]	330	477	645	755
Personal incomes net of tax	4,276	5,089	5,513	6,071
–Personal consumption	4,035	4,282	4,509	4,800
Personal savings before paying death duties, etc.	241	807	1,004	1,271

[a] After deduction of contributions to social insurance.

[5] The total wholesale value of the output of finished products of manufacturing industry in 1938 may be estimated roughly at £2,300m. (By finished products we mean here all products which are not sold as raw materials, or semi-manufactures from one manufacturing firm to another.)

The value of stocks and working capital of manufacturing industry in 1938 has been estimated by A. Maizels, ('Consumption, Investment, and National Expenditure', *Economica*, 8/30 (1941)) at £1,150m. which makes six months' value of the output of finished products. It is likely that this figure is not substantially different for the sector of finished products with which are here concerned, i.e. exports and non-food home consumption. (These items constitute 50% of the total manufactured output of finished products in the above sense.)

[6] In normal times inventories fall usually less than proportionately to output, because the fall in working capital is frequently accompanied by rise in stocks (unsold goods). But such is not the case in a 'scarcity economy' in wartime.

Table 41. *Wartime 'Saving Effort' in Great Britain, 1938–1942*

	1938	1940	1941	1942
Index of retail prices of goods and services	100	121	136	145
Real personal incomes (net of tax) (£m.)	4,276	4,210	4,050	4,190
Real personal consumption (£m.)	4,035	3,540	3,310	3,310
The reduction of real incomes net of tax compared with 1938 (£m.)	0	66	226	86
'Normal' expected reduction in real consumption compared with 1938 (£m.)	0	60	210	80
Actual reduction in real consumption as compared with 1938 (£m.)	0	495	725	725
Wartime 'saving effort' in 1938 prices (£m.)	0	435	515	645
Wartime 'saving effort' as per cent of current income, net of tax	0	10.3	12.7	15.4
Wartime 'saving effort' as a per cent of current consumption	0	12.3	15.6	19.5

In Table 41 we calculate what we call the wartime 'saving effort'. We first calculate personal incomes and personal consumption at 1938 prices, using for deflation the price indices which may be obtained from the White Paper. Next there is given in the Table the reduction in real incomes as compared with 1938. Further, according to the enquiries made about pre-war saving[7] a change in real personal income net of tax by £100 caused a change in real consumption of £90 to £95. On this basis we calculate the 'normal' expected reduction in real consumption as compared with 1938 by taking 92 per cent of the corresponding reductions in real income. With this we compare the actual reduction in real consumption as compared with 1938. The difference we call the wartime 'saving effort', and we express it also as a percentage of current personal income (net of tax) and of current consumption. The latter percentage indicates by how much expenditure would have increased without this effort, and thus by how much prices would have increased with the same supply of goods and services. It must be stressed, however, that not all the increase in personal savings may be considered voluntary, because comprehensive rationing played an important part here, especially in the increase in the wartime 'saving effort' from 1940 to 1941 and 1942.

4. It is interesting to compare the rise in personal savings with the result of the saving campaign as shown by the amount of so-called

[7] See E. A. Radice, *Savings in Great Britain 1922–35*, London, Oxford University Press, 1939.

small savings. This comparison is made in Table 42. By small savings are understood here savings bank deposits, National Saving Certificates, and 3 per cent Defence Bonds. To this should be added the rise in coin and note holdings in the hands of 'small men' which most probably constituted a substantial part of the increase in the note circulation. As there is no way of estimating what part precisely it was, we show in the table both 'small savings' proper and small savings plus the increase in the coin and note circulation. The complete figure of 'small savings' is somewhere in between. For both these two variants we calculate the difference as compared with 1938 level, and compare the result with a corresponding difference in personal savings, net of death duties, etc.

Table 42. *'Small Savings' and Personal Savings in Great Britain, 1938–1942*

	1938	1940	1941	1942
1. 'Small savings' (£m.)	4	467	601	599
1a. Rise over 1938 level (£m.)	0	463	597	595
2. 'Small savings' plus increase in cash circulation[a] (£m.)	−3	541	744	767
2a. Rise over 1938 level (£m.)	0	544	747	770
3. Personal savings net of death duties, etc. (£m.)	151	722	910	1,171
3a. Rise over 1938 level (£m.)	0	571	759	1,020
4. Percentage (1a) : (3a)		81	79	58
5. Percentage (2a) : (3a)		95	98	75

[a] The increase in cash circulation is calculated as the difference of coin and note circulation outside banks in January of the next year and January of the year considered.
Source: *Statistical Summary* of the Bank of England.

This comparison is best shown by the ratio of the increase in small savings over the 1938 level to the corresponding increase in personal savings (here again two variants are given, one based on small savings proper and the second on small savings plus the increase in cash circulation). For 1940 and 1941 percentages obtained for both variants are very high, which is explained by the fact that small savings in those years probably reflected only to a moderate degree the increase in personal savings of small savers, and to a great extent were due to transfers from other assets, to redirection of the pre-war stream of savings into the channel of National Savings, and to the acquisition of the National Saving assets by large savers. In 1942 we notice a considerable fall in the ratio of the increase of 'small savings' as compared with 1938 to the corresponding increase in personal savings. This is not because of a decline in importance of genuine small savings, but of the

fact that transfers and savings of large savers could not find their way into National Savings assets because in many cases these savers had reached the statutory limit of the respective holdings. This topic has been discussed in more detail in another article in this *Bulletin*.[8]

[8] See M. Kalecki, 'The Fall in "Small" Savings', this volume.

Sources of Manpower in the British War Sector, 1941 and 1942[1] (1943)

The purpose of this article is to improve upon the estimates of manpower in the war sector in 1941 given in this *Bulletin*[1] in the light of the new White Paper (Cmd. 6438) and to make the corresponding estimates for 1942. It may be recalled that in the article quoted we proceeded along the following lines: we estimated the increase in the total volume of employment and the amount of labour released by the reduction of consumption, of private investment, and of exports as compared with 1938. The sum of these four items gave us the increase in manpower in the government sector, which roughly coincides with the increase in the war sector. It should be added that we considered only labour insured under the General Scheme, aged 16 to 64. To eliminate the changes in the scope of insurance between 1938 and 1941 this has been assumed throughout to be the same as in 1941.

Changes in the Volume of Employment

It has been estimated that the number of insured persons in employment increased from 1938 to 1941 by 4 to 5 per cent. The rise in average working time in this period has been estimated at 8 per cent. Thus the total increase in the volume of insured labour would be 12 to 13 per cent. The number of insured in employment in 1938, at the scope of insurance in 1941, has been estimated at 13.1m.[2] It follows that the total increase in the volume of insured amounted in round figures to 1.5m. of '1938 workers', i.e. persons working the average time of 1938.

According to the estimates published in this *Bulletin*, the number of insured persons in employment increased from 1938 to 1942 by something like 6 per cent.[3] Further, the index of 'earning strength', i.e. the ratio of the index of earnings per head to the index of wage-rates

[1] See M. Kalecki, 'Sources of Manpower in the British War Sector', this volume.
[2] See ibid. for all the above-mentioned estimates.
[3] See the Diary Note, *Bulletin*, 5/4 (1943), 74.

increased from 1941 to 1942 by about 4 per cent.[4] A substantial part of this increase is most probably due to spreading of production and night-shift bonuses accruing to a greater number of workers, and to the shift to better-paid occupations. There was probably, however, some rise in the working time in the 'civilian sector' where the raising of working time to 52 hours per week has been prescribed. We assume this rise in working time to be 2 per cent. On top of the 8 per cent rise from 1938 to 1941 this amounts to a 10 per cent increase in working time from 1938 to 1942. This figure seems to be a reasonable result. It amounts to an average working time of 53 hours in 1942. As the target of 52 hours in the 'civilian sector' has most probably not been reached and might have been something like 50 to 51 hours, 53 hours on the average means something like 55 to 56 hours in the 'war sector', because from our subsequent estimate it follows that the 'war sector' accounts for about 50 per cent of total employment.

We may thus assume that the total percentage increase in the volume of labour between 1938 and 1942 was about 16 per cent. Since employment was 13.1m. workers in 1938 this amounts to an absolute increase of about 2m. '1938 workers'.

The Release of Labour from the Non-Armament Sector

We shall first consider the release of labour employed in mining, manufacturing, and building. Its three main sources are: the reduction in retail sales other than of food, drink, and tobacco; in private investment; and in exports of UK produce and manufactures.

1. The wholesale value of the retail sales other than food, drink, and tobacco in 1938 has been estimated in the article quoted at £800m., and the corresponding figure for 1941 at 1938 prices at £480m. In the light of the new data given in the White Paper (Cmd. 6438) we reduce both these figures by 10 per cent and thus obtain £720m. and £430m. respectively. From the White Paper and from the Bank of England statistics it follows that the money value of retail sales in question did not change significantly from 1941 to 1942. Further, according to the available price series, it may be assumed that the rise in relevant retail prices in this period was of the order of 10 per cent. It follows that the volume of retail sales other than food, drink, and tobacco fell from 1941 to 1942 by about 10 per cent, i.e. from £430m. in 1941 to £390m.

[4] See ibid.

in 1942. That would mean that the real value of retail sales in 1942 was 54 per cent of the 1938 level; this result agrees well with Mr Worswick's estimate, according to which the volume of retail sales in 1942 was 51 to 58 per cent of the 1938 level.[5]

2. We shall now estimate the reduction in private investment in 1941 and 1942 compared with 1938. The results at which we arrive for 1941 differ significantly from those obtained in our previous article. This is due mainly to changes in the estimates of disinvestment in 1941 given in the new White Paper (Cmd. 6438) as compared with last year's White Paper (Cmd. 6347) and in a minor degree to certain modifications which we introduced in our estimates.

The net private investment in 1938 has been estimated in the White Paper (Cmd. 6438) at £287m. This figure does not allow for the changes in the value of stocks resulting from the valuation at lower prices at the end than at the beginning of the year. Mr Barna has estimated the adjustment for this factor at £95m.,[6] which added to £287m. gives £382m. This figure, however, includes costs of transfer of property, etc., which are not investment in the sense in which we are interested here. After the deduction of this item the figure of net investment will amount to something of the order of £300m. The relevant figure of sinking funds, depreciation, etc. is according to Mr Maizels,[7] £440m. Thus private gross investment may be taken as about £740m. This figure includes investment of the Post Office and the housing and trading services of the local authorities. As we include in private investment such investment of local authorities as roads, hospitals, etc., a correction is necessary here. The gross local government investment of this type has been estimated on the basis of data given in 'Public Investment and the Trade Cycle' by Bretherton, Burchardt, and Rutherford at £110m.[7] Thus for our purpose private investment in 1938 may be taken as £850m.

The net investment in 1941 is estimated in the White Paper at −£200m. No allowance has been made in this figure for the fact that the stocks at the end of year have been valued at higher prices than at the beginning. Mr Barna has estimated the necessary adjustment at £150m.[8] and this amount must be subtracted from the above value of

[5] See G. D. M. Worswick, 'Prices and Retail Consumption in 1942', *Bulletin*, 5/4 (1943), 62.
[6] See *Economica*, 9/36 (1942).
[7] See *Economica*, 8/30 (1941).
[8] See ibid.

investment to eliminate the changes in the basis of valuation of stocks. We thus arrive at –£350m. With sinking funds, depreciation, etc. of £440m. this gives for gross investment £90m. From this figure there must still be subtracted the cost of transfer of property which was in 1941 most probably less than £50m. On the other hand, there must be added the investment of local authorities in roads, hospitals, schools, etc. which was substantially less than the 1938 level of £110m. Finally, the White Paper figure of investment accounts for the sales of fixed assets to the government by persons and firms; this will involve a positive correction which is probably appreciably lower than £100m. All these corrections will on balance raise the figure of gross private investment to probably something like £150 to £200m.

In the article quoted, the rise in prices of investment goods from 1938 to 1941 has been estimated at 32 per cent. Thus if we express the figure obtained above in 1938 prices we obtain something like £100 to £150m. However, the rise in prices mentioned relates to elements of fixed capital only. Now the figure of investment in 1941 is the difference between gross investment in fixed capital and disinvestment in stocks. The price index for deflation of disinvestment in stocks is definitely higher than that which has been used for the deflation of investment in fixed capital. The figure of real investment obtained above is therefore too low. A tentative calculation, however, shows that the error committed in this way cannot be very great. It will be sufficiently allowed for if we assume the higher limit for investment, that is £150m.

The calculation for 1942 can be carried out similarly. The only important difference is that the White Paper figure for investment in 1942 is –£170m. as compared with –£200m. in 1941. Further the adjustment for the change in the basis of valuation of stocks at the beginning and at the end of the year is something like £50m. as compared with £150m. in 1941, or £100m. less. This raises the money value of gross investment in 1942 by £130m. as compared with 1941, provided that other elements of the calculation are unchanged. We thus obtain £280 to £330m. We shall deflate it in the same way as in 1941 with a slightly higher price index. This gives us a figure of the order of £200 to £250m. For further calculations we assume £220m.

It is hardly necessary to add that our estimates of investment in 1941 and 1942 are nothing but guesses. Fortunately, however, this is of no great importance for the results of our calculation; a change in our figures of investment in 1941 and 1942 by £100m. corresponds to 0.35m. workers, while our results are rounded off to the last 0.5m. (see Table 44).

3. The exports of UK produce and manufactures, except food, drink, and tobacco amounted in 1938 to £430m. For 1941 we have assumed in the article quoted £150m. at 1938 prices. As to 1942 the Chancellor of the Exchequer stated that the volume of commercial exports was in that year one-fourth of the pre-war level. We thus assume £100m. to be the value of exports in 1942 at 1938 prices.

4. The results obtained above are put together in Table 43.

Table 43. *Civilian Outlay in Great Britain, 1938, 1941, and 1942 (at 1938 prices; £m.)*

	1938	1941	1942
Retail sales other than of food, drink, and tobacco, at wholesale prices	720	430	390
Gross private investment (inclusive of local government)	850	150	220
Exports of UK produce and manufactures (except food, drink, and tobacco)	430	150	100
Total	2,000	730	710

It follows from this table that the total civilian outlay was reduced in real terms as compared with 1938 by 63.5 per cent in 1941 and by 64.5 per cent in 1942. It is plausible to assume that labour employed in mining, manufacturing, and building which was embodied in the three items considered fell approximately by the same percentage. It has been estimated in the article quoted that mining, manufacturing, and building labour corresponding to the three items considered was 7.1m. '1938 workers'. On the above assumption this amounts to a 'release' of 4.5 million '1938 workers' in 1941 and 4.6m. '1938 workers' in 1942.

In order to have a rough idea about the distribution of the 'labour release' between civilian consumption of goods other than food, drink,

Table 44. *Labour Release in Great Britain, 1941 and 1942*

	Reduction as compared with 1938 (at 1938 prices; £m.)		Labour release (million workers)	
	1941	1942	1941	1942
Retail sales other than of food, drink, and tobacco at wholesale prices	290	330	1.0	1.15
Gross private investment	700	630	2.5	2.3
Exports of UK produce and manufactures	280	330	1.0	1.15
Total	1,270	1,290	4.5	4.6

and tobacco, gross private investment and exports, we subtract the respective real values in 1941 from the corresponding 1938 figures and divide the labour release proportionately to these reductions.

5. In addition to this release of labour there is still to be considered the labour released from manufacturing of food, drink, and tobacco and from services (inclusive of those in transport, wholesale and retail distribution, and central and local government officials in so far as they are insured). Workers employed in manufacturing of food, drink, and tobacco in 1938 numbered 0.5m. and labour released from these industries was insignificant. Services in the above sense employed in 1938 4.9m. In our previous article it has been assumed that the labour release from this source was in 1941 of the order of 0.5m. workers, mainly as a result of reduction of civilian consumption. This raises the total labour released by the reduction of civilian consumption to 1.5m. 1938 workers (see Table 44). For 1942 the labour release from services must be assumed to be higher so that it will bring the figure of labour release resulting from the cut in consumption to something like 2m. '1938 workers'.

Summary of Results

The results of the above calculation are summed up in Table 45 (in round figures).

The total increase in the number of '1938 workers' from 1938 to 1941 is 6.5m. (This does not differ much from the estimate in our previous article, which was 7m.)[9] The corresponding figure for 1942 is 7.5m. It should, however, be emphatically stressed that because of crudeness of

Table 45. *Insured Labour Embodied in Government Purchases in Great Britain: the Sources of Increase from 1938 to 1941 and 1942 (million workers)*

	1941	1942
Increase in the volume of labour as a result of increase in the number employed and in working time	1.5	2
Reduction in civilian consumption	1.5	2
Reduction in private investment (inclusive of local government)	2.5	2.5
Reduction in exports	1	1
Total	5.0	5.5
Increase in government purchases	6.5	7.5

[9] See the remark on p. 189.

the estimates and rounding off of figures no conclusions can be drawn from the comparison of 1941 and 1942 figure, except that the volume of labour in the government sector increased from 1941 to 1942 and that the rate of increase was very much lower than in the first two years of the war. (This does not mean that the rate of increase in output was relatively small as productivity of labour might have increased considerably.)

Local government investment[10] has been included in our inquiry in private investment. Central government investment, except that of defence services, was negligible before the war. If we assume in addition that there were no important changes in the personnel devoted to 'normal' functions of central and local administration, the increase in labour in the government sector calculated above coincides roughly with the increase of labour in the war sector (provided that we include in it such activities as building of merchant ships on government account). As we estimated the insured labour employed directly and indirectly in armaments in 1938 at 0.6m., the total volume of insured labour employed in the war sector in 1941 may be estimated at about 7m. and in 1942 at about 8m. '1938 workers'.

The number of insured workers in employment in 1938 was given above as 13.1m. and the increase in the volume of insured labour up to 1941 has been estimated at 1.5m. and up to 1942 at 2m. '1938 workers'. The total volume of insured labour in 1941 may thus be estimated at about 14.5m. and in 1942 at 15m. '1938 workers'. It follows that the war sector absorbed in 1941 a little less than 50 per cent and in 1942 a little more than 50 per cent of insured labour. The percentage would not be significantly changed if we added to the total volume of insured labour workers exempted from unemployment insurance. It may thus be said that a little less than a half in 1941 and a half or a little more in 1942 of all manual workers (except those in agriculture and domestic service) and lower-grade salary-earners (below £420 p.a.), were employed in the war sector.

[10] Except that connected with Civil Defence.

The Financial Situation in the First Half of 1943[1]
(1943)

The purpose of this paper is to give an approximate picture of the recent trend in the financial situation. Our analysis will be based on the data given in the White Paper (Cmd. 6438) and on the estimates of the changes between 1942 and the first half of 1943 in the national income and in personal consumption.

Employment and the Wage Bill

Table 46 brings up to date the series of employment and the wage bill given last in *Bulletin*, 5/4.[2] The index of the number of persons in insured employment (calculated from the unemployment insurance contributions) amounted in the first half of 1943 to 103 (1938 = 100). A correction is required, however, because of women part-time workers who have been exempt from insurance since April 1942. It has been estimated in this *Bulletin*, from the Ministry of Labour enquiry into earnings in manufacturing, building, and public utilities in July 1942, that the percentage of part-time women workers to all workers in these industries was 0.9 to 1.9 per cent.[1] If two such workers are counted as one full-time worker this percentage is 0.5 to 1 per cent. A scrutiny of the results of the enquiry of the Ministry of Labour into earnings in January 1943 leads to similar limits of the percentage in question. For the second half of 1942 we adopted as a correction the lower limit, i.e. 0.5 per cent.[2] In order to allow for the rise in the number of women part-time workers which doubtless since took place, we now take the upper limit, i.e. a correction of 1 per cent. As a result our index of persons employed is raised from 103 to 104 (two part-time women workers counted as one worker).

The average earnings in manufacturing, building, and public utilities increased from July 1942 to January 1943, according to the Ministry of

[1] See J. L. Nicholson, 'Earnings of Workpeople in 1938 and 1942', *Bulletin*, 5/2 (1943), 32.

[2] See 'The Diary Note', *Bulletin*, 5/4 (1943), 71.

Labour enquiry, by about 3 per cent, and after the elimination of the seasonal fall in January, by about 4.5 per cent (two women part-time workers being counted as one worker). The corresponding rise in wage-rates is estimated by the Ministry of Labour at 2 per cent. This means a rise in earning strength (the ratio of the index of earnings to the index of wage-rates) by 2.5 per cent. Now from July 1941 to July 1942 earning strength increased by 6.5 per cent, and in July 1941 its index was estimated at 114. Allowing for the fact that the rise in the earnings trend of industries not embraced by the Ministry of Labour's enquiry was probably smaller, we estimate the 'earning strength' for all insured labour at over 119 in July 1942 and 122 in January 1943 and we assume this figure to apply to the first half of 1943. The wage bill is obtained as the product of the index of persons employed, the 'earning strength' and Professor Bowley's index of wage-rates. It is interesting to note that for the first time since 1940 the index of persons employed shows a fall and that for the first time since the beginning of the war the wage bill ceased to grow appreciably.

Table 46. *Index of Wage Bill in Great Britain, 1940–1943 (1938=100)*

Year	Half-year	Persons employed	'Earning strength' per person	Wage-rates	Wage bill
1940	I	102.5	109	109.5	122.5
	II	98.5	112	115	127
1941	I	104.5	113	120.5	142
	II	105	116	124	151
1942	I	106.5	118	129	162
	II	106	121	133	171
1943	I	104	122	136	172.5

National Income and Consumption

Our figure for the wage bill in the first half of 1943 is 3.5 per cent higher than the average of 1942. What is the most plausible corresponding increase in the national income? According to the White Paper (Cmd. 6438) and rough estimates of soldiers' pay,[3] the rise in the national income exclusive of soldiers' pay was 21.5 per cent from 1938 to 1940, 12.5 per cent from 1940 to 1941, and 11.5 per cent from 1941 to 1942. The respective increases in our index of the wage bill were 25 per cent, 17 per cent, and 13.5 per cent. The ratio of increases in the national

[3] Inclusive of allowances.

income and those in our figure for the wage bill were thus 0.86, 0.74, 0.85 respectively. We may thus assume that to the rise in our figure of wage bill of 3.5 per cent from 1942 to the first half of 1943 there corresponded something like a 3 per cent rise in the national income. As the national income, exclusive of soldiers' pay, was in 1942 about £6,800m.,[4] the absolute increase from 1942 to the first half of 1943 may be estimated at £200m. To this must be added the increase in soldiers' pay. We shall, however, take account only of the change in soldiers' pay in cash, because our figure of the increase in the national income will later be compared with the change in consumption, estimated on the basis of retail trade and consequently excluding soldiers' allowances in kind. The increase in cash payments to soldiers will raise our figure of the increase in the national income to something like £250m. p.a.

We shall now estimate roughly the rise in the rate of civilian consumption (money value) in the first half of 1942 as compared with 1941. The retail trade figures given in the Bank of England *Statistical Summary* show, after the elimination of seasonal variation, a fall of 4 per cent. The value of retail sales, exclusive of drink and tobacco (and of fuel) which are not represented in the Bank of England sample, may be estimated, according to the White Paper, to be in 1942 £2,300 to £2,400m., and thus the fall in this figure from 1942 to the first half of 1943 was about £100m. To this should be added the changes in the rate of expenditure on rent, fuel, and services, which were probably unimportant, and on drink and tobacco. Thus the change in the annual rate of personal consumption may be assumed *minus* £100m. *plus* the change in the expenditure on drink and tobacco.

It follows that the increase in the excess of national income over personal consumption may be estimated at £250m. *plus* £100m. *minus* the change in expenditure on drink and tobacco. But the last item was approximately equal to the increase in the rate of excise and duties from 1942 to the first half of 1943; for the latter corresponded roughly to the rise in the revenue from taxes on drink and tobacco, and the rise in the prices of drink and tobacco was equal to the additional taxation while the change in the volume of consumption was probably very small.[5] It follows that the excess of national income over personal

[4] See M. Kalecki, 'Profits, Salaries and Wages', this volume, p. 173.

[5] If there is a change in the volume of consumption of drink and tobacco the rise in the value of consumption differs from that in the revenue from duties by the change in the duty-free value of consumption. With a few per cent change in the volume of consumption this makes a difference which may be neglected in our calculation.

consumption *plus* indirect taxation increased from 1942 to the first half of 1943 by about £350m. p.a. It is hardly necessary to add that this estimate, made on a very precarious basis, gives merely the order of magnitude of the amount in question.

War Finance

The sources of financing the expenditure of the central government may be subdivided as follows:[6]

1. Excess of personal incomes[7] and undistributed profits[8] over personal consumption.
2. Indirect taxes and miscellaneous government income.
3. Surplus of public funds.[9]
4. Compensation for war damage.
5. Private and government disinvestment abroad.
6. Private disinvestment at home except war damage.

It may be shown that the change in the items 1 and 2 from 1942 to the first half of 1943 is approximately equal to the £350m. arrived at above. Although personal incomes include also transfer incomes (interest on the National Debt, pensions, etc.), which are not accounted for in the national income, this does not make much difference as we shall consider below the financing of the supply expenditure only and thus the interest on National Debt must be deducted from the sources of finance while other transfer incomes are fairly stable. Further, the miscellaneous government income (in item 2) is rather small and changes in it cannot be important.

With regard to the sum of items 3 and 4, it may be assumed that the change in them in the period considered was of no importance. For in the budget statement it was anticipated that this amount would be roughly of the same magnitude in 1943/4 as in 1942. We may thus conclude that items 1, 2, 3, and 4 contributed to the financing of the increase in the supply expenditure between 1942 and the first half of 1943 something of the order of £350m.

[6] See M. Kalecki, 'War Finance in 1940, 1941, and 1942', this volume, p. 177.

[7] After deduction of employees' contribution to social insurance but before payment of direct taxes (in which are included contributions under the War Damage Act).

[8] After payment of contributions to social insurance and war-risk schemes (except those under War Damage Act) but before payment of direct taxes.

[9] Inclusive of the surplus of local authorities but exclusive of the surplus arising out of contributions and payments under War Damage Act.

We shall now calculate the increase in the rate of expenditure on supply services from 1942 to the first half of 1943. The supply expenditure in 1942 was £5,030m., in the first quarter of 1943 £1,500m., and in the second quarter £1,300m. These figures, however, are not quite comparable. The expenditure in 1942 was financed to the extent of £225m. by the Canadian contribution. In the new financial year the purchases of this country in Canada are financed on a 'mutual aid' basis[10] or by sales of UK government assets in Canada to the Canadian authorities and the respective amounts are deducted from the supply expenditure. Thus to make comparable the expenditure of 1942 to that in the second quarter of 1943 we must deduct from the 1942 figure £225m., which leaves us with about £4,800m. The intermediate quarter, i.e. the first quarter of 1943, also requires some adjustment. Purchases (in excess of exports) in the first quarter of 1943 were financed by payments in gold and US dollars or by an increase in Canadian sterling balances. From the data given in the statistics of the Canadian balance of payments these amounts may be very roughly estimated at £50m.[11] Thus the supply expenditure in the first quarter of 1943 must be reduced for the sake of comparability from £1,500m. to £1,450m. Hence the adjusted supply expenditure in the first half of 1943 was £1,450 + £1,300 = £2,750, and its annual rate £5,500m. The adjusted supply expenditure in 1942 amounted to £4,800. This means an increase of £700m.

A Surprising 'Gap'

Since the contribution to the financing of this increase by the excess of personal and impersonal incomes over consumption, indirect taxation, public funds and compensation for war damage has been estimated above at £350m., the remaining £350m. must have been covered by foreign and home disinvestment. With regard to foreign disinvestment, the Chancellor of the Exchequer assumed that it will be in 1943/4 approximately at the same rate as that in 1942 exclusive of the Canadian contribution. If that assumption were to apply to the first half of 1942 the increase in foreign disinvestment would be zero, and the gap

[10] The arrangement differs from Lend and Lease in so far as it does not carry any post-war obligations.

[11] A small part of the balance of payment of the UK with Canada was covered already in the first quarter of 1942 by sales of UK government plants to Canadian authorities. This item should not, of course, be included in our adjustment.

of £350m. would correspond to a rise in home disinvestment. But this need not necessarily be so, because the foreign disinvestment in the first quarter of 1943 might have been greater, and the high level of supply expenditure in that quarter as compared with the second quarter of 1943 (even after adjustment for the Canadian payments) is perhaps an indication of that; and it is also possible that foreign disinvestment in 1943/4 as given in the budget statement was an underestimate. To assume that the rate of home disinvestment has really increased in the first half of 1943 by £350m. as compared with 1942 would indeed imply a drastic depletion of privately owned working capital and stocks.[12] In previous years the rapid running down of inventories of consumption goods was possible because of liquidation of reserve stocks and of the strong reduction in the rate of output and sales. Recently, however, this reduction has considerably slowed down, and now—reserve stocks being scarce—a further depletion on a large scale would be reflected in acute shortages and dislocations in production and distribution.[13] An appreciable rise in the rate of home disinvestment is at present unlikely to be caused by anything but a shift from private to government financing of stocks in war industries; for instance, if more advance payments are made on government contracts. In short, the most plausible interpretation of the 'gap' of £350m. is that it is caused by an increase in foreign disinvestment or perhaps partly by such private home disinvestment which is connected with some change in financing war production. The operation of these factors was probably concentrated mainly in the first quarter of 1943, which shows an abnormally high rate of supply expenditure.

A certain confirmation of this hypothesis may be obtained from a comparison of the rate of supply expenditure (adjusted for the Canadian payments) in 1942, in the first half of 1943, and that anticipated for 1943/4. These rates are £4,800m., £5,500m. and £5,360m.; the rate

[12] If the figures of home disinvestment were adjusted for the change in the basis of valuation of stocks at the beginning and at the end of the periods considered, the figure of 1942 would be slightly increased because there was some (small) rise in prices in 1942, while this would not be the case in the first half of 1943 where prices were stable. The difference between the adjusted figures of disinvestment would thus be a little smaller than between the unadjusted ones. But with regard to the disinvestment in *stocks* this is more than offset by the fact that in 1943 private firms were permitted to buy ships, which increased investment in fixed capital and thus tended to reduce *pro tanto* disinvestment in stocks corresponding to a given level of total home disinvestment.

[13] The same applies to the working capital of export industries.

of supply expenditure in the first half of 1943 is thus higher than the budget estimate for 1943/4. If, however, we subtract from the figure for the first half of 1943 the £350m., accounted for by the fact that foreign disinvestment was higher than the level anticipated in the budget statement, or by changes in the financing of war contracts, etc., we obtain the following series: £4,800m., £5,150m., and £5,360m., which shows a gradual increase.

The Problem of 'Small' Savings[1] (1943)

1. The recently published inquiry of Mr Madge into the 'Wartime Pattern of Saving and Spending'[1] provides some interesting data which contribute to the elucidation of the character of 'small' savings. The object of a budget and interview inquiry[2] were two large samples of manual workers' and small-salary earners families in Leeds, in the periods February–May and June–August 1942 respectively. The results of this survey show that about 4 per cent of gross incomes was devoted to national savings (p. 34). In an Appendix Mr Rothbarth introduces a correction to this figure based on the fact that in the budget inquiry and in the interview inquiry in the second half of the survey (June–August) the percentage of saving was much higher than in the interview inquiry in the first half of the survey. He attributes this difference to the greater reliability of the budget inquiry and to the improvement of interviewing in the second half of the survey. The correction he introduces raises the percentage of savings in relation to gross income to about 5 per cent (p. 133). This figure gives a basis for estimating the total rate of national saving of manual workers and small-salary earners by applying the above percentage to the appropriate aggregate income. The results of such a calculation must, however, be treated with great caution for two reasons: (i) Leeds may not be representative for the whole country, and (ii) what is probably more important, the above percentage of savings obtained for Leeds may be too low because some people refused to be interviewed, and this may introduce a certain bias into the sample; for, as Mr Rothbart puts it, 'thrift and secretiveness may correlate'.

This second objection to the validity of the results of the survey may, however, be accounted for by estimating a plausible upper limit for the bias in question. Out of all budgets and interviews attempted in the second half of the survey, 63 per cent were successful, 9 per cent

[1] National Institute of Economic and Social Research, *Occasional Paper*, IV, Cambridge, Cambridge University Press, 1943.

[2] The budget inquiry was based on regular family budget records. The interview inquiry applied where people refused to keep budgets; it attempted to obtain data on income, spending, and saving in the past week by interviews.

doubtful or inadequate, and 28 per cent were refusals[3] (p. 28). The cases classified as doubtful and inadequate are those where the total amount of income did not square with spending, tax payment and saving. From various particulars given about this category in the report, it does not seem that these people were particularly heavy savers. We shall therefore assume that the percentage of saving in this category is the same as in successful budgets and interviews. It is in the case of refusals where we may suspect a correlation between secretiveness and thrift. We shall assume that half of the refusals were very heavy savers, and the other half saved at a normal rate. This assumption probably exaggerates the connection between secretiveness and thrift, because there are quite a lot of other reasons for not being interviewed, the simplest of which being that people may not like to be bothered. It follows from the above assumptions that 86 per cent are taken to save at the rate of 5 per cent of their income while the remaining 14 per cent are much heavier savers. We shall assume for them a rate of saving of 20 per cent. The resulting average rate of saving would then be 7 per cent. On this basis the Leeds rate of national saving in 1942 was between 5 and 7 per cent of income. Of course, this rate of saving may still not be representative for Great Britain as a whole; still, the amount obtained from the application of this percentage to the wage bill and small-salary bill will not be devoid of significance.

According to the White Paper (Cmd. 6438) and after a rough deduction of pay and allowances to HM Forces,[4] the wage bill was in 1942 about £2,860m. and the salary bill £1,360m. Further, it may be estimated that in 1938 salaries below £250 a year constituted less, but not very much less, than 40 per cent of the total salary bill.[5] Thus, if we add to the wage bill 40 per cent of the salary bill we obtain a reasonable figure for the wage and small-salary bill. On this assumption we obtain £3,400m.[6] Applying to this 5–7 per cent, obtained above as the rate of

[3] 25% total refusals and 3% cases where the husband refused information about the money retained by him.

[4] See J. L. Nicholson, 'The Distribution of the War Burden', *Bulletin*, 5/7 (1943), 107, 108.

[5] From 'Changes in Salaries in Great Britain 1924 to 1939,' by John Marley and H. Campion, in A. L. Bowley (ed.), *Studies in the National Income, 1924–1938* (Cambridge, Cambridge University Press, 1944), in conjunction with the data on the aggregate salaries of shop assistants (whom we classify throughout as salary-earners) and on the total salary bill.

[6] The percentage error in this figure caused by an even relatively large error in the small-salary bill is of no importance.

national savings in relation to income, we arrive at £170–240m. We may thus say that if the Leeds percentage of saving is representative for Great Britain the contribution of manual workers and small-salary earners to national savings in 1942 was of the order of £200m. This compares with the aggregate of about £600m. of small savings in 1942. It is more correct, however, to compare the £200m. working-class savings with the £465m. invested in National Saving Certificates and Post Office and Trustee Savings Banks, because manual workers and small-salary earners are not likely to buy National Defence Bonds, the subscriptions to which amounted to about £135m. Thus working-class saving would make 40 to 50 per cent of the increase in savings bank deposits and National Saving Certificates. It may be asked how the rest of the small-savings assets were absorbed. A certain part could still, even in 1942, be transfers from other assets. But this part is not likely to have been large in 1942. The rest might be current saving out of incomes of pensioners, wives of service men, of small shopkeepers, and of farmers—which again is not likely to amount to much—and out of medium and large incomes, in particular of wives and juniors.

2. Mr Madge's report includes also an inquiry into a sample of Post Office Savings Bank accounts in Glasgow and Aberdeen. The changes in deposits were examined in half-yearly intervals from November 1938 to May 1941. Its results are therefore unfortunately not comparable with those of the Leeds survey. The Savings Bank enquiry indicates that in the period, November 1939–May 1941, about one-third of Post Office savings in Glasgow and about 40 per cent in Aberdeen were due to increases in individual deposits by £150 or more in any half-yearly interval examined (p. 89); actually these rates of one third and 40 per cent relate to the balance of increases and decreases in deposits by £150 or more in any half year examined. Clearly this part of deposits corresponds to transfers or current savings of large savers. Out of the remaining increase in deposits, 55 per cent in Glasgow and 68 per cent in Aberdeen was due to manual and black-coated workers; the rest were savings of traders (24 and 14 per cent) or juniors (21 and 18 per cent). It follows that the current savings of manual and black-coated workers in Glasgow and Aberdeen were of the order of 40 per cent.[7] of

[7] By multiplying 2/3 by 55% and 0.6 by 68% we obtain 37% and 41% for Glasgow and Aberdeen respectively. Corrections for two factors should be introduced here: working-class 'savings' may still, and most probably do, include transfers amounting to less than £150 in half a year; some of the junior savers are certainly working class. Both corrections are probably not very large and act in opposite directions.

the total increase in Post Office Savings Bank deposits. Mr Madge states repeatedly that working-class savings are invested to a much greater extent in savings banks than in National Savings Certificates; thus the share of workers in small savings, even excepting National Defence Bonds, must have been appreciably less than 40 per cent in the period November 1939–May 1941. This compares with 40 to 50 per cent obtained above on the basis of the Leeds inquiry for 1942.

3. The results (Table 47) arrived at above will be helpful in the analysis of the trend of small savings which is shown in half-yearly intervals from 1940 up to date (it is the continuation of the table given in this *Bulletin* a year ago.)[8]

Table 47. *Rate of Small Savings in Great Britain, 1940–1943 (£m.)*

Year	Defence Bonds	National Saving Certificates[a]	Savings Bank deposits[b]
1940 Apr.–Sept.	94	88	71
1940/41 Oct.–Mar.	96	97	102
1941 Apr.–Sept.	90	109	111
1941/42 Oct.–Mar.	92	136	117
1942 Apr.–Sept.	55	99	115
1942/43 Oct.–Mar.	56	125	145
1943 Apr.–Sept.	69	170	146

[a] Inclusive of the accrued interest.
[b] Inclusive of the accured interest not credited to depositor's account.

After small savings reached their lowest level in the middle of 1942, they have shown since that time a spectacular increase. In the article quoted we attributed the fall in 1942 to many medium and large investors having reached the statutory limit in National Defence Bonds and National Saving Certificates, and we took it as an illustration of the considerable share of transfers and large savers in national savings. To what, then, is to be attributed the reversal of the tendency since that time? Let us analyse National Defence Bonds, National Saving Certificates and Post Office and Trustee Savings Banks separately.

With regard to National Defence Bonds we notice that the high level of 1941 has not been regained. The relatively high figure of the period April–September 1943 is swollen by the Wings for Victory Campaign, (March–June 1943) and the consideration of the period after its end

[8] See M. Kalecki 'The Fall of Small Savings', Table 29, above.

shows that the average for the calendar year 1943 will be appreciably lower. The position of National Savings Certificates is more complicated. It is now obvious that the low level in April–September 1942 was partly a reaction to the effort made in the Warship Weeks Campaign which swelled the figure for October–March 1941–2. During saving campaigns some people probably transfer money to National Saving assets from other investiments, but in the subsequent period they partly offset it by investing their current savings in the latter. After elimination of this factor the level of savings in National Saving Certificates in April–September 1942 would probably be close to the (half-yearly) average for the calendar year 1942 which was £115m. A corresponding figure for April–September 1943 is—judging from the period preceding and following the Wings for Victory Campaign—something of the order of £150m. (instead of £170m.).

This figure, however, is not strictly comparable with that of 1942 for another reason: it includes subscriptions to the new issue of National Saving Certificates the interest on which is not tax-free and which was made for the benefit of investors who have reached the statutory limit in the old National Saving Certificates. In the period January–June 1943 the subscriptions to this new issue of Saving Certificates made about 10 per cent of the total increase in Saving Certificates.[9] Thus £115m. in 1942 is comparable to something like 90 per cent of £150m., i.e. to £135m. in 1943. We thus obtain the picture set out in Table 48.

Table 48. *Adjusted Saving in National Saving Certificates (old issue) in Great Britain, 1941–1943 (half-yearly rate, £m.)*

Mid-1941	109[a]
Mid-1942	115
Mid-1943	135

[a] The figure Apr.–Sept. 1941 from Table 47; it differs little from the average of 1941 which was £107m.

The net sales of National Saving Certificates thus adjusted show a continuous rise which was, however, much greater from mid-1942 to mid-1943 than in the preceding period. The same tendency can be noticed in the Post Office and Trustee Savings Bank deposits (see Table 47; adjustments like those made for National Saving Certificates are not necessary here, because Warship Weeks and Wings for Victory Campaigns did not disturb this series to a great extent). We are thus

[9] See 'The National Savings Movement', *The Banker*, 68/2–3 (1943), 12.

still left with the question why the increase of small savings between 1942 and 1943 was considerably higher than between 1941 and 1942. With regard to National Saving Certificates the explanation may be the combination of two tendencies: (i) working-class savings increased steadily throughout the period considered; and (ii) many medium and large investors reached the statutory limit between mid-1941 and mid-1942. The latter factor cannot affect the trend of savings bank deposits because in these not the total amount of deposits but the yearly increase is limited (to £500). In both types of assets the slowing down from 1941 and 1942 could also be due to the saturation of transfers of small investors who exhausted their transferable assets.

But it is also not excluded that the *current* small savings increased more quickly from 1942 to 1943 than from 1941 to 1942. From mid-1941 to mid-1942 the wage-bill increased by about 15 per cent, the prices of consumption goods by 7 per cent, and the income tax paid by wage-earners by 4 per cent of the wage bill. This means a rise in the real wage bill after taxation by 3 per cent. From mid-1942 to mid-1943 the wage bill increased by 6 per cent, the prices of consumers' goods by 2 per cent and the income tax out of wages by something like 1 per cent of the wage bill, which leaves 3 per cent for the rise in the real wage bill after taxation. But although both these increases are equal, their incidence on savings is different. In 1941–2 both the real wage bill and the burden of income tax on wages rose more sharply than in the following year. Now while it is reasonable to assume that the rise in the real wage bill was distributed not very unevenly over all income groups, the burden of the rise in taxation was concentrated upon the better-paid wage-earners. According to Mr Madge's inquiry working-class saving is due mainly to a relatively small number of heavy savers (who have relatively high wages)[10] and these savers would be especially hard-hit by the rise in income tax. It is quite likely that these factors affected in a similar way the savings out of medium incomes. Thus the acceleration in the rise of the rate of saving in National Certificates and savings bank deposits from 1942 to 1943 as compared with 1941 to 1942 may reflect also a change in current savings out of small and medium incomes.

[10] According to the Leeds inquiry more than 50% of working-class national saving is done by 10% of families. 'Heavy' saving tends on the average to begin with a gross income of about £6 10*s*. per week for a couple with one child (pp. 68, 69).

The Budget: Stabilization Policy[1] (1944)

No New Taxes

The present budget is the first of the wartime budgets that does not introduce any new taxation. In a fairly fully controlled economy like that of Great Britain the importance of taxation as a means of curtailing consumption is in general very much reduced. Some sectors of the economy, however, remain still free. If the supply of goods and services in these sectors falls while incomes are still on the increase, direct taxation provides a useful weapon in the fight against inflation alongside with rationing and price control. Such is not, however, the situation at present. The rise in government expenditure anticipated in the new budget is small compared with the previous year. The transfer of workers from the civilian to the war sector of industry has more or less ended. Nor does there seem to be any danger of a drastic reduction in imports which would necessitate cutting down rations and thus increase the pressure on the uncontrolled sector. In these circumstances a budget without new taxes is even more natural than it would have been last year. For then the non-imposition of new taxes, though quite 'safe', might have required some additional rationing and price control.

It should be added that the introduction of the pay-as-you-earn system, which in periods of rising incomes increases revenue as compared with lagging taxation, also exerts some pressure on consumption. For many people are likely to budget their consumption on the basis of their income net of the income tax *paid* in a given period.

On closer examination of the budget speech, however, it becomes a little doubtful whether no measures equivalent to new taxation are involved in the present budget. The statement of the Chancellor of the Exchequer that he may not use to the full the weapon of subsidies to keep the cost of living at the present level, if it does not imply the cutting down of present subsidies, it means at least that in budgeting subsidies no sufficient provisions have been made for preventing a rise in the cost of living as a result of the possible future rise in the production costs of the respective goods. Now an actual or potential

cut in subsidies is equivalent to an increase in indirect taxes. In fact it is even more harmful than an increase in duties on beer, tobacco, etc., because it causes a rise in the price of necessities.

Prices and Wages

The Chancellor of the Exchequer stated that in present circumstances he cannot consider the cost of living (as measured by the index of the Ministry of Labour) at the level of 25 to 30 per cent above pre-war as sacrosanct and that for the next year he guarantees only a level of 30 to 35 per cent above pre-war. The reason given for this change of policy is as follows. The cost-of-living index of the Ministry of Labour is now 28 per cent over the 1938 level. However, the index of retail prices of all consumption goods and services after eliminating the influence both of subsidies and indirect taxes was, in 1943, according to the new White Paper, 41 per cent over the 1938 level.[1] This discrepancy between the 'natural' and artificial price level is considered dangerous by the Chancellor of the Exchequer.

If, however, we use the information contained in the White Paper a very different picture emerges. We find, on the basis of these data, that the index of *market* retail prices (i.e. prices actually paid by consumers) was 54 per cent higher than before the war. This is the 'artificial' price level, in the sense that it is influenced both by subsidies and indirect taxes. When indirect taxes are subtracted and subsidies added we obtain the figure of 41 per cent for the increase in the 'natural' price level over pre-war which the Chancellor mentioned. Now the divergence between these two indices is in the opposite direction to that stressed by the Chancellor[2] who used as a measure of the 'artificial' price level the cost-of-living index and *not* the figure which measures the overall increase in prices to consumers.

How is it explained, however, that the cost-of-living index is so much below the index of retail market prices calculated from the White Paper? This may first be due to the fact that prices relevant to working-class budgets increased less than those relevant to the overall

[1] The respective figures given by the Chancellor are 28 and 38% over pre-war. He probably took as the basis of comparison Sept. 1939 in one case and the average of 1939 in the second. However, the average of 1939 is affected by the price increases in the first four months of the war. We prefer therefore to relate both indices to the averages of 1938.

[2] Because indirect taxes, in fact, heavily outweighed subsidies.

consumption of goods and services. (To the extent to which this is the case the figure for the increase in the retail prices net of subsidies and taxes which is relevant for comparison with the cost-of-living index will be below 41 per cent mentioned above.) But a far more important reason for the discrepancy in question is that subsidized necessities are heavily overweighted and goods subject to indirect taxation heavily underweighted in the Ministry of Labour cost-of-living index. If the necessary corrections were introduced it is likely that the cost-of-living index would show a rise as compared with the pre-war level of 40 per cent or more.[3] If this is taken into account the rise in money wage-rates by about 40 per cent as compared with pre-war is likely to represent some fall in real wage-rates. The results of the above discussion are shown in Table 49.

Table 49. *Increases in Price and Wage Indices in Great Britain in 1944 as compared with 1938 (%)*

Retail market prices of consumption goods and services in 1943 (White Paper)	54
The same prices after subtracting taxes and adding subsidies in 1943 (White Paper)	41
Ministry of Labour cost-of-living index, March 1944	28
Probable increase in price index of working-class consumption	over 40
Index of money wage rates, Mar. 1944	40

Now, quite apart from the validity of the above argument, let us consider what would be the result of an increase in retail prices relevant to working-class consumption. First of all the wages of several millions of workers will rise *immediately*, because of existing agreements linking wages to the cost of living. Other workers are likely to press for corresponding increases and it is difficult to see on what grounds these claims can be rejected if some millions have already obtained a rise. This rise in wages will lead to further price increases. But even provided that the policy were successful in reducing the relation of wages to prices (i.e. real wages) by increasing the cost of living without this having a proportionate effect upon money wage-rates, what would be the implications of such a policy? The Chancellor of the Exchequer quite rightly considered that this would make it possible to abolish controls earlier without causing an inflationary rise in prices thereafter. But the inflationary pressure *after* decontrol will be reduced only to the

[3] See J. L. Nicholson, 'Wages and Prices,' *Bulletin*, 4/17 (1942), and 'The Distribution of the War Burden,' *Bulletin*, 5/7 (1943).

extent to which prices have risen in relation to wages *before* it. In short, this method amounts to preventing price increases after decontrol by making prices rise in the same proportion earlier. Just like indirect taxation it consists in replacing spontaneous inflation by a planned increase in prices.

The Price Level and Foreign Trade

The Chancellor of the Exchequer also mentioned that the subsidies to keep down the cost of living are necessitated not only by the rise in cost of production due to wage increases but also by increases in prices of foreign raw materials. He considered it dangerous to increase beyond a certain limit the gap between home and world market prices. The dangers involved in such a situation are not very clear. The relatively low level of home retail prices cannot in any way impair the position of exports. It is true that to the extent to which it increases the purchasing power of the population it raises the demand for imports. The Chancellor of the Exchequer indicated, however, at the beginning of his speech that the government is committed to a full employment policy. Under *laissez-faire* higher prices in relation to wages would depress effective demand and employment and thus reduce the demand for imports. In the regime of full employment, however, the deficiency in effective demand would be made good by counter-measures and thus the demand for imports would be roughly maintained.

It is true that in particularly unfavourable conditions for exports full employment may lead to difficulties in equilibrating the balance of foreign trade and thus cause bottlenecks in the supply of imported goods. The problem arising out of this situation would have to be solved by rationing and controls.

The above analysis shows that it is difficult to find any advantages in the abolition of the price stabilization policy. The upward revision of the cost of living will contribute nothing to the solution either of home or foreign trade problems but will stimulate a rise in wages and as a result lead to further price increases.

The White Paper on the National Income and Expenditure in the Years 1938–1943[1] (1944)

The White Paper (Cmd. 6520)[2] brings up to date the estimates given in the previous White Papers and in addition furnishes new and very valuable information: (i) important corrections are introduced in the figures for 1938, 1940, 1941, and 1942; (ii) estimates for 1939 are given for the first time; (iii) the pay and allowances of HM Forces and Auxiliary Services, which were previously lumped together with salaries and wages, are now shown separately; and (iv) what was called in the previous White Papers 'Private net investment at home and war losses made good' was obtained as a balance between: (a) National Income + Indirect taxes and war-risk insurance premia − Subsidies and (b) Personal expenditure on consumption + Expenditure of public authorities on goods and services + Private and government net investment abroad. This balance contains *inter alia*: personal expenditure involved in the acquisition of property and life assurance, increase in work in progress on government account held under private finance, and expenditure incurred in making good war damage to buildings. These three items are now excluded from the above balance and shown separately, while it is the residual of the balance that is now called 'Private net investment at home and war losses made good'. This item appears to be negative in all war-years which shows that 'disinvestment' has occurred. This 'disinvestment' actually covers: (i) reduction in the value of stocks and working capital except that caused by war damage and disregarding the increase in work in progress on government account held under private finance (the latter item is shown separately); (ii) excess of maintenance and depreciation allowances over expenditure on new fixed capital except that on making good war damage to buildings (which is shown separately); and (iii) sales to public authorities of fixed assets previously owned privately.

The additional information contained in the new White Paper facilitates considerably the discussion of the problems which were

examined in this *Bulletin* a year ago on the basis of the 1942 White Paper.[1]

The Relative Share of Wages in the Product of Industry

As in the corresponding article in 1943 we shall calculate first the relative share of wages in the national income not including in either the remuneration of soldiers. As in this year's White Paper wages in the strict sense are shown separately from the pay and allowances of HM Forces and Auxiliary Services we obtain directly the following results (see Table 50).

Table 50. *Relative Shares of Wages in National Income in Great Britain, 1938–1943*

	1938	1939	1940	1941	1942	1943
National income (£m.)	4,604	4,968	5,945	6,885	7,604	8,172
Pay and allowances in cash and kind of HM Forces and Auxiliary Services (£m.)	80	127	388	653	861	1,086
National income less soldiers' remuneration (£m.)	4,524	4,841	5,557	6,232	6,743	7,086
Wages (£m.)	1,728	1,826	2,107	2,412	2,701	2,909
Relative share of wages (%)	38.2	37.7	37.9	38.7	40.1	41.1

The relative share of wages in the national income, less soldiers' remuneration, was more or less stable at the pre-war level up to 1941; in 1942 and 1943 it was significantly higher than in 1938. As we shall see, however, this is due to the relative fall in the income of 'non-wage industries', namely of real estate and retail trade (the latter employs shop assistants, but they are classified in the White Paper as salary-earners) and to the fall of overseas incomes. To eliminate these factors we subtract rents, gross income of the retail trade, and (very roughly) overseas incomes from the national income before calculating the relative share of wages.

The sum of rents (only residential, because rents on factory buildings etc., which are mostly imputed, must be considered rather a part of the income of the respective business) and the gross income of the

[1] See M. Kalecki, 'Profits, Salaries and Wages' and 'War Finance, 1940, 1941, and 1942', this volume. The figures obtained below are somewhat different from those obtained in the articles quoted. This is due to the corrections introduced in the White Paper and to new information supplied, which enables us to dispense with our own rough estimates of certain items.

retail trade has been estimated in the article quoted for 1938, 1940, 1941, and 1942. We have revised these estimates.[2] Using the same method we have also made estimates for 1939 and 1943. We now subtract the respective figures from the national income and calculate the relative share of wages on a new basis (see Table 51).

Table 51. *Revised Relative Shares of Wages in National Income in Great Britain, 1938–1943*

	1938	1939	1940	1941	1942	1943
National income less soldiers' remuneration (£m.)	4,524	4,841	5,557	6,232	6,743	7,086
Estimate of residential rents and gross income of retail trade (£m.)	960	970	970	950	970	950
National income less soldiers' remuneration, residential rents and inc. of retail trade (£m.)	3,564	3,871	4,587	5,282	5,773	6,136
Wages (£m.)	1,728	1,826	2,107	2,412	2,701	2,909
Relative share of wages (%)	48.5	47.2	45.9	45.7	46.8	47.4

We must still deduct from the national income the income from overseas, which has no counterpart in wages. In 1938 the income from overseas was £235; the deduction of this amount from the national income raises the relative share of wages from 48.5 to 51.9 per cent. In the war years the income from overseas has considerably diminished, although only rough guesses are possible about its value in single years. Fortunately, because of the increase of the national income in wartime, the influence of even large errors in these guesses is of small importance for the relative share of wages. This may be estimated now (in round figures) as follows (see Table 52).

Table 52. *Hypothetical Relative Shares of Wages in the National Income after Reduction of Soldiers' Remuneration, Residential Rents, Gross Income of Retail Trade, and Overseas Income in Great Britain, 1938–1943*

1938	1939	1940	1941	1942	1943
51.9	50.0	48.0	47.0	48.0	48.5

[2] The main correction consists in making good the following omissions in last year's calculation. Residential rents were estimated there by deducting from the expenditure of consumers on rents, rates, and water charges an estimate of the aggregate rates and water charges. However, to obtain the *net* rents the allowance for repairs must also be deducted.

This series gives us some idea of the movement of the relative share of wages in the national income after eliminating the influence upon it of the relative decline of important 'non-wage industries' in wartime. We shall now try to interpret this movement.

We see that the relative share of wages shows a continuous fall from 1938 to 1941 and a rise in 1942 and 1943. However, the level reached in that year is lower than in 1938 (and 1939).

It is interesting to notice that already in 1939 a significant fall as compared with 1938 is noticeable. Part of the decrease may be perhaps explained by high profit margins in armament contracts. (As an instance of these may be mentioned contracts for the construction of warships ordered from 1936 to 1939 described in the report of the Committee of Public Accounts issued in 1943.) In 1940 this factor must have been of much smaller importance; although some contracts concluded in previous years were still running, they were swamped by new ones in which profit margins were much lower. There is, however, another factor which would account for a lower relative share of wages in the latter year as compared with 1938 (and 1939). The rise in the prices of raw materials in 1940 as compared with 1938 was much steeper than that in wage costs. If, as is plausible to assume, firms fix their prices normally by 'marking up' prime costs, i.e. costs of materials and wages, overheads *plus* profits increase roughly in the same proportion as prime costs. Thus, if raw material prices rise more than wages, overheads *plus* profits also increase more than wages.

The further fall in the relative share of wages from 1940 to 1941 cannot be attributed to this factor as there was no important change in the ratio of prices of raw materials to wage costs. But in this period there was an inflationary rise in prices in certain consumption goods, i.e. price increases out of proportion to prime costs, due to demand outrunning supply. (A further reduction in profit margins in government contracts probably offset partly the effect of this inflationary factor upon the relative share of wages.) In 1942 and 1943 the more rigid handling of contract prices and price control over consumption goods, while wage-rates were still increasing, succeeded in reversing the movement of the relative share of wages, although there might have been still inflationary price increases in some sectors.[3]

[3] The movement of the relative share of wages was of course affected by many factors not taken into account in the above interpretation. We have picked out only what seemed to us the most important determinants.

Disinvestment

According to the White Paper the total amount of private disinvestment at home in the four years 1940–3 is £763m. We shall try to estimate this item in another way; in doing so we may also shed some light upon its components. As has been stated above (p. 209) these are: (i) the reduction in the value of inventories except that caused by war damage and disregarding the increase in work in progress on government account financed privately; (ii) the excess of maintenance and depreciation allowances over expenditure in new fixed capital, except that on making good war damage to buildings; and (iii) sales to public authorities of fixed assets previously owned privately.

We shall try first to make a reasonable guess for item (i). Let us start from the data on retail trade given in the Bank of England *Statistical Summary*. In 1943 the value of non-food sales was 93 per cent of the 1939 level, and the value of non-food stocks at the end of 1943 was 98 per cent of that at the end of 1939. Retail sales at 1938 prices have been estimated to have fallen from pre-war to 1942 by about 45 per cent. There was some further small fall from 1942 to 1943. Judging from the Bank of England data just quoted stocks must have fallen a little less, and thus we can take 45 per cent as an estimate of the fall in non-food retail stocks up to 1943. The value of the relevant retail sales in 1938 may be estimated at about £900m. which, assuming a period of turnover of three months, amounts to a level of stocks of £225m. at the end of 1938. The reduction of 45 per cent in this is about £100m. (at 1938 prices).

We have seen that the non-food retail stocks have fallen more or less proportionately to the volume of sales. If we assume the same to be true with regard to manufacturing of non-food goods for home consumption and of goods produced for export, the resulting reduction of stocks and working capital may be estimated at £350m. at 1938 prices.[4] Together with the reduction in retail non-food stocks this amounts to £450m. (at 1938 prices). To this should still be added the reduction in the stocks of wholesalers, but there is also an offsetting factor, namely the reduction in stocks caused by war damage which must *not* be accounted for in our estimate. These two items may be well of the same order and we shall take £450m. at 1938 prices as the total disinvestment in stocks and working capital in production and distri-

[4] See M. Kalecki 'War Finance, 1940, 1941, and 1942', p. 181 above.

bution of non-food goods for home consumption and of goods in the period 1940–3 for export. This probably gives an approximation to the *total* disinvestment in stocks and working capital. The reduction in stocks of food, drink, and tobacco was probably a small item. (The reduction in fixed capital under construction is assumed to be accounted for in disinvestment in fixed capital.) At current prices this disinvestment may be estimated on the basis of available wholesale and retail price indices at something like £700m.

It is not, however, this figure which is the component of the White Paper figure of total disinvestment. Indeed, the White Paper figure includes the change in the value of inventories, while what we have calculated is the value of the quantitative reduction of inventories. Owing to the considerable appreciation of inventories in war years (in particular 1940 and 1941) the former figure is much smaller than the latter: the fall in the *volume* of stocks was partly offset by the rise in the *value per unit*. According to Mr Barna the total appreciation is of the order of £500m.[5] Thus out of £700m., which is the value of the quantitative reduction, only £200m. will be left as a measure of the reduction in the value of inventories (exclusive of the value of the quantitative change of fixed capital under construction).

We shall now examine the items (ii) and (iii), i.e. disinvestment in fixed capital and sales of fixed assets to public authorities. Our starting-point is the White Paper disinvestment figure for 1943, which is given as £250m. The reduction in stocks in that year must be assumed rather small, as the fall in output and consumption of non-food goods and probably in exports had more or less ceased. We may suppose that the current value of the quantitative reduction in that year was something of the order of £50m. There was, judging from the price indices, no significant appreciation or depreciation of stocks so that we assume the fall in the value of inventories at £50m., which leaves us with £200m. for disinvestment in fixed capital and sales of fixed assets to public authorities. The pre-war allowances for maintenance and depreciation are estimated in the White Paper at £340m.[6] For wartime, owing to greater wear and tear, something like £370m. may be assumed. Deducting £200m., we obtain £170m. as a measure of gross investment minus sales of fixed assets to public authorities. What about the previous war years? The *volume* of gross investment was

[5] See N. Kaldar and T. Barna, 'The 1943 White Paper on National Income and Expenditure (Cmd. 6438)', *Economic Journal*, 53/2–3 (1943), 264.

[6] Exclusive of the greater part of the outlay on repairs except on those to buildings.

probably higher, especially in 1940 and possibly also in 1941. The *prices* of investment goods were, however, lower and the sales of fixed assets probably higher than in 1943. On balance the average rate of excess of depreciation allowances over gross investment *plus* sales of fixed assets to public authorities might not be very different from that in 1943, i.e. £200m., and for the four years 1940 to 1943 this would make £800m. This together with the decrease in the value of inventories estimated above at £200m. would amount to £1,000m. It is this figure that is comparable with the total wartime disinvestment given in the White Paper at £763m. The difference is considerable, but this is not surprising in view of the extremely shaky basis of our estimates and of possible considerable errors in the White Paper figures which are obtained as relatively small balancing items of two large amounts and therefore are considerably influenced even by small relative changes in these amounts. In our calculation the estimate of the disinvestment in fixed capital *plus* sales of fixed assets to the government is particularly precarious: if for instance the White Paper figure for disinvestment in 1943 were not £250m. but £200m., which might easily be the case, we would obtain £600m. instead of £800m. for disinvestment in fixed capital and thus £800m. for total disinvestment; while the White Paper figure for disinvestment, if its estimates for years prior to 1943 are assumed correct, would be £713m.

It is fairly likely on the basis of the above discussion, that our estimate of £1,000m. as the total disinvestment during the war is too great, so that we may take it as the upper limit. What is the *real* disinvestment corresponding to this figure? We have assumed that stocks and working capital in the 'civilian sector' fell proportionately to output. With regard to disinvestment in fixed capital, it has been assumed that the rate of gross investment *minus* sales of fixed assets to the government was at the rate of £170m. p.a. at current prices, which makes something like £120m. at 1938 prices. Depreciation in wartime, based on purchase cost of equipment was taken as £370m.; and thus gross investment *minus* sales of fixed assets to the government at 1938 prices would amount roughly to one-third of depreciation, and gross investment by itself to something like 40 per cent of depreciation (or more).

The conclusion emerges from our analysis that gross investment in fixed capital was probably at a higher level than 40 per cent of depreciation (part of it, however, was used to make good war damage) and that stocks and working capital in the 'civilian sector' were not reduced

more than proportionately to output. The latter explains why the considerable reduction of inventories did not affect the functioning of production and distribution in that sector.

It should be stressed that the disinvestment both in fixed and in working capital discussed above applies only to the *private* sector of the economy. It is quite possible that the government has *accumulated* stocks of goods in wartime. As to government investment in fixed capital not only have many state-owned factories been built, but also the government has financed a large amount of investment in privately owned establishments and this investment is *not* accounted for either in the White Paper figures of disinvestment or in our guesses. It is, of course, difficult to assess to what extent this investment will remain useful for the economy after the termination of hostilities.

Personal Savings

The aggregate personal income may be divided into three components: (i) direct tax payments, inclusive of those due for repayment after the war but exclusive of death duties and stamps on the transfer of property; (ii) personal expenditure on consumption; and (iii) gross personal savings. The latter in turn may be subdivided into: (*a*) death duties, etc.; (*b*) excess of direct tax liabilities over tax payments; (*c*) costs involved in the acquisition and transfer of property and life assurance by persons; and (*d*) net personal savings. Gross savings provide a measure of savings out of current spendable income, if we make the plausible assumption that people budget their expenditure on the basis of their incomes net of taxes *paid*. The personal savings ratio on this assumption will be that of gross personal savings to personal income after payment of direct taxes (inclusive of those due to repayment after the war but exclusive of death duties etc.). This ratio was in the period 1938–43 as shown in Table 53.

Table 53. *The Saving Ratio in Great Britain, 1938–1943 (%)*

1938	1939	1940	1941	1942	1943
7.4	9.4	17.7	20.1	22.8	25.0

If we deduct these percentages from 100 we obtain the percentage part of spendable income consumed. The White Paper gives further the indices (1938 = 100) of real personal consumption, i.e. of the personal

Table 54. *Real Consumption and Real Income in Great Britain, 1938–1943*

	1938	1939	1940	1941	1942	1943
Real personal consumption (1938=100)	100	100	88	82	81	79
Consumption out of spendable income (%)	92.6	90.4	82.3	79.9	77.2	75.0
Real personal spendable income (1938=100)	100	102.5	99	95	97	97.5

consumption in terms of constant prices. If we divide them by the percentages of spendable income consumed and relate the series obtained at the 1938 level, we obtain what may be called an index of real personal spendable income (see Table 54).

The percentage of spendable income saved increased very considerably in spite of a slight fall in the real spendable income. This increase is thus entirely due to wartime conditions, because normally a fall in real income reduces the saving ratio. In 1940 it was mainly the voluntary effort which increased the saving ratio, while rationing and general uncertainty (which discouraged buying of household goods, etc.) played only a secondary role as stimulants of saving. The increase in the saving ratio in the subsequent years, however, was probably due mainly to limitation of consumption by rationing and shortages.

We shall now compare the rise in personal savings with that in so-called small savings (savings bank deposits, National Saving Certificates, and 3 per cent Defence Bonds). We take personal savings net of death duties, etc. and costs of acquisition and transfer of property, but gross of the excess of tax liabilities over tax payments. To the 'small savings' should be added the rise in coin and note holdings in the hands of 'small men' which most probably constituted a substantial part of the increase in the note and coin circulation. As there is no way of estimating precisely what part it was, we show in Table 55 both 'small savings' proper, and small savings plus the increase in the coin and note circulation. The adjusted figure of 'small savings' is somewhere in between. For both these two variants we calculate the difference as compared with 1938 level, and compare the result with the corresponding difference in personal savings, by calculating the ratio of the latter to the former.

In 1940 and 1941 these ratios in both variants are much higher than in 1942 and 1943. This may be explained by the great role played in 1940 and 1941 by transfers from other assets and investment of current savings of large savers. This process, however, could not continue

Table 55. *'Small Savings' and Personal Savings in Great Britain, 1938–1943*

	1938	1940	1941	1942	1943
1. Small savings (£m.)	4	467	601	600	719
1a Rise over 1938 level (£m.)	0	463	597	596	715
2. 'Small savings' plus increase in cash circulation (£m.)[a]	−3	541	744	769	886
2a Rise over 1938 level (£m.)	0	544	747	772	889
3. Personal savings net of death duties, etc. (£m.)	166	773	987	1,269	1,490
3a Rise over 1938 level (£m.)	0	607	821	1,103	1,324
4. Percentage (1*a*): (3*a*)		76	73	54	54
5. Percentage (2*a*): (3*a*)		90	91	70	67

[a] The increase in cash circulation is calculated as the difference of coin and note circulation outside banks in Jan. of the next year and Jan. of the year considered.
Source: *Statistical Summary* of the Bank of England.

indefinitely, because of the exhaustion of transferable assets of small savers and the reaching of the statutory limit of the respective small-savings holdings by the large ones.

III. POST-WAR RECONSTRUCTION

Economic Implications of the Beveridge Plan[1] (1943)

The Finance of the Beveridge Scheme

The *Beveridge Report* estimates the expenditure on social services in 1945 under the present social insurance and assistance schemes at £415m. and under the Beveridge Plan at £697m. The latter amount does not provide for the full increase in the rates of old-age pensions. It is assumed that there will be a gradual increase over a period of twenty years up to the full scale, and this, together with the increase in the number of persons qualified for old-age pensions, brings the estimated expenditure up to £858m. in 1965.

The increase in the expenditure on social services in 1945 would be £280m., due to increases in all types of benefit, to the rise in the number of insured, and to the introduction of children's allowances. Sir William Beveridge proposes to cover this rise in expenditure in the way shown in Table 56 (in round figures).

Table 56. *Social Security Budget in Great Britain, 1945: Sources of Increase in Revenue (£m.)*

Contributions of insured persons	+125
Contributions of employers	+55
Interest on investment of existing funds to be used for benefit payments	+15
Expenditure to be met from Exchequer (or local rates)	+85
Total	+280

The increase in expenditure from 1945 to 1965 according to the suggested plan is about £160m., of which about half covers the rise in the rates of old-age pensions up to their full level and the other half is due to the increase in the number of pensioners.[1] The total increase is to be met by the Exchequer.

[1] See J. L. Nicholson, 'The Benefits and Costs of the Beveridge Plan', *Bulletin*, 5 (1943), Suppl. 4. p. 17.

Table 56 seems to indicate that the cost of the Beveridge Plan is, to a substantial degree, borne by insured persons (to the extent of £125m., through higher rates of contribution and the greater number of people affected). On closer examination this appears not to be the case because the cost of the increase in health services and disablement benefits, which is anticipated under the Beveridge scheme, amounts to about £125m., while the increase in retirement and widows' pensions is about £30m.; and it is likely that the insured persons can offset the additional contributions by reducing their present voluntary expenditure for health purposes or voluntary endowment and life assurance.[2]

On the other hand, the increase in the employers' contributions will be borne not by them but by the purchasers of their products. In fact the employers' contribution is a prime cost (at least in so far as it is paid on employment of manual workers) and is thus reflected in prices, like the cost of wages and raw materials. The increase in prime costs in mining, manufacturing, and building as a result of the rise of employers' contribution under the Beveridge Plan may be estimated at about 1.5 per cent.[3]

The increase in prices is also 1.5 per cent, if we assume that the prices are formed by 'marking up' prime costs, which seems to be a plausible assumption. (If the increase in prime costs were 'passed to the consumer' without being marked up, the proportionate increase in prices would be smaller than in prime costs.) The rise in export prices will be of the same order; the rise in the cost of living will be less, say of the order of 1 per cent, since imported food and rents are not affected.

It is clear from this calculation that the objections to the Beveridge Plan on the ground that it will seriously impair the competitive position of British exports are, to put it mildly, not very well substantiated: the increase in export prices of 1.5 per cent is, in fact, of no importance. In case it were considered desirable to avoid even such a slight increase, this could be achieved by an adjustment in the rate of foreign exchange. The rise in employers' contributions in the industries considered above, related to aggregate wage costs only, is about 2 per cent.[4] If currency is depreciated by 2 per cent the cost of foreign raw materials rises by 2 per cent, so that all prime costs (both wages and raw materials) and probably all prices of finished goods rise in the same

[2] Ibid. 12. Such is not the case for the lowest incomes. This makes it advisable to introduce some grading of contribution according to income.

[3] See ibid. 13.

[4] See ibid. 13, no. 5.

proportion. But export prices in foreign currencies remain unchanged. The cost of living increases by a little less than 2 per cent because rents are not affected (but imported food *is* affected in this case). This rise in the cost of living may be prevented by price control or subsidies.

If, however, employers' contributions were not increased[5] but the equivalent amount was obtained from the Exchequer, financing it by income tax, no rise in export prices or the cost of living would occur. For income tax is not a prime cost and therefore will not result in increased prices. It may be shown that with prices 25 per cent higher than in 1938 and with the tax system[6] and real national income of that year, a shilling in the pound of income tax would bring in about £75m. p.a.[7] The £55 million yielded by the increase in employers' contributions could therefore be financed by an additional 9*d.* in the rate of income tax.

The increase in expenditure on social services met by the Exchequer (or local rates) in connection with the Beveridge scheme amounts in 1945 (see Table 56) to about £85m. On the assumption, made in the previous paragraph, of tax yields on the adjusted 1938 basis, these £85m. could be financed by a rate of 1*s.* 2*d.* in the pound of income tax.

We summarize the results of our analysis of the financing of the Beveridge Plan in Table 57. Variant 1 shows the effects of the original scheme; in Variant 2 we make allowance for a currency depreciation to offset the rise in export prices; if the amount financed by the increase in employers' contributions is raised instead by income tax, we obtain Variant 3.

Table 57. *Consequences of the Beveridge Plan, 1945*[a]

	Variant 1	Variant 2	Variant 3
Increase in contributions of insured persons	Offset by reduction in expenditure on health and life insurance		
Increase in export prices in foreign currencies	about 1.5%	—	—
Increase in the cost of living	about 1%	about 2%	—
Increase in the rate of income tax	1*s.* 2*d.*	1*s.* 2*d.*	1*s.* 11*d*

[a] On the basis of 1938 real national income and tax system, with a 25% increase in prices.

[5] i.e. the rate of employers' contribution would be fixed at a level which would leave their total amount unchanged.

[6] i.e. with the earned income, personal and family allowances of 1938, increased by 25% and without Excess Profits Tax.

[7] See ibid. 17.

Ten Per Cent Unemployment?

The Beveridge Plan is based on the assumption of 10 per cent unemployment (among workers insured at present) as compared with 15 per cent which was assumed in budgeting the existing system of unemployment insurance. As stated in the *Report*, this presupposes certain efforts on the part of the government to secure fuller employment. Frictional and seasonal unemployment, however, cannot be rated higher than 5 per cent. The assumption of an average of 10 per cent unemployment 'allows for substantial failure, either in controlling the trade cycle so as to prevent general depressions of trade, or in readjusting British industry to changed conditions after the war'.[8] Sir William goes on to justify the assumption of 10 per cent unemployment on the grounds of caution, which makes it 'necessary to provide for the possibility of such a failure'. This caution seems to be ill-advised. If the security budget allowed for only 5 per cent of unemployment, and if the excess over 5 per cent were financed through the Exchequer by borrowing, this 'unsound' method of finance would have two beneficial repercussions on the state of employment: (i) the mere fact of financing expenditure on benefits by borrowing would to a certain extent stimulate effective demand and thus reduce unemployment; (ii) the assumption, in the plan, of a lower unemployment percentage as being 'normal' would be likely to exert a powerful influence upon the government's propensity to provide fuller employment. In the article quoted Sir William states that the assumption of 10 per cent unemployment does not mean acquiescing in the government's failure to eliminate cyclical fluctuations. But a failure of the government's policy in regard to unemployment could best be emphasized by the appearance of a deficit in the 'security budget' whenever unemployment exceeded the level due to frictional and seasonal factors.

It may be objected that if, over a long period, the average amount of unemployment is more than 5 per cent the government will be faced with a persistent budget deficit. This may also be the case if the government intervenes to keep unemployment low, because intervention is likely to involve government expenditure financed by borrowing. Thus the National Debt will rise and its 'burden' (that is, the interest to be paid on it) will grow larger and larger. If, however, this

[8] Sir William Beveridge, 'Can "Work for All" be Realized?' (*Observer*, 152/7910, Jan. 3, 1943).

extra 'burden' (that is, the interest on the excess of National Debt over, say, the 1945 level) is financed by a special annual capital tax, it involves only a transfer from all property owners to the holders of government securities; for such a tax does not affect the inducement to invest in fixed capital, as it is paid on any type of wealth, whether cash, securities, buildings, or machinery.[9] Thus the financing of the interest on the National Debt by a capital tax is a more or less neutral operation from the point of view of the functioning of the economy, and there is no reason to be scared even by a permanent increase in the National Debt.

If the unemployment percentage were fixed at 5 per cent[10] the cost of unemployment benefits[11] would be reduced by about £60m. If the rates of contributions were maintained this would permit a reduction of the increase in income tax necessitated by the Beveridge Plan by 10*d.* in the £, because all unemployment benefits, apart from the assumed 5 per cent of unemployment, would be financed by borrowing.

'Can We Afford It?'

The Beveridge Plan provides for full rates of old-age pensions only in 1965; in 1945 the rate of old-age pensions would be substantially higher than at present, but at the same time much lower than the full scale, and would gradually increase up to this level in the twenty years between 1945 and 1965. The additional cost involved in granting full scale old-age pensions in 1945 has been estimated at about £70m.,[12] which, on our method of calculating the rate of income tax, amounts to 11*d.* in the pound.

It is interesting to see what would be the total 'burden' of the Beveridge Plan in terms of income tax if: (i) the amount provided by the increase in employers' contributions is financed by income tax; (ii) the cost of unemployment benefit provided by the security budget is halved, on the assumption that the benefits in excess of 5 per cent unemployment are financed by borrowing; and (iii) the full rates of old-age pensions are granted in 1945 (see Table 58).

[9] The rate of such a capital tax would always be lower than the average rate of interest on the 'extra' debt because it would be collected from all types of privately owned capital, of which the 'extra' National Debt represents only one item.

[10] In the industries at present insured against unemployment.

[11] Including allowance for the first child paid during unemployment.

[12] See J. L. Nicholson, 'Benefits and Costs of the Beveridge Plan', 17.

Table 58. *Increase in Income Tax required in Great Britain under the Amended Plan, 1945*

Increase in the amount met by Exchequer under the Beveridge Plan	+1*s.* 2*d.* in the £
Income tax in place of employers' contributions	+9*d.* in the £
Financing of unemployment benefit over 5% by borrowing	−10*d.* in the £
Raising of old-age pensions to full rates in 1945	+11*d.* in the £
Total	2*s.* 0*d.* in the £

Assuming that the increase in contributions of insured persons is offset by the saving they make because of enlarged health services and increased retirement and widows' pensions, this income tax represents the full 'burden' of the amended plan, including the provision of old-age pensions at the full rates in 1945. Can the British economy afford such a 'burden'? The answer, I think, is definitely positive.

If we suppose that the economy is seriously underemployed, that part of the cost which is assumed to be financed by taxation should, instead, be financed by borrowing which would increase output and employment. In such a situation the enlarged expenditure on social services will not be a liability but an asset. For the problem of the increasing National Debt, as shown above, does not involve any serious difficulties.

If, however, the economy *is* more or less fully employed the redistribution of income implied by an increase in income tax of about 2*s.* in the £ does not seem to present an insuperable task. It is true that the imposition of an additional income tax of 2*s.* may induce taxpayers to reduce their consumption and investment by more or less than the amount taxed away. If this cut in investment and consumption is more than the amount of additional taxation, unemployment will arise and this will show that the rate of income tax should be lower than 2*s.* in the £, and *pro tanto* more should be financed by borrowing.

If investment and consumption of those affected by income tax is reduced by less than the amount of additional tax there will be a tendency to overemployment (that is, the situation will become inflationary) and this will indicate that it is necessary to levy a higher tax and there would then be a budget surplus (or a smaller budget deficit).

A complication will arise in this case if expenditure other than on social services is very heavy (as in wartime or in the period of reconstruction) and income tax to finance a part of it is already very high. In this event it would be advisable to finance the additional social services not by income tax but by borrowing. The inflationary repercussions of

the resulting increase in purchasing power would then have to be dealt with by tighter rationing (which in the circumstances considered may be assumed to be already in existence). Thus the 'burden' imposed by the Security Plan (with the full scale of old-age pensions in 1945) may *contribute* to higher employment if the economy is underemployed and will not interfere with the achievement of full employment or cause inflation if the economy tends towards full employment for other reasons.

The Incentive to Work

The Beveridge Plan abolishes the means test.[13] It introduces, on the other hand, compulsory attendance at a work or training centre after six months of unemployment. While *facilities* for retraining may be welcomed, the rigid rule of compulsory attendance at a work or training centre seems to constitute a step backwards as compared with the present system. If handled ruthlessly it may amount to penalizing people who happen to be unemployed longer than six months by compelling them to do uncongenial work to earn their dole.

The reason for favouring such an arrangement may be the erroneous belief that the unemployment benefit suggested in the Beveridge Plan is rather high and that the existing level of wages would not always provide a sufficient incentive to work. With a few exceptions, the present normal[14] earnings (allowing for contributions paid during employment) in both industry and agriculture exceed the relevant benefits under the Beveridge Plan by 25 per cent. This may be regarded as a substantial incentive. If it were considered necessary to increase the margin to 50 per cent to provide a sufficient incentive, the total cost of raising all low wages in mining, manufacturing, building, and railways up to this level would probably not exceed £10m.[15] The position in agriculture is different, and there the increase in earnings to reach the 50 per cent margin would cost about £20m. To prevent food prices from rising, subsidies on agricultural products may be increased (if it is considered impossible to reduce profit margins). In short, it does not seem to involve serious difficulties to increase existing low wages up to the level which would provide a satisfactory margin as compared with the unemployment benefit which is proposed in the Beveridge Plan.

[13] Except for National Assistance benefits, in cases not covered by the insurance scheme.

[14] i.e., exclusive of wartime bonuses and overtime.

[15] See J. L. Nicholson, 'Benefits and Costs of the Beveridge Plan', 13.

International Clearing and Long-Term Lending[1] (*with E.F. Schumacher*) (1943)

'Equilibrium' Reconsidered

Both the British and the American currency plans are based upon the idea of 'equilibrium'. They attempt to do more than create a mechanism by which every country could be 'started off' after the war: they aim at creating rules and machinery through which, after a start has been made, each country would be 'kept in balance' with the rest of the world. Neither of them succeeds in giving more than a purely formal definition of 'equilibrium', a definition which, as we have seen, is not necessarily economically relevant.[1]

It may be questioned whether the very concept of equilibrium is sufficiently precise and significant to be introduced at this level at all. There is no merit in a general policy aiming at *current account equilibrium* for all countries, because different countries are at different stages of economic development, and a regular flow of investment from the more highly developed to the more backward regions of the world may redound to the benefit of all. This is implicitly recognized in both schemes, since they are both to be supplemented by proposals for an International Investment Board.

Is there, then, any merit in a general policy aiming at what we have called '*unbalanced equilibrium*', i.e. at balance in the current account and long-term capital account taken together?[2] There is, indeed, a strong case for it, if 'disequilibrium' destroys the international liquidity of the deficit country. If liquid reserves are a limited quantity, as they are under the British and American schemes, no less than under a gold standard, 'disequilibrium' means that the surplus countries are draining off the reserves of the deficit countries; improving their own international liquidity at the expense of the liquidity of their neighbours;

[1] See E. F. Schumacher, 'The New Currency Plans', *Bulletin*, 5 (1943), *Suppl.*, 5.
[2] See below.

and producing a situation which, if continued for long, must lead to restrictive and discriminatory trade practices. Any scheme operating with *limited* reserve funds necessitates a policy which aims at 'equilibrium' of one form or another.

A policy of equilibrium can, theoretically, proceed in two ways: by exerting pressure upon surplus countries to buy more and/or to sell less, or by exerting pressure upon deficit countries to sell more and/or to buy less. The net result may be an expansion of international trade, or a contraction, or indeed the achievement of equilibrium without a change in volume. As has been shown in the preceding article, however, there is little reason to believe that any international machinery aiming at equilibrium as such would be able, in actual practice, to attain its end without 'equilibrating downwards'.[3] It would tend to be restrictive in two ways: by inducing the surplus countries to ration their exports and by inducing the deficit countries to ration their imports.

If, therefore, the supreme aim of a new international system and a new international policy is to be expansion rather than contraction—expansion in the sense of a promotion of the international division of labour and also of an increase of effective demand in all countries—it may be worth while to consider whether the dangers of disequilibrium, which consist of the resulting illiquidity of the deficit countries, could not be overcome by other means.

This can be done only if a mechanism is created whereby countries can have any surpluses they may like, but will not, by hoarding their surpluses, endanger or ruin the international liquidity of others. In other words, it can be done only if reserve funds are not strictly limited.

The simplest solution, which is meant not as a proposal but merely as an illustration, would be to adopt the British plan, but to abandon the concept of quotas. The International Clearing Union would then be a purely formal institution with no influence upon member countries, its function being merely to settle the ultimate outstanding balances between central banks. It would not aim at 'equilibrium' of any kind; it would not be concerned with the size of balances to be settled; it would merely keep the big ledger in which is recorded how much some nations owe to others. The absence of a rigid maximum to credit or debit balances would not, as is explained in the British

[3] See E. F. Schumacher, 'The New Currency Plans'.

memorandum, 'impose on any member State . . . an unlimited liability outside its own control'.[2] The liability of an individual member would be determined by its own policy in controlling its balance of payments. While 'equilibrium' would thus cease to be the concern of *international* policy, no individual member state would be prevented from determining for itself to what extent it wished to allow its current account to be unbalanced. The very concept of liquidity would lose its international significance.

The principal objection against this scheme would be that it might invite abuse. A country with a high degree of internal economic planning might 'exploit' other countries the governments of which do not possess an equal degree of control over their own nationals. Such a country might aim, for instance, at a drastic overvaluation of its own currency, thus being able to pay highly attractive prices for its imports and making its (potential) exports inordinately dear to the foreigner. Even if the Clearing Union should then, at a certain point, make further increases in the debit balance conditional upon 'a stated reduction in the value of the member's currency',[3] as is envisaged under the British plan, a highly organized economy could easily offset the effect of such a reduction by internal measures. The uneven development of government control in the various countries might, therefore, make a system of unlimited overdraft facilities unworkable. A force towards expansion it might be, but expansion might take a hectic and ultimately disruptive character. Competitive appreciations of national currencies are precisely as undesirable as competitive devaluations.

An Amended Plan—Clearing and Lending Combined

A compromise solution appears indicated. This would aim at the following: (i) to make it possible for any country desiring to have an export surplus to hoard unlimited amounts of gold or bancor,[4] without incurring fines or pressure of any kind and without being burdened with any undue risks; (ii) to safeguard countries needing an import surplus for purposes of reconstruction, readjustment, and industrialization against any long-term deterioration of their international liquidity; and (iii) to provide an instrument for *international* policy by means of which help can be given to countries which cannot be included under (ii) to maintain a long-term balance in their current account.

The concept of equilibrium as an object of international policy would be partly abandoned, though not wholly. Current account equilibrium would be demanded from, and (as will be shown) promoted for, those countries that have reached a suffciently advanced level of development to make this a rational policy. But no advanced country would be prevented from accumulating export surpluses, no matter how large they might be. At the present stage of world development any discouragement of surpluses would only slow down the advancement of underdeveloped regions.

These objectives may be reached by the following modification of the British plan. The quotas in this plan are reduced to, say, 50 per cent (instead of 75 per cent) of annual foreign trade turnover and the system of fines on creditor and debtor is abolished. To the international clearing there is attached an International Investment Board which decides the amount of long-term loans which might be granted to deficit countries that have used up more than a quarter of their quota. Two cases must here be distinguished: (i) deficit countries in the course of industrialization, reconstruction, or readjustment ('A' countries); and (ii) countries whose deficit in the current balance of payment is due to other reasons ('B' countries).

Let us consider first the case of 'A' countries. The Board advances long-term bancor loans out of newly created bancor at an interest rate of, say, 3 per cent per annum. When the loan is granted an 'investment account' is opened for the borrowing country, in addition to its normal account in the international clearing. The loan is credited to the 'normal account' and debited to the 'investment account'. When the loan has been spent the balance on normal account will have fallen to its previous level; the balances of other countries on their normal account will have *pro tanto* increased (i.e. credit balances will have increased or debit balances diminished); and the debt on 'investment account' of the debtor country will, of course, be unchanged. Amortization payments are debited to the 'normal account' of the debtor country and credited to its 'investment account'. Interest payments are also debited to the 'normal account' of the country concerned, and an equal amount is credited to the clearing accounts of all creditor countries, proportionately to their average credit balances in the clearing during the year. If the 'industrializing country', in spite of the loans it has received, exhausts a half of its quota, it will be subject to the same measures that are applied in such circumstances to countries whose deficit in the clearing account is not due to industrialization ('B' countries).

Assistance for Equilibrium

If the debit balance of a country exceeds half its quota but the deficit cannot be attributed to industrialization, etc., a depreciation of its currency may be required from it as provided under the British plan. But devaluation, as is generally known, may not improve a country's balance of trade, if both the elasticity of demand for its exports or the elasticity of its demand for imports are less than unity. To provide against this eventuality the British plan proposes to exert some pressure on surplus countries. But it is unlikely that the suggested fines of one or two per cent on excessive credit balances will do the job. It is therefore proposed under the British plan that when the credit balance of a country reaches half its quota various other measures should be taken to stop its further increase (such as an expansion of effective demand at home, an appreciation of the currency, a reduction of tariffs, etc.). But such measures are only *recommended* to the surplus country, the ultimate decision remaining in its own hands.

To overcome this difficulty we propose to give to the International Investment Board an additional weapon to eliminate the deficit of 'B' countries. The Board should have the power to direct borrowers receiving development loans to use them fully or partly for increasing their imports from specified 'B' countries. If, for instance, Poland received a development loan it might be directed to buy all machinery in the UK, thereby relieving the balance of trade of the latter instead of increasing the trade surplus of third countries. If the total rate of international long-term lending is sufficiently high, this would provide the International Investment Board with an adequate *masse de manoeuvre* to cope with any difficulties arising in the balances of payments of member countries. The remedy for the UK having an adverse balance of trade on account of an excess of imports of food and raw materials over exports of manufactured goods would be for the Board to grant sufficient long-term loans to, say, China, and direct the latter to purchase equipment in Britain.

In this way international investment may be used for the purpose of maintaining current account equilibrium for those countries which can afford to pay for what they need and may not themselves desire to become indebted to the rest of the world. Both the British and the American plans envisage the creation of two separate agencies: one for 'current trade' and one for 'investment'. Only by combining both into

one organization can a satisfactory solution be found for the problems of both.

If investment decisions have to be taken by an international authority, there arises, of course, a political problem of the first magnitude. The mainly administrative functions to be discharged by the Board of the International Clearing Union are, relatively speaking, politically neutral. But investment decisions, and decisions directing a borrower to make his purchases in one particular country, involve a high degree of political responsibility. It should be noted, however, that the existence of the International Investment Board would not exclude private or intergovernmental foreign long-term lending. This would be prohibited, as under the British plan, only if the lender country had exhausted one-half of its bancor quota.[4] Thus the International Investment Board would not have a *monopoly* of foreign lending. Its activities would be additional and supplementary to other types of long-term lending as they have existed hitherto.

Conclusion

The proposed amendment to the British plan amounts, therefore, to this:

1. An orderly supply of purchasing power to deficit countries through long-term lending by the International Investment Board is made possible; neither the British nor the American plan has as yet tackled this decisive question.
2. The question of long-term lending is separated from, and made independent of, the liquidity wishes of surplus countries. Surplus countries may accumulate any credit balances they like; they are even given some inducement to do so by being enabled to earn interest on accumulated balances.
3. To meet the special conditions of some deficit countries, the granting of development loans may be made conditional upon the loan money being used wholly or partly for additional purchases from these deficit countries. Such apportionment of development loan purchases away from surplus countries and towards certain deficit countries may be regarded as interfering with the free play of market forces, but in this respect it would not differ from tariffs,

[4] Foreign short-term (net) lending must in general be eliminated, as was suggested in the article of E.F. Schumacher, 'The New Currency Plans', 12.

quotas, and other established techniques of control, and it would be applied only if other means of restoring equilibrium are likely to fail. This apportionment of exports differs from the formally similar idea of export rationing proposed in the American plan; the latter rations a given volume of exports and is neither expansionist nor multilateral in character, while our scheme applies the apportionment principle only to additional demand generated by development loans, and aims simultaneously at providing 'unbalanced equilibrium' for developing countries, liquidity for surplus countries, and current account equilibrium for mature deficit countries.

Excess Profits Tax and Post-War Re-Equipment[1] (1944)

It is frequently maintained that as a result of the Excess Profits Tax industry will have at the end of the war inadequate reserves to finance the reconstruction of equipment. The purpose of this note is to analyse this problem.

1. Let us first consider for the sake of argument the situation which would arise if prices during the war were stable. In such a case industry *would* accumulate sufficient reserves for post-war investment. For depreciation allowances which are not invested in replacement during the war accumulate to the extent which is just necessary to carry out the replacements after the war. Where firms reduce their stocks and working capital they receive instead the money equivalent just sufficient to restore the stocks and working capital to their pre-war level. Finally, war damage is covered fully by compensation. Thus if prices were stable EPT would not interfere with reconstruction.

It may be objected that firms might have invested their reserves during the war in equipment designed for specific war purposes and thus have used up the reserves necessary to bring their equipment into shape for peacetime work. However, most investment of this type is financed by the government and thus does not make any claim upon the reserves of industry. And where such investment is financed by firms they will usually be able to recover its value after the war—to the extent to which it will be useless for peacetime work—through the refunding out of Excess Profits Tax paid (as is foreseen in the EPT regulations).

2. The actual position will differ essentially from this imaginary case because prices have increased considerably since the beginning of the war. This affects adversely the adequacy of reserves available for post-war reconstruction. First, depreciation allowances are calculated on purchase cost basis. Thus wear and tear, etc. made good during the war or to be made good after the war is not accounted for at its replacement cost. Now the total business depreciation as measured by Inland

Revenue may be estimated at something like £250m. p.a.[1] The average prices of equipment in war years were probably higher than the peacetime level by something of the order of 50 per cent. The post-war prices may be assumed at about the same level (there will probably be some cheapening as compared with the present level which is higher than the 1940–3 average). Thus the deficiency of depreciation as compared with replacement cost may be guessed at something like 50 per cent of £250m., or £125m. p.a. However, according to the White Paper (Cmd. 6438) undistributed profits (after deduction of the excess of tax liabilities over tax payments) averaged £180m. p.a. in 1940–2 and probably have been accruing at a similar rate since the end of 1942. This covers the above deficiency with an excess of about £50m. which provides a margin for the possible underestimate of depreciation by Inland Revenue standards.

The running-down of stocks and working capital does not present the same difficulties as depreciation. For these stocks are sold at current price and the post-war price will probably not differ very much from the average price at which stocks were liquidated. (The present price is higher than this average but some fall in prices may be expected after the war.) The effect of the wartime price increases on making good war damage will not introduce any complications either. The compensation for stocks and ships is based on the insured values. Repairs carried out in wartime are refunded on the basis of current costs. Finally, it seems to follow from the wording of the 'Statutory Rules' that the compensation for damage in fixed capital will probably be paid after the war on the basis of something approaching replacement costs.

Thus it might seem that the unused depreciation funds and undistributed profits accumulated during the war, and compensation for war damage, will provide industry with financial means adequate for the purpose of post-war restoration of fixed and working capital to its pre-war level. But in fact we still have left out of account the influence of price increases upon the valuation of inventories, which makes the situation less favourable than has been presented above.

Since inventories are valued at purchase cost and are usually turned over within a few months, the value of an inventory which is unchanged in volume increases in value *pari passu* with prices. The

[1] The Schedule A allowances were in 1938, £138m. and the wear-and-tear allowances—£157m. However, a substantial part of Schedule A allowances relates to houses used personally by the owners.

increase in the value of inventories due to the rise in prices inflates profits and *is* contained in the undistributed profits figures quoted above. However, this part of undistributed profits is not available as a reserve. If a firm maintained its inventory stable in *volume* through the war and as a result the *value* of the inventory showed an increase of, say, 50 per cent, this does not mean that at the end of the war it has a reserve equal to this increase because this profit will be fully invested in stocks or working capital. Thus the financial reserves of firms available for post-war investment when calculated from undistributed profits must be adjusted (downwards) by the increase in the value of inventories as a result of the rise in prices from the beginning to the end of the war. According to Mr Barna this appreciation of inventories amounted from the beginning of 1940 to the end of 1942 to about £450m.[2] To this appreciation 1942 contributed only a little (£30m.) owing to the almost complete stabilization of prices. The appreciation of inventories from the end of 1942 till the end of the war will probably be small for the same reason, and we may estimate the total appreciation from the beginning to the end of the war at £500m.

3. We see that if firms were to attempt to finance industrial reconstruction *entirely out of reserves accumulated in wartime* there would be a deficiency estimated at £500m. There are, however, three possible additional sources for financing the post-war re-equipment of industry: (i) current profits in the period of reconstruction, which will last for some years; (ii) refunding of 20 per cent of EPT paid since the beginning of the financial year 1941/2; and (iii) issue of shares or debentures.

If EPT continues during the reconstruction period—which is quite likely if this period overlaps with the war in the Far East—no contribution towards financing of re-equipment can be expected from current profits. For undistributed profits (after deduction of the excess of tax liabilities over tax payments) would then accrue at a similar rate as during the war, and this as we saw (p. 234) is just enough to cover the difference between current depreciation on the basis of replacement and purchase cost.

Let us consider in turn the refunding of 20 per cent of EPT. The EPT payments from the beginning of 1941–2 to the end of 1943–4 may be

[2] See N. Kaldor, T. Barna, 'The 1943 White Paper on National Income and Expenditure', *Economic Journal*, 53/2–3 (1943), 264. This estimate is perhaps too high. If such were the case this would reinforce the conclusions arrived at below.

estimated at about £1,100m., out of which the yield in 1943–4 is about £480m. As EPT is collected with a yearly time-lag, collection of wartime EPT may be expected to continue at least till the end of 1945–6 and the yield will probably be not much different from that of 1943–4, i.e. £480m. p.a. It follows—taking into account that EPT will probably continue even longer—that the *minimum* basis for 20 per cent refunding may be assumed at £2,000m. and thus the amount refunded would be at least £400m. If the 10*s*. in the £ income tax is in existence at the time of refunding this means a contribution of more than £200m. to the financing of re-equipment, which reduces the deficiency from £500m. to less than £300m. It is hardly necessary to say that these figures are very rough estimates which indicate only the order of magnitude of the amounts involved.

4. So far we have considered only firms' internal sources of financing their post-war re-equipment. It is, however, quite normal for part of the capital expenditure of enterprises to be financed by the issue of shares and debentures to the general public. For instance, in the two-year period 1935–6 new industrial issues amounted to £300m., i.e. they were of the same order as the 'deficiency' of internal sources to finance the post-war re-equipment. Now the accumulation of personal savings from the beginning of the war till the end of 1944 will amount to something like £4,000m., while capital issues have been prohibited during the war. It may be assumed that some part of this enormous sum will tend to be invested in post-war capital issues on terms acceptable to industry.

It may be asked perhaps who will then buy the government securities which savers will have to sell in order to buy industrial shares. This question does not differ in substance from the question who will buy the government securities which firms will have to sell to mobilize their reserves for financing the re-equipment. Now the carrying-out of investment always creates automatically enough saving to finance it. As may be seen, for instance, from the balance sheet of national income and expenditure given in the White Paper 'An Analysis of War Finance and an Estimate of National Income and Expenditure',[2] there is always just enough savings (including in them the excess of tax liabilities over tax payments) to finance private investment and the excess of home-financed government expenditure over revenue. In order, however, to give a concrete reply to our question this general rule must be applied to the probable post-war situation.

Private investment, as assumed above, will exceed the current depreciation allowances *plus* current undistributed profits. Personal savings may well be zero or even dissaving may take place. (This state of affairs will not cause inflation if there is a corresponding shift of resources from war production to civilian uses.) It follows from our formula that a surplus of tax revenue over home-financed government expenditure will arise—i.e. the government itself will repurchase government securities. If the government in this situation reduced taxes while keeping the value of investment and consumption at an unchanged level by controls and rationing to prevent inflation, this surplus would fall but the savings of firms and persons would increase correspondingly and enable them to finance more private investment.

5. The above considerations suggest that financial reserves accumulated during the war, the refunding of 20 per cent of excess profits tax-paid, compensation for war damage, and post-war capital issues, will provide an adequate basis for financing post-war re-equipment. In spite of EPT (even if it were to continue in the reconstruction period) industry *as a whole* is not likely to encounter difficulty in financing its post-war investment programme.

The problem appears more complicated when we consider particular *sections* of industry. Financial reserves will not in general be distributed among these sectors according to their needs for re-equipment. The latter will be greatest in consumption goods industries while at the same time many firms in those industries might have had during the war profits below the standard level. The financial position of such firms is disadvantageous for two reasons: (i) their accumulation of reserves compares unfavourably with firms with higher profits; and (ii) as they did not make any excess profits and thus did not pay EPT they will not share in the 20 per cent refunding. It should be noted that the relatively unfavourable position of the firms in question is not due to the existence of EPT (by which these firms are not affected) but is the result of the wartime reduction in output of consumption goods.

The difficulties resulting from the distribution of financial reserves of particular sections of industry out of proportion to their needs should not, however, be exaggerated. Capital issues will probably be adequate in most cases to carry out the necessary redistribution of financial reserves. For medium and small firms which have no access to the capital market it may, however, be necessary for the government to provide cheap longer-term credit in certain cases.

The White Paper on Employment Policy[1] (1944)

The White Paper (Cmd.6527)[2] marks an important stage in the development of economic policy. For the first time an official document acknowledges the responsibility of the government for preventing large fluctuations in output and employment. This represents a great advance upon the creed that slumps are natural and even salutary which has hitherto prevailed, but it does not amount to a complete programme of full employment. For even if deep and lasting depressions are overcome by government intervention, it does not mean that unemployment will be reduced to the bare minimum.

The Transition from War to Peace

The first three chapters of the White Paper deal with the international and industrial background, the transition from war to peace, and the balanced distribution of industry and labour. We shall not attempt a detailed analysis of these chapters, our main purpose in this article being to discuss the long-run policy of employment presented in Chapters IV and V.

Chapter I contains the most valuable statement that:

> it will be . . . necessary to arrange that countries which are faced with temporary difficulties in their balance of payments shall still be able both to take exceptional measures to regulate their imports and to call on other nations, as good neighbours, to come to their help, so that their difficulties may be eased without recourse to measures which would permanently arrest the flow of international trade.[3]

This clearly implies that difficulties in the foreign balance of payments will not be permitted to exercise a deflationary pressure upon employment at home, and that this will not involve a tendency to autarky if reasonable arrangements are made to govern international trade and lending. It is stressed in the same chapter that efforts to increase productivity should not be limited to the export trades so as to make their products competitive on the world market (this could be also achieved by currency manipulation or export subsidies), but should

apply to industry as a whole. For an overall increase in productivity is a prerequisite for the maintenance and improvement of the standard of living.

Chapter II gives an admirable statement of the policy of transition from war to peace, aiming to avoid both frictional unemployment and inflation in that period.

> There will be inherent in the situation a threefold danger:
> (*a*) that patches of unemployment may develop where the industrial system fails to adapt itself quickly enough to peacetime production;
> (*b*) that demand may outrun supply and create an inflationary rise in prices;
> (*c*) that civilian production, when it is resumed, may concentrate on the wrong things from the point of view of national needs.[4]

To cope with these problems it is proposed: (*a*) to make, by various measures, the shift of manpower from the Forces and from the war-sector of industry to civilian production as smooth as possible; (*b*) to continue the wartime controls and rationing in the sphere of consumption goods, until scarcities are overcome by increased supplies, and to control directly private investment in the reconstruction period; and (*c*) to establish broad priorities 'by means of issue of licences of raw materials and some measure of control over the labour and staff required for industry'; priority claims on resources will be given to: (*i*) exports necessary to secure in exchange essential imports; (*ii*) production of necessities for home consumption; and (*iii*) production of investment goods for reconstruction and re-equipment.

Finally, Chapter III deals with problems of localized unemployment, in particular industries and areas. The general principle of policy, which will begin to operate in the transition period, is to prevent the formation of depressed areas, mainly by exercising a certain control over the location of industry, and not by the movement of labour from one area to another. As to the transfer of workers from one *industry* to another, training facilities will be offered at allowances higher than unemployment benefit.

Anti-Cyclical Policy

The argument underlying the anti-cyclical policy contained in Chapters IV and V is roughly as follows. The national expenditure of a country may be subdivided into five items: (*i*) private consumption expenditure; (*ii*) public expenditure on current services; (*iii*) private

investment expenditure; (*iv*) public investment expenditure; and (*v*) the foreign balance, i.e. the difference between exports and imports (visible and invisible). Of these five items it is private investment and the foreign balance which are liable to what may be roughly called spontaneous swings. Changes in private consumption are started mainly by changes in incomes, which in turn are caused by fluctuations in private investment and the foreign balance. (In fact, there exists here a kind of mutual interdependence: a decrease in incomes and consumption caused by a primary fall in investment leads in turn to a new decline in the latter and so on. It remains true, however, that fluctuations in consumption lag behind those in investment.) In the past changes in government expenditure on services and capital goods were normally of a 'derived' character (public authorities having tried to adjust their expenditure to the decreased revenue). It is concluded from this that the proper way to stabilize effective demand is: (*a*) to keep the foreign balance in equilibrium; (*b*) to attempt to eliminate the swings in private investment, and in so far as this will not succeed, to plan public investment in such a way as to offset fluctuations in private investment; and (*c*) in case this effort would fail to stabilize the joint outlay for private and public investment, to check the 'derived' fluctuations in private consumption by a flexible system of contributions to social insurance and of taxation. Let us now deal with this programme point by point, adding some details of policy contained in Chapter V, and at the same time subjecting it to a critical analysis.

(*a*) The point concerning the foreign balance is put in a rather unsatisfactory way. For the sake of *stabilizing employment* there is no need to keep in permanent equilibrium exports and imports. The negative effect of the worsening of the foreign balance upon employment may be well offset by an increase in public investment or by stimulating consumption (for instance through the reduction of contributions to social insurance). It is true that in practice it may be necessary for this country to preserve permanent equilibrium in the foreign balance by expanding exports or cutting down imports, because of the exhaustion of the stock of gold and of the difficulty of obtaining foreign credits. It will, however, be the exchange position and not the need to stabilize employment that will necessitate such a policy. If, for instance, it is possible to bridge up a temporary passive balance of trade by foreign loans, whereas bringing it into equilibrium would involve cutting down imports, the former way is preferable: the loss of essential imports would cause serious dislocations in the

economy, while the negative effect of the passive foreign balance upon employment may be remedied as indicated above.

(*b*) To eliminate as far as possible swings in private investment the White Paper suggests a variety of methods. One proposal is to reduce the rate of interest in depressions and to raise it in the boom. The inadequacy of this method is recognized in the White Paper. It should be added that the manipulation of the long-term rate, which is relevant for investment activity, is far from easy. As an instance of other devices to smooth out the fluctuations in private investment it is suggested that big enterprises should be persuaded to steady their investment activity in the interest of the business community *as a whole*. This does not seem to be a very hopeful line of attack. A third method, which is suggested, namely to reduce taxation of profits in the depression is more promising. It is rightly stressed, however, that the more direct and, therefore, the more reliable approach is to offset the swings in private investment by a proper timing of public expenditure on capital goods. Again, it is pointed out, this method has its limitations as owing: (*i*) to the urgency of certain types of public investment in a given period which makes it difficult to subordinate their planning to the requirements of anti-cyclical policy; and (*ii*) to the insufficient powers of direction of the central government over local authorities which are the main agents of public investment. Nevertheless, a substantial contribution to the anti-cyclical policy is expected from this 'timing' of public investment.

(*c*) In anticipation of the fact that fluctuations in private investment may not be fully offset by deliberate inverse fluctuations in the loan expenditure of public authorities on capital goods, measures are planned to arrest the 'derived' fluctuations of consumption. A scheme is proposed to vary the rate of contributions to social insurance by employees and employers in the opposite direction to the changes in the percentage of unemployment.

> The standard rate of contribution would be assessed on the basis of a forecast of the average level of unemployment, in such a way as to keep the social insurance fund in balance over a number of years. But the rate of contribution actually levied would exceed the standard rate at times when unemployment fell below the estimated average level and would be less than the standard rate at times, when unemployment exceeded this average.[5]

The scheme will automatically produce an anti-cyclical effect upon the purchasing power of consumers: (*i*) through the influence

of variation in insurance contributions of the employees upon their spendable income; and (*ii*) through the influence upon prices of the variation in employers' contributions. This scheme may be supplemented by a similar policy with regard to taxation which it is proposed to operate by means of a deferred credits system.

We shall not analyse here in detail the problems involved in the operation of these schemes. The most important aspect is the quantitative one. The weight of the intervention should be calculated not only to check fluctuations in consumption, as is implied in paragraphs 67–8, but to be large enough to offset the fluctuations in capital expenditure and thus to tend to stabilize the national expenditure as a whole. (The scheme of variable insurance contributions as presented in appendix II is by itself definitely inadequate for this purpose, because the expected mitigation of the fall in national expenditure would not be more than one quarter. It would not be sufficient even to prevent the decline in aggregate consumption.) If such a policy of stabilization of national expenditure is vigorously pursued over a period the very need for it will gradually vanish. For *cyclical* fluctuations in private investment will disappear, once effective demand is kept stable: indeed, if a fall (rise) in private investment will cease to affect the volume of national expenditure and thus will not lead to a further fall (rise) of private investment, the latter will settle down at its long-run level. It is this stabilization of effective demand which is the proper way to eliminate fluctuations in private investment, and not *ad hoc* inducements in the form of manipulating the rate of interest and the rate of taxation on profits. It is true that, although there will be then no *regular* fluctuations in private investment, there may still be irregular changes caused, for instance, by jumps in technical progress. But these changes will almost certainly be sufficiently small to be dealt with by the appropriate timing of public investment. This is a crucial point of the whole problem. The White Paper discusses throughout what should be done in good and in bad times. A consistent anti-cyclical policy should lead to a state of affairs where there is no tendency for either boom or slump.

Full Employment

Now imagine that the anti-cyclical policy is more or less successful in stabilizing effective demand. Does it follow that a state of full employment will be achieved? This is by no means necessarily the case. There

will emerge out of a consistent anti-cyclical policy a certain more or less stable level of private investment which by itself, i.e. without considerable assistance by loan expenditure of the public authorities, may fall short of the level required to 'fill the gap' of savings out of a full employment income. The White Paper does not propose to use public loan expenditure to push employment up to to the level where unemployment, other than frictional, is abolished; it is stated explicitly that, although deficits in the budget of public authorities as a whole are permissible in a single year, the budget must be balanced over longer periods. That the policy outlined in the White Paper is not even considered by its authors as one of 'full employment' is perhaps reflected in the fact that they carefully avoid the use of this phrase and always speak of 'high and stable employment'.

The authors of the White Paper attempt to counter in advance arguments against the principle of balancing the budget over the long period, by referring, as has become habitual, to the 'increasing burden of the debt'. They admit that the 'burden' constitutes merely a transfer problem, but maintain that taxes by which the interest is financed will be a drag on 'individual effort on enterprise'. They further mention that there will be no unfavourable effect if the debt increases not more than proportionately to the national income. They hope that the national income in this country will increase, but somehow they fail to draw the obvious conclusion that the public debt may be permitted to increase proportionately to the national income. In fact, it can be allowed to increase more, provided the interest is financed in such a way that no additional 'drag' is involved. Forms of taxation exist, e.g. an annual capital tax, which will not cripple 'individual effort and enterprise'.

Finally, it must be realized that a permanent budget deficit is not the only way in which lasting full employment can be secured. The same end can be achieved by redistribution of income from higher- to lower-income grades which tends to increase consumption out of a given national income (because the propensity to save of the rich—especially if one takes into account undistributed profits—is higher than that of the poor). There is, however, nothing in the White Paper which would suggest that its authors would support such a course. It follows by implication from paragraphs 16(*b*) and 49–52 that they are not in favour of an increase in the present share of wages in the gross national income before taxation. There is also no trace of the idea of redistributive taxation in the document.

To sum up: the White Paper on Employment Policy deals with the problems of transition from war to peace and mitigating the business cycle thereafter. But it has not presented a programme for lasting full employment which must be based either on a long-term budget deficit policy or on the redistribution of incomes.

Employment in the United Kingdom during and after the Transition Period[1] (1944)

1. Supply and Demand for Labour in the Transition Period

In the first part of this article we attempt to estimate, on certain assumptions, the length of the transition period after the end of the European war, i.e. of the period in which labour will be scarce and hence the retention of many wartime controls, in particular of rationing and price control of commodities in short supply, will be necessary.[1] In the second part we estimate the conditions which are necessary for maintaining full employment after that period. The assumptions which will be made are of two types: (*i*) assumptions of factual character, for instance, about the rate of technical progress during and after the war, about the duration of the Japanese war, etc., and (*ii*) assumptions about government policy. These will be not based on speculations about the most likely government policy; policies will be assumed which seem to us reasonable from an economic and social point of view, though not of a type that would seem very improbable. For instance, it will be assumed that the rate of income tax at the end of the transition period will be 8*s*.0*d*. in the £. This may not be the most likely government policy; on the other hand, this rate, being approximately half-way between the pre-war and present rate of income tax, cannot be considered out of the question.

Owing to the hypothetical character of our assumptions and the precariousness and scantiness of the statistical data on which our estimates are based (so that at nearly every step of our calculation assumptions of type (*i*) must be made), our results will of course be conjectural. Our aim is not to make forecasts but to present a model of the post-war development of employment and output. Nevertheless some of our estimates may shed light upon the order of magnitude of the quantities involved. We obtain, for instance, between six and seven years for the duration of the transition period; although this figure is to

[1] White Paper on *Employment Policy*, Cmd. 6527, 6–10.

a great extent conjectural, the actual length of the period is unlikely to be below five years or to exceed eight years.

We assume that the transition period begins about the middle of 1945. The calculation of the length of the transition period is a simple form of the method of successive approximation. That is to say, we first make a guess as to the length of the period, and on the basis of this guess we calculate how long the period would be. As it turns out the agreement between the original guess, six years, and the calculated result, between six and seven years, is sufficiently close to make a further calculation unnecessary.[2]

Supply of Labour

The Manpower Position

We begin our calculation by estimating the manpower position during the six-year period following the middle of 1945. Let us first consider what will be, on certain assumptions, the employment of insured labour at the end of this period, i.e. in the middle of 1951, as compared with 1938. We shall take into account the changes resulting from normal entry, war losses, the increased number of women working in industry, the rise in the regular Forces, and the reduction in unemployment.

The increase in the working population aged 16–64 from 1938 to 1951 may be estimated on the basis of the forecast of the Registrar-General.[3] If constant percentages of occupied persons in relation to all persons of a given age and sex are used, we arrive at something like 300,000. However, in the thirteen-year period preceding 1938 the increase in the number of insured persons exceeded a similarly compiled increase in the corresponding occupied population by about 500,000.[4] For the period 1938–51 we shall assume that a similar trend will take place, but on a rather reduced scale, and thus add 250,000–500,000 to the figure of 300,000 arrived at above. The increase of the insured population from 1938 to 1951 may be thus put at 700,000. We

[2] The calculation presented here is in fact the result of a number of preliminary attempts.

[3] See *Current Trend of Population of Great Britain*, Cmd. 6358, London, May 1942, HMSO.

[4] See Professor A. L. Bowley (ed.), *Studies in National Income 1924–1938*, 56. We have adjusted his results relating to all the occupied population so as to obtain only the changes of the age group 16–64.

assume further: (*i*) that war losses in insured labour (killed and permanently disabled) will be of the order of 400,000;[5] (*ii*) that of the extra women who came into industry during the war about half a million will stay; (*iii*) that the increase in the regular forces (inclusive of conscripts) as compared with pre-war will reduce the insured labour force by 400,000; (*iv*) that a state approaching full employment will prevail in 1951 so that there will be only 400,000 unemployed on that date, whereas in 1938 there were 1,400,000 wholly unemployed.[6] We can now calculate the increase in insured employment in 1951 as compared with 1938 (see Table 59).[7]

Table 59. *Increase in Insured Labour in Employment in Great Britain from 1938 to 1951 (million workers)*

Normal entry	+0.7
War losses	−0.4
'Extra' women in industry	+0.5
Increase in the regular Forces	−0.4
Reduction in unemployment	+1.0
Total increase	+1.4

We assume further that the average working time in 1951 will be the same as in 1938. The volume of insured employment in 1951 will therefore be higher by 1.4m. '1938 workers' (i.e. persons working the same time as in 1938) than in 1938. Now it has been estimated that in 1943 the volume of insured labour in employment, taking into account both the increase in numbers and in working time, was about 10 per cent higher than in 1938.[8] The number of insured persons in employment in 1938 (under the General and Agricultural Scheme) amounted

[5] The total number of fatal casualties among UK soldiers, merchant seamen on British ships, and air-raid victims in this country amounted to about 250,000 up to September 1944. We allow for the fact that not all soldiers come from insured labour, the same being true of air-raid victims on the one hand, and for the future losses, deaths of prisoners of war, and permanently disabled on the other hand.

[6] The temporarily stopped need not be taken into account as they are mostly short-timers and thus will be accounted for in the assumption about average working time.

[7] We have not taken into account the influence of the raising of school-leaving age. Although this does not affect the number of insured of the age 16–64 it upsets the parallelism between the supply of insured and total labour which is assumed in the calculation. This effect, however, will presumably be offset by (*i*) shortening the period of apprenticeship, and (*ii*) increase in employment of persons over 65 as a result of the expansion of this age-group.

[8] See J. L. Nicholson, 'The Distribution of the War Burden', *Bulletin*, 6/10 (1944), 159.

to 13.8 million workers.[9] Thus the increase in the volume of labour from 1938 to 1943 expressed in '1938 workers' amounted to 1.4m.[10] It follows that the volume of insured employment will be about the same at the beginning and at the end of the six-year period considered. It is plausible to assume that throughout the period it will not be far from this level, the influx of demobilized persons being offset by the reduction in working time and employment of women. We can conclude that the average volume of employment in the six-year period considered will be higher by 1.4m. '1938 workers' than that in 1938.[11] Insured employment in 1938 was 13.8m. workers. Thus the supply of labour in the transition period will be 15.2m. '1938 workers'.

Productivity of Labour

It has been estimated that before the war the total productivity of labour in this country was increasing by about 1.5 per cent per annum.[12] Thus, but for the war we could expect an increase of about 10 per cent from 1938 to 1945. During the war technical progress in the sense of innovations was probably much slower in the non-armament sector owing to the lack of new investment. On the other hand, however, there were important improvements in the organization of production etc. (e.g. food, utility goods), which will most probably remain a lasting achievement. We shall therefore assume that the productivity of labour at the beginning of the reconstruction period will in fact be 10 per cent higher than in 1938.

During the reconstruction period the pace of the increasing productivity will most probably be much greater than normally owing to large-scale capital investment. It may be assumed that the annual rate of increase will be not less than 2 per cent and it is this figure which we shall adopt. We estimate therefore that compared with 1938 productivity will be 10 per cent higher at the beginning of the transition period (1945), 23.5 per cent higher at the end of the period (1951), and hence on the average of the transition period 17 per cent higher.

[9] The number of insured *minus* the number of wholly unemployed with the present scope of insurance.

[10] This figure may be subject to a rather large error; but even if such is the case the effect upon our results is unlikely to be important (see n. 11).

[11] It may be shown that if the increase over the 1938 level at the beginning of the transition differs considerably from 1.4m. persons (as it well may, see n. 10) this will not affect significantly the average of this increase over that period. Let us assume, for instance, that at the beginning of the transition period the figure in question is 1m. instead of 1.4m. and that demobilization will be completed after two years. At the end of these the increase in employment over 1938 may be assumed the same as at the end of the six-year transition period (the normal entry in the intermediate period will be nearly zero). The average over the first two years will be thus about 1.2m.; the average over the next four years—about 1.4m.; and thus the average over the six-year period considered—about 1.35m. which is very close to 1.4m.

[12] See N. Kaldor, 'The Beveridge Report', *Economic Journal*, 53/1 (1943), 11.

Demand for Labour

Current Demand

The demand in the transition period may be divided into four parts: (i) demand for current consumption, for current replacement of capital equipment, and for goods and services required by public authorities,[13] (except armaments, etc. in connection with the Japanese war); (ii) satisfaction of 'piled up demand', i.e. making good the inroads which the war has made into the consumers' stocks of durable and semi-durable goods and into fixed and working capital of the business; (iii) additional modernization and expansion of fixed and working capital; and (iv) armaments, etc. in connection with the Japanese war. For the sake of calculation, however, we shall change this division slightly. Owing to the scarcity of skilled building labour in the first years after the war building activity will be limited by this factor. We shall therefore calculate first the volume of labour required to provide: (*a*) for current consumption, (*b*) for current replacement of plant and machinery, (*c*) for building as a whole, and (*d*) for government requirements of goods and services. On the other hand, we shall exclude buildings from (ii) and (iv).

We shall now compare the 'current demand' as defined above with personal consumption, private investment, and government purchases[14] in 1938.

(1) In 1943 the total consumption (inclusive of that of the Forces) was 0.79 of the 1938 level. At the end of the transition period the volume of consumption (calculated below on certain assumptions) is taken to be 1.29 of the 1938 level. If 'current' consumption increased during the transition period linearly from 0.79 to 1.29 of the 1938 level

[13] In the latter category there is included public investment except capital expenditure of the Post Office and the housing and trading services of local authorities. This type of capital expenditure is included in private investment.

[14] By government we shall mean throughout this paper all public authorities.

it would be on the average 1.04 in relation to 1938. In fact it will probably rise more slowly in the first years of the transition period and more quickly thereafter; as a result the average will be somewhat lower; we shall assume it to be at about the level of 1938. (For instance, if current consumption increases linearly from 0.79 to 0.88 in the first two years and again linearly from 0.88 to 1.29 in the next four years the average is about 1.00.)

(2) Net investment in plant, machinery, etc. in 1938 has been estimated at about £100m.[15] We can assume that current replacement required in the transition period will be about the same as depreciation, etc., in 1938; it follows that its volume will be less than the 1938 level of gross investment in plant, machinery, etc. by £100m. at 1938 prices.

(3) We shall now consider the change in building activity. The target planned by the government for post-war is 1,250,000 building workers. This target, however, is expected to be reached only after a relatively long period of training.[16] In 1938 the number of insured building workers was one million. Immediately after the war the number of available builders will probably be substantially smaller. We assume, therefore, that the average of the available building labour in the transition period will be of the order of a million. In 1938 the average number of insured building workers *employed* was 900,000. Thus we assume that the volume of building in the transition period will be about 10 per cent higher than in 1938. According to the data on investment in 1938 this difference amounts to about £40m. at 1938 prices.

(4) Finally, we shall assume that the volume of goods and services purchased by public authorities the production of which requires insured labour will be in the transition period on the average roughly the same as in 1938 (except armaments, etc., in connection with the Japanese war).

It follows that current consumption, current replacement of plant, machinery, etc., government purchases of goods and services requiring insured labour, and total building in the transition period will be smaller by £60m. at 1938 prices than the volume of consumption, gross private investment, and government purchases of the specified type in 1938.

[15] See White Paper on National Income and Expenditure, 1938–43, Cmd. 6520.
[16] See Training for the Building Industry, Cmd. 6428, London, Feb. 1943, HMSO.

It might seem that, abstracting from the change in productivity of labour, the difference between actual insured employment in 1938 and employment required for satisfying the current demand in the transition period is equal to the labour equivalent of £60m. This is not so, for there will be an additional demand for labour in the transition period arising out of the fact that more will have to be exported than in 1938 in order to pay for the 1938 volume of imports.

With regard to foreign trade in the transition period we make the following assumptions: (i) The balance of payments on current account—including in it all imports (also Lend and Lease), in so far as they are not directly connected with the Japanese war—is neither positive nor negative for the transition period taken as a whole;[17] (ii) the terms of trade are assumed to be the same in the transition period as in 1938. On these assumptions a higher volume of exports will be necessary to secure in exchange the 1938 level of imports and this for two reasons: (i) in 1938 there was a negative balance on current account of £55m., while in the transition period as a whole we assume it to be zero, and (ii) the real value of income from overseas will be much smaller in the transition period than in 1938. Income from overseas amounted in 1938 to £235m. We can assume that the loss of foreign assets during the war reduced its money value by one-third to two-thirds. Assuming further in the transition period a price level 50 per cent higher than in 1938 we can estimate the real value of income from overseas in the transition period at £50–£100m. We adopt £75m., the possible error being of no importance for our calculation. The loss in the real value of income from overseas is thus estimated at £160m.

It follows that in order to pay for 1938 imports, net exports (i.e. exports net of cost of foreign materials used in their manufacture) in the transition period must be increased by £55 + 160 = 215m. p.a. at 1938 prices.[18] (Or imports must be replaced by home production.)

It follows from the above that to obtain the volume of insured labour required in the transition period by current demand the 1938

[17] This assumption does not exclude the possibility of some repayment of Dominion balances during the transition period provided it is offset by new foreign credits from other sources (inclusive of Lend and Lease in so far as it is not directly connected with the prosecution of the Japanese war).
[18] Net exports in 1938 were about £400m., so that an increase by £215m. at 1938 prices means a rise in volume by about 50%. That would agree with the recent official statements about the necessity to increase exports by 50% above pre-war, if they can be interpreted in the sense that this rise is required in order to pay for the pre-war volume of imports.

insured employment must be reduced by the labour equivalent of £60m. worth of investment goods (see above), increased by the labour equivalent of net exports worth £215m., and finally an allowance must be made for higher productivity of labour.

Insured employment in 1938 amounted to 13,800,000 workers.[19] The 1938 labour equivalent of net output of manufactured goods worth £155m. may be estimated at 700,000 workers.[20] It follows that with 1938 productivity current demand in the transition period would require 14,500,000 '1938 workers'. As productivity in the transition period has been taken to be 17 per cent higher than in 1938 (see p. 249) we can estimate the actual requirement of insured labour for the satisfaction of current demand at 14.5/1.17 = 12,400,000 '1938 workers'.

As the total labour supply has been estimated at 15,200,000 '1938 workers' the difference of 2,800,000 '1938 workers' is available for the satisfaction of piled-up demand, etc., which we shall now estimate.

The 'Piled-up Demand' for Consumption Goods

The consumption of clothing, household goods, and motor cars in 1938 can be estimated at about £750m. at retail prices. During the war this consumption has fallen considerably. The difference between what this consumption would have been if in all war years it had remained at the 1938 level and the actual level of consumption, may be estimated (up to the middle of 1945) at about £1,800m. at 1938 prices. This amount is of course much higher than the inroads which the war has made into the consumers' stocks of semi-durable and durable goods. It is clear that not all deficiencies of war consumption as compared with the 'normal' level will have to be made good.

The problem may be approached from another angle. The total personal savings made during the war will be by mid-1945 about £6,200m. Out of this something like £1,000m. may be considered to correspond to the 'normal' rate of saving. There will have been thus accumulated £5,200m. of war extra savings. However, an inquiry into war savings of the working class has shown that these savings are distributed very unequally so that 10 per cent of the families in the

[19] With the present scope of insurance, see p. 248.

[20] It is estimated below that output of non-food consumption goods and investment goods required in 1938 about 4,700,000 insured workers per yearly net output worth £1,000m.; see p. 258.

sample examined accounted for over 50 per cent of all savings.[21] It is not unlikely that a similar pattern exists with regard to middle-class savings. It is, further, probable that heavy savers will spend a small proportion of war savings and the rest of savers a large one. Thus it is plausible to assume that something like a half of the £5,200m., say, £2,500m. of war extra savings will be spent in the transition period. Assuming that prices in the transition period will be something like 50 per cent higher than in 1938 we arrive at about £1,700m. at 1938 prices. This figure does not seem unreasonable when compared with the wartime deficiency of semi-durable and durable consumption goods estimated above at £1,800; (the latter exceeds substantially the actual deterioration in consumers' stocks but post-war spending is likely to exceed it as well). For the subsequent calculation we adopt £1,700m. at 1938 prices as the demand for this type of goods in addition to 'current consumption' which has been assumed above to be on the average at 1938 level. The equivalent of £1,700m. in wholesale prices is about 30 per cent less or about £1,200m.

Piled-up Demand for Fixed and Working Capital

The piled-up demand for fixed and working capital is the result of insufficient replacement during the war of private capital equipment, reduction in working capital and stocks, and of war damage. According to the White Paper total private disinvestment in the period 1940–3 amounted to about £750m.[22] Up to the middle of 1945 this figure will probably rise to something like £1,100m.[23]

This figure represents the reduction in the value of fixed and working capital of private business[24] inclusive of sales of fixed assets to the government but exclusive of war damage.[25] The reduction in value of the capital in question is given according to business computing practices.

[21] See Charles Madge, *War-Time Pattern of Spending and Saving*, National Institute of Economic and Social Research, Occasional Paper, IV, Cambridge, Cambridge University Press, 1943.

[22] See Cmd. 6520.

[23] Private disinvestment in 1943 was according to the same source £250m.

[24] Which in this context is taken to include Post Office and the housing and trading services of local authorities, see p. 249.

[25] This is not quite precise. In fact, war damage to buildings in so far as it has been made good *is* included in this figure. But since further we subtract from the total figure of disinvestment that of disinvestment in building containing the same amount of war damage to buildings, this factor does not affect our final result.

This makes it necessary to introduce two corrections in order to arrive at the value of the quantitative reduction of private fixed and working capital. The first relates to the appreciation of working capital and stocks owing to the wartime rise in prices which makes disinvestment appear *pro tanto* less. This appreciation has been estimated at about £500m.[26] The other correction is made necessary by the fact that depreciation is based on the acquisition cost of equipment while the value of the corresponding replacement was much higher in war years owing to the rise in prices of investment goods. The pre-war level of depreciation has been estimated at £340m. In war years depreciation was probably somewhat higher owing to the more intensive utilization of equipment, say, £370m. at 1938 prices. Assuming prices of investment goods in war years to have been on the average 40 per cent higher than in 1938 we obtain the necessary correction taking 40 per cent of £370m. and multiplying it by the number of war years, i.e. five and a half years. This gives us a correction of about £800m. Adding the two corrections to the White Paper figure of disinvestment we obtain £2,400m., which stands for the value of the quantitative reduction of fixed and working capital in private business at current prices inclusive of the sales of fixed assets to the government but exclusive of war damage.[27]

However, to arrive at the figure of piled-up demand for investment goods other allowances must yet be made. During the war the government has become the owner of many factories or parts of factories either by undertaking new investment or by purchasing fixed assets. According to the Report of the Select Committee on National Expenditure[28] the state-owned assets of this type (exclusive of Ordnance Factories) amounted to about £500m. A substantial part of these assets will be made available for peacetime production although it will probably require in many cases considerable reconversion investment. Thus a substantial part of the £500m. must be deducted from the figure of disinvestment arrived at above. And this is not all. In addition to state-owned factories there are many other fixed assets and stocks of commodities which have become government property during the war and which will be available for peacetime production

[26] See M. Kaldor and T. Barna, 'The 1943 White Paper on National Income and Expenditure (Cmd. 6438)', *Economic Journal*, 53/2–3 (1943), 264.

[27] See n. 25.

[28] See 16th Report from the Select Committee on National Expenditure, Session 1992–3, London, HMSO, 1943.

after the war. Lacking any data about the value of the assets in question we shall deduct from the disinvestment figure £500m. assuming that the unsuitability of war factories or the reconversion cost is offset by the existence of other state-owned assets which will be made available for peacetime production. This leaves us with £1,900m. as the value of disinvestment exclusive of war damage, to be made good in the period of reconstruction. Deflating it by the price index of investment goods in the war period which we assumed above to be 1.4 in relation to 1938 we obtain £1,350m. at 1938 prices. However, for the purpose of our calculation we must still exclude the arrears in building repairs because, as stated above, we want to find here only the piled-up demand for plant and machinery. The required repairs to buildings in 1938 have been estimated at about £100m.[29] Assuming that only, say, 25 per cent of normal repairs have been carried out during the war, we shall obtain the arrears at 1938 prices by taking 75 per cent of £100m. and multiplying this by five and a half years which gives us about £400m. at 1938 prices. Deducting this item from £1,350m. arrived at above we obtain £950m. as the estimate of piled-up demand for plant and machinery, exclusive of war damage at 1938 prices.[30]

We shall have still to allow for war damage. The total amount of war damage compensation for plant, machinery, stocks, and private chattels paid in the period 1940–3 amounted to about £550m. Up to the end of the European war this amount will probably rise to something like £700m. Most of the compensation paid has already been used for making good war damage, but as in the White Paper estimates of disinvestment the making good of war damage has been treated as any other investment and thus the figure of disinvestment was *pro tanto* reduced, the value of compensation must be added back. Deflating £700m. again with a price index of 1.4 we arrive at £500m. at 1938 prices. This amount includes also the compensation for private chattels, but this is as it should be because in the calculation of piled-up demand for semi-durable and durable consumption goods we did not

[29] Cmd. 6520.

[30] In fact, disinvestment in buildings exclusive of war damage is smaller because the damage to buildings made good during the war has not been taken into account in our estimate. Thus £400m. include this part of the war damage to buildings. But so does the total figure of disinvestment (£1,350m.) include this item (see note to p. 253). As a result the £950m. of disinvestment in plant and machinery is *exclusive* of any sort of war damage.

Table 60. *Piled-up Demand in Great Britain at 1938 Wholesale Prices (£m.)*

Semi-durable and durable consumers' goods	1,200
Plant, machinery, and working capital	950
War damage	500
Total piled-up demand	2,650

take into account war damage.[31] We can now tabulate the total figure of piled-up demand at wholesale 1938 prices (see Table 60).

It is interesting to notice that this result does not depend significantly on the wartime index of prices of investment goods in relation to 1938 used in the calculation. For, if we use as this index not 1.4 but 1.5, the increase in the correction for depreciation (see p. 254) is nearly exactly offset by the deflation with a higher index in the later stage of the calculation.

Additional Expansion of Fixed and Working Capital

As will be seen below, on certain assumptions, the national output at the end of the six years' transition period will be higher by 35 per cent than in 1938.[32] This necessitates not only making good the replacement neglected during the war and war damage but also the expansion of fixed and working capital beyond the 1938 level. We shall assume that working capital and stocks will have to be increased proportionately to the national output, i.e. by about one-third. The value of inventories at the end of 1938 has been estimated at about £1,800m.[33] Thus the required increase in working capital and stocks might be put at £600m. at 1938 prices.

With regard to fixed capital the position is different because the degree of utilization was far from full in 1938 so that a large part of the increased output will not require additional productive capacities. We shall assume rather arbitrarily that the modernization and expansion of plant and machinery, in addition to the investment accounted for above in the calculation of piled-up demand, will be of the order of

[31] There should be still added the compensation to be paid after the war for the respective assets. We have no data at all about this item. It seems unlikely that it will be large as compared with the total piled-up demand and so we shall neglect it.

[32] See p. 259. The structure of output is assumed to be similar to that of 1938.

[33] See A. Maizels, 'Consumption, Investment and National Expenditure in Wartime', *Economica*, 30/8 (1941).

£500m. at 1938 prices. This is a substantial investment considering that annual depreciation, exclusive of buildings, was in 1938 about £230m. Additional investment in fixed and working capital is thus assumed to be £1,100m. at 1938 prices.

Armaments during the Japanese War

It can be estimated that in 1943 something like 7.5m. '1938 insured workers' were directly and indirectly engaged in the war sector.[34] If we assume (i) that during the Japanese war armament production will be halved as compared with the 1943 level (it has been recently announced that this will be the American policy after the end of the European war); and (ii) that the Japanese phase of the war will last something like a year and a half after the beginning of the transition period (i.e. to the end of 1947), then 5.5m. man-years would be absorbed by armaments, etc. during that period. This figure requires, however, a certain correction. If employment in the war sector will be halved there will be a corresponding reduction in working capital and the maturing of this amount of working capital into finished armaments will reduce *pro tanto* the total amount of man-years required to produce finished armaments for the Japanese war. If we assume that working capital in war industries is equivalent to, say, three months' production of finished armaments, this saving of labour will amount to a quarter of the reduction in employment, or about 1m. man-years. By deducting this amount from the 5.5m. man-years arrived at above we obtain 4.5m. '1938 man-years' (i.e. man-years based on 1938 working time) as the corrected volume of labour required by the Japanese war.

The Length of the Transition Period

In the preceding section we arrived at the conclusion that in addition to the demand for labour for current consumption, current replacement of plant and machinery, for building and for government purchases (except those connected with the Japanese war) there will be in the transition period (i) a piled-up demand of £2,650m. at 1938 wholesale prices for semi-durable and durable consumption goods and machinery and plant, (ii) an additional demand for fixed and working capital of £1,100m. (at 1938 prices), and (iii) demand for armaments

[34] For the method of the estimates see M. Kalecki, 'Sources of Manpower in the British War Sector', this volume.

equivalent to 4.5m. man-years. To satisfy this extra demand there will be available on the average 2.8m. workers. In order to arrive at the length of the transition period it is necessary to calculate the equivalent of £3,750m. at 1938 wholesale prices in man-years. (By taking into account piled-up demand for semi-durable and durable consumption goods at the *wholesale* stage we omit in our calculation the respective labour in retail distribution, but this omission does not affect our results significantly.)

It has been estimated that in 1938 about £2,000m. worth of investment goods and non-food consumption goods for the home market (at wholesale prices) and exports required insured employment of about 7.5m. workers.[35] After allowing for imported raw materials, semi-manufactures and finished goods we estimate the value of home produce of these 7.5m. workers as about £1,600m. It follows that every £1,000m. of home produce of the kind in question required in 1938 4.7m. man-years. The average productivity in the transition period will be 17 per cent higher than in 1938.[36] Technical progress will, however, be more prominent in manufacturing than in other sectors of the economy. Something like a 25 per cent increase in productivity as compared with 1938 would seem to be a more appropriate figure here. With such a rise in productivity the production of £1,000m. worth of non-food consumption goods or investment goods at 1938 wholesale prices will require in the transition period on the average 3.7m. '1938 man-years'. Thus the labour equivalent of £3,570m. at 1938 prices may be estimated at 14m. man-years. (This equivalent includes not only the workers employed in the production of goods subject to piled-up demand, etc., but also allows for exports which are necessary in order to obtain in exchange imports of raw materials and semi-manufactures used in their production, provided the terms of trade are the same as in 1938.)

Adding to these 14m. worker years required to satisfy the piled-up demand, etc., the 4.5m. worker-years necessary to produce the armaments in connection with the Japanese war, we obtain 18.5m. workers as the labour requirements of war and reconstruction in the transition period. On the other hand, the available supply of labour is according

[35] See M. Kalecki, 'Sources of Manpower in the British War Sector', this volume. The figure given there is actually 7.1m. workers—in mining, manufacturing, and building. The figure of 7.5m. workers allows roughly for the respective insured labour in transport, etc.

[36] See p. 249.

to our calculation 2.8m. workers after satisfying current demand. Dividing the first of these figures by the second, we obtain the length of the transition period of between six and seven years. As has been said in the introduction this figure is of conjectural character, but it indicates that the transition period during which man power will be scarce is unlikely to be below five or above eight years.

II. The Problem of Employment after the Transition Period

Our previous calculation was in one important point based on the economic situation following the transition period. We assumed that in the transition period current consumption would gradually increase from its present level to that which would obtain in the period immediately following it. We shall consider now the economic situation in that period in some detail.

The National Income

We estimated above the increase of insured employment in 1951 as compared with 1938 at 1.4m. workers on condition that unemployment will be 0.4m. workers. As in 1938 insured employment was 13.8m. workers this means a 10 per cent increase over the 1938 level. (Unemployment would thus be about 3 per cent.) We have further assumed that at the beginning of the transition period all-round productivity will be 10 per cent higher than in 1938 and that during the transition period, which has been estimated above at about six years, the annual increase in productivity will be 2 per cent. It follows that if full employment is assumed in 1951, the increase in the level of employment as compared with 1938 will be 10 per cent while the rise in all-round productivity is 23 per cent. If the structure of national output in 1951 is assumed similar to that in 1938 a rough estimate of the value of the national output in 1951 at 1938 prices may be obtained by multiplying its 1938 level by 1.1 and 1.23, i.e. by 1.35.

We make the following assumptions with regard to the beginning of the post-transition period (some of which have been already specified above): (i) that the government maintains full employment; (ii) that working time is the same as in 1938; (iii) that the terms of trade are the same as in 1938; (iv) that foreign payments on current account are balanced; (v) that the price level is 40 per cent higher than in 1938; (vi)

that EPT and NDC are abolished; that income tax will be 8*s*. 0*d*. in the £ as compared with 5*s*. 6*d*. in the £ in 1938, further that the exemption limit and the personal and family allowances will increase proportionately to the level of wage-rates and that the percentage allowance for earned income and the ratio of reduced rate to standard rate will be restored to the 1938 level; finally, that the surtax system will be such as to render the same proportion between income tax and surtax yield as in 1938; and (vii) that the burden of indirect taxation on national output will be the same as in 1938, i.e. the relation of the aggregate of indirect taxes net of subsidies to the value of home-produced national income gross of depreciation will be the same as in 1938.

We shall try to show that with this level of taxation the government expenditure necessary to maintain full employment is approximately balanced with revenue.

By the value of national output we understand here the value at market prices of goods and services bought by ultimate consumers, by firms for replacement and expansion of capital (inclusive of changes in working capital and stocks), by the government and by exporters—all net of foreign raw materials and semi-manufactures used in their production. The value of national output so defined is equal to the home-produced national income gross of depreciation plus indirect taxation, because any item of the national output valued at market price is fully accounted for by incomes, depreciation, and indirect taxes. As we have assumed above that indirect taxation in 1951 represents the same proportion of national output as in 1938, and further that the terms of trade are the same in 1951 as in 1938, it is clear that real national home-produced income gross of depreciation will change from 1938 to 1951 in the same proportion as the national output.

Now, the increase in the national output has been estimated above at 35 per cent. The home-produced national income gross of depreciation amounted in 1938 to £4.71bn. It follows that for 1951 it may be estimated at £6.36bn. at 1938 prices.

The income from overseas in the transition period has been estimated above (p. 251) at £75m. at 1938 prices, on the assumption of a price level 50 per cent higher than in 1938. For 1951 we assume a price level only 40 per cent higher than in 1938, and accordingly we estimate the income from overseas at £0.08m. at 1938 prices as compared with £0.23m. in 1938.

We can now calculate the national income (gross of depreciation) in 1951 at 1938 prices by adding the income from overseas to the home-produced income. We arrive at £6.44bn. as compared with £4.94bn. in 1938.

These figures are gross of depreciation. The value of the latter in 1938 was £0.34bn. as computed for income tax purposes. In 1951 a figure computed in this way may be expected to be lower in real value because, although the volume of capital equipment will be somewhat higher by then, its valuation will still to a considerable extent be based on pre-war prices. On the other hand, the recent changes in the income tax wear and tear allowance (initial allowance of 20 per cent of cost of new plant, etc.) will tend to raise depreciation as computed for income tax purposes for a number of years after the war. We shall assume that as a result the real value of depreciation will be approximately the same as before the war, meaning by this that such will be the deduction from income for income tax purposes. At the same time this figure will not be very far from the actual depreciation because the volume of equipment in 1951 will not exceed the 1938 level by a high percentage.

We can now calculate the net national income at 1938 prices in 1951. By deducting depreciation from the gross national income we obtain £6.10bn. as compared with £4.60bn. in 1938 which means a rise of about 33 per cent.

Impersonal and Personal Income

We shall now try to obtain a plausible figure for undistributed profits in 1951. By deducting this from the national income and adding so-called transfers (interest on national debt, social security payments etc.) we shall obtain the aggregate personal income.

In 1938 undistributed profits before tax, inclusive of government income from property, trading, etc., amounted to £0.3bn., representing about 7 per cent of the national income exclusive of soldiers' remuneration (and slightly less in relation to the total national income). A corresponding figure for 1943 is £1.09bn. This figure, however, is not comparable with 1938 because of the relative reduction of dividends as the result of the existence of the Excess Profits Tax. The necessary correction may be estimated at something like £0.29bn.[37] which leaves us with £0.80bn. This represents about 11 per cent of the 1943 national income exclusive of soldiers' remuneration. For 1951 the

[37] In pre-war years 57% on the average of an increase in profits went into a rise of dividends, etc. (See E. A. Radice, *Savings in Great Britain 1922–35*, p. 71). The EPT due in 1943 amounted to about £500m. 57% of this amount makes about £290m.

plausible percentage should be rather nearer to 1943 than to 1938.[38] We adopt the figure of 10 per cent. Applying it to the national income in 1951 we obtain £0.61bn. at 1938 prices. Deducting this figure from the national income we obtain £5.49bn. as personal income exclusive of transfers. We shall now have to estimate the latter.

The interest on national debt paid to persons and firms in 1945 will be something like £0.44bn. We shall assume that during the transition period the national debt will not increase (it may be shown that there is even some likelihood of its reduction). We assume therefore that in 1951 the money value of the interest on national debt will be £0.44bn., which, with a 40 per cent price increase as compared with 1938, gives £0.31bn. at 1938 prices (inclusive of the interest on National Saving Certificates; the corresponding figure for 1938 is £0.20bn.). We assume further that war pensions, which were £0.04bn. in 1938, will be £0.1bn. in 1951 or £0.07bn. at 1938 prices. Finally, the excess of social security payments over contributions of insured persons on the basis of the government plan for social security may be estimated for 1951 at £0.42bn. This estimate is based on the assumption that there will be only 3 per cent unemployment, and it includes school meals for children. We also include in it the increase in the scope of health services, because this will probably reduce to the same extent private expenditure of the insured on medical treatment.[39] At 1938 prices the excess of social security payments over the contributions of the insured will be £0.3bn. as compared with £0.18bn. in 1938. The total transfers in 1951 will thus be £0.68bn. at 1938 prices as compared with £0.42bn. in 1938. Adding this figure to personal incomes exclusive of transfers arrived at above, we obtain the total personal incomes (net of contribution

[38] This for two reasons: (i) higher volume of employment in 1943 and 1951 as compared with 1938: a rise in employment increases the ratio of undistributed profits to the national income; and (ii) the rapid increase in price level tends to increase undistributed profits in relation to total profits because it reduces *relatively* interest payments and to a certain extent dividend payments as well. The position is restored only after a rather long period.

[39] According to the government plan, social security payments in the strict sense will amount in 1951 to about £540m. Allowing for unemployment being according to our assumptions only 30% of that assumed by the government plan, this amount is reduced to £465m. Contributions of insured persons amount, according to the government plan, to about £175m. and after allowing for lower unemployment to about £190m. The excess of payments over contributions of the insured is thus £275m. To that we add: (i) the increase of expenditure on health services as compared with the existing system, amounting to £80m., and (ii) school meals for children—£60m. In this way we arrive at the total security payments in our sense of £415m.

Table 61. *Real National Income in Great Britain, 1938 and 1951 (£bn. at 1938 prices)*

	1938	1951
Home-produced national income gross of depreciation	4.71	6.36
Income from overseas	+0.23	+0.08
National income gross of depreciation	4.94	6.44
less depreciation	−0.34	−0.34
National income	4.60	6.10
less impersonal income	−0.30	−0.61
Transfers	+0.42	+0.68
Personal income	4.72	6.17

to social insurance) of £6.17bn. at 1938 prices as compared with £4.72bn. in 1938. The consecutive stages of the calculation are shown in Table 61.

Income Tax

We have assumed above that Excess Profits Tax and National Defence Contribution will have been abolished by 1951, but that the standard rate of income tax will then be 8*s.* 0*d.* in the £ as compared with 5*s.* 6*d.* in 1938, i.e. 46 per cent higher; further that the exemption limit and the personal and family allowances will increase proportionately to the level of wage-rates and that the percentage allowance for earned income and the ratio of reduced rate to standard rate will be restored to the 1938 level; finally that the surtax system will be such as to render the same proportion between income tax and surtax yield as in 1938.

We shall now estimate roughly the total yield of income tax in 1951 at 1938 prices. A very large part of income tax and surtax was yielded in 1938 out of rent, interest, and profits. It may be seen that on our assumptions a rough estimate of income tax and surtax yield in 1951 at 1938 prices may be obtained if we increase the 1938 yield: (i) in the proportion of the rise in the standard rate, i.e. by 46 per cent; and (ii) in the proportion of the rise in real rents, interest, and profits from 1938 to 1951. The total amount of these in 1938 was about £1.85bn. and was composed of £1.42bn. of interest and profit earned at home, exclusive of interest on national debt, £0.20bn. of interest on national debt, and £0.23bn. of income from overseas.[40] In order to estimate the

[40] Computed from the White Paper, Cmd. 6520.

corresponding amount in 1951 at 1938 prices we shall increase the first of these three items in the same proportion as the home-produced national income, i.e. in the proportion of (6.1–0.08) to (4.6–0.23) which gives £1.97bn. We further have from the above £0.31bn. for the second item and £0.08bn. for the third, which gives us together £2.36bn. or 27 per cent more than the corresponding figure in 1938. We can now estimate approximately the total yield of income tax and surtax in 1951 at 1938 prices by multiplying their yield in 1938: (i) by 1.46, and (ii) by 1.27. The income tax (inclusive of surtax) yield in 1938 being £0.40bn., we obtain £0.74bn. as the 1951 yield of income tax and surtax at 1938 prices.

It is now easy to calculate undistributed profits and personal incomes net of taxation. Undistributed profits have been estimated above at £0.61bn. inclusive of government profits from property and trading. The latter item was £0.04bn. in 1938 and we shall assume it to be £0.06bn. in 1951 at 1938 prices. Private undistributed profits are thus £0.55bn. At 8*s.* in the £ the corresponding income tax is £0.22bn and undistributed profits after taxation are £0.33bn. Deducting the income tax on undistributed profits (£0.22bn.) from the total income tax (£0.74bn.) we can estimate the income tax on personal incomes at £0.52bn. As personal incomes in 1951 before tax have been estimated above at £6.17bn. after taxation they will amount to £5.65bn. at 1938 prices. (Income tax is the only tax considered here. Contributions to social insurance by insured persons have been deducted at an earlier stage of the calculation, the motor vehicle tax is included in indirect taxation, and death duties, etc. will be considered at a later stage.) The results are given in Table 62.

It will be noticed that the real aggregate personal income will be 26 per cent higher in 1951 than in 1938.

Table 62. *Real Impersonal and Personal Income after Tax in Great Britain, 1938 and 1951 (£bn. at 1938 prices)*

	1938	1951
Impersonal income before tax	0.30	0.61
less government income from property and trading	−0.04	−0.06
Income tax (and NDC in 1938)	−0.09	−0.22
Private impersonal income after tax	0.17	0.33
Personal income before tax	4.72	6.17
less income tax	−0.33	−0.52
Personal income after tax	4.39	5.65

Consumption, Investment, and Government Expenditure on Goods and Services

It is impossible to say anything definite about the percentage of personal incomes which will be currently saved in 1951. We shall therefore assume that it will be the same as in 1938, which means that the volume of consumption is supposed to increase in the same proportion as real aggregate personal income (death duties, etc. not deducted above from personal incomes being here classified as savings).[41] It follows that the volume of consumption in 1951 will be 29 per cent higher than in 1938. In 1938 this was £4.14bn. (inclusive of personal expenditure involved in the acquisition and transfer of property and life assurance); thus according to our assumption it will amount in 1951 to £5.34bn. at 1938 prices.

We shall now try to estimate the plausible level of private investment in 1951. Private investment in fixed capital gross of depreciation has been estimated for 1938 at £0.69bn., out of which £0.36bn. was in buildings.[42] Because of the scarcity of building workers the housing programme is expected to last longer than the transition period and will engage for some time after its end 1.25m. workers as compared with 0.9m. employed in 1938. Thus at the beginning of the post-transition period we may assume a volume of investment in building about 40 per cent higher than in 1938, or of about £0.50bn. at 1938 prices (or more, if the productivity in building will increase as compared with 1938). With regard to the remaining investment, which was £0.33bn. in 1938, it is rather difficult to say anything definite. If the volume of capital equipment were higher in the same proportion as real output, i.e. by 35 per cent, private investment could be expected to rise less because the gross rate of profit would be then probably roughly the same while income tax is higher. But as equipment will have expanded less,[43] its utilization will be greater and so will be the rate of profit. It is thus not excluded that the rise of investment will be even higher than 35 per cent although this seems rather unlikely. On the other hand as both the volume and the utilization of equipment will be higher than in 1938 it is unlikely that investment should be below

[41] The rise in personal income per head will tend to raise the percentage of aggregate income saved as compared with 1938. On the other hand the relative shift from higher to lower incomes as a result of heavier income tax will work in the opposite direction. In addition there may of course be changes in spending and saving habits.

[42] See Cmd. 6520.

[43] See p. 256.

the 1938 level. We shall therefore assume that it is higher than the 1938 level, i.e. £0.33bn., and lower than this figure multiplied by 1.35 or £0.45bn. The total investment inclusive of building gross of depreciation would thus be £0.83bn. to £0.95bn. (The 'long-run level' of investment corresponding to changes in working population and productivity of labour is also probably within these limits.)[44]

Having estimated consumption and private investment it will be now possible to obtain the figure of the government expenditure on goods and services necessary to maintain the effective demand for the full employment output estimated above. Let us consider for this purpose national expenditure, by which we mean the sum of personal consumption, home investment gross of depreciation, foreign investment (i.e. balance of payments on current account), and government expenditure on goods and services. National expenditure so defined is equal to the national income gross of depreciation plus indirect taxation (because every item of this expenditure may be fully accounted for by wages, salaries, depreciation, rents, interest, and profits plus the respective indirect taxation). It has been assumed above that indirect taxation is to increase in the same proportion as the home-produced national income gross of depreciation, i.e. by 35 per cent (see p. 259). The total value of indirect taxation in 1938 was £0.64bn.[45] and thus its level in 1951 at 1938 prices will be £0.86bn. As the gross national income in 1951 has been estimated above at £6.44bn. at 1938 prices, national expenditure amounts to £7.30bn. at 1938 prices. Deducting

Table 63. *Composition of National Expenditure in Great Britain, 1938 and 1951 (£bn. at 1938 prices)*

	1938	1951
Personal consumption	4.14	5.34
Gross home private investment	0.65[a]	0.83–0.95
Foreign investment	−0.05	0
Government expenditure on goods and services	0.84	1.13–1.01
National expenditure	5.58	7.30

[a] This figure is slightly less than investment in fixed capital (£0.69bn.) mentioned above because of a fall in the value of inventories during 1938.

[44] Should the actual level of investment be lower than that which is required for productive capacity to keep pace with changes in working population and the increase in the productivity of labour, private investment must be stimulated. This may be achieved by an application of the 'modified' income tax (see *Economics of Full Employment* prepared at the Oxford University Institute of Statistics, pp. 46, 48).[2]

[45] Inclusive of motor vehicle duties and net of subsidies.

from that the figure of consumption and private investment arrived at above and recollecting our assumption that foreign investment (i.e. the balance of payments on current account) is equal to naught, we obtain the volume of government expenditure on goods and services necessary to maintain full employment as £1.01bn. to 1.13bn. at 1938 prices. In Table 63 the composition of national expenditure in 1938 and in 1951 is given at 1938 prices.

The Budget

It is now possible to compare the revenue and expenditure of the government (by which we mean all public authorities) necessary to maintain full employment in 1951. The revenue consists of income tax, government profits and indirect taxation as estimated above to which must be still added death duties, etc. which have so far not been taken into consideration. We assume these to be £130m. as compared with £90m. in 1938 and £104m. in 1943. Deflated by 1.4 this gives us £0.09bn. at 1938 prices. Government expenditure consists of transfers (interest on national debt, social security payments net of contributions of insured persons, and war pensions) as estimated above and government expenditure on goods and services necessary to maintain full employment. The budget is presented in Table 64.

Table 64. *The Budget of Public Authorities in Great Britain, 1951 (£bn. at 1938 prices)*

Revenue		Expenditure	
Income tax	0.74	Transfers	0.68
Death duties, etc.	0.09	Goods and services	1.01–1.13
Indirect taxation	0.86		
Government profits	0.06		
	1.75		1.69–1.81

It is obvious from Table 64 that the budget will be approximately balanced, the possible budget deficit or surplus not exceeding £60m. (If gross private investment is at the level of the average of its lower and upper limit, i.e. £0.89bn., the government expenditure on goods and services necessary to maintain full employment is £1.07bn. and the budget is exactly balanced.)

Government expenditure on goods and services (which as all other items is expressed in 1938 prices) exceeds considerably the 1938 level of

£0.84bn. The difference which amounts to £0.17bn.–0.30bn. is probably more than the planned increase of expenditure on defence, education, etc. (It should be noticed that the increase in health services is accounted for in the rise of transfers (see p. 262), and the increase in the expenditure on housing is accounted for by the rise of private investment, in which we include the housing services of local authorities.) It follows that some 'extra' government expenditure on goods and services is required to maintain full employment. It should be stressed however, that such is the case only if transfers and indirect taxation are on the scale assumed above. If, for instance, the government were to expand the social security payments beyond what is intended according to the present plan, there will be a rise in consumption by approximately the same amount, since hardly anything will be saved out of this additional income. This will reduce *pro tanto* the government expenditure on goods and services required to maintain full employment. As a result the budget deficit or surplus will not be affected (provided indirect taxes are so adjusted that their total yield is unchanged).

A similar case will arise if, as a result of a policy of subsidization, prices of necessities are reduced. The amount of indirect taxation, which actually represents the difference between the indirect tax revenue and the expenditure on subsidies, would then be reduced. Consumption would be increased by nearly the same amount (not exactly as saving will probably also increase slightly); government expenditure on goods and services would have to be reduced by as much as the consumption would have risen. In the budget it would be reflected in a fall of government expenditure on goods and services, slightly smaller than the reduction in indirect taxation. As a result the budget deficit would slightly increase or the budget surplus slightly diminish.[46]

[46] The above estimate of full employment national income and outlay in 1951 has been produced independently of a similar estimate made recently by Mr Kaldor with the assistance of Mr Barna for 1948 (Appendix C to Sir William Beveridge *Full Employment in a Free Society*). Although my assumptions are in general different and my methods of estimating much cruder the results are not much divergent if allowance is made for the difference in dates. The increase in the real national income in 1948 as compared with 1938 is estimated by Mr Kaldor at 20%. My corresponding estimate for 1951 is 33%. As I assume 2% annual increase in productivity of labour my figure for 1948 would be about 25% (1.33/1.06 = 1.25). Similarly the rise in consumption from 1938 to 1948 is according to Mr Kaldor 19% while in my estimate it is 29% from 1938 to 1951. Allowing for the change in productivity there corresponds to the latter figure something like 21% rise from 1938 to 1948.

Private investment in 1951 is according to my estimates £890m. gross of depreciation and £550m. net of depreciation (at 1938 prices). Mr Kaldor's corresponding figure for 1948 (after £60m. of costs incurred in the transfer of property and investment of savings—which with me are included in personal consumption—are deducted) is £510m. The relation of investment to the national income is approximately the same in either model. This is, however, a mere coincidence. Mr Kaldor calculated government expenditure on goods and services according to 'needs' and then postulated such investment as is necessary to maintain full employment. I estimated private investment on certain assumptions and then made government expenditure to 'fill the gap'. As, however, investment does finally play a similar role in both models and the budget is balanced in either case there arises the problem why the income tax rate is 8*s*. 0*d*. in the £ with me and only 5*s*. 10*d*. with Mr Kaldor.

This difference is however to a great extent apparent. With me the increase in income tax is the only additional burden of taxation as compared with 1938 and NDC is dropped. Mr Kaldor retains NDC and assumes an all-round proportionate rise in all taxes. If my assumptions are applied to Mr Kaldor's model, the income tax becomes 6*s*. 7*d*. in the £ (provided surtax rates are increased in the same proportion). But this is not all. The income tax system itself is different in the models compared. Mr Kaldor assumes that the exemption limit, and personal and family allowances, increase proportionately to the level of prices, and I assume that they increase proportionately to the level of wage-rates.

As prices increase in both models less than wage-rates as a result of the rise in productivity Mr Kaldor's system yields more than mine. Similarly he assumes the scale of surtax to change proportionately to the price level while I assume that the surtax system is such that the surtax yield varies proportionately to that of income tax. It may be estimated that for 1948 the income tax and surtax yield, with Mr Kaldor's system is about 10% higher than with mine. Thus to my 8*s*. 0*d*. in the £ there corresponds in Mr Kaldor's model 6*s*. 7*d*. + 10% or 7*s*. 3*d*. And conversely: should I have followed Mr Kaldor's assumptions about direct and indirect taxation my rate of income tax would not be widely divergent from his 5*s*. 10*d*. in the £.

Final Remarks

We have constructed above a model of the development of employment and output in the post-war period. Our main assumptions were: (i) that full employment will be permanently maintained; (ii) that the all-round increase in productivity from 1938 to 1945 will amount to 10 per cent and that it will increase during the subsequent period of transition at the rate of 2 per cent p.a.; (iii) that the average working hours will return after demobilization to the 1938 level; (iv) that the terms of trade will be after the war the same as in 1938; (v) that foreign payments on current account will be balanced; and (vi) that income tax after the transition period will be 8*s*. 0*d*. in the £ (with allowances increased proportionately to wage-rates as compared with 1938) and that indirect taxation will increase proportionately to the value of home-produced income.

On the basis of these assumptions and some minor ones we arrive at the following conclusions. The length of the transition period in which labour will be scarce and consequently many wartime controls will

need to be maintained will be between six and seven years. It has been assumed that during that period consumption, exclusive of the satisfaction of piled-up demand for semi-durable and durable goods, will change gradually from its level in 1943 to that corresponding to full employment at the end of the transition period and that on the average it will be at the 1938 level. It follows that it will be possible to liquidate the consequences of the war in six to seven years without reducing the standard of living on the average below the level of 1938.

After the transition period full employment will continue provided that government expenditure is approximately equal to the revenue corresponding to the above assumptions about taxation.

The home-produced national income (gross of depreciation) in 1951 will be 35 per cent higher than in 1938; the national income 33 per cent and personal consumption 29 per cent higher than in 1938.

If the share of wages in the gross home-produced income is maintained the real wage bill will increase by 35 per cent. As employment will be 10 per cent higher than in 1938 this means a rise in the real hourly wage rates of 23 per cent.

The anticipated increase in population from 1938 to 1951 being about 3 per cent, a rise in consumption of 29 per cent means a rise in the standard of living of 25 per cent.

There does not seem anything inherently unrealistic in the above assumptions except perhaps those about the terms of trade. In order to secure the 1938 level of imports, exports (net of foreign raw materials used in their manufacture) would have to increase by about £200m. at 1938 prices. In 1938 imports amounted to about £860m. If they were to increase in the same proportion as home-produced income, i.e. by 35 per cent, or by about £300m. at 1938 prices, this would necessitate an equal additional volume of exports at 1938 prices. It may be concluded that net exports would have to increase on this account by something like £250m. and, together with the increase previously calculated, by £450m. As net exports in 1938 were about £400m., those in 1951 would have to rise to £850m. at 1938 prices. It may be doubted whether this increase which amounts to more than doubling the 1938 value of net exports is possible without a worsening of the terms of trade. Let us therefore consider the effect of a more pessimistic assumption on our estimates. We shall assume that to secure the £850m. worth goods in question it will be necessary to use 50 per cent more labour than normal either on the account of exporting more cheaply or by producing at home substitutes for imports. This implies a loss of £425m.

which is roughly equivalent to a reduction of the real national income by 7 per cent. The standard of living will be reduced by a similar percentage. Our calculations suggest a standard of living after the transition period 25 per cent higher than in 1938. As a result of the export problem this increase would be correspondingly smaller, say, something like 15 per cent.[47] Although this is a substantial reduction, it shows that even on rather pessimistic assumptions a full employment policy will be able to secure for this country a considerable rise in the standard of living over the pre-war years.

[47] The position in the transition period will be similarly affected by this factor. If the period of transition is not to be lengthened and if a part of imports in that period is not financed by foreign credits the 'current' consumption—which has been assumed to be on the average at 1938 level—will have to be correspondingly reduced.

PART 2

THE POST-WAR AMERICAN ECONOMY

Determinants of the Increase in the Cost of Living in the USA[1] (1948)

In this paper I shall confine myself to only the analysis of the causes of the increase in the cost of living from the first half of 1946 till August 1947. I shall not deal with the problem of remedies.

I start with a few theoretical remarks about the pattern of changes in the cost of living after decontrol, i.e. for the period beginning with the fourth quarter of 1946. It seems reasonable to assume that in that period non-food prices were determined mainly from the cost side and not from the demand side. Prices of non-food consumption goods and services, that is, were related to the respective changes in wages and productivity, and also to pricing policies of the firms. Some prices, in particular rents, were still controlled. The position with regard to prices of essential foodstuffs was very different. They were pushed up to the level given by the adjustment of demand to the supply of food as determined by production, imports, exports, and changing inventories. Moreover, the supply position, owing to the peculiar situation in foreign trade, was very little affected by changes in food prices.

Thus, in our analysis, we shall consider non-food prices and supplies of food as independent variables; in terms of these variables and of movements of consumers' incomes, we shall try to explain the changes in the cost of living. The method will not be applied to explain the changes in the cost of living between the first half of 1946 and the fourth quarter of 1947 because of the influence of decontrol. However, the pattern will help us find out what part of the change in the cost of living in that period may be attributed to decontrol as such.

Let us denote the supply of essential foodstuffs (in real terms) by S and the total consumption of essential food by F. We shall split F into two parts: F_1, the consumption out of wages, salaries, and government transfers, and F_2. We have then

The views expressed here are those of the author and not necessarily those of the Economic Affairs Department of the United Nations Secretariat, of which the author is a member.

$$F_1 = S - F_2.$$

It may be assumed that consumption of essential food out of incomes other than wages, salaries, and transfers is approximately constant as long as there are not very important changes in the real value of these incomes. Thus, we shall consider F_2 a constant in the period following decontrol. We assume further that F_1, the consumption of essential foodstuffs out of wages, salaries, and government transfers, is determined by the respective real income (income effect) and by the relation of non-food to food prices (substitution effect). Denoting the cost of living index by p, the money value of wages, salaries, and government transfers by W, and the index of non-food consumption prices by q, we can say that F_1 is an increasing function of W/p and of q/p. Assuming that this function is linear, we obtain

$$m\frac{W}{p} + n\frac{q}{p} + A = S - F_2.$$

It follows

$$p = \frac{mW + nq}{S - F_2 - A}.$$

When the appropriate changes in q are not considerably different from those in W (and the supply of food S remains constant), p according to this theory should change roughly in the same proportion as W because the weight of mW is much greater than that of nq. (In other words, the income effect is much more important than the substitution effect.) It will be seen that our theory provides a reasonable interpretation of the changes in the cost of living after decontrol (see Table 65).

In the first half of 1947, the index of the cost of living (IV quarter 1946 = 100) was somewhat below the index of wages, salaries, and transfers probably because of a somewhat improved supply position. In August 1947, the opposite took place, the cost-of-living index was higher than that of wages, salaries, and transfers, and this fits fairly well into what is known about the supply position during that period. Taking the non-food prices and the supply of essential foodstuffs as given, the cost of living changed in such a way as to equilibrate the demand for the essential foodstuffs with the supply.

Let us look now at the changes in the cost of living from the second quarter of 1946 to the fourth quarter of that year. It is immediately

Table 65. *Cost of Living and Some of its Determinants in the USA, 1946 and 1947 (Indices adjusted for seasonal variations; IV quarter 1946=100)*

Date	Consumers' prices[a]	Wages, salaries, and government transfers	Non-food consumers' prices[b]
1946			
II quarter	86.5	93.8	94.2
IV quarter	100.0	100.0	100.0
1947			
I quarter	100.9	102.3	103.0
II quarter	102.4	103.2	103.8
August	105.3	104.3	105.3

[a] BLS index adjusted by the author for seasonal variations.
[b] Calculated from BLS indices.

obvious that the increase in the cost of living was much in excess of that which would follow from our theory. This can be explained by a number of factors:

(1) The consumption out of incomes other than wages, salaries, and transfers was kept down by rationing and also probably by the state of haphazard distribution resulting from price control of unrationed foodstuffs. As a result of decontrol F_2 probably increased significantly.

(2) The demand for foodstuffs out of wages, salaries, and transfers was probably higher prior to decontrol than supply at controlled prices.

(3) As a result of black or grey markets, the average prices before decontrol were probably a little higher than the level indicated by the cost of living, so that not all the increase in the cost of living after decontrol was genuine.

(4) It should be finally added that the non-food prices increased as a result of decontrol more than would have been the case as a result of changes in cost, and that this rise contributed (according to our formula) to the increase in cost of living also.

It follows from the above that decontrol was a very important factor in the increase in the cost of living. Not only did it affect directly but it was also responsible for the subsequent increases in wages which naturally enough were requested by the workers and it is these increases that contributed largely to the rise in the aggregate wages, salaries, and transfers on the one hand, and to the increases of non-food items on the other. It also follows directly that as a result of decontrol, there was a fall in the real value of the aggregate wages,

salaries, and transfers as indicated in Table 65 by the discrepancy in the rise in these incomes and in the cost of living, from the second quarter to the fourth quarter of 1946. Although, as said above, part of this discrepancy may be explained by the inaccuracy by which the cost-of-living index reflected the actual price situation before decontrol, there is no doubt that some fall in the real value of aggregate wages, salaries, and transfers in fact took place.

It is interesting to notice that although the rise in the cost of living was due, to a great extent, to the large rise in food prices effected through the mechanism described above, the rise in the real income of the farmers was not very large because of the increases in prices of manufactured goods which they purchase. The ratio of prices received by farmers to prices paid by them increased by only 3 per cent between the second quarter of 1946 and the second quarter of 1947.

It also follows from Table 66 that the shift in incomes from the second quarter of 1946 to the second quarter of 1947 from wages, salaries, and transfers was rather toward corporate profits than to farm incomes.

Table 66. *Percentage Shares of Aggregate Income before Tax in the USA, 1946 and 1947*

	II quarter 1946	II quarter 1947
Wages, salaries, and government transfers	65.8	62.7
Income of proprietors except farmers, rent, and interest	15.8	15.6
Farm income	7.6	8.6
Corporate profits[a]	10.8	13.1
	100.0	100.0

[a] Unadjusted for valuation of inventories.

The Economic Situation in the USA as Compared with the Pre-War Period[1] (1956)

1. From the last years of the interwar period up to the present there were considerable changes in the volume and structure of the national product, in the degree of unemployment, and in the standard of living of the USA. This is illustrated by Table 67, based on official sources, where we compare the years 1937 and 1955. The top year of the business upswing following the great crisis was 1937; it represents about the same phase of the business cycle as 1955.

During the eighteen-year period considered the national product had more than doubled.[1] From the point of view of supply this increase may be easily explained; indeed, during this period—which covers the Second World War, reconversion, and the new gigantic rearmament—capital equipment expanded considerably. The expansion of heavy industry in the course of the war was financed by the government. After the war the productive capacities thus created were sold at low prices to private big business. In the period of reconversion the 'civilian' sector was renovated and expanded, actuated by the 'deferred demand' for consumer goods (especially durable commodities) which resulted from the deficiency of such goods during the war, accompanied by an accumulation of liquid savings. Finally, in the last phase of the eighteen-year period considered a large part of investment was connected with armaments.

The growth of the national product was not hampered by a shortage of labour. First of all, output per person employed increased by nearly 60 per cent. This, in addition to 'normal' technical progress, was the result of a rapid expansion of capital equipment, which led to a 'rejuvenation', as well as of a continuous drive to increase labour intensity. It should also be mentioned that there was a technical revolution in agriculture, as a concentration of farm ownership proceeded at

[1] We take the national product inclusive of depreciation but exclusive of administrative services (i.e. remuneration of the armed forces and government employees) and of net income from foreign investment. In other words, this is the private home-produced gross national product.

a rapid pace. The resulting rate of increase in the productivity of labour meant that the supply of labour proved adequate for the large growth of the national product referred to above. This follows directly from the fact that in 1955 unemployment amounted to 4 per cent of the labour force. (This includes the self-employed; if these were eliminated the unemployment percentage would prove even higher.)

The fact that as a result of specific situations associated with the war (no destruction was suffered) and with armaments there occurred a growth of productive potential which made it possible to double the national product still does not explain the effective utilization of these facilities. Indeed, the discrepancy between the development of productive forces and the markets for their products constitutes one of the main contradictions inherent in the capitalist system.

Table 67. *Indices of National Income, Consumption, and Unemployment in the USA, 1937 and 1955*[a]

	1937	1955
Industrial and agricultural production	100	201.6
National product at 1947 prices	100	209.5
Personal consumption at 1947 prices	100	193.0
Relative share of personal consumption in national product (%)	78.7	72.5
National product per person employed in its production[b]	100	158.5
Personal consumption per head of population	100	150.7
Unemployment in relation to total labour force (%)	14.2	3.8

[a] The figures in this Table, as well as in Tables 69 and 70 are based on *National Income 1954* (a supplement to the *Survey of Current Business*), *Economic Report of the President 1956*, and *Survey of Current Business*, July 1956.

[b] Employment in the production of national product = labour force –unemployed, the armed forces, and government employees. Thus this item includes all self-employed.

In the period considered this contradiction tended to grow more acute. As we shall see below, big business's relative share of accumulation of the national product increased significantly—this may already be surmised from the decline of personal consumption in relation to national product in the period 1937–55 shown in Table 67. It should be noticed that this is not an accident depending on the choice of the years compared: similar results are obtained for a few years preceding 1955 when compared with the second half of the pre-war decade. Thus one question arises as to why this aggravation of basic contradictions did not lead to the underemployment of resources.

A second question concerns the increase of the standard of living compared with the rise in productivity and the decline in the percentage of unemployment. As seen in Table 67, consumption lags behind national product by 8 per cent. The standard of living lags by not much less (5 per cent) behind the national product per person employed in its production. But we might have expected a higher impact upon the standard of living from a considerable decline in the percentage of unemployment (from 14 to 4 per cent).

In the rest of this paper we shall find that:

1. The increase of the relative share of big business's accumulation of the national product was absorbed by armaments (mainly through the tax on corporate profits and the export surplus, whose realization was also closely connected to the expenditures of the military-imperialist complex).
2. The decline in unemployment was associated to a great extent with an increase in the armed forces and in government employees; as a result, the rise in the degree of employment did not have much effect on the standard of living, which increased mainly owing to a higher productivity of labour.

2. In order to analyse the effect of the increased relative share of accumulation in the national product we shall divide this product into three parts: (i) private accumulation, (ii) 'net revenue of the government[2] from persons', and (iii) personal consumption of goods and services. We shall now explain in detail the nature of the first two and we shall prove that together with personal consumption they just cover the national product.

It should first be recalled that national product here means gross of depreciation. (By the way, depreciation in capitalist countries is determined by deductions permissible by fiscal rules and cannot therefore be a measure of actual capital consumption.) Accordingly, accumulation is considered to be inclusive of depreciation.

Gross accumulation consists of investment in fixed capital, which we break down into 'productive investment', residential building, increase in inventories, and the export surplus. As far as private accumulation is concerned, the budget deficit should still be taken into consideration, because it means an increase in the government's indebtedness to the capitalists.[3] Finally, we also include in private accumulation the

[2] By government, we mean here central, state, and local authorities.

[3] By 'budget deficit' we mean the actual budget deficit. The following items have been deducted from it: (i) 'foreign economic assistance,' which is included in export surplus (armament export is *not* deducted, since it is not included in that surplus); and

revenue from the corporate profits tax as accumulation ceded to the government.

Item (ii) represents the budget revenue exclusive of taxes on corporate profits but only to the extent to which they are spent on business products. Thus this is a surplus of personal income tax, contributions to social insurance plans, and indirect taxes[4] over and above the expenditure on remuneration of the armed forces (inclusive of food and uniforms) and of government employees, on social insurance benefits, and on interest on the public debt. In short, this is 'net government revenue from persons', inclusive of indirect taxes.

It is easy to prove on the basis of Table 68 that, as mentioned above, the items shown here cover the national product. Indeed, productive investment, residential building, increase in inventories, and export surplus add to gross accumulation for the economy as a whole. The budget deficit, taxes on corporate profits, and 'net government revenue from persons' are all the sources which cover government expenditure on business products.[5] But gross social accumulation, government expenditure on business products, and personal consumption constitute the GNP in our sense—the gross private home-produced national product.

Table 68. *Components of National Product, Consumer Services Included, in the USA, 1937 and 1955 (in $b., at 1947 prices)*

	1937	1955
Productive investment	12.9	30.1
Residential building	3.9	12.9
Increase inventories	5.7	3.7
Export surplus (+) or import surplus (−)	−0.7	3.7
Gross accumulation	21.8	50.4
Budget deficit (+) or surplus (−)	−1.3	−4.8
Taxes on corporate profits	2.7	17.2
Gross private accumulation	23.2	62.8
'Net government revenue from persons'	6.9	18.7
Personal consumption	111.9	216.0
National product	142.0	297.5

(ii) government expenditure on goods abroad which we did not include in imports (although expenditure on personnel abroad, mainly military, *is* included in imports as a counterpart to the respective item in personal consumption).

[4] By indirect taxes we mean the actual revenue from this source minus subsidies for private businesses plus profits from government enterprises.

[5] The money value of these three components was deflated by a 1947 = 100 price index of the total government expenditure on business products.

In order to examine the changes in structure of the national product, Table 69 shows the items from Table 68 as a percentage of national product.

It will be seen at once that the most important change is the fall in the relative share of consumption in the national product, mainly associated with an increase in private gross accumulation and to a lesser extent with an increase in net government revenue from persons.

Let us analyse in more detail the increase in the relative share of gross private accumulation in the national product. It appears that this is more than accounted for by the increase of the relative share in the national product of two items: export surplus and taxes on corporate profits. It is easy to show that in either case we face the absorption of accumulation by the military-imperialist complex.

Table 69. *Relative Shares in National Product, Consumer Services Included, in the USA, 1937 and 1955 (at 1947 prices, per cent of national product)*

	1937	1955
Productive investment	9.1	10.1
Residential building	2.8	4.3
Increase in inventories	4.0	1.3
Export surplus (+) or import surplus (−)	−0.5	1.3
Gross accumulation	15.4	17.0
Budget deficit (+) or surplus (−)	−0.9	−1.6
Taxes on corporate profits	1.9	5.8
Gross private accumulation	16.4	21.2
'Net government revenue from persons'	4.9	6.3
Personal consumption	78.7	72.5
National product	100.0	100.0

The increased taxes on corporate profits finance the armaments directly. As far as the rise in export surplus is concerned, it is partly accounted for by foreign economic assistance granted in exchange for political advantages. Another factor is government expenditure on business products abroad—such as building bases, etc.—which enables the countries concerned to earn dollars and thus to buy US goods.[6]

If we add to this the fact that the increase in the relative share of gross private accumulation in the national product is the result of the

[6] This was not included in imports. See n. 3, p. 281–2.

point to the elements of decay in monopoly capitalism; but the actual consequences have a political impact which must not be underestimated. If we recall in addition that the mass communications media, such as the daily press, radio, and television, in the USA are largely under the control of the ruling class, the outline of the functioning of American imperialism will emerge clearly. It is based on the following 'triangle':

1. Imperialism contributes to a relatively high level of employment through expenditures on armaments and ancillary purposes and through the maintenance of a large body of armed forces and government employees.
2. The mass communications media, working under the auspices of the ruling class, emits propaganda aimed at securing the support of the population for this military-imperialist set-up.
3. The high level of employment and the standard of living increased considerably as compared with before the war (as a result of the rise in the productivity of labour), and this facilitated the absorption of this propaganda by the broad masses of the population.

This explains the fact that in the USA there is no significant opposition to armaments and the cold war; that the anti-capitalist undercurrent which characterized the New Deal period has slackened; and that the trade unions are part and parcel of the military imperialist set-up. Workers in the USA are not duller and trade union leaders are not more reactionary 'by nature' than in other capitalist countries. Rather, the political situation in the USA is simply, in accordance with the precepts of historical materialism, the unavoidable consequence of economic developments and of characteristics of the superstructure of monopoly capitalism in its advanced stage.

The Fascism of Our Times[1] (1964)

1. In the last few years we have noticed fervent activity among strong fascist groups in the developed capitalist countries. The most important of them are the OAS in France, the neo-Nazi elements in West Germany, and the Goldwaterites in the USA. All these groups have the following characteristics in common:

1. In contrast to the Nazism of the period of the Great Depression of the 1930s, they do not resort to social demagogy. Goldwaterism even espouses the reverse ideology by criticizing government intervention and proclaiming the return to *laissez-faire*.
2. They appeal to reactionary elements of the broad masses of the population by a variety of racist or chauvinistic slogans. For each of the countries considered these slogans can easily be condensed into one word: Algeria, *revanche*, Negroes. The fascist groups also proclaim the anti-communist crusade by capitalizing on a long period of official propaganda.
3. The fascist elements are subsidized by the most reactionary groups of big business, which in this way usually also further their particular interests—the defence of their investments in Algeria, the expansion of certain branches of the armament industries, etc. The fascists are also supported by certain groups in the armed forces.
4. However, the ruling class as a whole, even though it does not cherish the idea of fascist groups seizing power, does not make any effort to suppress them and confines itself to reprimands for overzealousness.

We shall try to examine these characteristics of contemporary fascism point by point below and in this way to put them into proper perspective.

2. One of the basic functions of Nazism was to overcome the reluctance of big business to large-scale government economic intervention. German big business agreed to a deviation from the principles of *laissez-faire* and to a radical increase of the role of the government in the national economy—on condition that the government machine

would submit to direct control in their partnership with the Nazi leaders. However, the purely capitalist mode of production was guaranteed by directing increased government expenditures to armaments rather than to productive investment (which would signify some bias toward state capitalism).

Today government economic intervention has become an integral part of 'reformed' capitalism. In a sense the price of this reform was the Second World War and the Nazi genocide which were the final effect of the heavy rearmament that initially played the role of stimulating the business upswing.

Thus fascism is no longer the necessary basis of a system of government intervention. It cannot proclaim the slogan of elimination of mass unemployment because in developed capitalist countries employment is maintained at a rather high level. On the contrary, Barry Goldwater, while exhibiting racist and cold war demagogy, about which more will be said below, attacks not only government 'interference' in the economy but even social insurance. It is in this way that the support of the most reactionary business groups is paid for. And this is also the reason why he has no chance of seizing power. (It is interesting that in the pre-election polls even in the Southern states twice as many people favored Democrats over Republicans in the matter of maintaining prosperity.)

What all the present-day fascist currents have in common with Nazism is the anti-trade-union attitude, which again reflects the link with the reactionary big business groups. This will be discussed in more detail below.

3. Who makes up the mass basis of the fascist movement? Goldwater won 40 per cent of the votes; and although the Republicans suffered a crushing defeat, Goldwater achieved a tremendous success.

In each of the countries considered a different part of the population yields, according to specific conditions, to a different slogan—each of which, however, is racist or chauvinistic in character. In the case of France those who yielded included the Algerian Frenchmen and those in the metropolis who were antagonistic toward the numerous Algerian immigrants. In West Germany the former Nazis, with quite a few things to hide in their pasts, are the Right candidates; they are interested in embellishing Hitlerism, and this links up nicely with the revanchist ideology proclaimed in a somewhat milder form by the government. The resettlers who did not arrange their affairs to their full satisfaction (definitely a minority) are another group susceptible to neo-Nazism. Finally, in the USA the opponents of the Negro emancipation drive provide recruits for the reactionary groups considered; and this includes not only the Southern racists but all those hostile to Negro aspirations for jobs at present available only to whites.

In addition, in all cases the fascist ranks are reinforced by anti-communist fanatics who are the product of prolonged propaganda spread through the mass communications media.

The analogy between France and the USA is worth noticing here: in either case the main driving force of the fascist movement is the potential emancipation of the oppressed nations, or decolonization in the broad sense. The German variety of fascism is different, although even in this case the *Herrenvolk* notion can be found at its roots.

4. Information about the capitalist groups supporting the fascist currents is, of course, very incomplete. In France these no doubt included groups which had invested heavily in Algeria, although they were certainly not the only OAS sympathizers.

In the USA the oil interests in Texas, the armament industries of the West, and the Bank of America, also very active there, are some of the main groups. All are 'young', 'dynamic' concerns. They are not particularly worried about slumps because they think that not only will they survive them but that they will increase their possessions at the expense of 'old' capitalist groups. At the same time the oilmen of Texas are afraid of losing the special tax privileges they enjoy, and the armament industries are afraid of a slackening of the cold war—hence their dislike of government intervention and of the doctrine of co-existence.

It should be noted that these capitalist groups are much less 'experienced' than the old rulers of the USA who, after a period of opposition to the New Deal, finally understood the inadequacies of *laissez-faire* capitalism. And last but not least: the political power of the upstarts does not at present correspond to their financial weight and so they are striving to create a government in which they will be the controlling stockholders.

It is they who permeate their political agents, like Goldwater, with the spirit of resistance against government intervention, including social insurance. They are the youngest of the capitalist oligarchy and paradoxically just for this reason the most anachronistic group.

They cannot win but they do not lose either as they perform, together with their hirelings, a definite function in present-day capitalism.

The fascist groups have one other important protector. These are the 'angry' members of the military establishment who love the game of balancing on the brink of a precipice—if not on that of a preventive war. They are in a sense the counterpart of the 'predatory' business groups and are frequently linked together. It is probable, however, that the weight of the 'angry' members of the armed forces is greater than that of the 'predatory' groups in the ruling class.

5. It would be a very crude simplification to maintain that only the 'upstarts' or some other specific groups of big business support the fascist movements. The boundaries are by no means so sharply drawn. It is very likely that many concerns financially support the official politicians of the ruling class as well as the less respectable adherents of fascism. This in turn is only one aspect of a broader phenomenon: the majority of the ruling class does not like the idea of the fascists seizing power, but at the same time it does not wish to crush them. The fascism of our times is a dog on a leash; it can be unleashed at any time to achieve definite aims and even when on the leash serves to intimidate the potential opposition.

Let us recall in this connection the role in the Algerian war of the OAS, that illegal terrorist organization which had 'insiders' in all government offices and which was by no means persecuted by the government—indeed, it had its uses as a whip against the Algerian rebels and the internal opposition to the war. After the conclusion of the Evian agreement, OAS activity naturally slackened since the Frenchmen in Algeria were already powerless and the repatriates were settled in France under very favourable conditions. But OAS adherents probably managed to survive in the Gaullist party and the government establishment, especially in the armed forces. The threat of this alternative to the present government has some impact upon the present political situation: the government may be understood as keeping a bad dog on a leash.

A similar duality will be seen in West Germany. Even though the government disclaims any affinity whatever to Nazism and even though trials of war criminals take place from time to time, former Nazis who have hardly been 're-educated' occupy important administrative posts, especially in the armed forces. In the propaganda of *revanche* the fascist groups display, as said above, much more extreme

views than the representatives of the government, who by no means find them embarrassing. At the same time the dog on the leash, which is fairly long, makes itself useful by extinguishing any glimpse of resistance to the official policy of cold war, *revanche*, and militarism.

An analogous phenomenon may be observed in the USA. It seems fairly certain that after the murder of John Kennedy the government would have been able to deal a mortal blow to the right-wing extremists. But the way of conducting the inquiry, as presented in the Warren Commission report, shows the contrary tendency to evade implicating anyone but Oswald—who in the meantime has been successfully eliminated. It is in this state of lawlessness that the origin of Goldwater's candidacy may be found. In turn, this candidacy was not very firmly opposed inside the Republican Party, as it was directly controlled by big business. The behaviour of Eisenhower, who never tended to right-wing extremism, is quite significant here.

Goldwater is right, at least in a sense that this is not the end of his career. For Goldwaterism is wanted by the ruling class as a pressure group against an excessive relaxation of international tensions and in order to restrain the Negro movement. Goldwater will exist not only because of the support of the 'predatory' groups of big business and the 'angry' elements of the military machine, as well as of his racist and reactionary followers, but most of all because he will be saved by those to whom he lost.

Vietnam and US Big Business[1] (1967)

1. The last sentence of 'The Facism of Our Times,' written more than two years ago, was as follows: 'Goldwater will exist not only because of the support of the "predatory" groups of big business and the "angry" elements of the military machine, as well as of his racist and reactionary followers, but most of all because he will be saved by those to whom he lost.' This anticipation, which at that time might have seemed to some too pessimistic, appears in the perspective of the war in Vietnam rather too mild. It is true that not much is heard any longer of Goldwater himself, but his spirit coexists in the White House.

It would be wrong, however, to shift to the other extreme and to maintain that the Johnson administration carries out all the postulates of Goldwaterism and thus represents the views and interests of the business groups which support it. There has been, indeed, no change in the government's attitude toward social insurance, trade unions, and the principles of government economic intervention. But the aggression in Vietnam, with its repercussions upon the armament industry (especially on the West Coast), is fully satisfactory to Goldwater and his masters.

It seems that at least until quite recently Johnson represented sort of a synthesis of the interests of all the big business groups. Indeed, the slogan of fighting the revolutionary movements in underdeveloped countries is shared by all these groups, and none of them objects to resorting to the most ruthless methods. At the same time, it was not until the middle of 1966, as we shall see in a while, that the economic repercussions of the war in Vietnam contributed to a weakening of the position of 'old' big business—usually associated with the East Coast—in relation to such new 'empires' as the Western and Southern armaments industry, the Bank of America, or the oilmen of Texas.

2. When writing about the war in Vietnam people refer frequently to the *total* US military expenditure. In fact the gigantic level of this expenditure can be traced back to 1951; since then it has been an integral element of the US economy. However, the increase in this expenditure up to the middle of 1966 was rather moderate. In the years

1964 and 1965 military expenditure on business products and personnel was maintained at a level of about $50bn. per year; in the first half of 1966 it amounted to $54bn. per year (after an approximate adjustment for the rise in prices). Moreover, even this moderate increase was not a fiscal business stimulant because the rise in public expenditure was offset by the hampering of consumption resulting from higher tax revenues.

The motive force of the boom in this period was in fact the increase in private investment (exclusive of residential building): from $61bn. in 1964 to $69bn. in 1965 and to $75bn. in the first half of 1966 (all in 1964 prices). This was the result of earlier tax concessions of a type stimulating business investment and large orders—but not yet actual expenditures—in connection with the war in Vietnam. It is this increase in private investment which, together with its effects on consumption through higher employment and wages, led to the expansion of the GNP[1] from $632bn. in 1964 to $669bn. in 1965 and to $699bn. in the first half of 1966 (in 1964 prices).

It follows from the above that: (i) the increase in military expenditure was not large in relation to the increase in national product and could not therefore lead to a major shift in the division of profits from 'old' to 'new' big businesses; and that (ii) the war in Vietnam stimulated a business upswing by way of the impact of armament orders upon investment.

3. In the second half of 1966 the economic situation in the USA underwent a fundamental change. Military expenditures jumped from an annual rate of $54bn. in the first half of 1966 to $59bn. in the third quarter of that year (in 1964 prices). This very large increase, considering the short period in question, is probably accounted for by the investment in the armament industry having created the appropriate productive potential; this made it possible to increase the output in branches working up to capacity (e.g. in the production of bombers).

At the same time the private investment boom slackened and in residential building, which since 1964 had just managed to maintain its level, there was even a decline. It is military expenditures that now

[1] This is GNP in the sense of official statistics: in contrast with 'The Economic Situation in the USA as Compared with the Pre-War Period', neither net income from foreign investment nor administrative services (i.e. remuneration of armed forces and government employees) are deducted.

become the motive force of the business upswing as they increase, more than the hampering effect of tax revenue upon consumption. The GNP increased from an annual rate of $699bn. in the first half to $708bn. in the third quarter of 1966 (in 1964 prices).

The situation is thus quite different from that prior to this period. The increase in military expenditure constitutes one-half of the increase of the national product; as a result, there appears a tendency for redistribution of national income to the armaments industries. Military expenditures begin to play a role as a business stimulant. To sum up: a typical war (or semi-war) boom started only in the second half of 1966.

To complete the picture it should be added that despite the increase in the cost of living the real wage bill from 1964 to the third quarter of 1966 rose at a rate of nearly 6 per cent per year. This rapid rise was associated with increases both in employment and in real wages.

4. It is probable that military expenditures will continue to mount. This will change the distribution of profits to the advantage of the armaments industries, as well as reinforce the importance of armaments expenditures as a factor in the general economic situation. This in turn will no doubt strengthen the economic and political position of the 'new' business groups. Their close association with the adventurous elements of the military machine will also contribute to such a shift in the structure of the ruling class.

Other factors will work in the same direction: a further expansion of the war will be accompanied by an ever-increasing disregard for world opinion. This will adversely affect civil liberties, in particular the Negro problem, where the opinion of newly created African states has been a factor of considerable importance. The USA will drift toward membership in the club of 'shameless countries', now including South Africa, Rhodesia, and Portugal. This will lead to the promotion in public life of reactionary politicians associated with 'predatory' big business groups.

It is these groups that are the beneficiaries of the war in Vietnam and it is they that are interested in its continuation. At the same time the war will enhance their importance and this will in turn facilitate their pressure for its continuation.

The growing influence of armaments expenditures will work on the economic situation in the same way: the higher this expenditure, the more difficult the return to its former level—huge though it was—

without causing a crisis. (Purely theoretically, this could be done by increasing other public expenditures or reducing taxes; in practice such a shift encounters serious difficulties because of the different interests and ideas among various big business groups.)

5. In the light of the above argument the 'old' business groups should have serious misgivings about the continuation of the war in Vietnam: what is advantageous to their competitors undermines their own economic and political position in the ruling class.

Nor is this the end of the story. What they had in common with their adversaries—the effort to show the hopelessness of revolutionary movements in underdeveloped countries—has failed miserably. In this sense the war in Vietnam has already been lost. Indeed, the present impasse in the struggle of the country having the highest industrial potential—and one of two highest military potentials—against a revolutionary movement in a small underdeveloped country and against its similar socialist neighbour is nothing to boast about (even if the assistance of the Soviet Union to North Vietnam is taken into account). And in addition the ruling classes in the areas of potential future revolutions will not necessarily aspire to the 'glorious' role of General N. C. Ky and in the light of Saigon's experience will not be particularly keen to call for US assistance.

Finally, the more enlightened part of the US ruling élite cannot help but see the rapid decline of American influence in Europe; this is most visible in French foreign policy but is by no means confined to it. This aspect of the war in Vietnam is particularly important for the 'old' groups of big business because they are linked to Europe by their heavy investment there.

It follows from the above that the 'old' groups of American big business have many reasons for not being enthusiastic about the war in Vietnam. The most reactionary elements of these groups dream about cutting it short (for instance, by means of nuclear bombing; however, that might, to put it mildly, involve some undesirable 'complications'). The more reasonable may be inclined to withdraw from this hideous and misfired adventure.

This, regrettably, seems to be the only way to peace. It is difficult to expect any pressure in this direction on the part of organized workers in the near future. The most important factor here is the steady rise in employment and real wages since 1964 mentioned above. The central trade union organization, the AFL–CIO, whose bargaining position is

reinforced by this development, has never uttered any objection to the war in Vietnam which would stimulate protests against it among its rank and file. Only a few left-wing trade unions, which do not belong to this central organization, have taken a different attitude.

It is true that various groups of intellectuals, in particular professors and students, have reacted strongly against the war in Vietnam. These, however, are a rather thin stratum of society in the USA without much political weight. It is possible that this awakening of the intelligentsia is important for US political developments in the longer run, but it cannot have a major significance for stopping the war in Vietnam.

6. But is it possible that the groups of 'old' big business associated with the East coast might play a role in the war in Vietnam comparable to that de Gaulle played in terminating the Algerian war? We have so far argued only that following this pattern would correspond to the basic interests of this group. Is there, however, any sign of a tendency to undertake such an action?

There is only one phenomenon, I think, pointing in this direction: the great number of publications in the USA since autumn 1966 on the subject of the murder of Kennedy. It is remarkable that these did not begin to appear until two years after the report of the Warren Commission and just at the time that, as said above, the war began to play a decisive part in the economic situation. During the preceding two years there had been no lack of books and articles criticizing the official version of Kennedy's death, but the books did not find publishers and were printed abroad, and the articles only appeared in periodicals with small circulations. The daily press and the leading weeklies accepted without reservation the verdict of the Warren Commission. Now the situation has changed. Books are being published and articles are appearing in such weeklies as *Look* or the *Saturday Evening Post* (associated with big business on the East coast) which not only criticize the conduct of the inquiry into the murder of Kennedy but even demand that it be reopened.

Well, it may be asked, how does this link up with the war in Vietnam? The point is that the USA is so deeply involved in it that the big businesses which embarked upon large-scale investment in connection with this war will be so desperately insisting on its continuation that it will require quite an upheaval to bring it to an end. The role of such an upheaval might be performed by the reopening of an inquiry into the murder of Kennedy—on the condition, of course,

that it would not use the methods of the Warren Commission. Such an inquiry might establish the links between the 'predatory' groups of big business and the scheme for the murder of Kennedy and thus compromise the present administration. In the atmosphere of this terrific scandal it might be possible to achieve the acceptance of the U Thant appeal for stopping the bombing of North Vietnam, for an armistice in South Vietnam, and for a start of negotiations with the Vietcong.

It is a sad world indeed where the fate of all mankind depends upon the fight between two competing groups within American big business. This, however, is not quite new: many far-reaching upheavals in human history started from a cleavage at the top of the ruling class.

PART 3

ON POLITICAL ECONOMY AND ECONOMISTS

Econometric Model and Historical Materialism[1] (1964)

1. The econometric model and historical materialism constitute two different approaches to the development of a society. The former is based on functional relations between the econometric variables in the period considered as well as between these variables and the same variables in the past periods. The relations are assumed to be given and not subject to change. In this way a definite dynamic process is established which, however, corresponds to the actual developments only in the case where the basic assumption of the invariability of functional relationships referred to above is fulfilled.

Historical materialism considers the process of the development of a society as that of productive forces and productive relations (the base) which shape all the other social phenomena such as government, culture, science, and technology etc. (the superstructure). There is a feedback effect involved here, the superstructure influencing the base as well.

The two approaches do not seem to be irreconcilable. After all Marx's schemes of reproduction are nothing else but simple econometric models. In fact in a special case where no changes in natural resources, productive relations, and the superstructure affect the development of productive forces, the system will follow the path determined by an econometric model because the condition of relationships between the economic variables not being subject to change is then fulfilled. In a more general case these functional relationships alter under the impact of events in three other spheres of the system and the economic development is then a much more complicated process than that presented by an econometric model as it reflects the evolution of the society in all the aspects.

The purpose of this paper is to inquire more thoroughly into the problem set out above in very general terms. We shall consider a closed system in order to be able to concentrate on the basic issues.

2. Let us denote the aggregate of variables characterizing the economic situation of the system at the unit period t by B_t. Let us assume

that the variables in question in that period may be represented as functions of these variables in the period t and in the τ preceding unit periods. We may represent this symbolically as follows:

$$B_t = f(B_t, B_{t-1} \dots B_{t-\tau}), \tag{1}$$

where f stands for the aggregate of relationships involved. B_t may be considered, as is fashionable nowadays, a vector which is a function of itself (i.e. some of its co-ordinates are interdependent) and of the vectors $B_{t-1}, \dots B_{t-\tau}$ representing the economic situation in the past τ periods. τ is constant here which is tantamount to the assumption that the variables of the periods more remote in time than the period $t-\tau$ have no direct influence upon the economic situation in the period t. Another basic assumption is the invariability of the function f that is of all relationships for which it stands. If such is the case the above equation determines the course of the economic change, for we have

$$B_{t+1} = f(B_{t+1}, B_t \dots B_{t-\tau+1})$$
$$B_{t+2} = f(B_{t+2}, B_{t+1} \dots B_{t-\tau+2})$$
$$\dots\dots\dots\dots\dots\dots\dots\dots,$$

the determination of B_t leading to that of B_{t+1}, the latter to that of B_{t+2} etc. This is the gist of the econometric model approach.

The crucial assumption of the invariability of f is rather far-reaching. For it presupposes that economic development determined by the above equation does not cause such transformation in the spheres of natural resources, productive relations of the superstructure that would in turn make for the change in the shape of the relationships between economic variables symbolized by f. In particular the abstraction of the interdependence between economic development and productive relations makes for the mechanistic character of the econometric model. This does not detract from its being a useful tool of analysis provided its limitations are kept in mind. What is, however, totally inadmissible is to construct an econometric model of future economic development postulating tacitly non-existent productive relations.

3. It should be noted that even in a econometric model the relationships represented by the function f cannot be considered strictly invariable. For the economic relations are by their very nature rather loose: the parameters involved are not strictly constants but constants plus some small random element. Thus the relationships between economic variables represented by f are quasi-invariable in the sense that they are subject to small random disturbances.

A question arises here whether the small random changes in the parameters lead to corresponding small changes in the economic variables in question or whether the effect is disproportionately large. We may call these two alternatives a stable and an unstable process respectively. In an unstable process a small change in the parameters results in the system's changing brusquely its path. This leads finally to a new stable process and it is this process that represents the actual development while the unstable process considered is ephemeral. For should it have ever existed it would have been supplanted under the impact of random disturbances by the stable process referred to above.[1]

Thus it may be postulated that relationships represented by the function f generated a stable dynamic process, i.e. that the character of these relationships prevents the generation of large changes in variables by small changes in the parameters involved. This quasi-invariability of f does not exclude by any means the existence of such a phenomenon as the business cycle. It means only that small changes in the parameters of the relationships between the economic variables will not in general affect considerably the course of the business cycle.

4. Let us now pass from the econometric model to the consideration of the development of the society in all the aspects. Let us denote the situation in natural resources, in productive relations, and in the superstructure in the period t by A_t, C_t and D_t respectively. However, the situations C_t and D_t can be only partly described in quantitative terms (such as the degree of concentration of wealth and income of the capitalist class); unmeasurable qualitative elements are involved here as well as contrasted with B_t which is an aggregate of quantitative variables. It should be noticed that B_t covers the sphere of productive forces and their effects.

The process generated by the econometric model may be denoted by $B \to B$ which indicates that this is an 'autonomous' change in the

[1] M. Kalecki, *Observations on the Theory of Growth, Collected Works of Michał Kalecki*, vol. ii, *Capitalism: Economic Dynamics*, Oxford, Oxford University Press, 1991.

It is theoretically possible that the unstable process does not lead to a stable one but that as a result of random disturbances the system is continuously subject to wild swings. Such a system, however, would be hardly and—to anticipate here the argument of subsequent sections—would have one way or another to undergo some institutional transformations which would put an end to its extreme instability.

sphere B. Correspondingly the autonomous developments in other spheres may be denoted by $A \to A$, $C \to C$, and $D \to D$. Of these $A \to A$ showing the 'natural change' in the natural recources although possibly significant in long periods (e.g. receding of the sea) is of no major interest and may be neglected in our analysis.

In addition to the 'autonomous' processes there exist obviously interdependencies between various spheres, e.g. the effect of economic development past and present upon productive relations and *vice versa:* $B \to C$ and $B \to A$. The significant interdependences are

$$\begin{aligned} B &\to A \quad \text{and} \quad A \to B \\ B &\to C \quad \text{and} \quad C \to B \\ B &\to C \quad \text{and} \quad D \to B \\ C &\to D \quad \text{and} \quad D \to C, \end{aligned}$$

i.e. the effect of the economic development upon all other spheres and *vice versa* as well as the effect of changes in productive relations upon the superstructure and *vice versa.*

Now the basic postulate of historical materialism is that autonomous changes in the superstructure are of lesser importance as compared with the effect upon it of economic development and changes in productive relations. Accepting this postulate we arrive at the following scheme of important connections

	A	B	C	D
A		×		
B	×	×	×	×
C		×	×	×
D		×	×	

the cross indicating the existence of cause and effect relation.

5. Let us now go back to the problem of economic development (by which we mean the economic dynamic process including cyclical fluctuations) taking into consideration its interdependencies with the evolution in the sphere of natural resources, productive relations, and the superstructure. The economic development affects profoundly the state of natural resources (e.g. through exhaustion and discovery of mineral deposits), the productive relations, and the superstructure. In addition productive relations are subject to endogenous change (e.g. development of class struggle within a given framework of economic conditions). Also their evolution has an important influence upon the superstructure.

The economic development in turn is under the impact of the changes in the three other spheres of the system. There will in particular exist a feedback relation here. The economic development, for example, causes changes in productive relations which in turn affect the course of the economic development.

It follows obviously that the basic assumption of the econometric model—that the function f which stands for all the relationships between economic variables present and past is not subject to change—cannot be maintained. The function undergoes a change from period to period determined by the influences $A \to B$, $C \to B$, and $D \to B$. Thus the equation (1) must be written now as follows

$$B_t = f_t(B_t, B_{t-1}, \ldots B_{t-\tau}). \tag{2}$$

This equation represents an econometric model only in the special case where f is invariable. This will happen under the following two conditions: (i) there are no autonomous changes in the spheres other than strictly economic conditions or if any they do not affect significantly the pattern of economic development; and (ii) there is no significant feedback effect involved in the impact of economic development upon the other spheres of the system.

6. In the Section 3 we discussed the problem of stability of the process generated in the econometric model by the function f. We came there to the conclusion that it is plausible to attribute to f the characteristic of giving rise to a stable dynamic process that will be not significantly dislodged from its path by a small change in f. In this case the small random changes in the shape of f which are always present do not create major disturbances in the evolution of the system.

There arises now the problem whether the function f which in general undergoes a steady variation as a result of the influence of the evolution in the spheres of the natural resources, productive relations, and the superstructure exhibits this characteristic as well. Let us assume that f_n in the period n has this characteristic. As time goes by the shape of the function f changes and thus at some time $n+k$ it may alter to such an extent that it would not keep the system immune to small changes in f disturbing considerably the path of development. If this is the case small random changes in the shape of f_{n+k} will soon

cause an abrupt dislocation in the economic development. Then as set out in Section 3 the system would achieve soon a new stable path.[2]

It may be therefore concluded that f_t is normally a function of such a type that small changes in its shape do not lead to major changes in the economic variables; but in certain critical periods which do not last too long it may not exhibit this characteristic. In such periods the path of economic development will alter abruptly and sometimes the system may show for some time extreme instability of economic conditions.

7. The abrupt changes in economic development discussed in the preceding section were caused by quasi-endogenous factors. It is true that the change in the shape of the function f from f_n to f_{n+k} resulted from the influence of the spheres A, C, and D of the system. But the dislocation in the economic development came about because small random changes in f_{n+k} lead to large changes in economic variables. There may be, however, brusque deviations from the past path of development caused much more directly by the events in the spheres of productive relations and the superstructure.

In these spheres there will be frequently observed a phenomenon of certain issues coming gradually to a head to culminate in an explosion; such explosions shape up the pattern of the economic development by changing abruptly the function f.

The explosive processes in question and their causes may be different in character. Existing productive relations may hamper the economic development (which may lead even to stagnation or retrogression); and the superstructure (form and composition of the government, etc.) may not correspond even to that stage of productive relations that has been reached. This leads to a revolution in which both productive relations and the superstructure undergo a violent transformation. But the situation may also end in a reform and in such a case the transformations of productive relations and of the superstructure is much less far-reaching and spreads over a longer period. In either case the economic development will be profoundly affected but in a different manner.

Sometimes the reform caused by poor performance of the system may even not change basically the productive relations or the form and

[2] It is theoretically possible that the system will be subject to wild swings (cf. n. 1). They would be, however, unlikely to last long because the non-viability of the system would probably result in a reaction from the sphere of productive relations and that of superstructure which would put an end to the extreme instability.

composition of the government. It may consist merely of implementation of government policies which, however, have an important bearing upon the economic dynamics of the system. To quote an example of a recent period: the Great Depression of the 1930s shook capitalism to its foundations. What resulted from it, however, was merely a technique of government anti-slump intervention which barely scratched the surface of the capitalist system but nevertheless affected significantly the pattern of the business cycle.

8. There emerges out of the above discussion a new way of presenting the evolution of society. The focal point of it is in a sense the economic development whose course is determined by a 'generalized econometric model' which involves changing relationships between the economic variables present and past (see equation (2)). These changes result from the impact of the evolution in the spheres of natural resources, productive relations, and the superstructure which is in turn profoundly affected by the course of economic development.

Why Economics is Not an Exact Science?[1] (1964)

I feel greatly honoured by the award of this honorary doctorate from Warsaw University, in particular for two reasons. First, distinctions of this kind are usually conferred to visitors from abroad, whereas I live barely two miles away. Second, the doctorate is a reward for my work in the field of political economy, that is in a discipline where almost any achievement is disputable and fails to win general recognition, so that any signal expression of acknowledgement must be the more appreciated.

Perhaps this is an occasion to ponder over the reasons for such a state of this discipline. In other words, why has economics so far failed to become an exact science? This question will no doubt cause laymen to smile, amused as they are by the endless squabbles of economists. Nevertheless, it is a query which deserves an answer. In its most general aspects economics bears some resemblance to theoretical physics. Both are quantitative disciplines which, on the basis of general premisses derived from the knowledge of the real phenomena, develop a deductive system which is then confronted with the external world. Yet how much economics lags behind theoretical physics as a science! I shall try to explain the reasons for this phenomenon in the field of the economics of capitalism—and until recently this was the only subject of this discipline—from the example of Say's law of preservation of purchasing power.

This law asserts, speaking roughly, that all incomes, wages, or profits, are fully spent on the purchase of goods and services. This is self-evident as far as expenditure on consumption is concerned while accumulation is treated as being always spent on investment. This doctrine obviously rules out the possibility of general overproduction, total demand being always equal to total supply. The law has certain affinities with the laws of the preservation of matter and energy. The difference, however, is that it is definitely wrong. It implies that the value of national income is constant. If, for instance, less is spent on consumption, then *pro tanto* more is spent on investment. But it was always clear that this is not the case since the value of national income is subject to abrupt changes.

In order to rescue the law, it has been supplemented by a variety of contraptions resembling the devices used to prop up the Ptolomaic system. For example, it was maintained in bourgeois economics that it holds good if the rate of interest is at the level of the so-called 'rate of equilibrium', which assures that the whole of accumulation is ploughed into investment. Any divergence from Say's law was interpreted as a divergence of the actual rate of interest from the rate of equilibrium. It took a long time to realize that the idea of a rate of equilibrium was totally misconceived since the actual rate of interest had nothing to do with it.

To discard the law of preservation of purchasing power meant admitting the possibility of general overproduction. In particular, investment may be lower than the accumulation corresponding to full utilization of productive resources since its volume is determined by altogether different factors. This leads to piling up unsold goods. A situation of this kind cannot, obviously, continue for long and is soon followed by a state of underutilization of resources characterized by Marx as the contradiction between the growth of productive forces and the purchasing power of the masses.

How could the belief in the preservation of purchasing power be maintained for so long? In my view, for two basic reasons: the class interests of the capitalists and the apparent corroboration of the law by the experience of the individual. A doctrine which ruled out general overproduction made the capitalist system appear capable of a full utilization of productive resources and dismissed cyclical fluctuations as insignificant frictions. These apologetics were facilitated by the application to the economy as a whole of the experience of housekeeping where clearly less consumption means higher saving. But whereas the income of the individual is given, the national income is determined in a capitalist system by consumption and investment decisions, a fall in one of these components by no means leading automatically to a rise in the other. Thus individual experience does not correspond to the course of the economy as a whole.

In other words Say's law was a dogma buttressing the foundations of capitalism which was facilitated by the application of individual everyday experience to the economic system. This recalls strikingly the maintenance of the Ptolomaic doctrine in the face of Copernican theory. Its survival was due to the dogma preached by a Church which was closely connected with the feudal system and the dogma was reinforced by apparent agreement with everyday experience.

There is, however, yet another obstacle to the advance of economics which is different in character from the sociological factors discussed above, being inherent in the subject of the political economy of capitalism. This is the impossibility of conducting experiments. Let us once again take the example of Say's law. Having rejected the assumption that investment is determined by accumulation, we are still left with the problem of what are its actual determinants. This problem has not been satisfactorily solved. Various hypotheses concerning the factors determining investment decisions may be advanced. But a conclusive corroboration of one of them is hardly achievable by means of analysis of statistical data: no hypothesis is fully confirmed because of disturbances which cannot be eliminated as in an experiment in physics.

Let me now add a few words about a new discipline of the economics of socialism, in particular about the theory of growth of socialist economy which I consider its most important part.

This theory is based on the principle that the object of the socialist economy is to raise the standard of living. But this does not suffice to construct a theory of growth. An increase in the relative share of investment in the national income leads to an improvement in the standard of living in the long run, but it affects consumption in the near future adversely. A compromise solution to this dilemma is based on a political decision of the government. In the theory of growth we take as given the government's comparative valuation of consumption in the near future and in the long run which underlies such decisions. We have also to assume ceilings on the rate of growth in single branches of the economy arising out of such technical and organizational factors as limited natural resources, the time required to introduce new techniques and to train experienced personnel, etc. The theory of growth built on these foundations is a purely deductive discipline. But these deductions do not determine fully the course of economic development since the 'external' factors just mentioned play a very important part. Thus in the sphere of pure economics the theory of growth is basically an exact science but this does not exhaust all the issues involved in the problem of economic development. On the other hand, those factors which do not enter into it, being assumed as given, are and will be intrinsically disputable.

At present, differences of opinion arise, unfortunately, not only in the area in which they are inevitable, but also in theory of growth proper which, as I have just said, is basically an exact science. This is simply a result of our being only on the threshold of developing this

extremely complicated discipline. We are still far from mastering even its most essential issues. Moreover, in our discussions we often fail, putting it mildly, to meet the highest standards of precision in formulation and argument. There also appears a tendency to present as axioms assertions which in fact require a proof and which, on closer examination, do not always turn out to be tenable.

The further development of the theory of growth and of its applications should remove those differences of opinion which spring from imperfect knowledge and divert economic discussion towards those problems which the theory is intrinsically incapable of solving.

Finally, let me add that the examples I used to illustrate the shortcomings of economics are drawn from the field in which my work was largely concentrated. It is presumably to this research that I owe primarily the honour that is conferred on me today. No wonder then that for the subject for this address I looked to the areas where I tried to my best ability to overcome the imprecisions of political economy.

Review of *Grundgedanken zu einer Theorie der stoerungdfreien Geldschoepfung*[1] (1937)

Grundgedanken zu einer Theorie der stoerungdfreien Geldschoepfung by F. von Havas (Jena, Gustav Fischer, 1936, pp. 120).

The book is divided into two parts. In the first a short history of the monetary theories from Adam Smith to recent times is given; in the second the author's own ideas in this field are developed. Owing to the lack of space, we shall here deal only with the second part. It must be noticed, however, that the *Dogmengeschichte* does not include, for example, Robertson and Keynes, while much space is devoted to the 'universalists' Othmar Spann and Ottel, whose achievements in the theory of money are not very impressive. This is quite consistent with the author's views on the task of economics as expressed, for instance, on p. 69: 'We shall not deal at all with such a chaos. In certain parts of economics one tries to gain laws from chaos without any success. Only the organized economy has actual laws, in the disorganized economy we find only fragments of laws.'

After that it is hardly surprising that the real economic system is too 'chaotic' to be inquired into by the author, and that in the second part of the book his interest is concentrated upon the 'ideal' laws. The 'ideal' law discovered by the author amounts to the rule that in an economy expanding at a constant rate, creation of purchasing power at the same pace is necessary in order to maintain the price level, and thus to avoid disturbances 'on the part of money'.

The process of uniform expansion is represented by the author as follows. He divides the time into periods equal to the lifetime of working capital. Thus the objects produced in the first period, say, are sold only in the second one. The production of every period is financed by the central bank, which 'advances' the corresponding wages, interest, and normal profits.

The author tacitly assumes that all these incomes are spent entirely during the same period on finished products: on consumption goods or (the savings) on fixed capital. Since the incomes earned in the second

period buy the goods produced in the first, and the output is continuously expanding, the prices are greater than costs (including normal profits), and the difference creates what the author calls the entrepreneurs' gain. (It is easy to see that the total amount of 'entrepreneurs' gain' is equal to the increase of working capital.)

The author is quite unaware that the above does not constitute an adequate description of the mechanism of uniform expansion. He attributes this expansion to some 'real' factor, as, for instance, the increase of population. But how will the new workers be set to work? For the willingness on the part of the central bank to grant increasing credits does not solve the problem, as the entrepreneurs must, in addition, be induced to *take* them. Since the author has assumed that investments in fixed capital are defined by savings out of 'normal incomes' (wages, interest, and normal profits), a suitable rate of interest can hardly encourage the demand for credits. And the author really does not consider its level relevant to the mechanism of expansion (p. 116).

In order to understand this mechanism it is necessary to discard the author's artificial and unrealistic assumption that the savings out of 'normal incomes' define investments in fixed capital. (This assumption is based on the erroneous, though widespread view that if savings are used for the purchase of securities, a demand for corresponding volume of new investment goods arises automatically.) The volume of investment (per unit of time) is determined by the prospective yield and the rate of interest, and it 'forces' the amount of savings always to be equal to it in value. (Precisely in the same way as in the argument of the author, the increase of working capital creates the 'entrepreneurs' gain'.) It is easy to see that, supposing a constant percentage of income is saved, the total output will expand by α per cent per unit of time if the investment increases at this rate. Thus to secure the expansion at a given rate α, the rate of interest must be such as to keep the rate of increase of investment equal to α. Only in this way is it possible for the central bank to maintain the uniform expansion of the economy (although sometimes a negative rate of interest may be required).

Review of *Die Aufgaben des Geldes* [1] (1937)

Die Aufgaben des Geldes by E. Lukas (Stuttgart and Berlin, W. Kohlhammer, 1937, pp. 657).

This large book is a strange, though rather typical, mixture of common sense and the quantity theory of money. The author realizes clearly that it is deficiency of effective demand which causes unemployment of factors of production; and that proper 'inflation' begins only when full employment is reached, while effective demand continues to rise. But his analysis is based upon the equality of effective demand to the product (MV) of the quantity of money and the velocity of circulation, which factors are thus considered to be the determinants of the system, or at least the medium through which every change in data makes itself felt.

A good example of the confusion resulting from the quantity theory approach is the author's solution of the problem of why the state of depression does not develop forces pushing the system back to full employment. This is attributed to stickiness of costs and prices (pp. 70–103). If they fell the 'purchasing power of money' would increase, but for various reasons they do not. Let us assume, however, that all costs and prices do fall, e.g. by 50 per cent. It is obvious that in the first moment the effective demand falls also by 50 per cent, and consequently its 'real' value remains unaltered. This is, of course, not the eventual result. The demand for cash for transactions declines, the rate of interest falls off, and this may encourage investment activity, and thus increase effective demand. This is, however, a complicated process not at all equivalent to an increase in 'the purchasing power of money' proportionate to the fall in costs and prices. And its result may be slight indeed, for the fall in the long-term rate of interest is likely to be small, a fact of which the author—as is apparent from his remarks in another part of the book (p. 205)—is fully aware. What, then, is the use of elasticity of costs and prices?

The author's explanation of the breakdown of prosperity is also characteristic. He states that no phenomenon in the sphere of production can cause such a breakdown unless there is *in addition* a shrinkage in the quantity of money (p. 477). Let us take the case of a fall in the prospective rate of profit. It is clear, then, that investment activity, and thus effective demand, declines. Let us suppose that the quantity of money in circulation remains constant. Since employment and output fall off, the demand for cash for transactions is reduced and the rate of interest *may* (but *need not* because of growing uncertainty) decrease. This fall in the rate of interest, however, is unlikely to be sufficient to restore the previous level of investment.

A great part of the book is devoted to the detailed consideration of the capital and money markets. The author takes for granted the popular view that the buying of securities by the saver automatically creates a demand for new capital equipment. Thus the increase in saving, as such, is not considered to have a 'deflationary' effect. If, however, savers buy, for example, bills, instead of bonds, a corresponding amount of purchasing power is shifted from the capital to the money market and meets there a part of the demand for credits (pp. 408–10). Thus credits granted by monetary authorities fall off and 'the purchasing power in circulation' shrinks *pro tanto*. As a result the fall in the demand for new capital equipment which occurs is not compensated for by the increase of effective demand in other parts of the economy. This description is, of course, inadequate. The process concerned is much more complicated. A shift of a certain amount (whether coming from new or old savings) from the capital to the money market tends to raise the long-term rate of interest, and thus reduce the volume of investment, but in general not just by the amount initially shifted.

As stated at the beginning, the author is well aware of the connection between unemployment and effective demand; he also fully realizes the efficiency of public expenditure, financed by borrowing, for fighting depression. The considerations on this point offer an opportunity for praising national socialist economic policy. The author does not miss it.

Review of *An International Statistical Comparison of Production and Income*[1] (1939)

Gospodarka światowa: Produkcja i dochód w liczbach by Ludwik Landau (Warsaw, Instytut Gospodarstwa Społecznego, 1939, pp. vii + 151).

This book, published by the Polish Institute of National Economy, is an important contribution to the comparison of the national income per head in various countries. Investigations of this subject have usually been based on available estimates of national incomes in the countries concerned which one brought into relation with each other by indices of relative price levels. The difficulties of this method are obvious. First, the notion of income underlying the various estimates is by no means uniform in all countries (and for many of them such estimates simply do not exist); and, second, the relative price indices are by no means trustworthy.

The author of this study approaches the problem by an entirely new route, taking as his point of departure the productive activity of the various countries. The general method is to establish the amounts of particular commodities produced in a given period in the countries concerned, and to calculate their value with a unique system of prices. The method works well in application to agriculture and mining. The author undertook an heroic work in collecting data about the output of agriculture (for the period 1926–30) and mining (for 1929) all over the world.[1] As the standard system of prices, he takes the 'world prices' for the relevant period, determined either on the basis of quotations in the important producing countries or from statistics of foreign trade. In this way the real values of the produce of agriculture and mining in each country were established.

It is, however, obvious that it is impracticable to make estimates of manufactures by this method owing to lack of sufficient data. Moreover, what is needed is not the gross, but the net output (or value

[1] For agriculture the period 1926–30 was taken in order to smooth out the fluctuations in crops.

added), since otherwise a duplication of many items would be involved, and the result would represent, not the national income, but the aggregate turnover. The author made use therefore of the estimates of the Economic Bureau of the League of Nations, which computed the ratios of the aggregate net outputs of manufacturing of various countries for the purpose of obtaining weights for an index of world manufacturing production. These estimates are not so reliable as those obtained by the author for agriculture and mining; the influence of the difference in price level in various countries seems not to be sufficiently eliminated here, though in 1929 (to which year the estimates relate) these differences may in many cases have not been very great. The author then calculates the absolute values of net output of manufacturing in all countries concerned by multiplying that for USA by the ratios established by the Economic Bureau of the League of Nations. He adds then the items thus obtained to the 'real' values of the production of agriculture and mining. He considers the sum obtained as a more of less satisfactory indicator of the real income of the countries considered.[2]

The figures that the author has obtained appear in general to be reasonably probable (see Table 71). Some of the results concerning agricultural production are indeed, somewhat surprising; but, as we have seen, it is these figures that can be regarded as most trustworthy.

It is, of course, not surprising that the manufacturing production per head of the total population is higher in industrial countries, owing

Table 71. *Indices of Production per Head of Total Population, 1929 (industrial Europe = 100)*

Countries	Agriculture	Manufacturing	Total (mining including)
Industrial Europe[a]	100	100	100
Industrial overseas countries[b]	250	174	200
Countries of intermediate structure[c]	58	32	39
Agricultural Europe	94	14	36
Agricultural overseas countries	35	2.5	12

[a] Western Europe, Germany, the Scandinavian countries.
[b] USA, Canada, Argentine, Australia, New Zealand.
[c] Italy and Japan.

[2] By this method, services and handicrafts are left out of account. The author points out that the former are relatively more important in industrial countries and the latter in the primitive ones; thus on balance their exclusion does not greatly affect the comparison.

both to the higher labour efficiency and to a greater part of the population being employed in industry. But it is striking that the same holds good for agriculture; its efficiency in industrial countries appears to be so high that, in spite of the much smaller proportion of the population engaged in agriculture, the produce of the latter per head of the total population is in general greater than in the purely agricultural countries.

The author shows that this is by no means due chiefly to the more intensive cultivation of the soil; the vegetable production per unit of area does not in general differ so much as the density of agricultural population, which is very great in the more primitive countries. Another very important factor is the enormous differences in animal production per head of agricultural population (to the disadvantage, of course, of the primitive countries).

The author's conclusion is that in practice it is only industrialization which opens the door to progress in agriculture. By causing a migration of the excessive agricultural population into the towns, it raises the standard of living in the countryside, makes possible there a capital accumulation, and stimulates the adoption of more modern techniques in agriculture.

Review of *Économique Rationelle*[1] (1940)

Économique Rationelle by G. and E. Guillaume (Paris, Hermann, 1937): I. *Méthode* (pp. 44), II. *L'Économie Pure* (pp. 76), III. *Interférence avec la Domain Juridique* (pp. 55), IV. *Interférence avec des Modes Étrangéres* (pp. 58), V. *Modéles Mathématiques des Mondes Économiques* (pp. 31).

These five small books cover a wide field, being an attempt to construct a system of economic dynamics. The work is of rather uneven quality and consists in part of more or less familiar material presented in a new and somewhat pretentious terminology. This review will mainly be confined to Part III, *Interférence avec la Domain Juridique: Méchanisme de la formation des bénéfices, des déficiences du pouvoir d'achat et des crises*, which is the most important and original contribution.

The authors start from the criticism of Say's law that goods are always exchanged against goods. They consider a producer *A* exchanging his products against those of producer *B*. If efficiency of *A* increases, the prices of *A*'s product must, according to Say, fall as compared with those of *B*'s products. The authors show that there exists an alternative not considered by Say. *B* may acquire the increment of *A*'s production against a debt. *A* then obtains in exchange for his product that of *B plus* a debt, and the prices of *A* products do *not* fall as compared with those of *B* products. As a result the increase of efficiency in *A*'s production gives him a profit equal to *B*'s 'new indebtedness'; the source of the profits in the 'new indebtedness'.

The last generalization is only justified, however, if profits are determined in a rather peculiar manner. If we mean, as usual, by profits what is left out of the proceeds of an enterprise after deduction of prime and supplementary cost, it is easy to show by considering the author's example that profits may increase without any new indebtedness having arisen at the end of the period.

Imagine that an industry *A* produces investment goods and an industry *B* consumption goods, and that wages do not change in the period under consideration. Now the *B*, consumption goods industry,

buys the increment of the A, investment goods industry for a debt of the value ΔI_B. Let us now assume, however, that the capitalists of industry A do not hold this debt but use it to increase their purchases of consumption goods, thus raising the prices of the latter and increasing the profits in industry B by ΔI_B. As a result: (i) there is no increase in indebtedness of one industry against the other; (ii) the excess of proceeds over costs, i.e. profits, increase in each industry by ΔI_B and thus total profits by $2\Delta I_B$. This is of course a special case. In the more general case if we denote the increment of A capitalists' consumption by ΔC_A, the eventual 'new indebtedness' of industry B against industry A is $\Delta I_B - \Delta C_A$, and the total profits $\Delta I_B + \Delta C_A$. ($\Delta C_A = 0$ gives the authors' special case; $\Delta C_A = \Delta I_B$ our special case.) Finally, if we take into account that there may be also some increase of investment in industry A and some increase of consumption on the part of the B capitalists, we obtain for the increment of profits the formula $\Delta I_A + \Delta I_B + \Delta C_A + \Delta C_B$.

The authors unfortunately consider only the case of full employment and an increase in production due to the increase in efficiency. It is easy to show that this formula is valid also for the case when output increases by means of setting to work the unemployed. True, the wage bill increases then by a certain amount but the demand for consumption goods B increases just as much (on condition that workers do not save).

Though it is impossible to agree with the authors' theory that profits (if not defined in a very peculiar way) are equal to 'new indebtedness', they are quite right in the emphasis of the connection between these two phenomena. As is easy to see from the above, the process of rising profits starts with a *decision* of B entrepreneurs to become more indebted; if $\Delta I_B = \Delta C_B$ there is no final increase of their indebtedness, but profits increase by $\Delta I_B + \Delta C_A$. This would not happen, however, unless the B entrepreneurs were *ready* to be indebted. (The authors' chief mistake is, I think, in confusing 'new indebtedness' *ex ante* and *ex post*.)

The authors' identification of profits with 'new indebtedness' leads them, however, in many cases to wrong conclusions. They formulate, for instance, the necessary condition for expansion as follows: the ratio of new indebtedness to the total principal must be higher than the rate of interest; this, on their assumption, amounts to the rate of profit being higher than the rate of interest. The correct formulation of this theorem is: the necessary condition of expansion is that the ratio of the

sum of capitalist consumption and investment to the value of equipment, calculated at cost of reproduction, is higher than the rate of interest. Even so, the theorem is right only with certain qualifications, and is by no means a *sufficient* condition of expansion.

Another deficiency of the authors' theory is the important role it attributes to gold production. It is there that the authors find the reason for the check in the increase of indebtedness, and thus for the breakdown of expansion. They assume that the total amount of claims in existence bears a more or less rigid proportion to the stock of gold. Now, the rise in commodity prices which accompanies the process of expansion tends to reduce this proportion, because it hampers gold production. As a result, the banks are not willing to finance a further rise of indebtedness, and this immediately reduces profits, and thus causes a general crisis. Such a theory of crisis is hardly in accordance with the known facts; the ratio of gold stock to the total amount of claims is, in fact, very flexible both in the short period and in the long run.

Despite these and other objections which may be raised against the authors' theory, their work represents a serious contribution to this field of thought, and abounds in original and stimulating ideas.

The Work of Erwin Rothbarth[1] (1945)

I met Rothbarth for the first time at the London School of Economics in 1936. We soon became friends and we engaged in a series of discussions on economic dynamics which we continued during the next few years. It is at that time that Rothbarth started his work on business cycles, trends, and long waves. He took as a basis my mathematical model of the business cycle[1] and intended to introduce in this model new factors which would produce, in addition to the business cycle, the trend and the long waves. The trend factor which emerged from our discussions was the fact that capitalists' consumption depends on the past income and wealth of capitalists.[2] To explain the long waves Rothbarth constructed what he called the railway and canal scheme. The main idea of it was that new railways and canals, in addition to the normal depressing effect of the increase in the stock of capital on investment of the same type, exert a stimulating influence on investment in general by opening new opportunities for economic development. (This approach to the problem of long cycles seems to me very fruitful.) Fitting this factor together with the trend factor mentioned above and the business cycle mechanism into one model led to equations which raised difficult mathematical problems. Rothbarth spent much time on these problems and was in a fairly advanced stage of their solution, but he did not finish his work and it is unfortunately impossible to give an account of his results on the basis of the notes he left behind. He also collected a great deal of data on economic development of capitalist countries as he intended to apply his model to the analysis of economic history.

Why has this research, which seems to me most important in Rothbarth's work, not been brought to completion? The reason for it was the extreme agility of Rothbarth's mind and the universality of his interests. Whatever he read—and he read a lot—pushed him into a

[1] Presented in an article in *Econometrica*, July 1935 (see 'A Macrodynamic Theory of Business Cycles', *Collected Works of Michal Kalecki*, i.).

[2] This factor plays a part in the mechanism of trend in my *Studies in Economic Dynamics* (published in 1943; see *Collected Works of Michal Kalecki*, ii). I certainly owe much to my discussions with Rothbarth on this subject.

new avenue of research and prevented him from concentrating on one subject. Some of his research, although not directly related to the model mentioned above, was still on the subject of business cycle and trend. Rothbarth presented the results of this research in a brilliant lecture to the Economic Society of the London School of Economics in 1939. His most striking point was that owing to the existence of 'rentier firms' not all entrepreneurial savings are reinvested at the top of the boom, even though the rate of profit is not yet falling, and this 'leakage' precipitates the end of the boom.[3] Among Rothbarth's contributions to economic dynamics were his brilliant reviews of Tinbergen's *Testing of Economic Hypotheses*, of Schumpeter's *Business Cycles*, and of Colin Clark's *Conditions of Economic Progress*. The review of Tinbergen's book, which contains in a few pages the results of long and painstaking research, is a model of careful econometric analysis.

A substantial part of Rothbarth's work in the last few years was devoted to subjects outside the sphere of economic dynamics. In 1941 he published in this *Review* 'The Measurement of Changes in Real Income under Conditions of Rationing', which represents a fundamental contribution towards the solution of this problem. He collaborated with Charles Madge in an inquiry on wartime patterns of saving and spending (in particular in the statistical analysis) and contributed two interesting appendices to the book published in 1943 on the subject. After his death there was published in this *Review* his 'Note on the Index Number Problem'.

Rothbarth undertook in 1942 a statistical inquiry into the problem of the relation between capital intensity (in the sense of the ratio of the value of capital to the value of production at full utilization of equipment) and gross margin (ratio of overheads *plus* profits to the value of production) by considering the relevant data for a number of industries in the USA and in Canada. The inquiry, the results of which would be of great importance for the theory of long-run price formation, has not been finished. However, from the notes Rothbarth left behind the method of the inquiry is perfectly clear and judging from the results obtained further research in this direction is very much worth continuing.

Shortly before joining the Forces, Rothbarth was at work on an article on the influence of cost dispersion in an industry under condi-

[3] I developed this idea in my *Studies in Economic Dynamics* acknowledging that it was first mentioned by Rothbarth in his lecture.

tions of imperfect competition upon the relative share of wages in the product of that industry. He shows that on certain plausible assumptions this influence is likely to be small.

Even when on active service Rothbarth continued to think and to write of economic problems. He wrote in Holland a brilliant essay on the reasons for high productivity in the USA as compared with Europe, which, I hope, will be published. In the last letter I received from him he described an ingenious system of full employment in a developed economy based on assuring to everybody a minimum income. This measure would both increase effective demand (if financed properly) and reduce the supply of labour because people could afford to work shorter hours for their living.

Rothbarth planned to write sometime a book (or a few books) which would cover all the wide field of economics and politics in which he was interested. Such plans frequently instil into people a strong instinct of self-preservation. They stick to life in order to accomplish their life work—or so they think. This was not Rothbarth's mood, although he enjoyed life tremendously. He volunteered for the Forces as soon as it was possible to do so on equal terms (up to 1943 German refugees were accepted only for the Pioneer Corps). He hardly spared himself too much when on active service. In his last letter to me, after the description of the full employment system mentioned above, there is the following passage: 'Since I last wrote to you we had a fairly grim time. I came through it better than most. I was profoundly relieved to see that the knowledge of what one is fighting for does help after all to overcome the primitive feeling of outrage which seizes natural man when he suddenly perceives the actuality of death behind the comforting mechanism of commands, dispositions, movements according to plan.' His book will never be written.

Ludwik Landau—Economist and Statistician[1] (1964)

Ludwik Landau unquestionably was born a statistician and economist. Without any exaggeration it may be argued that one rarely meets such universal statistical economists.

Four phases can be distinguished in every statistical-economic study: the first is the selection of the subject; the second is the arduous collection of the basic data; the third is a number of estimates since the data are never so complete as to make estimates unnecessary; and the fourth is the drawing of conclusions from the statistical analyses.

It happens very rarely indeed that someone is able to handle all four phases with equally great competence. A solid but narrow-minded statistician will develop the subject assigned to him, will collect the data himself, but may lack the imagination to make estimates and certainly will be unable to draw economic or sociological conclusions from his study. On the other hand, more brilliant statisticians and economists will eventually make estimates and draw conclusions from statistical studies, but they will not be eager to undertake the toilsome and thankless task of collecting the basic data.

Landau was not afraid of the arduous digging in bulky volumes, excelled in statistical estimates, and at the same time analysed the findings of his studies, not to mention the fact that he himself designed his studies and chose exceptionally important subjects.

This is well illustrated by one of his major works, *The Structure of the Polish Population in 1927*. Here it is clear that Landau's aim was to study the class structure of the Polish society, and so he attempted to break down such aggregate categories as 'industrialist' or 'farmer'. Thus he distinguished the upper-middle class from tradespeople and large landowners from peasants in agriculture. This obviously required laborious estimates in analysing the census of 1921 and then another series of estimates in the extrapolation for 1927.

These findings later became the basis for the study on the national income, which we did together. It was in this study that Landau's versatility came to light. The first volume, which is based on estimates

made from rather easily accessible data, is our common work, but the second volume, on wages, which required a toilsome analysis of basic data, was done by Landau alone. And without this second volume, without determining the sums of wages, we could not have achieved our final purpose, namely, to show the distribution of national income according to classes.

Here it is worth recalling that our study was at the time probably the only attempt in the capitalist world to make a detailed distribution of the national income according to social classes. As Landau had distinguished them in the social structure of the population, we respectively separated the incomes of the upper-and the lower-middle class. Likewise in agriculture we distinguished the incomes of large landowners and peasants. After the war we were reproached for obscuring class differences in the countryside, for not further breaking down peasant incomes into well-to-do, average, and poor peasants, but these were unreasonable demands considering the fact that such an estimate has not been made in the subsequent twenty years of existence of People's Poland. As it is, the two of us did a job such which is usually handled by whole institutions. This was possible only thanks to Landau.

His capacity to carry out research projects of wide scope was revealed fully in his *World Economy*—a study in the national income in different countries of the world.[2] Landau based his estimates of industrial production on existing statistical sources, namely, on the League of Nations reports. For agricultural production, however, on his own he completed a gigantic piece of work which today is handled by the FAO. He was probably the first person to calculate agricultural output at uniform world prices in all countries. In this way he obtained an approximate estimate of the national income in individual countries, and on this basis once again he could make a mostly interesting analysis of differences in the structure of economically developed and underdeveloped countries. Landau pointed out, among other things, that in the latter the low vegetable production per head of the rural population was due much more to the overpopulation of the countryside than to the crop yield per hectare.

Landau's study of the price changes of various consumer articles in Warsaw during the war is the most dramatic example of his statistical-economic work. The author, of course, then lived constantly in the situation of a hunted animal. The subject that fascinated him was the relative prices for particular food articles during periods of severe food

shortage. Landau put forward the hypothesis that when a considerable part of the population is chiefly concerned with satisfying hunger, there appears a convergence of the money value of one calorie embodied in products whose money value normally is very different. Subsequent statistical studies have confirmed this hypothesis. So we see a man who to all intents and purposes was sentenced to death, studying the statistics of prices during a time of hunger. But that was Landau—a steadfast researcher.

Landau did not leave behind any larger theoretical-economic studies, but on the basis of personal contact with him I can say without any shadow of doubt that had he devoted himself to theory, he unquestionably would have accomplished a lot; the passion of a statistical economist to some extent stood in the way of this. It is interesting that besides statistics in his studies he had more of a bent for economic history than for economic theory. There is really nothing strange about this: for what is a statistical economist if not an economic historian, in any case a statistical economist like Landau? And that is probably why in addition to statistical studies he left behind *Outline of the Economic History of Poland* and *Chronicle of the War and Occupation*. I discuss the latter in more detail below.

Chronicle of the War and Occupation

Twenty years ago Ludwik Landau was murdered by the Hitlerite submen. And on 28 February 1944, the day before he vanished without a trace, he made the last entry into the chronicle that he has kept since the first days of the Nazi occupation.

Landau was an exceptional man. This excellent economist and statistician, of a logical and keen mind, was at the same time unflagging in the search for data and its collection. This was evidence not only of his many-sided talents, but also of exceptional features of character. As a rule, talented people do not busy themselves with poking about in statistics or gathering 'field' data. Landau's modesty and a certain type of self-denial found expression in his work. It was all of this that predestined him to assume the role of chronicler of the most horrifying years of the modern history of humanity in a place where civilized savagery reached its highest.

Chronicle of the War and Occupation is an astonishing document in many respects. What is most striking is the tremendous effort, which made it possible to re-create reality—including the military-political

and economic situation of the Third Reich—on the basis of the official German press, monitoring of allied radio stations, the underground Polish press, data systematically collected by research assistants of the clandestine Institute for National Economy in which Landau worked, and finally his own observations, discussions with his colleagues, etc. In this way, through critical analysis and confrontation, an astonishingly complete and faithful picture arises from individual pieces of information and often only from their fragments.

The author, who on account of his Jewish origin and activity was constantly in the situation of a hunted animal, was able to remain an impassionate observer in his chronicle. There is nothing of a diary in it. This was explained by the fact that its author avoided any threads that, in case the chronicle was discovered by the Hitlerites, could identify the author, his family, or his collaborators. But this surely is not all. It is clear that the author never makes any effort to say anything about himself in a masked way. In fact, the impersonality of the chronicle goes even further.

Landau avoids any effective syntheses or generalizations of any kind. Yet in such an inferno there were numerous opportunities for this both in political and psychological dimensions of his chronicle. This accredited correspondent-in-hell writes matter-of-fact reports in an economical style, without any tendency to dramatize things, though what he describes really can shake one's faith in the existence of the species *Homo sapiens*.

Here the quality of self-denial, which I mentioned above, is manifested. Landau has the aim of gathering material for a future historian, without yielding to the temptation to show off his wisdom or profundity. He often even does not find room to express his emotional attitude toward the reality described. This simply recedes into the background.

The *Chronicle* is largely a reflection of Landau's other functions, namely, the writing of studies and reports for the underground press and organizations and editing the journal *Chronicle of the Occupation*. What is impressive is his steadfastness in carrying out these functions. At the end of 1943 there were clear signs of increasing danger from blackmailers on the route of Landau's daily trips connected with his work, from the suburb of Włochy to Warsaw. At the same time no one better than Landau knew that the end of the Third Reich was close at hand; giving up the work that he had done without interruption for four years, which unquestionably would have been approved by his

collaborators, most probably would have saved him. Yet this dispassionate and restrained chronicler did not choose the path of common sense for himself personally and perished writing his chronicle to the very end of his life.

The Work of Oscar Lange: 1904–1965[1] (1965)

The rapid development of science in our times is based to a great extent on far-reaching specialization: researchers achieve rapid progress by concentrating their efforts on a limited field. This pattern suffers from a serious deficiency: in the process is lost the type of a scientist who embraces the whole of the discipline in question together with related problems of other disciplines. Oscar Lange was just the type of a universal economist whose work covered not only all economics in the strict sense of the word but also the related problems of sociology, on the one hand, and of mathematics, on the other.

He was also versatile in another way. He was not only a talented researcher but also a true scholar and a first-rate teacher—a combination which is not frequently found.

Already in the early stage of Lange's work the versatility of his interests is apparent. I have in mind his three papers published in the years 1936–8: 'On the Economic Theory of Socialism', 'The Rate of Interest and the Optimum Propensity to Consume', and 'Ludwik Krzywicki as a Theoretician of Historical Materialism' (in Polish). The first of these papers was concerned with the role of the quasi-market mechanism in a socialist system, the second with the dynamics of capitalist economy, the third with historical materialism. These were the three directions in which Lange's work was to develop in its later stages.

The essay on the economic theory of socialism was one of the most important of Lange's contributions. It played a crucial role in the discussion of the possibility of rational management of a socialist economy which was at that time taking place in the West. To the insistence of reactionary economists that this would require the solution of an enormous number of equations, Lange replied that the authorities of a socialist economy may always resort to a lesser or greater extent to the quasi-market mechanism.

In the post-war period, especially from 1955 onwards, all these three directions of research found their reflection in the economic work of Lange; the scope of the problems in question had, however, widened.

The first direction found its expression in Lange's studies on *economic management* in the period 1956–9. In addition to the papers he published on the subject, Lange, as the chairman of the Economic Council, played a leading part in its work, which aimed at increasing the role of incentives for socialist firms within the framework of Central Planning. In recent years he was especially interested in the application of mathematical methods and computers to the problems of economic management and evaluation of variants, the outgrowth of which was his book *Optimal Decisions*.[2]

At the same time Lange continued his studies on economic dynamics, both of capitalist and socialist economy. The result of this research was the paper 'Model of Economic Growth'[3], the book *Theory of Reproduction and Accumulation*[4], as well as the paper 'Some Observations on Input–Output Analysis' (included subsequently in the *Introduction to Econometrics*),[5] which establishes the connection between the Marxian schemes of reproduction and input–output matrices. Lange worked also on problems of underdeveloped countries; *inter alia*, he produced valuable memoranda on the long-run plans of India and Ceylon (Sri Lanka) for the respective governments.

Finally, his work on historical materialism, in which he applied the mathematical theory on cybernetics, resulted in an essay *Wholes and Parts: A General Theory of System Behaviour*,[6] constituting an important pioneer item which is interesting for economists, as well as for sociologists and philosophers.

All these lines of research were to converge in a great three-volume treatise on *Political Economy*, which in a sense was to be the crowning stone of Lange's work.[7] Unfortunately, only the most valuable first volume and a part of the second were published. His illness and untimely death prevented him from bringing this great undertaking to an end. This is a concrete measure of the gap left by Lange's death in Polish and world economics.

This much on Lange's work. A few words about him as a person. Lange exemplified the qualities which should characterize every scientist but unfortunately so seldom do: he was modest, free of envy and tolerant. Thus will he be remembered.

On Paul Baran's *Political Economy of Growth*[1] (1966)

This book is certainly the most important of Paul Baran's contributions to the social sciences. I think the title is somewhat misleading because it may suggest that this is a treatise on the purely economic theory of growth. Although the book contains elements of such a theory, this is not its main subject. It is an analysis of the social and economic forces behind the process of development rather than a specific explanation of the mechanism of economic growth.

Not that it does not contain very valuable material in the field of economic theory in the strict sense: I find, for instance, most illuminating the treatment of innovations as the mainspring of capitalist development and the emphasis on the weakening of this development factor in the phase of monopoly capitalism. However, the most important and original contribution of the book is certainly the characterization of various economic systems by the way in which the economic surplus is generated and utilized.

Baran distinguishes between the potential and the actual economic surplus, but he does not by any means limit the discussion to the discrepancy in these two values which makes for an underutilization of existing resources. This focal point of the economic discussion in the last thirty years, generated by the Great Depression of the 1930s, accounts for only a part of his argument. He goes far beyond that and concentrates his attention on *how* the economic surplus is being utilized even if it is utilized more or less to the full. And indeed some of the most brilliant pages of his book are devoted to the analysis of the assimilation of the New Deal ideas by monopoly capitalism. From all alternatives of 'filling the gap in effective demand' there emerges as acceptable to the ruling class only that which is most absurd and perverse: the manufacture of the weapons of destruction as a means of keeping the economy going and enabling people to earn their livelihood.

In underdeveloped countries the appropriation of the economic surplus by foreign capital or its absorption by non-essential consumption of the parasitic upper classes is emphasized, the repercussions being a low level of investment and slow economic growth.

But whether a developed or an underdeveloped capitalist country is analysed, the discussion is never confined to the purely economic impact of the generation and utilization of the economic surplus. It is penetratingly shown how this basic characteristic of the economic system determines its whole social fabric. Indeed, the book is a pioneer performance in the classification of social systems and their stages of development according to this characteristic. And as an outcome of the analysis socialism emerges as a system which makes possible a full and rational utilization of the economic surplus for the benefit of the present and future consumption of the working population.

Joan Robinson[1] (1967)

Joan Robinson (born in 1903) is an eminent progressive English economist who holds one of the top places in world economics; she is the first woman professor of economics at Cambridge University. The three main directions of her studies of the capitalist economy are: (i) the theory of imperfect competition, (ii) the theory of employment, and (iii) the theory of growth.

The Economics of Imperfect Competition[2] (published simultaneously with *The Theory of Monopolistic Competition* of E. Chamberlin)[3] makes a breach in the doctrine of perfect competition, which was the cornerstone of bourgeois economics. In this work the author describes the development in the capitalist economy of monopoly formations of all kinds, making it necessary for every firm to take into consideration the link between the sales of its products and the prices received.

In *Essays in the Theory of Employment*[4] Joan Robinson develops the Keynesian theory of employment which is examined as a function of general demand and is applied to problems of long-run equilibrium and foreign trade. Two excellent essays on the last subject have played an important role in the development of the theory of foreign trade.[5]

The Accumulation of Capital[6] is a long treatise on the general dynamics of the capitalist economy, with special emphasis on long-term problems and the role of technological progress.

In addition to this, Joan Robinson is the author of many other works, *inter alia*, an essay on Marxist economics, in which she emphasizes both the contradictions of the capitalist system and the contribution of Marx to the development of political economy.[7] This essay played a big role in making the works of Marx properly appreciated among Western economists. Joan Robinson is also interested in contemporary socialist economies and has written many articles on this subject.

The Economics of Edward Lipiński[1] (1969)

1. Edward Lipiński was born on 18 October 1888 in Nowe Miasto on the Pilica River to the family of a confectioner. Orphaned by his father at the age of 9, he spent his first grammar-school years in Tomaszów Mazowiecki. Neither in Nowe Miasto nor in Tomaszów could he have contact with socialists, and this, he explains, made him join the youth circle of the National Workers' Union. Yet perhaps the sympathies of this circle were on the side of the Polish Socialist Party, because—as he remembers—as a rule the 'Red Banner' was sung there. In 1904 he moved for good to Warsaw where he attended the Wojciech Górski Philological Grammar School. Lipiński espoused the cause of socialism in this school, where already in 1906 a circle of the Polish Socialist Party–Left was set up by one of the teachers, a literary critic. As president of the student council Lipiński was one of the most active members of the circle.[1]

During his grammar-school years, Lipiński made his first serious contact with socialist writings. It was probably in 1906 that he came across F. Lassalle's brochure *Science and the Workingmen*.[2] Soon after that he became acquainted with a work of the greatest calibre. During the revolution of 1905–7 Lipiński in an antique bookshop in Warsaw bought the first volume of Marx's *Das Kapital*, in a translation by Ludwik Krzywicki and others.[3] However, the preparation of the young socialist turned out to be inadequate to pass the difficult threshold of the first chapter.[2]

[1] This came out during a school strike, after which the school headmaster Górski said to the young president: 'Society in you is nourshing a snake on its own breasts; when you grow up, you will join the communists.'

[2] This encounter with Marx's work can hardly be called a failure, though, because it determined Lipiński's choice of university studies. The following social event was responsible for Lipiński's economic studies abroad. After receiving his secondary school certificate, Lipiński took a summer job as a tutor at the Madaliński's estate. There he met a guest of the Madalińskis, Stefan Kołaczkowski, later a well-known Cracow historian of literature who was then studying in Munich. Though of conservative views, Kołaczkowski was impressed by the youth who had his own copy of *Das Kapital* and boasted of having read this work which at that time was so popular in Germany. So Kołaczkowski decided to help the young scholar to study in Marx's

In 1909–12 Lipiński studied at the Handelshochschule in Leipzig and also attended two university seminars. One of the representatives of the Younger Historical School, Carl Bucher, read political economy there. Among the lecturers of Leipzig colleges Lipiński also remembered Professor Johann Plenge who introduced him to the studies in business cycles. Lipiński used his stay in Germany to study Marx, above all the second and third volumes of *Capital*. Through the books of Stanisław Brzozowski he became familiar with the social philosophy of the French anarcho-syndicalist, George Sorel, whose influence on Lipiński's philosophy of life turned out to be rather lasting.

A relatively large group of PPS–Left members were in Leipzig at that time. Among the most well known were Leon Purman, Leon Ryngman, and Heryng; their leader was Jan Strzelecki. In addition to self-education and political discussions, they gave lectures and talks to Polish workers who had emigrated there for bread. This was Lipiński's first contact with workers. In Germany he met many Polish and Russian social democrats; he heard Rosa Luxemburg addressing German workers, and collaborated with Carl Radek and others.

Lipiński spent the academic year 1912–13 in Zurich. While continuing his economic studies there, he began to gather materials for his doctoral thesis on the Galician economist Józef Supiński. However, Lipiński soon had to take a job; then the war broke out which made it impossible for him to continue his studies.

After he returned from abroad, in the summer of 1913, Lipiński was employed in the exclusive and élitist Commercial Bank in Warsaw. The job turned out to be purely mechanical. Fatigued and exhausted by incessant calculations, he quitted this job one month before the outbreak of the First World War. For the first two years of the war he taught history in the Ladislaus IV Grammar School.

From the moment of his return to Warsaw Lipiński was very active in social-educational and journalistic work. He was one of the co-workers of Wincenty Rzymowski's weekly *Prawda*, and then with the editor and other left-wingers and socialists he became a member of the editorial board of the journal *Widnokrąg*. For a few months (in 1913) he ran the workers' section in *Kurier Polski*. He also published in

homeland. A letter came from Munich that not only encouraged Lipiński to come, but also appended a one-hundred rouble note to help him start there. Lipiński went to Germany with a larger sum of money, however, which he borrowed from his local bank. The loan turned out to be an irreclaimable scholarship since the sum paid back during the period of the great inflation was only a fraction of the original value.

Tygodnik Polski—the weekly of the National Workers' Union. His articles—as Lipiński recalls—were harshly criticized by Tadeusz Rechniewski.

When in 1913 Rechniewski and other PPS–Left activists founded the Society for the Propagation of Business and Industrial Science Lipiński became secretary of the society (on Rechniewski's initiative and recommendation). The lecturers of this new institution, which was something like a workers' university and which replaced the Society of Polish Culture suspended in 1913, were Ludwik Krzywicki, Natalia Gąsiorowska, Stanisław Kruszewski, Edward Grabowski, and others. In the second year of the war the Society was taken over by members of the PPS–Revolutionary Faction headed by Mieczysław Niedziałkowski. Lipiński then withdrew from the Society along with other political opponents of the faction.

Lipiński also collaborated with another institution created by Rechniewski in the first period of the war. He was a member of the illegal discussion club, Plenum. In this club, which gathered the intellectual élite of the socialist Left of Warsaw, many crucial political and social questions were discussed at weekly meetings.[3]

[3] In Tadeusz Szturm de Sztrem's papers there is a note on Plenum written on the basis of the author's talks with Ludwik Krzywicki, Edward Lipiński, and Jerzy Rakowski. Here are its most important passages:

After the outbreak of the First World War Rechniewski in the course of discussions with his closest friends—above all with Krzywicki and Kruszewski—many times pointed out the necessity for action that would convince the leadership of PPS–Left to revise the political postulates in its programme. Rechniewski was chiefly concerned with removing the postulate of independence from the programme. ... However, [he] did not want to disturb the organizational unity of the PPS–Left, and for this reason he undertook this action within a discussion club of a dozen or so members, which took the name 'Plenum'.

The first meeting of Plenum took place at the end of July 1915. At this meeting it was decided that the main subjects of Plenum deliberations, in addition to problems of a general nature, such as the programme of the PPS–Left, would be new ones, such as the social and economic relations of Poland in connection with the war and the policy of the occupiers, and even questions of a practical nature, e.g. the role of socialist parties in organizing and running autonomous workers' canteens.

Meetings of Plenum were held every two or three weeks, always on Sunday. Plenum, whose creator and moving spirit was Rechniewski, did not survive his death. After it not a single meeting of Plenum was held.

The following persons were members of Plenum and regularly participated in its meetings: Leon Berenson, Stanisław Krzeszewski, Ludwik Krzywicki, Marceli Lewy, Ludwik Librach, Edward Lipiński, Jan Muszkowski, Jerzy Rakowski, Tadeusz Rechniewski, Rogowski, Zofia Sokołowska, and Lucjusz Zapolski. Sometimes Natalia Gąsiorowska, Edward Grabowski, and Stefania Sempołowska attended Plenum meetings as guests. In addition to this, Jakub Dutlinger and Maria Koszutska came

The German occupation of Warsaw was taken advantage of to expand the very narrow framework of municipal self-government. The so-called Department of Industry and Labour Protection was set up in the City Hall; it was, in fact, an office of factory inspection to which all industrial plants, as well as craftsmen's and business shops employing hired labour were to be subject. In connection with this Rechniewski talked Lipiński into writing a brochure promoting the theoretical foundations and practical need for work inspection (it appeared in 1916 in Warsaw as the first volume of the *Kuźnia* Library series). At the same time, he used his influence to have the author of the brochure appointed head of the department of industry and labour protection.

In the first years of independence Lipiński continued to work on labour conditions and workers' wages; at first as a consultant in the Ministry of Labour, and then in 1920–3 as head of the Department of Statistics of Labour and Industry in the Central Statistical Office. Here he created a new publication, *Statystyka Pracy* (Labour Statistics), in which he published many studies. After leaving the position of department director, on account of a dispute with members of the Chjeno-Piast Government who removed from GUS many employees of leftist views, he remained there for a few more years as research consultant of the Census Department. However, he continued (until 1927) to concentrate on problems of the workers. In Lipiński's bibliography of the period 1924–7 there are also reviews of G. D. H. Cole and W. Mellor's leaflet on guild socialism, R. Dmowski's book on the worker question, and several smaller publications on working conditions and wages. In 1925 and 1926 Lipiński edited and wrote the introduction to two volumes entitled *Ustawodawstwo robotnicze* (Worker Legislation). The first volume contains the laws and regulations in force in Poland on the inspection and protection of work, work-time, holidays, collective bargaining, laws on association and trade unions, labour exchange, and emigration. The second volume included documents on social benefits.

However, these were Lipiński's last publications from the interwar period that show his practical interests in socialism and the worker question. Indeed, the years 1924–7 end an important stage in his life and work. During this decade, he was at first very closely linked

to some meetings of Plenum as observers for the leadership of the PPS–Left, and Wacław Wróblewski was present at all meetings.

organizationally with socialism, and then this link became ever looser. The death of Tadeusz Rechniewski in 1916 probably had a decisive influence—as in the case of Ludwik Krzywicki—on loosening his ties with the socialist Left.[4]

The philosophy of life of the young Lipiński was shaped by Marxist thought as the foundation of the revindicative workers' movement and a tool for the critique of bourgeois society. Lipiński's Marxism, however, was highly sensitive to new phenomena and intellectual currents. There are many examples of this.

His first two publications at the beginning of 1914 are a rather good introduction to the main trend of his interests and social ideas of that time. In *Kuźnia*, a journal edited by Rechniewski, Lipiński published an article 'On the Importance of Trade Unions'; his 'Critical Notes on Taylor's System' appeared at the same time.[4] They were supplemented later by publications on the calamity of rising prices, on workers' self-management, on social reform in future Poland, on labour protection, the strike movement, etc.

At that time Lipiński was in the main current of the socialist movement. He formulated its postulates, elucidated them from the point of view of the immediate tasks and final goals of socialism, and undertook forcible and pioneering action to organize factory inspection attempting to found this new institution in Poland on the most progressive West European models. Lipiński's efforts to organize labour and wage statistics in Poland belong to the same category of his projects. The ideal model for Lipiński was the German social democrats and the trade union movement affiliated with them. He saw the theoretical foundations for his undertaking in the works of Karl Marx and Friedrich Engels, and of the more recent works—in the

[4] Ever since the merger of the PPS–Left with the SDPKPL [Social-Democratic Party of the Kingdom of Poland and Lithuania], Lipiński remained outside the workers' movement. In 1919–21 he collaborated with certain PPS circles. This was expressed in publications in the weekly *Trybuna* edited by T. Hołówka, among others, in an article that represented the typical position of the Social Democratic party at that time, 'The Reconstruction of Capitalism in Russia' [*Trybuna*, 3/27 (1921), in Polish]. Lipiński's activity from 1924 in the Council of the League for the Protection of Human Rights, whose president was Andrzej Strug, also shows similar links with the PPS. Lipiński's struggle to stabilize the economy of independent Poland and to take up studies on the business cycle took the place of worker problems. He entered into a different social circle, established new contacts and friendships which changed his way of looking at society. In this light the worker question became, as it were, part of a greater whole: that of equilibrium and dynamics of the national economy under the assumption of unchanged social parameters.

publications of Karl Kautsky, especially in his *The Road to Power*,[5] to which E. Lipiński referred many times.

Lipiński's first publication ends with a significant statement on the history-making role of the working class: 'The working class has become the ideologically best-knit class, demonstrating the greatest power of action. It is the only class that has its own, great, historical ideals, the only one with the power to put them into action; already today it presents itself not only as a great material and social power but also as a powerful moral force that is conscious of its historical position'.[5]

Lipiński regarded Karl Marx's *Das Kapital*, and especially his theory of value and surplus value, as a perfect tool for studying the class structure of bourgeois society.

The first sign of Lipiński's capacity not only as a talented popularizer of Marx but also as an independent economic theorist is the critique published in 1920 of the economic views of Erazm Majewski. The now-forgotten hero of those times was a respected archaeologist, but he also had great ambitions as a social thinker. From 1908 he began to publish a huge work planned in several volumes, *The Science of Civilization*. The third volume, which first appeared in 1914, and had the suggestive title *Kapitał—Rozbiór podstawowych zjawisk i pojęć gospodarczych* (Capital—An Examination of Basic Economic Phenomena and Concepts), in only a few years had four editions and was promoted by the Warsaw bourgeois press as an epoch-making work that once and for all overturned the socialist doctrine. Majewski opposed the Marxist theory of value and surplus value, and instead put forward a distinction of work between the mechanical expenditure of energy and the 'human soul' as an independent factor of production to which humanity owes the far largest part of its wealth.

Taking up a critique of Majewski's *Kapitał* in a long article,[6] Lipiński did not confine himself to showing the unprofessional nature of Majewski's argument and to pointing out its social implications, but *passim*, as it were, he made certain theoretical points that went far beyond the epigonism so common in the socialist literature of the time. Perhaps it is worth dwelling on one of these points, because in it one can see certain characteristics of Lipiński's lasting theoretical credo—certain ideas which he developed later in post-war Poland.

[5] *Kuźnia*, 2/6 (1914), 182.

[6] See *Przedświt*, 39/2 and 3 (1920).

Looking at the Marxist notion of value as a historical and sociological key to understanding the social relations of capitalist exchange, Lipiński at the same time perceived the shortcomings of the Marxist theory of value from the point of view of the needs of the future socialist economy. For Lipiński an important task to be solved was to discover the laws 'governing the behaviour of individuals, and thus also of the entire society, regarding production as a whole'.[6] Notwithstanding certain reservations, he believed that the 'purely hedonistic theory' in its formulation by Pareto puts the problem correctly, while the well-known comments of Marx in the third volume of *Das Kapital* on use-value and social needs show that such a theory could be incorporated into Marxism.

In this context a longer passage from Lipiński's argument is noteworthy as it allows us to see in what terms he then put the problem of economic calculation in a socialist system.

> The socialist society will strive to produce the greatest use-value, and so a theory describing the rules which regulate this use-value becomes indispensable. One can become convinced of what role a theory of value based on use-value (really not a theory of value, but a theory of evaluation processes of the usefulness of goods) will play in such a society if we consider the difference between capitalist and socialist production. In the former for a useful good to meet its basic task, i.e. to get into the heaven of consumption, it must first pass through the purgatory of exchange value. In a consciously regulated socialist production useful goods will be produced directly. The value of these goods for the society will not be determined by the amount of social work contained in each good; on the contrary, the amount of work which the society will be willing to expend for the production of a unit of good will depend on the use-value of this good, that is, on its utility. Thus two factors will regulate the behaviour of socialist society in the production process: the desire to attain maximum utility and the available volume of labour. In allocating specific amounts of social labour to the production of particular categories of useful goods, the society must take into consideration what utility it will attain from the production of a greater or lesser volume of these goods. To be sure, the evaluation processes of the marginal use-value of various categories of goods will take place, not as today, from the point of view of the individual, but of the society as a whole. The aim of production will be to achieve the maximum social, not individual, utility.[7]

So we see that the fields of Lipiński's interests of that time are both social and historical problems as well as those which in Western literature is commonly classified as pure or theoretical economics.

One can also easily see that the language in which Lipiński attempted to express his thought was too restrictive, that the author was concerned with the much broader problem of combining a sociological, or historical and social approach with an economic one, that he then took on the task of synthesizing these two approaches. He was one of the first in world literature to call attention to both the necessity for and the difficulty of constructing a theory of a socialist economy (of earlier date are only the essays of V. Pareto, E. Barone, and N. Pierson, which were little known until the 1930s). The foundation of this theory was supposed to be the idea, not very precisely expressed but correct, which in the contemporary language of programming has been called duality or a dual programme. This idea, in support of which Lipiński referred to Marx's statements in the third volume of *Das Kapital*, was quite rare in the socialist literature of that time.

Recalling the years of his youth, Lipiński often emphasized that the ideas of Sorel, with which he became acquainted from books of Brzozowski, had a big influence on him. It is hard to determine the directions and extent of this influence on Lipiński's philosophy of life, however. Brzozowski's name does not appear in Lipiński's publications at all and Sorel is referred to only twice.

One of Lipiński's statements that refers to Sorel is prophetic: it concerns the motivation to work in the socialist system. In an article published in 1919, whose title itself is perhaps a certain (at least semantic) reflection of syndicalist influences, Lipiński anticipated the argument in favour of piece-work to rebuilt the war-torn country with the following digression:

> We do not know what the morality of work will be like in the new social order. Perhaps, as Kautsky hoped, the workers will work with the same enthusiasm in shops as they now show in the revolutionary movement. Perhaps with the progress of technology, workers will become artists, soldiers of technology, having something of the spirit of Napoleon's army—in short, they will be the producers with a new morality which will ensure constant economic progress—about which George Sorel wrote such extremely interesting things.[7]

Here we touch upon the social philosophy of French syndicalism which had a great influence on the writings of Stanisław Brzozowski from the period of the revolution of 1905, and through his work on Polish minds, especially on the young Warsaw intellectuals. In Stanisław Brzozowski there is an entire 'philosophy of work', in which diverse influences cross each other (in addition to Marx and Sorel, also Tolstoy and Bergson). Lipiński did not accept Brzozowski's philosophy of work with all its implications, since he was not interested in the purely philosophical aspects of his doctrine. But Sorel's vision of the 'morality of work', work as creative and artistic activity, Sorel's ethos of work, and the idea of the working class as the embodiment of special virtues,[8] left a strong impression on Lipiński's views and interests,[9] and later (see below) on his way of interpreting Marx.

Direct references to Sorel in Lipiński's works are too few to determine the extent of the influence of Sorel on Lipiński. Perhaps, though, one can risk a hypothesis on its direction taking into consideration both Lipiński's publications from his PPS–Left period and his last works on Marx's ideas. Though for a rather long time (twelve years) Lipiński was a member of the revolutionary party, he was not entangled in tactical struggles, did not participate in the debates around the idea of a general strike, which in the political programme of anarcho-syndicalism occupied such a prominent (if not a central) place. For by temperament Lipiński was rather a writer and a teacher. Neither did he look for economic theory (or economic programme) in Sorel (even less so in Brzozowski). In this field Sorelism could not be attractive for a reader of Marx's *Das Kapital*. Here the matter could only concern the interpretation of the Marxist approach to history, for in this field Sorelism understood as 'French–Italian theoretical variations on Marxism'[10] could be intellectually attractive for Lipiński. Sorel pointed out a different interpretation of Marx from the naturalist-evolutionist, fatalist, and positivist interpretations widespread in German and Polish socialist literature of that time. Sorel was an alternative to Kautsky, which to a great extent also applies to the interpretation of Marx in Ludwik Krzywicki's works.

[7] E. Lipiński, 'Action of Workers and Socialist Action', *Trybuna*, 1/3 (1919), 78, in Polish.

[8] It is significant that in Jadwiga Possart's book on the ideological disputes in the PPS, Lipiński's article on the importance of trade unions is quoted precisely in the context of the 'evangelical virtues' of the working class, which predestine it for the greatest victories (J. Possart, *Structures of Theoretical Thinking and Ideological Controversies*, Warsaw, Książka i Wiedza (1963), 92, in Polish).

[9] Perhaps it was under the influence of this 'philosophy of work' that Lipiński chose Supiński's economics as the subject of his doctoral thesis and not only out of a desire to popularize the Polish economist in foreign literature. For Supiński was a Messianist of 'work guided by knowledge and knowledge based on work'. [See Józef Supiński, *Collected Writings*, i. 131, Warsaw, Gebethner & Wolf (1883), in Polish.]

[10] A. Stawar, *On Brzozowski, and Other Essays*, Warsaw, Czytelnik (1961), 51, in Polish.

Brought up on the literature of the Young Poland movement, a witness and participant of the revolutionary uprising of 1905–7, Lipiński sought theoretical support for his views, but in the social literature he also sought both a romantic and humanistic element. Brzozowski's writings and the ideas of French syndicalism reproduced in them were an antidote to the historical fatalism and ethical biologism of the orthodox interpretation of Marxism of that time. The principal author of this interpretation was Karl Kautsky, but to a greater or lesser extent this also was true for an entire galaxy of Marxists of the first generation, who became followers of Marx in the age of Darwin, Haeckel, Morgan, and other natural scientists shaping the intellectual atmosphere of that epoch; thus they interpreted Marx's theory under the strong influence of the natural sciences.

Of course, the version of Marxism of those days was the result not only of a particular interpretation but also of the degree of familiarity with Marx's works. Whether this Sorelian antidote to fatalism would have been necessary for Lipiński, had the works of the young Marx been well known already at that time, is a different problem.[11]

2. The development of economic theory in Poland leaves a lot to be desired. Practical and political interests dominate most of the studies which are mainly descriptive and unoriginal; independent theoretical studies are rare... One can say that in the economic sciences we are the poorest country in Europe... A special theory even has appeared here that regards this dominance of practical interest as a characteristic feature of the Polish mind in general (E. Strasburger)... Unfortunately, scientific relations in Poland are such that there is no care at all for original theoretical work in economics... Here almost every theoretical attempt vanishes without a trace. No one takes up, no one develops, no one adds to what already exists.[12]

Lipiński painted this picture of Polish economic theory on the threshold of the twenty-year interwar period. Although it was a realistic picture, a singular confession lies behind its pessimistic colours. This pupil of the German historical school, who so far had been

[11] This problem can be examined also from another side, i.e. of whether it wasn't the later popularization of the works of the young Marx that dislodged the influence of Sorel on Lipiński.

[12] E. Lipiński, 'The Economic Theories of Erazm Majewski', *Przedświt*, 39/2, 25–6, in Polish.

interested mainly in the social question and had looked at Marx's theory chiefly from this angle, now perceived the necessity for breaking with the fashion of the historical school so widespread in the Polish literature, and the burning need for the intensive development of theoretical investigations. This confession is also interesting because in it one can see a sign of the main direction of Lipiński's future work. For he would find his special mission in organizational and educational work serving the development of theoretical thought in Poland. True, he would not begin it until the end of the 1920s, but then he would do this on several fronts at the same time.

The first front was the journal *Ekonomista*, where Lipiński is still active, as on the day of this writing. In the last forty years *Ekonomista* has become not only the leading theoretical economics journal in Poland, but one of the best theoretical periodicals in the world, achieving an impressive circulation of 9,000 copies. The editorial board, its title, its managing directors, the publisher, and the printer have all changed several times. Radical changes have taken place in the theoretical and social profile of the journal. To this day, however, the chief editor is Edward Lipiński. More important is that Lipiński's taking over of the editorship at the beginning of 1928 from Stefan Dziewulski, who was in fact little interested in editing the journal, and from Tadeusz Szturm de Sztrem who was its actual editor, was a real turning-point in the history of *Ekonomista*. Szturm de Sztrem, who was more of a statistician than an economist, and a socialist sensitive to the social question, gave the journal a socially leftist colour, but he had less understanding for questions of pure theory. Moreover, traditionally from the date of journal's founding by socialists in 1900, and later when it was in the hands of circles close to the National Democrats (Dziewulski and others), economic theory was only one of several sections of *Ekonomista*. Only thanks to the efforts of Lipiński and his focus on economic theory, did *Ekonomista* become a theoretical journal *par excellence* of an all-country circulation (formerly in fact it was a journal of Warsaw economic circles alone), because for the first time ever it was not associated with any political party. Of course, *Ekonomista* could have become a theoretical journal only because of the manifold increase in interwar Poland of the number of those cultivating economic theory, something to which Lipiński contributed more than anyone else.

The second front was the organization of an association of Polish economists. At the end of the 1920s Lipiński became secretary, a few

years later (in 1931) vice-president, and finally in 1934 president of the Warsaw Council of the Society of Polish Economists and Statisticians. In post-war Poland Lipiński held the office of president of the National Council of the Polish Economic Society. Many times he held simultaneously the offices of president of the Warsaw branch and chairman of various sections of the Society, for the most part the Economic Theory section, and the History of Economic Thought section (today he heads the Economic Policy section). In keeping with Lipiński's ideas, the Society was an association of scholars following the example of associations of historians, philosophers, etc. In the last decade it has gone through many changes, however. With the rapid expansion of the economic profession, the Society has shed its élitist nature and become rather like the Chief Technical Organization—rather an association of technicians than of humanists. In 1965, for a period of only a few months, shortly before his death, Oscar Lange took over the presidency of the PTE from Lipiński.

Another field of Lipiński's activities was Warsaw colleges and universities, chiefly the Main School of Planning and Statistics (the College of Business before the war). As early as 1923 Lipiński began to read in the College of Business. At first he lectured on business cycle theory, a few years later he started to read also the history of commerce. After the death of Jan Stanisław Lewiński, Lipiński—then already Professor of Economics—was given the Chair of Political Economy (Professor Władysław Zawadzki had the second Chair of Political Economy at the time). Lipiński continued to give lectures and seminars on business cycle theory, a special course for advanced students, and a course in basic economics. At the same time, as a member of the Senate and later Deputy Chancellor of the School he worked to transform this trade school into a college with full academic rights and a modern curriculum in which economic theory would have a right place.

During the years of Nazi occupation when it was impossible to legalize a university college, Lipiński at first directed 'private business courses' and then ran a city secondary business school which was a cover for illegal university teaching in economics. After the destruction of Warsaw as a result of the Warsaw uprising, the illegal college studies were moved to Częstochowa. In those years Lipiński supervised theses that were defended and published after the war.

In the first post-war years, as Deputy Chancellor of the Main School of Commerce in Warsaw and Chancellor of its Łódź branch, Lipiński

made a great effort to adapt the traditional college, which had arisen from the needs of a private economy, to the new tasks of a planned economy. He was one of the first to start a postgraduate seminar from which many leading Polish economists emerged. When the College was replaced by the Main School of Planning and Statistics, Lipiński's role became more and more limited, however. Though he was one of the first to undertake the task of assimilating the theoretical thought of Soviet economists,[13] at the same time he was too aware of the development of economics in the world to fit into the tight corset of schemes and dogmas imposed at that time. New people came to teach an abbreviated course in political economy. Lipiński was allowed to read only the history of economic thought (1952–6). Not until 1957, shortly before he retired, was he given—once again—the Chair of Economics in the Department of Economics of Industry.

For many years Lipiński was a professor of Warsaw University. In 1950 he was given the Chair of Economics at the Faculty of Law. After the establishment of the Faculty of Political Economy, Lipiński became its first dean and was given the Chair of History of Economic Thought which he held until 1955.

Finally, an institution which made a great contribution to the development of theoretical economics in Poland was the Institute for the Study of Business Cycles and Prices that was founded and headed by Lipiński throughout its existence, from 1928 until 1939. The idea of creating in Poland an institute for the study of business cycles appeared in 1926. Eugeniusz Kwiatkowski, the well-known business organizer and the Minister for Industry and Commerce in those days, for the position of director of the future institute chose Lipiński who as early as 1923 had published in Warsaw and Łódź the first business reviews and in the same year had begun to give lectures on business cycle theory in the College of Commerce (the future Main School of Commerce).

The model for the institute was supplied by numerous business research institutes that were set up in the West after the First World War, especially the most famous of them—the Harvard Institute. Kwiatkowski sent Lipiński there for a few months in the summer of 1927 to study the American experience.

The ISBCP began its activities at the beginning of 1928. With the incorporation of the Survey Committee headed by Wincenty

[13] See E. Lipiński (ed.), *Problems of the Political Economy of Socialism in the USSR*, Warsaw and Łódź, Wydawnictwo Kazimierza Rutskiego (1948), in Polish.

Jastrzębski,[8] who became Lipiński's deputy, the Institute from the very outset differed from classical Western models. In addition to the section for the study of business cycles, to which these classical models generally were confined, a section for the study of prices was also set up to examine not only market prices, but also the structure of costs of production and even the organization of work in industry. Having precisely this in mind, Lipiński emphasized that in Poland the 'government went in the direction of combining studies of economic structure with studies of the business cycle.'[9]

During the first period of the new institution Lipiński was preoccupied with its organization. He devoted a lot of time to setting up methods for collecting and elaborating statistical information and creating business indicators (barometers). He studied world literature, trained young researchers, etc. Above all, however, Lipiński's talent as an organizer and teacher manifested itself in the selection of his associates. Apart from Lipiński's deputies and first heads of sections (S. Pszczółkowski and W. Jastrzębski), who already had a certain scholarly achievements, the research staff of the Institute were young people for whom it opened up a scientific career. Among the most promising were Michał Kalecki, Ludwik Landau, and Jan Wiśniewski. In 1933–6 also Marek Breit worked in the Institute. One of the leading Polish statisticians, Jan Wiśniewski developed a method for measuring seasonality, which also found wide application outside Poland. The three others influenced the activities of the Institute so strongly that one could speak about the beginnings of a new school of thought which started in the Institute in the early 1930s. The leading publication of this school, in 1933, in the series of research papers of the Institute, was a book by Kalecki, now already a standard in economic theory.[10] But the essential features of this school, especially its macroeconomic approach, are perhaps best evidenced in two books of the same series on estimating the national income in Poland, written by Kalecki and Landau.[11] Landau, who was not handicapped by traditional academic economics, very quickly understood not only the new idea of the theory of business fluctuations developed by his friend, but also its far-reaching consequences for economic theory in general which had not been clearly stated by Kalecki.[14] After some hesitation, Marek Breit also became a supporter of the new theory. The author of *The Interest Rate in Poland*, published in Cracow in 1933,[12] still

[14] See *Ekonomista*, 3 (1933), 126–9.

argued in terms of the neoclassical equilibrium theory (chiefly in terms of Wicksell's theory); yet, in an essay published in Vienna in 1935 he dropped the notion of 'natural' interest rate and developed threads close to Kalecki and later to Keynes.[15]

The Director of the Institute did not share the views of Kalecki and his friends but without hesitation he published their works, looked after them, and helped them to develop their contacts with foreign partners and get scholarships.

As an institution directly subordinate to the Minister for Industry and Commerce, the Institute had special powers. For instance, it could summon executive directors and their representatives to make personal reports and present data on the economic situation of their firms. On the other hand, however, greater discipline in publications was required from the Institute. Any sign of criticism of the government gave rise to repression about which the highly liberal and tolerant director could do nothing. For example, when a comment appeared in a bulletin of the Institute that the political climate that had arisen around setting up a camp for political prisoners in Brześć was undermining the confidence of certain business circles, Pszczółkowski, who authorized this comment, was forced to resign from the Institute.

Similar reasons caused Landau, Breit, and as a consequence also Kalecki to leave the Institute. The then Deputy Prime Minister and Minister of the Treasury, Eugeniusz Kwiatkowski, caused the sacking of Marek Breit and Ludwik Landau for 'spreading in print'—as stated in a PAT news bulletin—'untrue speculations and conjectures that could mislead public opinion'. These speculations were connected with the review of the economic situation for the third quarter of 1936 published in *Koniunktura Gospodarcza*, in which, among other things, it was suggested that there were grounds to believe that 'the Polish National Bank stimulated the economy to a much greater extent than might be concluded from the monetary balance-sheet numbers'. As a sign of solidarity with his friends and in protest against the action of the government, Kalecki, who was at the time in London on a research scholarship, submitted his resignation. In this situation, Edward Lipiński also submitted his resignation, but he subsequently yielded to persuasion and withdrew it to save the Institute from liquidation.[13]

[15] See M. Breit, 'Ein Beitrag zur Theorie der Geld- und Kapital Marktes', *Zeitschrift für National Oekonomie*, 6/5 (1935).

With the exception of the Institute, which naturally had to share the fate of the capitalist economy of interwar Poland, the other institutions in which Lipiński was active (*Ekonomista*, PTE, SGPiS) are a sign of continuity in the recent history of Poland. The matter is different, however, with Lipiński's economic views whose development is interrupted by the Second World War, and which were closely linked with the Institute.

Lipiński took up studies of the business cycle at the beginning of the 1920s, and this subject became the main focus of his writings in the whole interwar period. In addition to various theories of business fluctuations, he gave attention also to exchange rates, inflation, the trade balance, tariff policy, price theory and policy, economic transfers, and investment theory, etc. When he started regular lectures in economics, problems of the business cycle dominated. This can be clearly seen in the surviving lecture notes and in his publications. Along with lectures at the College of Business on business cycles, organizing the Institute, and chairing the Department of Economics, Lipiński intensively popularized Western, chiefly Anglo-Saxon economic literature. From his numerous reviews one sees that Lipiński was a critical reader, but not in relation to the basic concept of the neoclassical school—the concept of economic equilibrium, which he accepted as a basic theoretical construct.

In Lipiński's early publications one can trace, however, an intellectual current opposed to this neoclassical construct and derived rather from socialist thought. For instance, in a 1925 paper he supports an argument of Hobson that is inconsistent with the neoclassical doctrine, and argues against the thesis that high wages increase unemployment.[16] In another paper, written in 1928, he repeats Rosa Luxemburg's thesis on the role of foreign markets in the development of capitalism, and after noting that contemporary capitalism suffers from the lack of external markets,[17] he writes: 'Capitalism is faced

[16] See E. Lipiński, 'System of Indexed Wages', *Ekonomista*, 1 (1925), 103, in Polish.

[17] He stated this thesis more clearly in 1914. In his article on the economic future of Germany we read: 'International economic relations are becoming more of a struggle, a war. This has its deeper reasons. Through competitive struggle capitalism is doomed to expand production without limit. An indispensable condition of this process is the existence of non-capitalist forms of production and non-capitalist social classes—peasants, uncivilized peoples, craftsmen—for only in these spheres can surplus value and the expanded accumulation of capital be realized. And it is for these non-capitalist countries and classes that the struggle is being fought'. (*Widnokrąg*, 2/11 (1914)) This is such a faithful presentation of the basic thesis of Rosa Luxemburg, whose *Accumulation of Capital* appeared in 1913, that it is hard to agree with the suggestion that Lipiński read her work only recently in a Polish translation (which was published in 1963).

with the problem of a new consumer, that is, of a worker, an employee. Thus shouldn't one argue for high rather than low wages? A policy of high wages can be a better means of stimulating output in some circumstances . . . than a policy of low wages, which shrinks the domestic market, reduces labour productivity, and thus in the end puts a stop to the expansion of capitalism.'[18]

Lipiński's most original an innovative article of the interwar period is unquestionably his essay 'On the Problems of Economic Growth', published at the end of 1929. Here he takes the role of promoter of a new branch of economics, not as a sidetrack of some other subject, nor as a digression—as in the case of his proposal to establish a theory of the socialist economy—but he devotes a special essay to this project, whose main idea is contained already in the essay's title. The reader familiar with the subsequent history of economics (which probably was most marked by the triumphant march of the theory of growth) may be somewhat excited by the content of this essay.

Noting the development of business cycle theories, at the same time Lipiński highlights the need for a different and broader science that would 'examine the most expedient means for economic growth'.[19] He defines this growth as the 'expansion and rationalization of production', which can take place chiefly by putting into operation new production equipment (with the tacit assumption that there is no problem of overall demand). The author very succinctly outlines both the crucial problems of the postulated science and its importance for capitalist practice, and he does this in an entirely modern language. We let him speak for himself:

> Let us imagine a society administered centrally and scientifically. A part of income generated in each single process of production is allocated to starting up additional new output. Saving—without reducing present consumption—is possible here only as a result of an earlier more efficient production. If in the earlier production period labour productivity were unchanged, saving could take place only by a temporary reduction of present consumption. In the first

[18] E. Lipiński, 'On Saving, Social Income, and Dumping', *Ekonomista*, 1 (1928), 97, in Polish. In this article Lipiński also observes that in order to understand the impact of high or low wages on the development of capitalism one must treat the economy as an 'interdependent whole'.

[19] *Ekonomista*, 4 (1929), 8.

instance the limits to the possible expansion of production of capital equipment are strictly determined by the volume of real savings. Since the generation of savings and their investment in the production of capital goods does not take place cumulatively but gradually and steadily, such a system would not experience the business cycle.[20]

For a while let us abstract from the conclusions that Lipiński draws from this theory of growth for the theory of business crises, and dwell on the final conclusions concerning the policy of economic growth. In his opinion, economic policy in the past was a one-sided policy of promoting the growth of output; moreover, it was based on a false understanding of growth. Lipiński considers therefore the possibility of and necessity for a 'policy of deliberate growth of prosperity', that is, a policy acting simultaneously on the rate and directions of both output and consumption. Of course, an alumnus of the socialist school understands that in capitalism even a 'correct policy of growth' can only soften cyclical fluctuations but not eliminate them completely. Lipiński's doubts go even further; since in capitalism economic policy is an expression of the configuration of class struggle, 'one can have justified doubts whether a policy of this kind is possible at all in capitalist society'.[21] At the same time, Lipiński's aversion to interventionism comes to the fore. In the capitalist economy the free play of interests is a better regulator of economic growth than actions of the government. For the government 'neither has precise knowledge about the economic process, nor suitable executive agencies, nor can it make itself entirely independent of the influence of group and class interests. At the some time, however, freedom—in an age of high tariff barriers and cartelization—is already a vanishing concept.'[22]

Though an anti-fatalist in understanding the social process, he recoiled from supporting an active government economic policy. One gets the irresistible impression that this inconsistency had its source in the difficulty of distinguishing between socially desirable and economically effective policy. Lipiński rightly condemned the interventionism possible at that time as socially dangerous. But it hardly followed that from the capitalist point of view interventionism could not bring certain benefits—the softening of crises and greater stability. In this sense Lipiński shared the fate of many economists whose attitude of protest and indignation impeded their theoretical thinking.

[20] Ibid. 8–9. [21] Ibid. 13. [22] Ibid. 13–14.

Let us now return to the link that Lipiński perceived between the abstract theory of growth and the theory of business cycles. In our opinion, here one should search for an additional key to understanding the paradox that an innovative conception of the theory of growth made it difficult for Lipiński to understand the problem of the business cycle.

In presenting the abstract problem of growth, Lipiński took his main ideas from Tugan-Baranovsky; he also restates Tugan's argument. From the same source comes the idea that in capitalism, output can expand endlessly under the condition of preserving certain inter-industry proportions. Production itself creates its own market; thus there can be no general overproduction nor a problem of inadequate demand. 'Difficulties in realizing increased output do not arise from the fact that customers do not have adequate purchasing power. The producer'—Lipiński follows Tugan's argument—'acquires purchasing power by manufacturing goods for the market.' In the spirit of the classical doctrine of free competition, Lipiński continues: 'Difficulties in realizing increased output come from the fact that the price system is not and cannot be flexible enough, which makes it impossible to make immediate shifts in the configurations of purchasing power.'[23] This statement can be interpreted as evidence of rejection of the idea of the subordinate role of consumption of Hobson and Rosa Luxemburg, and thus of rejecting the path on which the theories of Kalecki and Keynes were developed.

The socially motivated aversion to government intervention, his exceptional keenness and intuition, and also innovativeness in the theory of growth, caused Lipiński to go back to the positions of academic liberal economics in the theory of the business cycle. It is a dubious satisfaction that in this case innovativeness in one field was the cause of conservatism in another field, which at that moment was much more important. In Lipiński, the abstract concept of economic growth was a supra-systemic concept, in which the growth of output was examined exclusively from the standpoint of technical barriers of production. Such a point of view may be justified in relation to the socialist economy, but in the analysis of economic growth under capitalism it often became the source of grave misunderstandings that often led astray to apologetics.

What happened with the views of many former Keynesians in the 1950s and 1960s also happened in condensed and embryonic form with

[23] Ibid. 4 and 5.

the evolution of Lipiński's economic views. Former supporters of Keynes's doctrine, which stressed the possibility of stimulating the business upswing by creating additional purchasing power, rejected this doctrine quietly when the policy of full employment became a canon of government economic programmes. These highly complicated problems of proportions of growth, most often of a technical nature, concealed from them the socio-economic 'rules of the game' of the capitalist economy.

The same thing happened earlier with Lipiński. Because of his sensitivity to the complex problem of use-value of production he underestimated the meaning of the fact that was too trivial but highly important for understanding the efficiency of counter-cyclical policy, namely, that in the capitalist system every investment, in whatever sphere of production it is made, is an investment of capital.[24]

Lipiński wrote similarly in 1935, when he argued directly against the 'methods of fighting the crisis' used not only in Germany, but also in the USA. 'And since government investments as a rule concern either public economic goods (roads), or simply consist in producing goods for government consumption (guns), the business upswing generated by the government does not enrich the society, does not expand production capacity, and does not raise the standard of living'.[25]

At the same time, Lipiński argued in favour of investments (non-government investment, of course) in new branches of production which manufactured durable consumer goods such as radio sets', automobiles, phonographs, or electro–technical goods. Thus, they were industries which required highly skilled labour, and were of a low labour intensity in general, but which would encounter great technical difficulties of entry and especially a low barrier of limited purchasing power.

After the appearance of Keynes's *General Theory*, Lipiński began to revise his views, but this was a rather slow process of a consummate expert on orthodox tools and theory. This bears out the well-known

[24] In a record of Lipiński's lecture in 1923 we read: 'In his [i.e. Lipiński's] opinion, all public works, such as the construction of unnecessary roads, railway-lines, monuments, stadiums, dwellings, etc., only in order to put to use the idle production apparatus, to employ the worker, are purely consumer investments, are nothing but the destruction of capital, or at least its removal from economic activity for decades.' E. Lipiński, 'Spontaneous or Programmed Business Recovery', summary of a paper read in Lwów, *Przegląd Ekonomiczny*, 9/9 (1933), 122.

[25] E. Wagemann, *Methods of Fighting the Crisis*, Introduction by E. Lipiński, Warsaw, Biblioteka Polska (1935), 5, in Polish.

saying of Joan Robinson that the difficulty consisted not in understanding the intricacies of Keynes's theses, but in rejecting the old doctrine. Lipiński attempted not so much to reject the neoclassical doctrine but to incorporate Keynes's advances into it.

For instance, Lipiński revised his views on housing construction. He examined the importance of this branch of production for the economic activity of the country from the point of view both of the investment multiplier and of the creation of new needs that otherwise would not have arisen.[26] Though he adapted the theoretical assumptions of Keynes when systematizing the theory of investment in his encyclopaedia essay, he repeated the doubts that were commonly voiced at that time by liberal economists like Hayek and others. For example, in the chapter on 'Financing Public Investments through Credit Creation', in referring to Kahn's multiplier, Lipiński grants 'creative importance' to public works started during a depression, but next he adds:

> The theoretical result, however, is different from the actual one on account of all factors discussed in the previous chapter (on 'Limits of Investment Growth'). Prices begin to rise, as do costs, a shortage in productive capacity appears, import increases, for which there will be nothing to pay with, a disproportion in consumer investments will appear, etc. A system of this kind soon will encounter insurmountable limits.[27]

We do not intend to discuss here Lipiński's views on the specific problems of the Polish economy of the interwar period. However, it is worth recalling his position on monopolies and government control. Lipiński argued several times on these problems with the representatives of the Cracow school (A. Krzyżanowski and A. Heydel), which professed extremely liberal views, although in the political as well as economic sense, Lipiński also held liberal views in many essential questions. 'Liberalism in the capitalist system is the healthiest principle

[26] See E. Lipiński, *The Importance of Construction in the Economic Position of the Country* (Materialy Pierwszego Polskiego Kongresu Mieszkaniowego, 6, Warsaw, Nasza Drukarnia (1937)), in Polish.

[27] E. Lipiński, Investments—entry in the *Encyclopedia of the Political Sciences*, Warsaw, Biblioteka Polska (1938), iii. 746, in Polish. There is indirect evidence that Lipiński did not make a deeper study of Keynes's theory until during the war. He gave its first presentation in lecture notes for students, published in 1945. Also K. Secomski's three-volume monograph, *Foundations of Investment Policy* (Warsaw, Narodowy Bank Polski (1947), in Polish), written during the Nazi occupation under the influence of Lipiński's writings, in a comprehensive way adapts the rational elements of the doctrine of Keynes and of some Keynesians.

of life, but liberalism has been killed. It was killed by capitalism. It should be restored, though in a new shape and on new foundations.'[28] '[T]he only justified government intervention is that whose aim is to allow free competition to operate.'[29]

If we leave aside Lipiński's rather unfortunate clash with Krzyżanowski, who in 1928 saw the crisis coming and called for bringing it on quicker, so that its course would be less severe,[30] other controversies concerned the problem of government control and cartels. In a debate on the book of Heydel and others, *State Control in Poland*,[14] Lipiński put forward his anti-monopoly position against the one-sided attack on the increase of the role of the state in the economy: 'As the main danger I regard monopolization and the creation of *sui generis* economic feudalism. State control is only a function.'[31] Indeed, Lipiński condemned 'economic feudalism' in many publications.[32]

Lipiński always spoke and wrote about these privileges with pathos and indignation. Even though we do not know the content of his main accusing speech in the trial against the cement cartel, we can easily imagine that it was one of the 'most pointed that had ever been heard in the Supreme Court'.[33]

Did Lipiński regard a return to free competition as possible, however? Was increasing protectionism and government economic intervention an irreversible process? He gave no definite answers to these questions while the differences in his answers revealed the perhaps entirely personal drama of someone who refused to accept the fact that historical necessities had destroyed his system of values formed at the beginning of the century. He once wrote that 'the sociological

[28] E. Lipiński, 'Price Policy and the Simulation of the Business Upswing', *Przemysł i Handel*, 10/8 (1929), in Polish.

[29] E. Lipiński, Review of S. Lauterbach's *The Government Financing of Private Economic Sector*, *Ekonomista*, 1 (1932), 117, in Polish.

[30] See E. Lipiński, 'The Present Economic Situation and Problems of Accelerating the Crisis', *Przemysł i Handel*, 9/47 (1928); and 'On a Correct Theory and False Polemics', *Przemysł i Handel*, 10/13 (1929), both in Polish.

[31] E. Lipiński, 'Reviewer's Rejoinder', *Ekonomista*, 4 (1933).

[32] 'Economic life is permeated with numerous cancers in the form of monopoly rents of all kinds. An ever greater number of economic agents are living and enriching themselves not from transactions in the free market but from rent, that is, from a tax imposed on the non-privileged economic group. As in the feudal system, revenues come from economic privilege and not from economic labour. The system discussed above (which is a negation of all economy) is becoming more or less international' (E. Lipiński, 'The Trade Balance and the Exchange Rate', *Ekonomista*, 4 (1933), 13).

[33] 'Edward Lipiński—on His Seventieth Birthday', unsigned contribution in: 'Papers on the Occasion of Edward Lipiński's 70th Birthday'. *Ekonomista*, 6 (1958), 1314.

interrelations of any economic policy in today's conditions make any other policy impossible',[34] and in another place he maintained that 'what will happen is necessary, but development is always multidirectional'.[35]

In the end. Lipiński decided to advise the most careful possible steps 'along the line of licences, concessions and quotas', the least possible stiffening of the economic mechanism, which was supposed to cause relatively the smallest losses. 'Restraint in this case is the only advisable policy. For the technique of control is still so imperfect that the losses resulting from this control are simply incalculable.'[36]

This decidedly anti-protectionist position of Lipiński explains his determined resistance against a Keynesian-type policy which had to result in a further rigidity of the economic mechanism. Even if he sought means for stimulating the economy, it was rather those that would be consistent with a moderately liberal doctrine.[37]

3. Our description of Lipiński's views in the interwar period is coming to an end. Now let us look at the path he had travelled from the point view of economic theory. As we noted, at the beginning of the twenty-year interwar period he published a paper which contained the proposal to incorporate neoclassical economics into Marxist economics. Lipiński regarded such a synthesis as necessary in light of the future needs of the socialist economy. In another publication from this stormy period one can find statements which suggest that he did not regard this proposal as purely academic since he saw the possibility of a socialist economy arising in Poland.[38] It turned out otherwise, however, and from then on Lipiński focused his attention on making the capitalist economy more rational.

[34] E. Lipiński, 'The Trade Balance and the Exchange Rate', 12.

[35] Ibid. 14. [36] Ibid.

[37] In a paper of 1935, 'Perspectives of the Plan' (*Gospodarka Narodowa*, 5/22 (1935), in Polish), Lipiński makes business stimulation dependent on: '(i) lowering prices to the world market price level, (ii) eliminating the budget deficit, (iii) putting a stop to hoarding, (iv) stimulating private investments, and (v) the inflow of foreign credits.' It is no wonder, then, that at that time Lipiński was regarded as one the leading deflationists.

[38] 'If the Polish proletariat, mindful of its historical task—the creation of new social relations—were to exert all of its strength, at least in part to realize and consolidate the programme of social reconstruction, we would move the problem of socialization considerably forward... [however] the egoistic interests of particular groups stood above general interests' (E. Lipiński, 'Action of Workers and Socialist Action', 79).

In the 1930s the main problem became the question of bringing academic economics which had been founded on the assumption of free competition into accord with practices of economic intervention and protectionism in the capitalist system. After the Keynesian revolution this was a question of making a synthesis of neoclassical economics with the theoretical discoveries of Keynes. Whereas earlier, on the threshold of the twenty-year period, Lipiński had regarded Marx's theory as the major current of economic thought and had only called for the inclusion in this current the problem of utility (which was the main focus of interest of neoclassical economics), at the close of that period the proportions were reversed. Neoclassical economics in the broad sense (including also the Lausanne School) imperceptibly pushed all the essential problems of Marxist economics into the distant background. The disappearance of socialist historical and sociological problems in Lipiński's writings and lectures is reflected in new theoretical and methodological accents.

Contemporary economics in Lipiński's understanding of those days is chiefly academic, that is, neoclassical economics. This and not Marx's theses is supposed to determine the subject of economic studies. Leaving out the legacy of Marx and his successors, however, exposes economics to one-sidedness, to omissions, and errors. For the former (and future) enthusiast of Marx's *Das Kapital* this was obvious. But did it now not also become obvious that precisely academic economics (chiefly neoclassical) should be improved and supplemented, impregnated with Marx's historicism?[39]

In this essay Lipiński examines the theoretical views of Krzywicki published at the beginning of the century. Perhaps Lipiński had

[39] Lipiński expressed precisely such a position in 1938 in writing about Ludwik Krzywicki as an economic theorist. Here is the significant beginning of this article: 'Krzywicki dealt rather little with the theory of economics if by it we understand the theory of price, money, and incomes. He was chiefly interested in the mechanism of economic phenomena in their historical development... In the face of the tendency of some schools of economics to treat existing categories in their present form as eternal, normal, and natural categories, he recommends genetic research, which teaches the economist that the relations typical of the contemporary period are not "normal", but specific, typical only of the present phase of economic development. It is interesting to see that the same drawback of economics which Krzywicki noticed is also present today. And today also little attention is paid to the specific historical nature of the capitalist economy based on the entrepreneur. That is why in economics there is no analysis of the basic features of the existing economic system as a historical category' (E. Lipiński, 'Ludwik Krzywicki: a Theorist of Economics', in *Ludwik Krzywicki: A Collection of Essays on His Life and Work*, Warsaw, Instytut Gospodarstwa Społecznego (1938), 117, in Polish).

encountered them in his youth, and perhaps from them also, especially from Krzywicki's *Guide*, he had studied Marx. During the First World War, both Krzywicki and Lipiński were members of Rechniewski's circle. Thus the essay on Krzywicki was something of a recollection from the time of his youth—a recollection of the problems which had once shaped the world of Lipiński's own thought and action.

Were these only memories, however? Did they imply nothing for the present and the future? Were these recollections, that coincided in time with the rising wave of fascism, against which Lipiński fought with all of his energy at the Main Business College and which gained a partial victory by ousting him from the office of Deputy Chancellor, not the beginning of his evolution once again in the direction of socialism?[40] We do not know and will never know this, because the normal development of the country, the world, and thus also of Lipiński's personality and views were interrupted by the war, the occupation, and above all by the social revolutions that caused Poland to enter into the path of socialist transformation that put entirely new tasks before the economy.

As a result of the demands of youth from the ONR and the submissiveness of college authorities, Lipiński had to suspend his lectures for a time, and later on, as was mentioned before, to resign from the office of Deputy Chancellor of the college.

4. It is rather difficult to sketch the main lines of Lipiński's scholarly work in the post-war quarter century. The publications of this period are the lion's share of his scholarly and journalistic output. At the same time, subjectwise they are less explicit than his earlier publications. Whereas the vast majority of his studies from the interwar period concerned problems of the business cycle and of labour and wages before that, his post-war writings are multi-thematic.

In addition to broadly conceived studies on Polish and the world history of economic thought from the time of Nicholas Copernicus to the end of the nineteenth century, Lipiński writes on the most diverse subjects, such as value, prices, costs, incentives, demand, alienation,

[40] The incidents in the Main Business College, whose hero was Lipiński, are described in detail (though not always very accurately) by Ludwik Krzywicki (see his *Memoirs*, iii, Warsaw, Czytelnik (1959), the chapter 'Students' Turmoil', esp. 350–71, in Polish). Krzywicki recorded a few ONR leaflets, among them two that attacked Lipiński directly. They demanded his resignation from the Chair for defending the Jews and the Popular Front (in ONR jargon—'for defending the Folksfront').

static and dynamic equilibrium, limits to decentralization, the general crisis of capitalism, and so on. Some of his essays, e.g. *On the Tasks of Economics*; *Economics, Economics!*; *Revisions*,[15] provide something like a great thematic panorama not only for economics, but for other social sciences as well. The titles of both books presenting the more important part of Lipiński's post-war output point out precisely at the 'panoramic' nature of his writings. *Revisions* as well as *Economic Theory and Present Economic Problems* contain the most representative theoretical papers of the 1947–60 period. Lipiński gave an even broader title to the collection of his output of the 1960s—*Karl Marx and Problems of the Present*.[16] Already in the first, but especially in the second book, we come to know the author not only as an economic theorist, but also as a social thinker, who 'listens to the underground current of history and, deeply dissatisfied with what is happening, constructs postulates and visions of the future. He not only tries to describe what will happen, but postulates what should happen in order to insure conditions for the unhampered development of the human personality.'[41]

Also in his theoretical essays Lipiński appears as a methodologist of economics who is interested not so much in a detailed analysis of some segment of reality or a narrowly defined topic, but in the general shape and directions of the tasks of economics and in grasping the socio-economic process as a whole. From the summit of the Marxist theory of the social process this consummate expert on Marx tries to understand the nature and tendencies of development of the industrialized part of contemporary world. Such an enormous subject of study imposes a special style of argument, one might say—of Lipiński's 'philosophizing'. Only against the background of this subject, which for many of his pupils was unquestionably a nineteenth-century one, can one understand the 'chaos of clear thoughts' that make up Lipiński's argument. If in an article, which after all is written from the needs of the heart, we are not afraid to apply this at-first-glance pejorative phrase to the writings of Lipiński, it is because we remember that this phrase was used for the first time to characterize the writings of Voltaire, and in Poland it was targeted at Brzozowski, in both cases emphasizing that this was the price of the enlightened universalism of the authors. Bringing order into their thought certainly would have

[41] E. Lipiński, 'J. K. Galbraith's Capitalism of Big Corporations', *Ekonomista*, 1 (1969) in Polish.

impoverished it. For chaos here is tantamount to richness and diversity. And the cited phrase should only justify the historian, or rather warn the reader, that outlinging Lipiński's views, even if done very cautiously, must be extremely simplified.

5. Lipiński's first publications in the post-war period did not appear until 1947.[42] They begin a more or less three-year-long episode of discussion on adaptation of the tools of Western neoclassical economics to the needs of the socialist economy. The entry into a new period was marked by a debate on the 'eternal' laws of economics that took place in the economic section of the Congress of Engineers held in Katowice at the end of 1946. Lipiński's view that socialist planning should be based on that part of economics which deals with the allocation of limited resources, and which holds for any social order (i.e. is of on 'eternal' nature), met with the severe criticism of Bronisław Minc. Lipiński then decided to carry the discussion over to the press, for he believed that the opposite view was the result of a simple misunderstanding which could easily be explained.[43]

Critique of the 'eternal' laws of bourgeois economics, which on closer inspection only turn out to be the property of a particular historical epoch or even the result of speculation following on unrealistic model assumptions, does not exhaust the matter, argued Lipiński. For the basic difference between the capitalist and the socialist systems lies in the system and hierarchy of economic goals. On the other hand, the methods of management are almost identical; for instance, Lange's model of competitive socialism operates on the foundations of the market mechanism. That is why the 'contemporary theory of demand, the theory of costs of production and prices' belong

[42] In the first post-war years Lipiński was occupied with teaching and organizational work. In addition to the already mentioned work on the re-establishment and expansion of the Main School of Commerce, immediately following the liberation of Warsaw he began to set up the Institute of National Economy. This turned out to be premature, however, on account of the decimation of the economic profession during the war and the great demand for economists in economic practice. Though the Institute survived formally until 1949, it never really got going, *inter alia*, because its first director in the middle of 1947 moved to the position of president of the National Economic Bank.

[43] Let us leave aside Lipiński's adversary of those days, since we are concerned with the development of Lipiński's views and not with a fair answer to who was right (or even who was closer to the truth). The results of those discussions would have to be examined against the broader background of the intellectual trends of the times and their entanglement in the political struggle then going on.

to lasting achievements that can serve as the foundation of a future 'eternal' science of economics after the fashion of physics.[44]

When his opponent used quotations from Marx in order to prove that nearly all economic categories are historical in nature, while general concepts boil down to trivial assertions, Lipiński answered:

> According to the contemporary socialist theory of economics (Lange, Lerner, Myrdal, Robinson), the existence of a special scientific discipline, having a special technique of analysis and studying economics independent of the social system, is regarded as indispensable. To this science—economic theory—belongs the theory of costs, demand, equilibrium, etc. The regularities that such a science studies are hardly inconsistent with the view that certain laws of economics are relative, that they are historical in nature.... In this way, next to Marxist political economy there can exist a theory that cannot be overturned with quotations from Marx, because the economists who create and develop this theory are quite familiar with these quotations and approve their actual sense.[45]

In an article on the dangers of waste in a planned economy, Lipiński puts forward the same thesis, which boils down to separating political economy from 'pure' economic theory. Ignoring the problem of market research (elasticity of demand, etc.), that is, erasing the legacy of Western economics in this area, results in waste. Starting from this conviction, Lipiński tended to believe at that time that economic theory is, or at least should be regarded as, the theory of planning. Marxism and economic theory, on the other hand, have separate subjects of research, and this 'division of labour' should be regarded as permanent.[46]

The attack that was made against the above position was a great and genuine surprise for Lipiński, forcing him to make more searching studies. Their first result was the paper 'On the Tasks of Economics' in

[44] See E. Lipiński, 'Do Economic Laws Exist? On the Source of Misunderstanding', *Robotnik*, 53/4 (1947), 3, in Polish.

[45] E. Lipiński, 'On "Eternal Laws of Economics" Again', *Robotnik*, 53/20 (1947), 5, in Polish.

[46] 'I believe that economic theory is the theory of planning. Political economy would deal with the problem of development of social forms in connection with the transformation of forms of production—in other words, with what is the essence of Marxism; economic theory on the other hand would become the theory of the plan, that is, the theory of growth of social income and the conditions in which this income is created and increases. Here belongs the problem of costs, prices, demand, money, credit, etc.' (E. Lipiński, 'Some Sources of Waste in Planning', *Myśl Socjalistyczna*, 3/3 (1947), in Polish).

which the following question dominates: what changes should be made in economic theory so that it could become the scientific foundation of the art, or the policy, of planning?[47] The author, on the one hand, examines the transformation of economics as a result of the appearance of the theory of monopoly competition and Keynes's *General Theory*, and, on the other hand, he attempts to confront the theory of economics with the needs of the socialist economy.

The general conclusion of this paper is that in socialism the foundation of the 'edifice' of theory are no longer problems of choices and consumption. 'Dynamic problems of growth will come into prominence, and macroeconomics will gain primacy over microeconomics.'[48] Aware of the main direction of development of more recent economics and of changes in its nature, Lipiński nevertheless argues that one should not abandon traditional tools of economic analysis, for which, in spite of everything, there is a wide field of application, that 'if in Marx's system the lack of a theory of demand, price and costs is entirely justified, in the planned economy it is precisely these problems that must be studied theoretically'.[49]

In comparison with the first articles, this essay is clearly a step forward, since in it Lipiński brings out the shift of stress in economic theory to problems of growth and the macroeconomic approach.[50] However, as we have mentioned, the above publications were more of a research reconnaissance that resulted from the confrontation of Lipiński's views with the orthodox interpretation of Marxism of those days. Lipiński's further studies went in two directions: (i) studies on economic literature in the Soviet Union which resulted in the already mentioned collection of papers of Soviet economists preceded by a long introduction and an essay on the concept of economic law in Soviet science;[51] and (ii) studies on Marx, which brought an original paper, 'Use Value in the Economics of Socialism'.[52]

[47] See *Ekonomista*, 2 (1947) published also as a leaflet by Wiedza, Warsaw (1947), in Polish.

[48] E. Lipiński, *Economic Theory and the Present Economic Problems*, Warsaw, Państwowe Wydawnictwo Naukowe (1961), 19, in Polish.

[49] Ibid. 22.

[50] Yet the 'positive content of economic theory giving birth to the planned economy' was still to be only the problem which today we include in economic praxeology, whereas problems of the development of social and economic relations would be excluded from this theory.

[51] See E. Lipiński, 'On the Concept of Economic Law in Soviet Science', *Ekonomista*, 2 (1948), 24–39 (in Polish).

[52] See *Ekonomista*, 4 (1948), 19–41.

The effort to assimilate and bring into Polish literature what was the best in the Soviet economic doctrine of those times went hand in hand with attempts, doomed to failure, to save at least certain instruments of analysis used in non-Marxist economics.[53]

This position of Lipiński is aptly represented in the introduction to his collection of essays of Soviet economists. The times were unfavourable for such a position, however, which is clearly evident in Lipiński's way of argument. Not only the authority of Lenin but also quotations from Zhdanov and others are used to support his—minimalist and cautious—conclusion:

> In bourgeois science one should distinguish the negative side, consisting in reactionary, metaphysical, anti-scientific tendencies and the positive side—expressed in a rich body of facts. When the above statements are quoted (not of Lenin alone, but also of Zhdanov—the authors), the problem arises of the critical acceptance by the socialist, i.e. Marxist economics of some of tools of work and methods of analysis elaborated during its long development by bourgeois science.[54]

In the development of Lipiński's views this conclusion was obviously a step forward in this area, compared with his earlier postulate on the coexistence of bourgeois economics and Marxist political economy; a postulate that was as unrealistic as difficult to maintain from the purely scientific point of view, and which was next replaced by the postulate of enriching socialist (Marxist) economics with the tools and methods of analysis of bourgeois economics.[55] At the same time, however, we are struck by the artificial language and the quoting of numerous authorities to document a simple thesis, something that was not in Lipiński's style before.

Soon Lipiński put forward yet another attempt to defend the subject-matter of market research, social needs, household budgets, etc. In his essay 'Use Value in the Economics of Socialism',[56] however, he did this not along the line: Marxism *vis-à-vis* bourgeois economics (either

[53] After the collection of essays of Soviet economists was published, Lipiński reprints in the PTE-Library series a volume of essays of Western economists edited in the interwar period by Władysław Zawadzki (*Value and Price*, Warsaw, Polskie Towarzystwo Ekonomiczne (1949), in Polish), to which he writes an introduction and makes some additions.

[54] *Problems of the Political Economy of Socialism in the USSR*, 16.

[55] Here we refer to the progress in the development of Lipiński's views in comparison with his position of 1938–47. Yet this was rather a return to his view of 1920. Thus it is not justified to say that he 'returned to the bosom of Marxism'.

[56] See 'Use Value in the Economics of Socialism', *Ekonomista*, 4 (1948), 19–41.

in the version of 'coexistence', or of the 'assimilation'), but within Marxism itself. As an interpretation of the views of Marx, Lipiński's essay is a lasting contribution to science. For along with a later paper by R. Rosdolski it is the best explanation of this complicated problem. The result of Lipiński's studies can be expressed as follows: in contrast to bourgeois economics, use-value is not the cornerstone of Marx's theory, but it has important (although secondary) meaning and there are no grounds for ignoring this problem.[57] Marx did not do this in relation to the capitalist economy, and thus all the more so one should not do it in the context of the socialist economy.[58]

In the light of Lipiński's basic position, one can recognize the assurances in the essay that 'the term use-value is not the term of economics' or that 'use-values are not the subject of economics',[59] not as inconsistencies but as conscious tribute to the dogmas then in force.[60] The pressure of specific conditions was so strong, however, that even this position of Lipiński, which was expressed in such orthodox language, was ignored. It was not returned to (theoretically as well as practically) until 1956.

Meanwhile, the period 1949–55 arrived when 'in the science of economics as a rule one did not go beyond a primitive description of institutions and vulgar popularization. The impartial analysis disappeared while the method of pseudo-generalizations flourished, generalizations deriving their nourishment from the apologetics of errors and distortions.'[61] Without going into a detailed assessment of this period, let us list, however, those events or processes that were important for the development of the views and the subject-matter that

[57] See E. Lipiński, *Economic Theory and Present Economic Problems*, 36–8. This direction of interpretation of Marx might have been suggested to Lipiński by Paul M. Sweezy (see his *Theory of Capitalist Development*, London, Denis Dobson (1949), 26–7), whose book Lipiński reviewed in 1947 (see *Ekonomista*, 2 (1947)).

[58] 'In the planned socialist economy the problem of use-value becomes important especially when the planned guidance of forces of production enable a hitherto unforeseen increase in the welfare of the masses. The abundance of goods, the increase in the share of needs where habit and automatic choice play an incomparably smaller role than at the lower levels of the hierarchy of needs, such as food and clothing—all of this increases the share of deliberation and planning in consumer decisions, and hence makes this problem one of the most important—theoretically and practically' (E. Lipiński, *Economic Theory*, 42).

[59] Ibid.

[60] The later resignation from these assurances should be attributed to the fact that homage had no longer to be paid to dogmas (see ibid. 162–4).

[61] E. Lipiński, *Revisions*, Warsaw, Państwowe Wydawnictwo Naukowe (1958), 80–1.

influenced Lipiński's interests of that time. Three circumstances seem to have been of crucial importance.

First, as it was mentioned earlier, in those years Lipiński was chiefly a historian of economic thought. This was the subject of his lectures and the major, though entirely new, area of his research.[62] What is significant is that all of his studies of those years (including published lecture notes on economic thought) concern periods, currents, or figures whose economic ideas represent only one of many currents of their respective social thought; these studies are still little saturated with the problem of tools and methods of economic analysis, or by what Lipiński earlier understood by economic theory. Even two papers on nineteenth-century economic thought, which were outstanding among the numerous publications of that time, were more concerned with socio-economic ideas than with the 'pure' economic theory. In one case the choice fell on Sismondi, who was more of a social thinker and critic than an economic theorist.[63] In another case Lipiński recalls the origins of Marxist thought in Poland.[64] Thus the chief research tools were those of the historian and sociologist of social thought. For Lipiński this was an important school of historical and sociological thinking about economic problems. It led him to the conclusion that it was an illusion to search for comparisons between physics and economics, and that it was impossible to detach economic theory from everything that Marxism carried with it.

Secondly, renewed but this time much more thorough familiarity with Marx's *Das Kapital* and other works (as an editor or translator), led in the same direction.[65] This had its theoretical consequences. When at the Second Congress of Economists the supporters of freedom 'for all economic schools' presented their case, Lipiński regarded these demands as a misunderstanding or confusion of concepts. He came out in defence of Marxism as the foundation of a synthesis of

[62] These studies are discussed in the volume of *Ekonomista*, 6 (1958), devoted to Lipiński.

[63] See Introduction of E. Lipiński to J. C. L. Simonde de Sismondi, *New Principles of Political Economy*, i. v–x/vii, Warsaw, Polish Scientific Publishers (1955), in Polish.

[64] E. Lipiński, 'Discussion on the Direction of Economic Development in Poland in the 1880s', *Ekonomista*, 1 (1952).

[65] Lipiński trans. into Polish *Zur Kritik der politischen Oekonomie* [Warsaw, Książka i Wiedza, 1953], and was also one of the translators and editors of *Das Kapital* [Warsaw, Książka i Wiedza, 1957–9]. He was also the translator of the well-known interpretation of the Marxist principles of political economy by Paul Sweezy, see his *Theory of Capitalist Development* [Warsaw, Polish Scientific Publishers, 1957].

contemporary economics. The starting-point of this synthesis was supposed to be the conviction that 'no economic phenomenon is independent of the relations of production', that 'the superiority of Marxist economics consists in the fact that it considers the historical and sociological elements of economic phenomena, but this method by no means excludes the study of economic interrelations.'[66] All of the tools of bourgeois economics that turn out to be effective should be used within the limits of this method.

Thirdly, although it may seem odd, but observation of the practice and ideology of the system associated with the name of Joseph Stalin led to the conviction that divisions between science and ideology are of illusory nature, as are, on a somewhat different plane, those between pure economic theory and political economy. Through extreme politicization of the social sciences both the practice and ideology of that system unquestionably were a material force that influenced the masses. Conclusions had to be drawn from this.

In 1956 it became clear that the battle had to be an ideological one and not argumentation in the name of pure science. Lipiński appeared in the character of a tribune, and the language of his many statements, liberated from the folklore of the period of personality cult, once again becomes similar to the prose of Brzozowski.

The fast current of political life, the atmosphere of a breakthrough, the great influx of hope, and with it the tremendous rise in manifestations of spontaneity, all of this—only partially corresponding to the realities of life—made Lipiński feel reborn. As the co-founder and vice-president of the Economic Council during the entire period of its existence, he worked on numerous projects, wrote a lot, hurriedly

[66] E. Lipiński, *Revisions*, 64–5. Here are examples of a style that is associated not only with the atmosphere of a breakthrough, but also with the tradition of Young Poland:

'The time has come for the building of a new communism, of the legacy of the thought of Saint-Simon, Marx, Lenin, the building from sources that flow abundantly from the sufferings, despair and disappointments of the contemporary world. Knowing the value of all of the illusions created by history, we deeply trust in the creative power of faith to improve humanity, for in this trust lies the power to transform reality, to move humanity forward, lies the moral force that enriches human souls and protects them against the dismay arising from the emptiness and nothingness of history' (ibid. 119).

'We believe in progress, as we believe in socialism, but at the same time we see all of the difficulties, sufferings, and obstacles that lie on our path. And the fact that we clearly see these difficulties fills us with revolutionary resistance and steadfast faith in socialism as the only moral, political and economic system that can gradually remove them from the path on which humanity is embarked' (ibid. 94–5).

gave numerous speeches, and organized agencies and institutions—as though he wanted to put as many ideas as conceivable into writing, make as many projects as feasible a reality, revalue or reject as many as possible concepts connected with magical and refined scholastic thinking, demask as many 'intellectual monstrosities' as possible.

In the bibliographies of many Polish economists those years of breakthrough are marked by an increase in the number of publications and in subjects of research. No one attacked so many simultaneously as Lipiński, however. But perhaps the most important is that in the years that followed the breakthrough, he did not return to his former compartments of specialization, or to his favourite subjects.

A champion of 'pure' theory in the interwar period, a man who consciously took up the task of making Polish economic thought more theoretical, tearing it from the chains of the tradition of the historical school, a former advocate of quantitative, precise analysis, which can be easily tested, now became the advocate of political economy in the Marxist sense. While quantitative analysis successfully dislodges qualitative, and geometric formulae and complicated algebraic equations dislodge all of the great problems of Marxist economics, while *Ekonomista* begins to resemble econometric journals, Lipiński carries on an incessant dialogue with Karl Marx on the problems of the present day. From the author of *Das Kapital* he learns to look at contemporary societies, to study their conflicts, and to extract from the present trends that determine the probable faces of the future.[67]

The starting-point of the social theory recently developed by Lipiński is his attempt to reinterpret the Marxist concept of relations of production.[68] Without going into the details of this extremely compli-

[67] Hegel's *List der Vernunft*[17] made Lipiński's opponent, who in 1947 argued, referring to Marx, that there were not, and could not be laws that transcend the social order nor general (universally valid) theories, now build, 'on the basis of functions of economic efficiency and distribution', a general model of economic growth that does not consider the 'mechanism of the influence exerted by political conditions on the process of economic growth' (see J. Kierlańczyk and B. Minc, 'A General Model of Economic Growth', *Ekonomista*, 2 (1958), 286). Lipiński, on the other hand, who four decades earlier had sketched a vision of a theory of growth that was independent of social orders, and in 1947 had defended the idea of 'eternal' laws of economics, in 1958 finished a book whose main focus is the Marxist approach to the social process of production. Filling in this closed circle of evolution with the content of the real intellectual development of the two opponents could excite both a historian of social thought and a sociologist of knowledge.

[68] This reinterpretation was supposed to be the starting-point of a book entitled *The Social Process of Production*. In connection with the anniversary of publication of

cated problem and its place in Marxist economics, it is worth attempting to cull out the main line of Lipiński's considerations on this subject. This direction is easier to grasp if we look at his polemical reservations concerning the views of Oskar Lange. On the question discussed here (or more broadly—on the question of the theory of social systems), as an interpreter of Karl Marx, Lange developed rather traditional views, close to the interpretation that dominated in the time of Karl Kautsky. Lange's views were opposed by his friend, Julian Hochfeld. A long paper resulted from this, 'The Marxist General Theory of Social Classes', in which Hochfeld argued that 'the basic thread repeating itself in the work of Marx and Engels [is] the broad, sociological concept of the supreme and in a certain way qualified control over the activity of work and distribution of the product, and not the narrow concept of the legal right of ownership.'[69]

Lipiński's reservations on the notion of relations of production contained in the first volume of Lange's *Political Economy* go in a similar direction.[70] For both adversaries of Lange his definition was too narrow, too strongly rooted in the formal-legal understanding of ownership of the means of production, considering as the only possible case, a special case of the Marxist theory of social formation, or the social process of production—the theory of capitalism. Both also refer to the earlier works of Marx and Engels, attempting to understand and reconstruct the general foundations of their theory of capitalism.

For Lange, ownership of the means of production is the foundation that determines the entirety of relations of production and distribution. Classifying types of relations of production according to forms of ownership, Lange distinguishes social and private ownership, regarding co-operative ownership as an intermediate type.[71]

Das Kapital, however, Lipiński changed his plans and included the basic, already written parts in the aforementioned *Karl Marx and Problems of the Present*. Excerpts from it appeared in the volume, *On Economic Theories of 'Capital'*, Warsaw, Książka i Wiedza (1967), in Polish.

[69] J. Hochfeld, *Studies in the Marxist Theory of Society*, Warsaw, Polish Scientific Publishers (1963), 164, in Polish.

[70] In the second volume of his *Political Economy* Lange introduces the concept of relations of co-operation, which together with ownership relations make up the notion of relations of production. In the light of this change Hochfeld's reservations, and especially those of Lipiński, would look somewhat different.

[71] See O. Lange, *Political Economy*, i. 16–17, Oxford–Warsaw, Pergamon Press and Polish Scientific Publishers (1963).

Lipiński, whose position can most easily be understood in his opposition to Lange's notion of intermediate ownership, opposed this view. Let us assume—argues Lipiński—that the Lenin steel works is cooperative property. Unchanged will be the volume of production, the organization of work, relations between management and crew. Nor will there be any change in the division of profit into the part accumulated, the part that flows to the state budget, and the part distributed among the staff. Profit is still the measure of efficiency, and the satisfaction of the needs of society—the goal of production. So Lipiński rightly asks: 'where do we find here features and signs of the "intermediate" type of ownership, intermediate between "social" and "private" ownership?'[72]

Lipiński illustrates in this way the idea that ownership, i.e. the type of ownership, does not suffice to determine the nature of relations of production. Decisive here is the system of production goals which applies both to capitalism, which can be based on individual or group (big corporations) ownership, and to socialism. Capitalism subordinates the entire inner life of man to the pursuit of wealth as a goal in and of itself, which is reflected in the notion of alienation.[73]

In the understanding of social ownership Lipiński's position can be described as extremely maximalist. 'Ownership will become social when the division of labour disappears, the differences between the city and the countryside vanish, work becomes a manifestation of the life of individuals and their life need. Nationalization of the means of production . . . is only the beginning of the revolution.'[74] Socialist relations of production will emerge 'fully' only as a result of the total automatization of the process of production.[75] The foundation of this maximalism is the definition of social ownership, whose most important feature is harmony of the social system of goals (its content is 'the most effective satisfaction of the increasing needs of society') with the system of goals of the basic production agents and agents cooperating in the production process.[76]

In Lipiński's published papers we find only indirect reference to the meaning of the concept 'relations of production'. However, when he is asked to give a more precise definition of this concept, he answers:

[72] E. Lipiński, 'On the Marxian Concept of Relations of Production', in the volume, *On Economic Theories of 'Capital'*, 117.
[73] See ibid. 114. [74] Ibid. [75] See ibid. 112. [76] See ibid. 114.

Relations of production are a system of social arrangements that create the basic conditions for economic activity, conditions for decision-making, the functioning of the economy; to them belong systems of managing the production process as well as systems of remunerating workers or systems of incentives and motivation. The legal side of ownership has only an indirect influence through the system of goals and ways of disposing of the economic surplus.[18]

The form of ownership, i.e. its legal title, plays a different role in different systems and epochs. In Lipiński's opinion, the error of those who reduce relations of production to ownership consists in the fact that they apply the Marxist analysis of free-competition capitalism to all systems and epochs. However, if one refers to the earlier works of Marx (and Engels), in which the author of *Das Kapital* often goes beyond capitalist relations, one can see clearly that the traditional (e.g. Lange's) definition of relations of production is too narrow. Lipiński, on the other hand, gives rather broader terms of reference of such concepts as relations of production, or social ownership than their precise definitions.[77] But they are very important for a further study of a socialist society.

The interpretation proposed by Lipiński of social ownership, i.e. of socialist relations of production, directly defines the specific, very broad understanding of the process of transforming capitalism into socialism. The foundation of what he often calls the theory of transformation is the following assertion of Marx: 'In order to abolish the *idea* of private property, the *idea* of communism is quite sufficient. It takes *actual* communist action to abolish actual private property.'[78]

[77] In particular, an analysis of the inner logic (or structure) of this basic concept in economics is absent here. Lipiński is presently writing a paper on political economy as a science of the economic process. He argues there that the development of science and technology creates increasing opportunities for man to 'enrich' himself through creative, spontaneous, and individualized action. The petrification of social life observed today, its over-organization, is only one of many of its possible forms which are offered today by the level of development of forces of production. In order to liberate oneself from this form, among other things, one must liberate oneself from today's economics that in all its versions reflects the model of economic man determined by monetary relations. Yet, contemporary civilization creates conditions for *Homo economicus* to be replaced by *zōon politikon* in the old Aristotelian sense. In conformity with this, the nature of economic science already today should change. One of its pillars should become the strategy of revealing the opportunities of 'enrichment' that will liberate human action from slave labour, which is harnessed to the treadmill of exertions around the animal existence of man.

[78] K. Marx, *Economic and Philosophical Manuscripts of 1844*, in Karl Marx and Frederic Engels, *Collected Works*, iii. 313, London, Lawrence & Wishart (1975).

Lipiński interprets this epigrammatic statement of Marx in one of many possible ways. He believes that Marx here expresses the conviction that the social revolution will abolish only the 'idea' of private ownership, whereas the socialization of ownership is a very difficult and long process.[79] Lipiński here quotes Marx: '[The working class] know that in order to work out their own emancipation, . . . they will have to pass through long struggles, through a series of historical processes, transforming circumstances and men.'[80]

At the same time, Lipiński emphasizes that the basis of social transformation is the development of forces of production. After Marx and Engels he repeats that 'people have liberated themselves in so far as this has been allowed by the development of forces of production, not their ideal of man.'[81] Lipiński declares (perhaps too strongly and categorically from the point of view of his own activist philosophy): 'People won freedom for themselves each time to the extent that was dictated and permitted not by their ideal of man, but by the existing productive forces.'[82]

The understanding of socialism and of the transition processes resulting from these assertions has its consequences both for Lipiński's attitude toward the real world and for understanding the tasks of the social sciences. He prefers the attitude of incessant critical restlessness to that of unequivocal criticism toward yesterday and unequivocal affirmation toward the present. Oskar Lange said ten year ago that Lipiński made a lasting contribution to Poland and socialism with his criticism. If we consider this definition of Lipiński's social role in post-war Poland correct, we must also agree that the theoretical motivation of this attitude is the nineteenth-century, maximalist vision of the socialist society.[83] Through the prism of this vision Lipiński studies

[79] See E. Lipiński, in the volume, *On Economic Theories of 'Capital'*, 112.

[80] Karl Marx, *The Civil War in France*, in Karl Marx and Frederic Engels, *Selected Works in Two Volumes*, i. 431, London, Lawrence & Wishart (1976).

[81] The quotation comes from *The German Ideology*, in Karl Marx and Frederic Engels, *Collected Works*, v. 431, London, Lawrence & Wishart (1976).

[82] E. Lipiński, *Economic Theory and Present Economic Problems*, 183.

[83] The above-mentioned, exceptionally broad idea of transformation delimits the internal bond of the socio-economic problems of the contemporary world (perhaps with the exception of the problems of the Third World, with which Lipiński did not deal). His interest in phenomena and processes taking place in the economy, science, and culture of the developed socialist countries must be seen in the light of this inner problem-nexus, and not only as a desire to save the accomplishments of pre-socialist civilization. Lipiński's studies, proposals, and thoughts in this field would justifiably be criticized as one-sided, were we to regard them as comprehensive. Understood as only one of many opinions in the variety of social criticism of the contemporary world, however, over the long run they play a valuable role as a constant stimulus that accelerates social progress.

trends and processes of the contemporary world. In his reflections Marx's idea of socialism plays the role of a great utopia. This distinguishes him from many contemporary writers, who in the name of rationalizing the progress achieved are willing to settle accounts with Marx. Edward Lipiński, however, is entangled in the process of constantly settling accounts with reality in the name of Marx's vision of the future.

PART 4

MISCELLANEA

Comparison of Changes in Energy Consumption in the Polish Five-Year Plan, 1956–1960, and in West Germany, 1950–1954[1]

(1955)

The Five-Year Plan 1956–60 anticipates a growth of industrial output of 68 per cent and a growth of total energy consumption (converted to hard coal) of 27 per cent. An increase of 24 per cent in the consumption of hard coal is planned. The use of energy per unit of output would decline in the proportion 1–(127/168), i.e. by 24 per cent.

In the capitalist countries in 1950–4 West Germany showed the fastest growth in savings of energy consumption. This was a period of large investments and rationalization of industrial production. In comparison with 1950 industrial output increased by 55 per cent, while the total consumption of energy in this period increased by 28 per cent. So the energy consumption per unit of output fell in this four-year period by 1–(128/155), i.e. by 17 per cent; thus savings over a five-year period would come to about 21 per cent, which is not much less than in Poland's Five-Year Plan.

After receiving more detailed data on the consumption of energy in West Germany it will be possible to compare the use of energy in industry with the growth of industrial output.

Expansion of Trade with India[1] (1955)

The chief articles imported from India today are iron ore and mica. In addition to this, shellac (of which India is the only source of supply), pepper, and tea are imported. The expansion of imports should mainly apply to peanuts. There is a need for an increased supply and present imports show a declining trend. According to the available information, about 25,000–40,000 tonnes annually of supplies from India are needed on a regular basis (although India would prefer to export peanut oil, for us this is obviously out of the question).

In addition to this, we could eventually import manganese, chromium, and titanium ores. It should be mentioned that today the entire Indian export of chromium ore and a large part of the export of titanium ore are absorbed by the USA.

As regards industrial products, India exports only cotton fabrics, carpets, and jute products. The import of the first two is completely out of the question, but also the import of jute products instead of raw jute (which India does not export) seems to have weak chances. On the basis of the available data it is difficult to determine the relation of the prices of Indian jute products to the prices of raw jute; in England this relation is about 1.5 : 1. From information received the import of jute products would be a possibility in exchange for the export of packing paper. In fact, one could replace paper bags and sacks with jute ones, which would release a certain amount of paper for export. Even if more paper had to be exported than was saved, this would still pay on account of the higher quality of jute sacks.

So it seems that, unfortunately, imports from India must be confined to raw materials, which is justified by our strained balance of payments.

The Trade Mission to Burma[1] (1955)

The missions is going with instructions to make contracts on an exchange of machines for about 100,000 tonnes of rice. Also taken into consideration is fodder rice (at £25 per tonne compared with £42–7 per tonne for ordinary consumer rice). Also possible is the purchase of unshelled rice which would be processed in a former rice-mill that is now used as a grouts-mill, which would be possible after minor adaptation.

A difficulty in making the transaction is that the rice offered by Burma is often full of granary weevils which requires a rather complicated cleaning process at home (with a high degree of weevilization the rice may be unfit for consumption for sanitary reasons).

All of these matters are supposed to be cleared up during the visit. Re-export of rice is out of the question on account of the present glut on the world market.

The Place of Poland in Europe in Industrial and Agricultural Production[1] (1955)

In 1938 Poland occupied ninth position in Europe in industrial production and fourth in agricultural output. In 1954 Poland was fifth in industrial output and only in sixth in agricultural production. In 1938 in industrial production the following countries were ahead of Poland: the USSR, Great Britain, Germany, France, Italy, Czechoslovakia, Belgium, and Sweden; in 1954 they were: the USSR, Great Britain, West Germany, and France. In agricultural production in 1938 the USSR, Germany, and France were ahead of Poland, and in 1954—the USSR, West Germany, France, Italy, and Great Britain.

Clearing of Stocks[1] (1955)

The Financial Plan and the Accumulation of Stocks

As a rule, a rather considerable sum is left in a financial plan as an unallocated reserve. If this reserve is not absorbed by other factors, such as non-fulfilment of the plan of lowering costs or over-fulfilment of the investment plan, there is an automatic unplanned increase of stocks. In fact, if the plan is carried out entirely except for an increase in working capital this means that the incomes of the population are lower than supplies of consumer goods and services by the sum of the unallocated reserves, which leads to an accumulation of unsold goods.[1]

From this it follows that the stocks accumulated on account of the non-absorption of the reserve by other factors should be cleared in the following period by including excessive stocks into the plan of supply of goods and services for the population. For instance, if in a given period stocks increased by more than Zl. 2bn., since the reserve in the plan for lowering costs of production turned out to be unnecessary (i.e. the plan targets of cost reduction was met), in the next period these Zl. 2bn. should be included in the plan of supplies for the population. In the financial plan this appears as a reduction by the same amount of working capital and as an increase (through an increase of wages or reduction of prices) of the disposable surplus. This operation involves certain complications, however, when clearing includes unsaleable stocks.

Clearing of Stocks of Unsaleable Goods

In the current supplies for the population there is always a certain percentage of goods which are hard to sell because they do not meet people's tastes or are of a substandard quality. These goods obviously

[1] In reality the greater than planned increase of stocks will also have consequences on the income side of the financial plan because to a certain extent it will reduce accumulation (the stocks are valued at cost of purchase); in the same way the 'gap' in incomes of the population can influence accumulation by reducing the consumption of government services below the plan. That is why, *ceteris paribus*, the unintended increase in stocks will be smaller than the unabsorbed financial reserve.

pile up in unsold stocks. That is why a considerable part of the unplanned increase of stocks will consist of unsaleable goods.

The inclusion of these goods in the next period to the supplies for the population will require considerable reductions in their prices to a level at which they would be sold. In the financial plan the nominal value of these stocks would be deducted from working capital on the side of expenses, and on the side of revenues the sum of price reductions would decrease financial accumulation. The additional disposable surplus would equal the reduced value of the unsaleable goods included in the supplies of goods. It is obvious that in this case the population should be provided with financial means to purchase the stocks to be cleared at a reduced value.

In order to prevent abuses, stocks of unsaleable goods should be sold in special stores. At the same time, a head office should be set up which would continually take over such goods from the normal retail sales network and from industry, reduce their prices, and send them to special stores.

Clearing of Stocks of Unsaleable Goods in 1956

According to the estimate of the National Bank of Poland, in the middle of 1955 there were about Zl.1.8bn. of stocks of goods hard to sell in retail trade and about Z1.0.5bn. of stocks of such goods in industry (chiefly in the co-operative and small industries). The Ministry of Internal Trade estimated the stocks of unsaleable goods requiring price reductions (together with stocks of the Central Board of Agricultural Co-operatives) at only Zl.1.2bn. The difference between the two estimates probably results from the fact that goods which are perfectly saleable can encounter short demand simply on account of inadequate purchasing power of the population. Thus stocks to the value of Zl.0.6bn. would not require price reductions in order to include them in the supplies for 1956. On the other hand, the prices of unsaleable goods to a total value of Zl.1.2bn. should be reduced, let us say by 40 per cent, and offered for sale in special stores. The same concerns stocks of industry of a book value of Zl.0.5bn. whose real value is estimated by the National Bank of Poland at about Zl.0.2bn.

The conclusions are shown in Table 72.

It follows that to the plan of supplies for the population in 1956 one could add stocks of goods for a sum of Zl.1.5bn., of which Zl.0.7bn. would be sold in special stores.

Table 72. *Stocks of Goods Difficult to Sell in Poland, 1956 (in Zl.bn.)*

	Book value	Actual value
Retail trade	0.6	0.6
	1.2	0.7
Industry	0.5	0.2
Total	2.3	1.5

It is quite possible that price reductions will also have to be made of goods difficult to sell which in this analysis are assumed to be 'saleable' (to a value of Zl.0.6bn.). However, this would not significantly alter the total value of additional supplies. In fact, if from stocks of Zl.0.6bn. a price reduction of 40 per cent were to be made with respect to, say, stocks of Zl.0.3bn., this would reduce the value of the sales of cleared stocks from Zl.1.5bn. to about Zl.1.4bn., of which stocks of Zl.0.9bn. would be sold in special stores.

The Problem of Allocating the Surplus in the Financial Plan for 1956[1] (1955)

It seems that the accumulation of stocks in excess of the planned volume will probably amount in 1956 to Zl.6bn. This is due to the fact that the surplus from the financial plan in 1955 was not allocated. This surplus exceeds Zl.10bn. (Zl.8bn. according to the plan plus more than Zl.2bn., of unplanned growth in national income), of which about Zl.4bn. was allocated through price reductions or wage rises. It should be emphasized that unsaleable goods hardly play the main role in the accumulation of stocks in excess of the planned volume.

The excessive accumulation of stocks in 1955 creates considerable possibilities of increasing the supply of goods in 1956. Both the clearing of stocks of unsaleable goods (only a relatively small part of which are from the 1955 output) and of the remaining goods come into consideration. Even if it is assumed that unsaleable goods would be sold in a special network of stores for 60 per cent of their book value, additional supplies of goods could amount to Zl.3–4bn. This would increase the surplus of the financial plan for 1956 (estimated by the State Commission for Economic Planning in July 1955 at Zl.6bn.) to close on Zl.10bn.

This, no doubt, considerably exceeds the necessary reserve for non-fulfilment of the planned cost reductions, etc., and, consequently, a large part of it can be allocated. First of all, if the balance of payments position requires, textile production can be safely reduced, since a considerable part of the stocks which would be included in the supply of goods consists of textile products. A reduction in the production of the textile and clothing industry by Zl.1bn. at retail prices would make it possible, for instance, to save about 30bn. roubles in the import of raw materials and still would not create greater employment problems. At the same time, a reduction in output of this order would still leave considerable sums for distribution.

A major difficulty appears here, however, due to the structure of the supply of goods. The supply of some food products, like meat and perhaps dairy products, may turn out to be insufficient and under these

conditions increasing the purchasing power in the form of wage increases, or price reductions, might increase tension in these markets. It should be mentioned that even if a price reduction were limited to industrial goods, this would result in an increase in real incomes and could put certain pressure on short-supply markets, e.g. on account of price reductions of textile goods money can be saved with a small increase in the purchase of these goods and these savings can be used for the purchase of meat.

In these conditions direct allocation should considered, i.e. increasing incomes in such a way that they would be spent, let us say, on the purchase of textile products. This is hardly a simple matter, however. If wages were increased by giving coupons for textile products and clothing, those who received these coupons could correspondingly reduce their customary expenditure for clothing so that the wage increase would be directed to the wrong markets. This aim could be achieved, however, if the distributed coupons entitled the bearer not to purchase goods for the amount declared on them, but to get a discount for this sum. This can be explained by the following example.

Let us say that we want to give a 4 per cent wage increase to a group earning a total of Zl.50bn., i.e. the total increase will be Zl.2bn. Let us further assume that before the wage increase the total expenditure of this group for textiles goods and clothing amounted to Zl.6bn. We distribute coupons to a value of Zl.2bn., entitling the bearers to a 25 per cent discount on purchases for Zl.8bn. It is clear that if this group does not increase its purchases of clothing by the entire Zl.2bn., it will be unable to take full advantage of the discount and will lose part of the wage increase granted in the form of coupons. This would create a strong incentive to direct the wage increase to purchases of clothing, but obviously conditional on the coupons being inscribed and non-transferable.

Notes on Planned Output of Cotton Textiles in 1956[1]
(1955)

1. The planned output of cotton textiles, as specified in the enclosed note by the [Ministry of Light Industry] corresponds to cotton imports of about 95,000 tonnes.

2. In the light of the likely over-fulfilment of the plan's target by 1–1.5 per cent, and taking into account that the plan of sales of cotton textiles in 1956 exceeds the volume of the forecast sales in 1955 by 10 per cent, it seems that the 1956 plan output indices can be reduced by yet another 10m. running metres.

3. Moreover, notwithstanding the introduction of more labour-intensive assortments, already the present plan implies a reduction of employment in the Łódź spinning-mills of 2,000 workers. This number would of course increase if the output of cotton textiles were further reduced.

4. The enclosure to the Ministry's note mentions the possibility of a barter exchange of 10m. running metres of cotton textiles by the end of 1955. If a barter transaction with Romania, in exchange for supplies of food could be effected, then the volume of cotton textile output in 1956, as specified in that note could be maintained. The barter contract in exchange for industrial goods (radios, bicycles, etc.) with the GDR does not seem desirable.

5. In the light of low wages in the textile industry in relation to other industries, a rise in wage-rates could be considered, as this would at the same time counterbalance the reduction of employment in this industry.

The Investment Plan and Inventories of Machines[1]
(1955)

On 30 June 1955 the value of the inventory of machines requiring installation came to about Zl.3bn., i.e. approximately as much as was anticipated for investment of this kind in the plan for 1955. The structure of this inventory according to their use is presented in Table 72 from which it follows that the value of the 'tied-up' inventory, i.e. apart from the first two rows of Table 73, comes to Zl.2–2.5bn.

The present version of the investment plan for 1956 anticipates that this year machines will be installed purchased in previous years for about Zl.1,050m., and that the value of the purchase of machines from present production not intended for installation this year will be of the same value. Thus the inventory of machines not awaiting installation will remain unchanged.

Table 73. *Structure of Inventory of Machines in Poland according to Purpose, 1955*

Type of inventory	Share in total inventories (%)
Transitory	about 25.0
Reserve	2.5
Machines planned for installation in 1955–7	55.5
Machines planned for later installation	7.5
Machines for clearing	8.8
Machines to be scrapped	0.7
Total	100.0

This plan does not exactly correspond to the findings of a survey on inventories of machines conducted in the middle of 1955. According to these findings, at that time inventories of non-installed machines more or less equalled annual outlay on machines, i.e. they reached about Zl.3bn. Probably about 25 per cent of this sum represented machines produced in 1955 which were supposed to be installed in that year. This would mean that about 25 per cent of the annual outlay on machines

remains in inventories in a transitory state. Thus from the Zl.1,050m., of this nature would be machines which were supposed to be installed from inventories during 1956, to the value of about Zl.750m. So only Zl.300m. would be left for liquidation of other types of inventories of machines. However, in responding to the survey, the government departments expressed readiness in 1956 to install 34 per cent of the value of the inventory of the middle of 1955, that is, about Zl.lbn. This would mean that the running-down of old inventories should reach a much higher value than Zl.300m. Yet, the anticipated increase of the inventory of machines from 1956 production, of about Zl.1,050m., would exceed the volume of inventories of a transitory nature if the latter were assumed to be Zl.750m.[1]

Thus it seems to follow that efforts to reduce the accumulated inventories of machines requiring installation are inadequate: as a result of the changes in inventories discussed above their volume in 1956 is supposed to be unchanged.[2] If these inventories could be significantly reduced, it would be possible either to considerably increase the installation of new machines in 1956, or to reduce the plan of the current production of machines.

Table 74. *Investment Expenditure in the Socialized Sector in Poland, 1955 and 1956 (in Zl.bn.)*

Kind of investments	Completed in 1955	Plan for 1956 I version	Plan for 1956 II version	Actual plan 1956
Construction-assembly of which:	27.01	28.45		29.02
limited	20.35	22.15	22.58	22.03
major overhauls	4.30	4.38		4.62
other	2.36	1.92		2.37
Limited apart from construction of which:	12.98	13.07	13.48	13.90
machines, equipment, etc.	9.84	10.10	10.48	10.37
other	3.14	2.97	3.00	3.53
Total limited investments	33.33	35.22	36.06	35.93
Total investments, without major overhauls	36.07	38.11	38.82	38.87

[1] From the government department plans the increase in the value of inventories of machines comes to Zl.1,500m. According to the investment plan, the purchases of machines which are not intended for installation in 1956 are supposed to be reduced by about Zl.450m.

[2] Only a small running-down is intended by assigning machines to a value of Zl.100m. for scrap, export, or use by new investors.

It should be also noted that according to the *Draft Investment Plan for 1956*, from the middle to the end of 1955 a reduction of the inventory of machines of Zl.600m. is foreseen, which probably exceeds by about Zl.300m. the intentions expressed in response to the questionnaire; moreover, this *Draft Plan* allows for the possibility of an unplanned increase of the inventory of machines in 1956 as a result of supplies from domestic production and from imports in excess of the plan.

All of the investment outlays in the socialized economy and their structure in 1955 and 1956 are given in Table 74, and the supply indices of some construction articles in 1956 in Table 75.

Table 75. *Indices of Supply of Some Construction Articles in Poland in the 1956 Plan (1955 = 100)*

Construction articles	Inversion of the plan	Actual plan
Construction-assembly materials	107.5	108.1
Cement	108.7	106.3
Rolled products	107.4	104.8[a]
Wall materials	104.9	107.6[b]
Broken stone	104.6	113.3

[a] Bar steel.
[b] Difficulties expected in the first half-year of 1956.

Notes on Mao Zedong's Report[1] (1955)

1. In examining Mao Zedong's paper one has to take into account the depth of the break-up of agricultural ownership in China and the social and economic situation in the countryside which developed after the victory of the revolution. Obviously, this situation is strictly connected with the break-up of agricultural ownership.

2. According to data cited in Mao Zedong's paper, there is an average of 0.84 ha. of arable land per farm in China. In Poland this figure is 5.7 ha. In this comparison it is more appropriate to take into consideration the amount of land under cultivation per farm in Poland; it is more or less 4.5 ha. Do we get in this way a proper basis for comparison? It seems we do.

Calculated at world prices, the value of plant and animal production per ha. of land under cultivation was much lower in Poland than in China before the war; also today there are probably no fundamental changes in this respect. Thus, without any serious reservation one can argue that the average size of farms in Poland is five times greater than in China. Even the average of a poor villager's farm in Poland (in arable land) is nearly twice as large as the average of all farms in China. In China a Polish poor farmer would be a prosperous owner of a middle-sized farm.

Chinese co-operative farms are also smaller than the Polish ones. From data given in the paper it follows that an average co-operative farm in China has an area of only 20–5 ha. In Poland the average co-operative farm has about 175 ha. of arable land and about 135 ha. of land under cultivation.

3. From these figures it follows that notwithstanding the agricultural reform, poor and poorer middle-sized farms, which make up 60–70 per cent of all farms, are still very small in China. On the other hand, the revolution has created favourable business conditions for the richer-than-average and the well-to-do peasants.

Rapid industrialization causes an increase in the demand of the urban population for food. Taxes in kind have been reduced to their

level before the revolution; although there is an extensive network of state-purchasing centres, there are no compulsory deliveries. In these conditions:

> in recent years there has been a spontaneous and constant growth of capitalist elements in the countryside and... new, rich peasants have sprung up everywhere. Many well-to-do middle peasants are striving to become rich ones. Many poor peasants, lacking sufficient means of production, are still not free from the toils of poverty; some are in debt, others selling or renting their land. If this tendency goes unchecked, the separation into two extremes in the countryside will get worse day by day. Peasants who have lost their land and who are still having difficulties will complain that we do nothing to save them when we see they are up against it, nothing to help them overcome difficulties. And the well-to-do middle peasants who tend towards capitalism will also find fault with us, for they will never be satisfied because we have no intention of taking the capitalist path.[2]

4. Two conclusions can be drawn from this declaration. First, for the government of People's China the collectivization of the poor and poorer average peasants is an urgent task for political and economic reasons. Second, the poor and poorer average peasants are willing to set up co-operative farms, because even in present conditions they not only have no chance to develop their midget farms, but also because these farms are often threatened with bankruptcy.

Indeed, so far it is mainly this group of peasants that has joined co-operative farms, and this suits the intentions of the government. It should be mentioned that for the most part the structure of co-operative farms corresponds to Polish co-operative farm of type II (producer co-operative farm), which is not very popular in Poland, except that in China the input of land generally plays a greater role in calculating daily wage-rates than in this type of co-operative farm in Poland.

However, the following important problem appears here. Since small farms are cultivated very intensively, which results from the great density of the agricultural population (about five persons per ha.), what benefits can be derived from combining them into collective farms (which, by the way, are also relatively small: 20–5 ha.)? This question is all the more important inasmuch as Mao Zedong's paper does not stress the outflow of the population to the cities. It seems that even in these conditions collective farms can derive considerable benefits. Above all, they enable their members, especially if the government helps them, to purchase farm animals and at least some primitive agricultural machines that may be inaccessible for undersized farms.

Thanks to this, they can greatly increase agricultural output (e.g. through deeper ploughing), even if the maximum intensification has already been achieved within the limits of the most primitive techniques of production.

The socio-economic configuration presented here explains the rapid development of co-operative farms which in the middle of 1955 already embraced about 15 per cent of all farms. The collectivization of about 30 per cent of all farms is planned by October 1956. In this period the co-operative farms are still supposed to group the poor and poorer peasant owners.

II. REINFORCED-CONCRETE CONSTRUCTIONS

Reinforced-Concrete Two-Slab Ceiling[1] (1929)

The subject of this invention is the reinforced-concrete two-slab ceiling without ribs, thanks to which boarding or the use of hollow bricks is unnecessary. The slabs not joined by ribs are separated from each other by a layer of insulating material which makes the slab sound- and heat-proof.

An example of the construction of the slab according to this invention is presented in Figures 2 and 3, the first of which is a longitudinal cross-section (in the direction of the span), and the second a lateral cross-section in the middle of the slab. As we see from the two figures, the ceiling consists of two slabs, *a* and *b*, separated by a layer of slag or other suitable material, and of plates at the supports. The load-carrying part proper of the construction is the lower slab, *a*, with the plates, *d*, while the upper slab, *b*, has the function of a strut between the plates, *d*.

The construction of the ceiling takes place as follows: first the lower part of the ceiling, consisting of slab *a* and plates *d*, is cemented with reinforced concrete; after the concrete hardens, a layer, *c*, of slag or other suitable material is packed in, over which slab *b* is cemented.

The reinforced-concrete two-slab ceiling without ribs consists of two slabs (*a*, *b*), separated on the entire space by a layer (*c*) of slag or other suitable material and of plates fully or partially drilled in (*d*) close to the supports; the load-carrying part proper of the construction is the

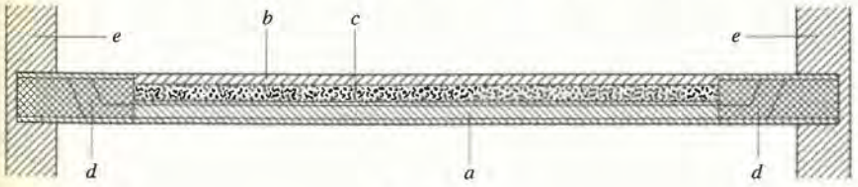


FIG. 2

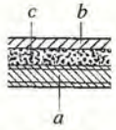


FIG. 3

lower slab (*a*) with the plates (*d*), while the upper slab (*b*) has the function of a strut between these plates.

The Use of Reinforced-Concrete Construction in Poland[1] (1931)

The starting-point for our considerations is the statistical data on orders for reinforced concrete iron, placed with the Syndicate of Iron Mills. These orders amounted to 13,500 tonnes in 1927, 28,700 tonnes in 1928, 21,400 tonnes in 1929, and 18,100 tonnes in 1930. The average iron content per m^3 of reinforced concrete was taken as 60 kg.

This assumption follows the Polish technical norms on the allowed strains in reinforced concrete and was checked against the actual iron content in a few reinforced-concrete constructions that have been recently completed. Dividing the above quoted volumes of the reinforced concrete iron by this average iron content we obtain the probable indices of the volume of completed reinforced-concrete constructions (in million m^3); they were 0.22 in 1927, 0.48 in 1928, 0.36 in 1929, and 0.30 in 1930.

To determine the popularity of use of reinforced-concrete constructions in Poland these indices must be compared with the volume of brick walls constructed in the same years. The average number of bricks per m^3 of wall is about 345 for Poland as a whole. Dividing the sales of bricks in Poland by this number we get the volumes of constructed brick walls (see Table 76).

Table 77 compares the volume of reinforced-concrete constructions and brick-wall constructions (both in m^3). The percentage shares shown there do not represent accurately the use of reinforced concrete in the Polish construction, however, because a cubic metre of reinforced

Table 76. *Brick Wall Construction in Poland, 1927–1930*

Year	Sales of bricks (million)[a]	Volume of brick walls (million m^3)
1927	1,169	3.39
1928	1,645	4.76
1929	1,355	3.93
1930	1,058	3.07

[a] According to GUS statistics.

Table 77. *Use of Reinforced-Concrete Constructions and Brick Constructions in Poland, 1927–1930*

Year	Reinforced-concrete constructions (million m^3)	Brick walls (million m^3)	Ratio of reinforced-concrete to brick-wall constructions (%)
1927	0.22	3.39	5.6
1928	0.48	4.76	10.1
1929	0.36	3.93	9.1
1930	0.30	3.07	9.8

concrete has a greater stability, and hence greater money value, than a cubic metre of brick wall. The corresponding ratio of static equilibria may be approximated at 3 : 1. To get a better idea on the relative use of the reinforced-concrete and the brick constructions, the percentage ratios shown in Table 77 must therefore be multiplied by 3. The respective ratios then are as follows (in per cent): 16.8 in 1927, 30.3 in 1928, 27.3 in 1929, and 29.4 in 1930.

It will be seen that in 1928 the use of reinforced concrete increased strongly and since that time the ratio of reinforced-concrete to brick constructions has stabilized at close to 30 per cent.

Finally, the importance of reinforced-concrete construction for the cement industry is noteworthy. By multiplying the volume of concrete constructions (in m^3) built each year by the average cement input per m^3 (equal to 300 kg.) we obtain the annual use of cement in concrete constructions. The results are compared in Table 78 with the total sales of cement in Poland.

It follows that reinforced-concrete constructions at their present stage of development are of importance than it might appear at the first sight, as they represent not much more than 10 per cent of the total domestic demand for cement.

Table 78. *The Use of Cement and Reinforced-Concrete Constructions in Poland, 1927–1930*

Year	Cement used in reinforced-concrete constructions (.000 tonnes)	Total sales of cement[a] (thousand .000 tonnes)	The share of cement used reinforced-concrete constructions in total sales of cement (%)
1927	66	647	10.2
1928	144	996	14.4
1929	108	906	11.9
1930	90	776	11.6

[a] According to the data of the Institute for the Study of Business Cycles and Prices.

Calculation of Ribbed Ceilings of a Certain Type in the Installation of Mounted Slab[1] (1931)

Scheme of Calculation

In this paper we deal with a ceiling in which the ribs make up a grid of equal squares and at all crossings they are supported by pillars (see Figure 4). Hence this is a type of ribbed, mushroom-shaped ceiling.

We assume that the cross-reinforced slab is mounted in a given square of beams *ABCD*. The moments of mounting the slab, M_0 in beams *AD* and *BC*, are carried over by twisting these beams on beams *AB* and *CD*, which assume moments M_0, working on bending. The

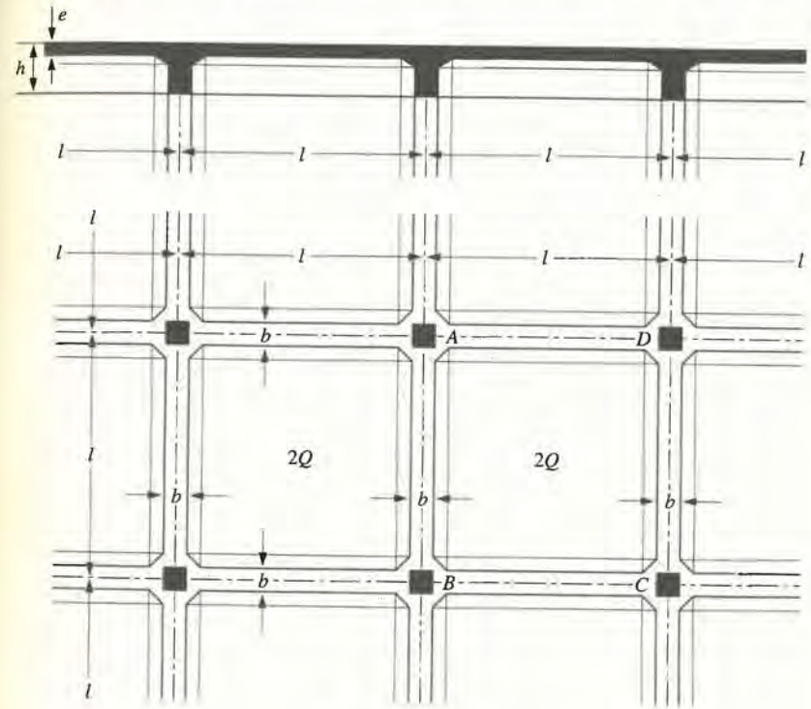


FIG. 4

same thing obviously takes place in a perpendicular direction. Let us denote the uniform load of the square by $2Q$. The load carried over in one direction will be Q. The moment carried over in one direction by twisting, e.g. from beam AD to beam AB, will be $M_0/2$. In the event of the loading of the two squares adjacent to beam AB (see Figure 4) the moments bending this beam will be: $M_A = M_B = M_0$.

With the complete mounting of the slab, $M_0 = Ql/12$. In fact M_0 will be somewhat smaller than $Ql/12$ (see 'Calculation of the slab' below). Obviously, in calculation of the beams, in addition to the action of perpendicular forces, we have to take into consideration twisting and bending moments resulting from the mounting of the slab. In further calculation we assume that $M_0 = Ql/12$. We now move on to the details of the calculation.

Assumptions on Dimensions

Denoting by e the thickness of the slab, b—the width of the beam, h—the height of the beam, and l—the spread between the axes of the beams, we assume

$$h \geqslant 5e, \tag{1}$$

$$b \geqslant \begin{cases} \dfrac{l}{10} \\ \dfrac{h}{2} \end{cases} \tag{1}$$

from which follows:

$$b \geqslant 2.5e. \tag{1}$$

Calculation of the Slab

In fact the slab will be only partially mounted in the square of beams, since beam AB yields somewhat under the action of moments M_A and M_B (see Figure 4). Denoting by i the moment of inertia of the field of the cross-section of the slab and by I the moment of inertia of the beam, we get for the actual moment of the mounting of the slab

$$M_0 = \frac{Ql}{12}\,\frac{I}{i+I} = \frac{Ql}{12}\,\frac{bh^3}{le^3 + bh^3}.$$

Now for h and b we take the lowest vales from conditions (1), i.e. we calculate M for conditions least favourable for the mounting of the slab:

$$M_0 = \frac{Ql}{12}\,\frac{\frac{l}{10}125e^3}{le^3 + \frac{l}{10}125e^3} = 0.926\,\frac{Ql}{12}.$$

For the moment in the middle of the slab, without considering reduction coefficients dependent on the action of twisting moments in the slab, we get

$$\frac{Ql}{8} - 0.926\,\frac{Ql}{12} = 1.148\,\frac{Ql}{24},$$

and taking into account these coefficients, according to German regulations we obtain

$$M = 0.86 \times 1.148\,\frac{Ql}{24} = \frac{Ql}{24}.$$

Hence with uniform loading of the square of the slab with a weight of $2Q$, the cross-section in the middle can be calculated for moment $M = Ql/24$. The moment at the support will be somewhat smaller than $Ql/12$, so there it suffices to give a bevel with a height of $0.4e$ and 40 per cent more iron than in the middle of the slab (since $\sqrt{2} = 1.41$); the distance of the end of the bevel from the axis of the beam should not be less than 0.1.

Calculation of the Beam

Bending

We examine here an extended beam on many supports. First of all we consider the least favourable load for the middle cross-sections of the spans (see Figure 5).

The bending moment from the mounting of the slab on the internal support is divided in half between the respective spans, bending one of them downward and the other one upward:

$$M'_A = \pm\frac{M_0}{2} = \pm\frac{Ql}{24} = +M''_A.$$

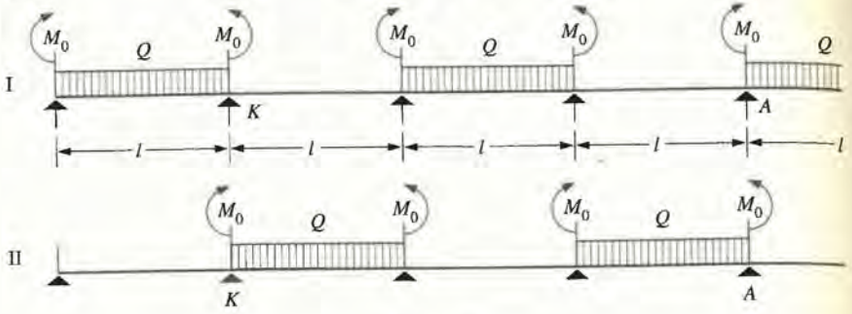


FIG. 5

As regards the second support from the end, in case 1 the load will be (approximately)

$$M'_k = \frac{3}{4}\frac{Ql}{24},$$

$$M''_k = -\frac{5}{4}\frac{Ql}{24};$$

and in case 2 the load will be:

$$M'_k = -\frac{5}{4}\frac{Ql}{24},$$

$$M''_k = \frac{3}{4}\frac{Ql}{24}.$$

In the middle of the internal span the moments from the mounting of the slab give moment $\pm Ql/24$, and in the ultimate span moment $+0.057Ql$ in case 1, and moment $-0.026Ql$ in case 2. Since the perpendicular load of one span is Q, the moments from this load in the middle of the internal span are $\pm Ql/24$ and the combined moments from the perpendicular load and mounting of the slab $\pm Ql/12$. In the ultimate span the moment from the perpendicular load will be $+0.1Ql$ in case 1, and $-0.026Ql$ in case 2, and combined with moments from the mounting of the slab, $+0.157Ql$ and $-0.052Ql$ respectively.

One can easily show that when conditions as to dimensions are met, negative moments in the middle of the span cannot cause excessive stress in the concrete; in fact

$$bh^2 = \frac{l}{10}25e^2 = 2.5le^2.$$

This means that the beam can withstand a moment 2.5 times greater than the slab; the latter has been calculated for moment $Ql/24$, whereas the greatest negative moment in the above cases of stress is $Ql/12$.

Neither do positive moments exceed the allowable limits of stress in the concrete. The greatest positive moment appearing in the extreme span is $0.157Ql$; it is 3.75 times greater than $Ql/24$. Thanks to the co-operation of the slab, the 'computational' width of beam B will unquestionably be greater than $1.5b$, from which it follows that the beam will certainly be able to withstand a moment 3.75 times greater than the slab.

As regards the lower elements of the beams, to accept the moments caused by mounting the slab, their cross-section should be increased by a magnitude corresponding to moment $Ql/24$, and in the ultimate span by a magnitude corresponding to moment $0.057Ql$.

In principle negative moments caused by mounting the slab also require additional reinforcing; however, one can easily show that this can be dispensed with. In fact, in spans in which negative moments appear, the slab is not loaded, and thus its inserts are not under pressure and can be used as upper reinforcements of the beam. Since moment $-Ql/24$ comes into consideration here for the beam, and in all of its cross-sections the slab has elements meeting at least $Ql/24$, thanks to the greater side of the moment for the beam, we shall need considerably fewer inserts than are found in one field of the slab. The relation of the sides is

$$\frac{e}{h-\frac{e}{2}} \leqslant \frac{l}{4.5} \quad \text{(see condition 1)}.$$

This means that we have to rely on the co-operation with the beam of inserts in the slab on a width of $0.22l$, i.e. on a width of $0.11l$ from each side of the beam, which can be regarded as entirely admissible.

We now take up the case of the most unfavourable load for the moment at the supports (see Figure 6).

At the middle support the moments from the mounting of the slab cause a negative moment approximately equal to $M_0/4$, i.e. $-0.21Ql$; the moment from the perpendicular load is $-0.107Ql$; hence the combined moment is $-0.128Ql$.

Correspondingly, at the second support from the end the moment caused by mounting the slab is approximately $-3M_0/8 = -0.03Ql$;

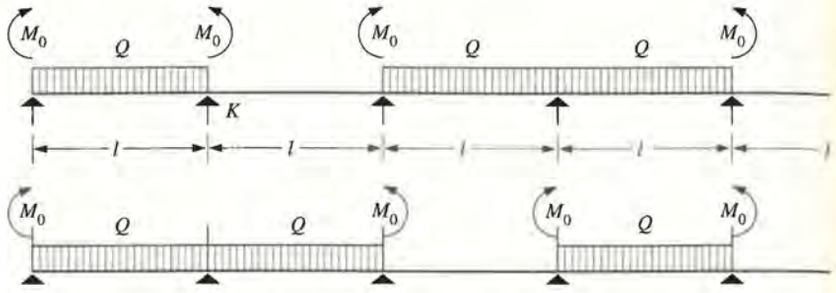


FIG. 6

the moment from the perpendicular load is $-0.121Ql$, and the combined moment is $-0.152Ql$.

We assume that the ends of the horizontal bevels are distant from the axis of the pillar by at least $0.1l$; then one can easily see (as we did for the moments in the middle of the span) that the stress in the concrete does not exceed the allowable limits. The cross-section of the upper elements should be increased at the middle support by a magnitude meeting the moment $0.021Ql$, and at the second support from the end—by a magnitude meeting the moment $0.031Ql$.

Summing up: (*a*) If the dimensions of the beams meet conditions (1) and the beams have horizontal bevels whose ends are distant from the axis of the pillar by at least $0.1l$, nowhere in the concrete will the stress exceed the allowable limit. (*b*) The beams should be reinforced according to the bending moments from the perpendicular load, and in addition to this, along the entire space lower inserts should be added with a cross-section meeting the moment $0.021Ql$, and in the extreme span meeting the moment $0.057Ql$, and upper short bars over the central supports with a cross-section meeting moment $0.021Ql$, and over the second support from the end with a cross-section meeting the moment $0.031Ql$.

Twisting

The twisting moment caused by mounting the slab comes to $Ql/24$ for the cross-section near the beam crossing. Assuming that $b = h/b$ (see condition 1), it causes a twisting stress of:

$$\sigma = 4.06\frac{\frac{Ql}{24}}{b^2h}. \qquad (2)$$

The cross-section of the beam at the bending was calculated for moment $Ql/24$; with the allowable stress of the concrete for squeezing in the bent cross-section, equal to 40 kg/cm^2, we get

$$e = 0.411\sqrt{(Ql/(24l))},$$

from which

$$Ql/24 = 5.9le'^2 < 5.9le^2.$$

Inserting this in equation (2), we get

$$\sigma < 4.06 \times 5.9\frac{le^2}{b^2h} = 24\frac{le}{bh}\frac{l}{b}$$

and further from conditions (1)

$$\sigma < 24\frac{le}{\frac{l}{10}5e}\frac{l}{b} = 48\frac{e}{b} \leqslant 48\frac{l}{25} = 19.2 \text{ kg/cm}^2$$

$$\sigma < 24\frac{le}{\frac{l}{10}5e}\frac{l}{b} = 48\frac{e}{b} \leqslant 48\frac{l}{25} = 19.2 \text{ kg/cm}^2.$$

In a non-reinforced cross-section the allowable stress from twisting is 4 kg/cm^2; in a cross-section reinforced for the twisting stress, calculated as above, without taking this reinforcement into consideration, the allowable stress should not exceed 18–20 kg/cm^2. From this it follows that the size of our cross-section is adequate (the more so as the crossing beams are fitted with horizontal bevels), but reinforcement for twisting is also necessary—most conveniently by suitably increasing the number of binders in the beam.

The Wall as a Construction Element of Reinforced-Concrete Skeletons[1] (1932)

Despite their great resistance to bending, very thin and high beams are used quite rarely in iron-concrete construction for the following reasons: (i) the great height of the beams increases the construction height of the entire building; (ii) the planking surface of these beams is considerable; and (iii) shearing stresses turn out to be relatively great, and the diagonal deflection of elements in order to accept these stresses in the high beam in relation to the spread cannot be adjusted with the line of moments.

The first two objections lose importance as regards thin and high beams entirely hidden in the wall and being component parts of the skeletons of reinforced-concrete houses. In fact, in this case the construction height of the building is entirely independent of the height of the beams; serving here as the perpendicular planking are two brick walls erected on the perpendicular planking, and the space between them (after reinforcement) is filled in with concrete. The construction details are explained below with the help of an example. Now we shall address ourselves to removing the third objection, i.e. the problem of a suitable reinforcing of the beam on the wall.

For such reinforcement here we assume a set of ordinary binders and perpendicular bars with the same spacing, e, as the binders, so that from both sides of the beam there is a grid of bars in a square mesh (see Figure 7).

We now examine the diagonal tension of the square $ABCD$ cut out of the beam with a side equal to $e/\sqrt{2}$. If the shearing tension in the cross-section BD is equal τ, one can assume that the tension force is approximately $(e/\sqrt{2})b$, where b is the width of the beam. If this tension is to be accepted by the horizontal and perpendicular bars, the following dependence must be observed:

$$(e/\sqrt{2})b\tau = 2s\sigma\sqrt{2},$$

where s is the area of the cross-section of the bar, and σ the tension in it. So we get:

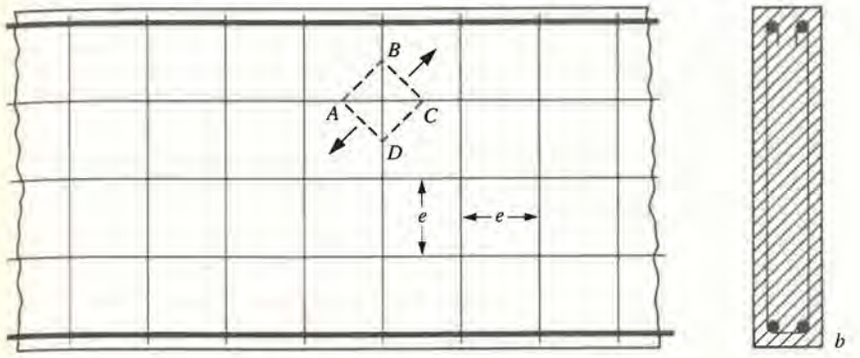


FIG. 7 Reinforcement grid

$$\sigma = eb\tau/4s. \qquad (1)$$

Using this equation we can calculate the reinforcement of the beam described above in order to accommodate shearing stresses.

We now come to examination of a specific example of the use of walls (of thin and high beams) in the reinforced-concrete skeleton of a building. We look at the skeleton of a house of a length of 20 m and a width of 10 m (see Figure 8). The skeleton consists of three multistory frames running along the length of the building. The frames of the beams are thin and high; the extreme pillars of the frames are connected by the same kind of beams.

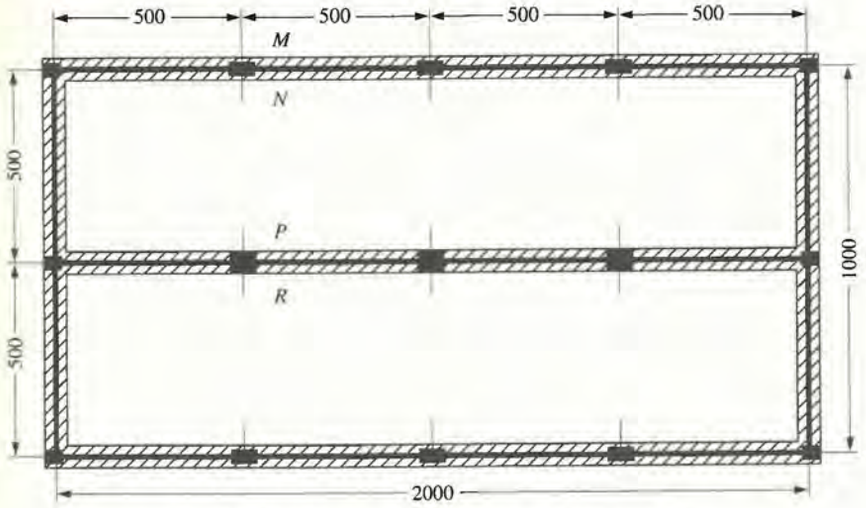


FIG. 8 Horizontal cross-section of the skeleton

The beams in the outer walls reach from the upper edge of the windows to the upper edge of the ceiling, and in the inner wall from the upper edge of the door to the upper edge of the ceiling. With a thickness of the wall equal to two bricks the thickness of the beam is assumed to be 22 cm; in this way on one side of the beam there is room for a wall 1/2 brick thick, and on the other 3/4 brick thick.

The planking of the skeleton differs here from the one ordinarily used in that under the beams we provide wider horizontal planking, on which are erected two brick walls that make up the perpendicular planking; subsequently, in hardening the concrete binds with these walls.

We now move to calculate the beams. We assume the following load of the ceiling: its own weight, the floor including, at 400 kg/m^2, the use load at 200 kg/m^2; and total at 600 kg/m^2. The load of the centre beam from the ceiling, which rests on three supports, will be (per running metre, rm)

$$1.25 \times 600 \times 5.0 = 3,750 \text{ kg/rm}.$$

For the ultimate beam the pressure of the ceiling is greater than what would result from the assumption of resting freely on three supports; considering a certain fastening of the ceiling in the frame, we have

$$0.45 \times 600 \times 5.0 = 1,350 \text{ kg/rm}.$$

We further assume that light brick with a bulk density of 1.0 has been used in the construction. Thus we get:

Centre beam. Dimensions 22 × 110 cm. Load per rm:

pressure of the ceiling	3,750 kg/rm
weight of the beam (0.11 × 1.10 × 2.4)	580 kg/rm
weight of the wall around the beam (0.13 + 0.20) × 1.10 × 1.01	360 kg/rm
weight of the wall over the beam (0.55 × 2.10 × 1.0)	1,150 kg/rm
total	5,840 kg/rm

The maximum negative moment is

$$M \cong 0.11 \times 5,840 \times 5.0^2 = 16,100 \text{ kgm},$$

and the maximum shearing force is

$$T \cong 0.6 \times 5,840 \times 5.0 = 17,500 \text{ kg}.$$

Thus we get further

$$h' = 110 - 5 = 105 \text{ cm}, 105(\sqrt{1,610,000/22}) = 0.388.$$

According to Geyer's tables, with the assumption $\frac{A_{z'}}{A_z} = 1$ for $\sigma_z = 1,200$ kg/cm^2, we get $\sigma_b = 37$ kg/cm^2; $A_z = 0.00622 \times 22 \times 105 = 14.36$ cm^2. Over the penultimate supports at the top we give 3 Ø 25; over the middle support and everywhere on the bottom 2 Ø 25 suffices, as it is easy to see.

The maximum shearing tension is

$$\tau = \frac{15,500}{7/8 \times 105 \times 22} = 8.7 \text{ kg/cm}^2.$$

We give binders of Ø 10 every 17 cm and horizontal bars of Ø 10 in the same spacing (see Figure 8). According to equation (1) the stress in the bars of the grid will be

$$\sigma_z = \frac{17 \times 22 \times 8.7}{4 \times 0.79} = 1.30 \text{ kg/cm}^2.$$

The *ultimate beam*. Dimensions 22 × 70 cm. Load per running metre:

pressure of the ceiling	1,350 kg/rm
weight of the beam (0.22 × 0.70 × 2.4)	370 kg/rm
weight of the wall around the beam (0.13 + 0.20) × 0.70 × 1.0	230 kg/rm
weight of the wall over the beam after deducing 40 per cent for window openings (0.60 × 0.55 × 250 × 1.0)	830 kg/rm
total	2,780 kg/rm

The maximum negative moment is

$$M \cong 0.11 \times 2,780 \times 5.0^2 = 7,650 \text{ kgm}$$

and the maximum shearing force is

$$T \cong 0.6 \times 2,780 \times 5.0 = 8,350 \text{ kg}.$$

Thus we further get

$$h' = 70 - 5 = 65 \text{ cm}, \frac{65}{\sqrt{\left(\frac{765,000}{22}\right)}} = 0.348.$$

According to Geyer's tables, with the assumption $\frac{A_{z'}}{A_z} = 1$ for $\sigma_z = 1,200$ kg/cm^2, we get $\sigma_b = 39$ kg/cm^2; $A_z = 0.00780 \times 22 \times$

$65 = 11.1\ \text{cm}^2$. Over the penultimate supports we give 3 Ø 22 at the top and the bottom; in other parts of the beam 2 Ø 22 suffices.

The maximum shearing stress will be

$$\tau = \frac{8350}{7/8 \times 65 \times 22} = 6.7\ \text{kg/cm}^2.$$

We give Ø 10 binders every 20 cm and Ø 10 bars in the same spacing

$$\sigma_z = \frac{6.7 \times 20 \times 22}{4 \times 0.79} = 930\ \text{kg/cm}^2.$$

One can easily see that the construction of iron-concrete skeletons discussed above brings considerable savings in comparison with the ordinary way of construction. The cost of reinforcement is more or less the same, since the savings on the weaker main elements and on the removal of bending are offset by expenses for the grid that makes up the reinforcement on the wall. On the other hand, the use of concrete, planking, and bricks will be obviously less.

III. MATHEMATICAL PAPERS

On the Gibrat Distribution[1] (1945)

The Gibrat Approach

1. It was a great achievement of Gibrat[1] to show that the distribution of the *logarithms* of some economic variates (for instance, the distribution of factories according to the number of workers) is approximately normal. The explanation of this phenomenon by Gibrat may be presented in a rigorous form as follows.

Let us denote the variate X (for instance the number of workers in a factory) at a certain date by X_0. Let us further assume that subsequently it undergoes a series of random independent *proportionate* changes $m_1, m_2, \ldots, m_n$ (Gibrat's *loi de l'effet proportionnel*).[2] Thus at the end of the period in which these changes have taken place the value of the variate will have become $X_0(1+m_1)(1+m_2)\ldots(1+m_n)$ and its natural logarithm $= \log X_0 + \log(1+m_1) + \log(1+m_2) + \ldots + \log(1+m_n)$. If we denote the deviation from the mean of $\log X_0$ by Y_0 and the deviation from the mean of $\log(1+m_k)$ by y_k, the deviation from the mean of this expression becomes $Y_0 + y_1 + y_2 + \ldots y_n$. The absolute value of m_k may be assumed small as compared with 1. It follows that the absolute value of $\log(1+m_k)$ and consequently that of y_k is also small as compared with 1. As the second moment of $y_1 + y_2 + \ldots y_n$ is equal to the sum of the second moments of $y_1, y_2, \ldots, y_n$, it may be assumed that if n is sufficiently large the standard deviation of $y_1 + y_2 + \ldots y_n$ is equal to or greater than 1 (provided the standard deviation of y_n does not fall below a certain level as n increases.) Thus y_k is small as compared with the standard deviation of $y_1 + y_2 + \ldots y_n$. With this condition fulfilled the distribu-

I am much indebted to Mr D. G. Champernowne for his comments which enabled me to improve upon the first draft of this article.

[1] R. Gibrat, *Les inégalités économiques*, Paris, Sirey (1931), 296 pp.

[2] Actually the 'law of proportionate effect' was known long before Gibrat.

PART 1

STUDIES IN THE BRITISH WAR ECONOMY

I. RATIONING OF CONSUMPTION

A Scheme of Curtailment of Consumption

[1]

First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/3 (1940), 7–9. Publishers' permission to reproduce this and other Kalecki's studies in the British war economy is gratefully acknowledged.

At the turn of 1939 the Kaleckis moved from Cambridge to Oxford where Kalecki got a job in the Oxford University Institute of Statistics. The Institute (now the Oxford Institute of Economic Statistics) was founded in 1935 with the task to supplement Oxford studies in social sciences with statistical underpinning. From the outset the statistical studies of the Institute were closely connected with economic problems (*inter alia*, with the well-known studies in the dependence of prices on costs of production, see R. I. Hall and C. J. Hitch, 'Price Theory and Business Behaviour', *Oxford Economic Papers*, 2/2, 1939). With the beginning of the war, thanks to continued assistance of the Rockefeller Foundation, the Institute took up studies in the British war economy. They were published mainly in the Institute's *Bulletin* that appeared every three weeks, starting from 1939.

Already in 1939 nearly all the senior staff of the Oxford Institute of Statistics entered government administration (in the wartime Civil Service); those who remained were recent graduates: P. Andrews, J. L. Nicholson, and G. D. N. Worswick among them. On the other hand, the Institute was reinforced by many foreign economists, most of them refugees from Nazi fascism: F. Burchardt, S. Moss, K. Mandelbaum, T. Schulz, and E. F. Schumacher from Germany, D. B. Halpern and J. Steindl from Austria, T. Balogh from Hungary, J. Goldman from Czechoslovakia, and H. Frankel and M. Kalecki from Poland. The director of the Institute was a distinguished British statistician, A. L. Bowley (for more information, see Worswick, 'Kalecki at Oxford, 1940–44', *Oxford Bulletin of Economics and Statistics, Special Issue: Michal Kalecki Memorial Lectures*, 39/1 (1977), 19–20).

In 1940–4 Kalecki published in the *Bulletin* 45 articles on war finance, economic equilibrium, and rationing of consumption (significantly, rationing of consumer expenditure was the subject-matter of Kalecki's first publication

in the *Bulletin*) and, towards the end of the war, on post-war reconstruction. He also devoted much attention to changes of wages and employment during the war, the distribution of national income, and especially the share of wages in it, the mobilization of material and human resources for the war effort, etc.

In his recollections of Kalecki, Joseph Steindl wrote about this period:

> In 1940 he [Kalecki] obtained a job at the Oxford Institute of Statistics, which had become a haven for economists from the continent (including me).... Kalecki became the guiding spirit of this team, which consisted mainly of people with left-wing (Labour Party) sympathies. Their work was mainly concerned with the economic problems of the war, as well as post-war problems. As seen from the perspective of the present, our attitude toward reformist economic policy was positivistic: we knew what we wanted, and how it should be done.
>
> Besides the theoretical domain there is a wide field of economic policy in which Kalecki was continuously engaged. He combined a keen sense of political realities with great inventiveness. His general rationing scheme for Britain, although it was not adopted as such, found expression in the use of comprehensive rationing as an instrument of war finance. For the post-war period he developed a full employment policy with appropriate fiscal and taxation policies. In lieu of Keynes's plan for an international currency union, he substituted, together with E. F. Schumacher, a more ambitious plan in which credits to developing countries were linked to spending in industrial countries reporting structural payments deficits (J. Steindl, 'A Personal Portrait of Michal Kalecki', *Journal of Post-Keynesian Economics*, 3/4 (1981), 591 and 594).

The Oxford Institute of Statistics soon became an influential and independent centre for the formulation of views based on the ideals of equality and social justice that were at the same time underpinned by painstaking economic analysis of many basic questions concerning the British war economy. Some thirty years later the present editor of Kalecki's *Collected Works* was told about the excitement with which each issue of the *Bulletin* was awaited, and about the lively discussions on its contents not only in economic circles but also in pubs (many public lectures given at the time by Worswick, Schumacher, and other members of the Institute's staff, and organized by Workers' Educational Association, unquestionably contributed to the popularity of the views expressed in the *Bulletin*); both in Oxford and Warsaw the story was told about the late appearance of a number of the *Bulletin*, in the reading of which the printer became so absorbed that he failed to set the print in time. Though after so many years it is impossible to verify these recollections, they certainly reflect the special atmosphere that existed during the war around the Institute and its *Bulletin*.

In the opinion of many of its staff, the period of greatness that Oxford Institute of Statistics was experiencing at that time was chiefly due to Kalecki who gave direction to the research projects of the Institute and himself took up the most important questions (see G. D. N. Worswick, Kalecki at Oxford, 1940–4', and also 'A Portrait of the Economist Kurt Mandelbaum: Based on

an Interview with Matjias Greffrath', *Development and Change*, 10/4 (1979), 509–10). So when Bowley retired in 1944, it was thought that Kalecki would become his most natural successor. This did not happen, however. As Mrs Ada Kalecki remembered, many had applied for this position and her husband's contributions to the Institute's renown as well as his qualifications apparently had to yield to other considerations. Moreover, a *faux pas* was committed against Kalecki, the consequences of which could well be foreseen. Bowley approached Kalecki if he could suggest a candidate for the directorship of the Institute and listed the required qualifications that matched exactly Kalecki's scholarly output and interests. Bowley might have felt himself the difficulty of his mission and gave a low age limit for the candidate. Kalecki, who was then 45, felt offended by all of this and decided to leave. Before he did, however, he complied with Bowley's request and suggested a new director of the Institute, young and of high formal qualifications, whose candidacy it was hard to reject. After appointment, the new director did not manage to keep the reputation of the Institute at the previous level, however. According to Mrs Kalecki's recollections, the new director probably would not have accepted the position had he known that Kalecki would leave the Institute.

In connection with Kalecki's departure from Oxford University Institute of Statistics, its acting director wrote to Kalecki on 22 February 1945:

> Dear Kalecki,
> This is to confirm formally on behalf of the Institute that we accept, though with much regret, your resignation from the staff as from 15th March 1945.
>
> Everyone here speaks with high appreciation of the work you have done for the Institute in the past few years and it is clear that the repute which the Institute has won as a wartime centre of lively, yet scientific and realistic economic study owes much to your stimulating influence. I should like to add that, though I have not had direct association with this work until recently, I have been in a position to observe how much it has done in a critical phase to bring Oxford into the forefront as a centre of economic study; and I only hope that we shall not throw away the opportunities which have been opened up in this way.
>
> All good wishes to you in your work with the ILO,
>
> Yours sincerely,
> H. D. Henderson

(The letter survived in Kalecki's papers.)

In Kalecki's papers there are also other letters expressing regret concerning his departure from Oxford, among them a letter of 22 February 1945 of the Warden of All Souls College in Oxford, Professor D. H. MacGregor, who wrote:

> Dear Kalecki,
> Though it is a loss to Oxford, I wish to congratulate you on the new opportunity to which you are going. Also I should like to say that we have been fortunate in having

you with us during these years, and in having our name connected with yours distinguished contributions. I am sure you won't forget us, and that we will always hope to see you and your wife again whenever an occasion offers to renew our friendship.

Yours very truly,
D. H. MacGregor

There survived also a letter of 7 March 1945 of Kalecki's former student, who was then an official in the Foreign Office Research Department, Mr H. C. Willmann, and a letter of 18 March 1945 of M. H. Dobb, who wrote:

Dear Kalecki,
I was sorry to hear that there would be no opportunity to seeing you before you leave. I feel, however, that I must write and wish you 'bon voyage' and the best of success in your new work. At the same time one does so with great regret, not only personal, but on behalf of economic thought in England. It seems more than a pity that English economics could not have found some means of offering you work which would have made it worth while for you to have stayed here among us.

You no doubt do not need to be reminded of the exceedingly stimulating effect that intellectual contact with you had on the research students and others who enjoyed the benefit of discussion with you in Cambridge, and I understand that the same is true of Oxford. English economists will be considerably poorer for your departure if I may so presume as to say so. But we shall hope to read you in future even if you are too far away for us to speak with you.

Please give my very best regards and good wishes to Mrs Kalecki.

Yours very sincerely,
Maurice Dobb

The problems of domestic sources of financing the war and maintaining market equilibrium were the subject of lively discussion in England already in the period preceding the outbreak of hostilities. It was commonly recognized that in face of the limited possibilities of increasing domestic and imported supplies of consumer articles on the one hand, and increasing the wage fund (because of the increase of employment and wage-rates, the growth in the number of overtime hours, etc.), and also the extraordinary profits of companies on the other hand, the maintenance of market equilibrium by conventional economic policy measures would not be possible. Estimates of the inflationary gap showed that it could not be offset by tax increases, even after consideration of an increase in voluntary savings. The traditional way of balancing this gap was inflation—the internal source of financing wars and revolutions.

Owing to Keynes's authority and his position in the government administration (as during the First World War, in the Second World War he also was adviser to the Chancellor of the Exchequer and to the Governor of the Bank of England), his plans concerning domestic sources of war finance met with great attention and approval of many political and economic circles. Keynes believed that inflationary pressures should be counteracted by means of

forced private savings and soon after the outbreak of the war he put forward his plan in a lecture given in the Marshall Society and in *The Times* (see his three articles published there in November 1939; next he developed his plan in the *Economic Journal*, and only after this, in February 1940, his well-known pamphlet on how to pay for the war appeared, see J. M. Keynes, *How to Pay for the War*, in *Collected Writings of John Maynard Keynes*, ix, London, Macmillan, 1972).

The essence of Keynes's plan was to limit inflation by introducing—at a given volume of new taxes and voluntary savings—'forced savings' accumulated on blocked accounts that would be available only after the war (see *Collected Writings of John Maynard Keynes*, xxii, *Activities 1939–1945: Internal War Finance*, London, Macmillan, 1978). Keynes insisted that the inflation rate had to be reduced since the inflationary spiral would weaken the motivation of workers to increase output and, besides this, would cause shifts in the national income to the disadvantage of rentiers. He accepted the taxation of excess profits (though he regarded this problem as chiefly political), but he definitely opposed their taxation at the rate of 100 per cent since this would weaken the motivation of entrepreneurs. He also opposed the introduction of a system of general rationing of consumer expenditure (in distinction from the rationing of specific articles) since, he argued, 'the abolition of consumers' choice in universal rationing is a typical product of that onslaught, sometimes called bolshevism, on differences between one man and another by which existence is enriched' (J. M. Keynes, *How to Pay for the War*, 410).

There was a similar attitude in some business circles and among the government administration, who, as observed by Worswick, were unable to understand why rationing was so popular among the public at large (see his 'Kalecki at Oxford, 1940–44', 23–4). This popularity, however, whose important source was the general mobilization of women (who returning from work in the evening could buy nothing in shops until rationing was introduced), was why with the passage of time rationing of specific consumer goods became ever broader in scope. Regarding Keynes's objection on consumer choice, it should be noted that rationing of expenditures hardly undermines the principle of freedom of choice of the consumer but merely limits his budget. As it will be seen in nearly all papers contained in the first two sections of Part 1 of the present volume, Kalecki persistently favoured the method of general rationing of consumer expenditure.

Kalecki also sought the greatest possible limitation of inflation since, as he pointed out, inflation led to shifts in the distribution of national income from wages to profits. In his opinion, after the rise of prices in the first year of the war, economic policy should strive to stabilize the cost-of-living index. Regarding Kalecki's criticism of Keynes's plan, the argument that forced savings could be offset by reduced voluntary savings or by their depletion was

also made by J. R. Hicks (see *Collected Writings of John Maynard Keynes*, xxii. 109–10); owing to this weakness, the Chancellor of the Exchequer rejected Keynes's proposal in April 1940 (ibid. 140).

Although neither Keynes's method of forced savings nor Kalecki's plans of general rationing of consumer expenditure was used in practice for the British war economy, a great success of British economic policy was that, after a rise in the cost-of-living index by nearly 30 per cent in 1941 (September 1939 = 100), in subsequent years of the war this index was maintained at an almost unchanged level, whereas the wage index increased during this time by about 80 per cent (see W. K. Hancock and M. M. Gowing, *British War Economy*, London, HMSO (1949), 349). This was achieved thanks to increased taxes, a rise in voluntary savings, and, above all, thanks to an extensive system of rationing of specific articles (the preparation for rationing of food had already started in Great Britain three years before the outbreak of war), and price control of basic articles of food. Rationing covered about two-thirds of food articles; from the middle of 1941 clothing and footwear, and from December 1941 an additional point system of rationing was introduced in food shops. The share of expenditure (excluding that on rents and services) was estimated at about 40 per cent in Great Britain in 1941 (see J. L. Nicholson and G. D. N. Worswick, 'Consumption and Rationing', *Bulletin*, 4/6 (1942)).

Nevertheless, in each successive budget the financial position became more strained and Kalecki with great attention followed the changes of prices, wages, profits, savings, stocks, and all other determinants of inflation, including its 'suppressed' and 'hidden' forms.

[2]

The reference is to Colin Clark's 'Determination of the Multiplier from National Income Statistics', *Economic Journal*, 48/3 (1938), table II, 446. The editor was unable to establish the details of the reference to the *Home Market*.

[3]

See N. Balchin, *Income and Outcome*, Rochester, Hamilton (1936).

General Rationing

[1]

First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/1 (1941), 1–6; repr. in *Studies in War Economics*, Oxford, Blackwell (1947), 137–41

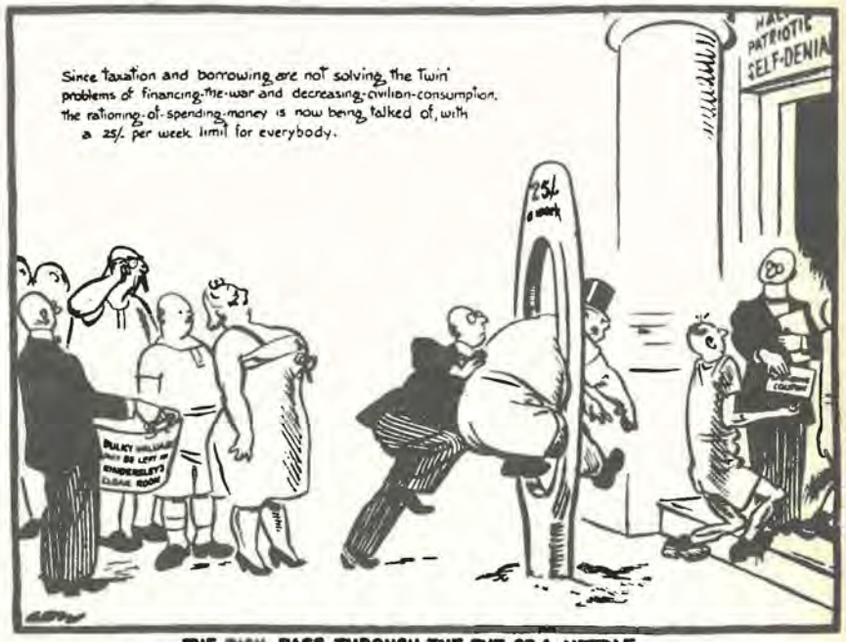
The improved and expanded version of Kalecki's plan of general rationing was preceded by the following comment of the Editor of the *Bulletin*:

A year ago one of the most important topics of discussion in the Press was the first draft of Mr Keynes's plan of compulsory savings as a mean to avoid inflation. The dramatic events of the spring and summer and the violent bombardment since the autumn of 1940 have distracted public attention from the home economic front. Nevertheless these very events have accentuated those inflationary tendencies which Mr Keynes's plan was devised to prevent; the problem of falling supplies of consumer goods and rising prices is one of the most serious which the nation must solve in the New Year. Important objections were made against Keynes's plan on the ground that evasion of compulsory saving would be possible by reducing voluntary saving, or by actual dissaving, and last June we published in the typed *Bulletin* an alternative scheme, for the rationing of expenditure in shops, devised by Mr Kalecki. Although this scheme received some attention we consider it important that it should reach a wider public. In nearly all newspapers and journals recently there has been a demand for widespread rationing, but few concrete suggestions have been made as to how this object can best be achieved. Mr Kalecki has now elaborated the original scheme, paying particular attention to problems of administration, and we publish here the amplified version (*Bulletin*, 3/1 (1941), 1).

On the significance of Kalecki's scheme of general rationing Worswick writes: 'I thought at the time, and I still think, that the paper on general rationing was the most important single thing which Kalecki did in war economics. It is natural to ask what influence it had on actual policy. Of direct influence there is little, if any, evidence. The war broke out in September 1939 and petrol rationing was introduced at once. The specific rationing of food—bacon, butter, meat, and sugar—was introduced at the end of the year. On the other hand clothing and footwear rationing did not come until mid-1941 and the points rationing of groceries in December of that year. Kalecki's scheme was published in January 1941 so that it was, in principle, in time to influence the way in which rationing was to be extended beyond the basic food stuffs. I have not instituted a search in depth on this question, but I notice that Brian Reddaway in his chapter on rationing in the National Institute's *Lessons of the British War Economy*, published in 1951 [by Cambridge University Press], made no reference to Kalecki or to the scheme.... Nevertheless I think that Kalecki's exposition may have helped along the cause of rationing in general' ('Kalecki at Oxford, 1940–4', 23).

Besides the lively discussion in the British press, an illustration of which was the caricature by one of the most talented English social and political satirist, David Low, in the *Evening Standard* and the *Manchester Guardian* shortly after the publication of Kalecki's plan (on 29 January and 31 January 1941, respectively) and showing how he lets the British rich pass through the 'needle's eye' of 25s. a week, Kalecki's plan was also the subject of formal economic studies. Much attention was devoted to it by Tibor Scitovsky (see his paper 'The Political Economy of Consumers' Rationing', *Review of Economic Statistics*, 34/3 (1942)). Scitovsky also discusses another plan for the rationing of expenditure put forward by C. Clark in the *Daily Telegraph* (Sydney) of 18 February 1942. Clark's plan consisted in suspending payments

LOW ON PAYING FOR THE WAR



THE RICH PASS THROUGH THE EYE OF A NEEDLE

from bank accounts as well as all payments in money. Instead of wages and salaries everyone would receive an allowance of a certain amount per person in food coupons, which would be used as legal tender. Elements similar to Clark's idea appear in Kalecki's later plans for the rationing of expenditure and the fight against the black market in post-war France (see Annexes 3 and 4 below).

In connection with the deep economic crisis in Poland at the turn of the 1970s Kalecki's ideas on general rationing were given new attention (see K. W. Hagemejer, 'Michał Kalecki's Concept of General Rationing', *Życie Gospodarcze*, 35/47 (1980)); Hagemejer's evaluation of the significance of Kalecki's ideas was similar to that of G. D. N. Worswick quoted above.

Notes on General Rationing

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/5 (1941), 103–5.

Towards Comprehensive Rationing

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/12 (1941), 269–72.

[2]
See F. Burchardt, 'The White Paper on Industrial and Labour Policy', *Bulletin of the Oxford University Institute of Statistics*, 3/11 (1941).

Inflation, Wages, and Rationing

[1]
First published in *The Banker*, 60/189 (1941), 43–8; repr. in *Studies in War Economics*, 147–51.

In March 1941 W. B. Reddaway published in *The Banker* the article 'Ration Retail Spending' (signed 'The Editor'), in which he wrote that Kalecki's plan was practically the only concrete proposal for solving the problem of inflationary gap and the implementation of this plan would encounter no greater administrative difficulties than other schemes (except that of preventing a market in expenditure coupons; Reddaway considered the method of overcoming this difficulty suggested by Kalecki as technically unfeasible and politically unacceptable). Moreover, Reddaway thought that after some modifications Kalecki's plan could also be extended to the rationing of non-food expenditure. Kalecki's 'Inflation, Wages, and Rationing' was a more developed version of his plan and its justification which, *inter alia*, aimed at dispersing Reddaway's doubts.

However, Kalecki's new projects gave rise to even more objections in the light of experience related to the practical preparation of schemes of rationing of individual consumer articles. In 'The Technique of Rationing' (signed 'By a Correspondent', *The Banker*, 61/195 (1942)) Reddaway defined three technical conditions for the efficiency of any system of rationing: (i) the number of coupons to be surrendered must be clearly determined in each case; (ii) the rules concerning the number of coupons to be surrendered must be such that the goods sold are replaced by new supplies, neither more nor less; and (iii) there must be a reliable system of withdrawing the coupons once they have completed their task. According to him, Kalecki's new proposals were impossible to put into practice because the way Kalecki dealt with conditions (i) and (ii) was not entirely satisfactory, and he did not consider condition (iii) at all. Moreover, satisfying these conditions in any plan of limiting the value of expenditure, including that of Kalecki, would involve tremendous practical difficulties. Kalecki's rejoinder and Reddaway's reply follow in Annexes 1 and 2 below.

ANNEXE 1

The Technique of Rationing: To the Editor of *The Banker*[1]

Sir,

Although I am very reluctant to draw out the correspondence on 'The Technique of Rationing', the overconfident tone of the reply of your contributor and his misunderstanding of my argument oblige me to add a few remarks on the problem.

Your contributor questions first my statement that there does not exist a *simple* relation between the points of the clothes-rationing scheme and the materials used. He maintains that this point scheme is based on the principle of equating the coupons for the product with those for the material. I can give him a very simple example to the contrary: in the clothes-rationing scheme a tie requires one coupon and a square yard of a corresponding material two coupons. Is one yard used to produce two ties? And what about footwear? Is it so easy to balance even roughly the points received by manufacturers large and small with the varying materials they use?

Let us now return to the focus of our discussion, the baker. Suppose that a point-rationing scheme for flour, bread, and cake has been introduced. Your contributor would attribute to bread as many points as to the equivalent of flour. As to cake he would give it a point value corresponding to that of the relevant ingredients (see *The Banker*, May 1942, 83). But sugar and fat are not in his point scheme, but are rationed specifically. Thus he will have to fix special point value for the use of bakers. But that is not all: the sugar and fat wholesalers and the respective manufacturers must have quotas fixed for these products when sold to bakers; for otherwise the baker will be able to produce cakes so sweet that they will mean an additional distribution of sugar. Thus the scheme loses its simplicity, which does not, however, mean at all that it is unworkable.

How would the value-rationing scheme work in the baker's case? The baker, when purchasing flour, would have *always* to surrender coupons of the equivalent retail value of bread. Further, when purchasing sugar and fat for cakes he would have to surrender coupon values fixed in such a way as to balance roughly the retail price of cake—which is an analogous procedure to that of the point-rationing scheme and involves, as there, sugar and fat quotas for sales to the bakers. The additional difficulty in the value-rationing scheme will be only that retailers will have to surrender a lower coupon value for flour than bakers. This may be dealt with by introducing a retailer's quota with millers and wholesalers. For 'covering' of this quota less coupons per lb. of flour will be required than in deals with bakers. This is an arrangement which is similar to the one at present in existence when goods, specifically rationed, are supplied outside the rations to manufacturers of unrationed goods (for instance, sugar to confectioners).

I do not deny that because of this additional difficulty the point-rationing scheme for flour, bread, and cake is simpler than a value-rationing scheme. When, however, I proposed the latter, I did so for a very wide range of foodstuffs, and there the simplification of making coupon values and money values equal for the consumer might well outweigh the difficulty of handling separately flour for retailers and bakers.

[1] *The Banker*, 61/198 (1942), 55–6. The title comes from the editor of the present volume.

ANNEXE 2

Rejoinder[1] (by Brian Reddaway)

Our Correspondent writes:

It is not for me to speak for the Board of Trade, but presumably Dr Kalecki does not deny that they make the clothes-rationing system work. If he has read either the Consumer Rationing Order or the explanatory pamphlet *Coupons and Quotas* he should know that, as I said, they have no control over the many thousands of makers-up, large and small, apart from the fact that these must surrender coupons for their cloth. By pointing garments on the basis of the cloth needed to make them the Board in effect let the coupon automatically control everybody except a limited number of 'ultimate recipients', merely laying down the simple rule which I expounded before that 'anyone selling any rationed article must demand a stated number of coupons, whether selling it to the public, or to a retailer or to a processor'. This is the explanation of their very modest staff.

This great administrative simplification obviously does not require that the pointing of *every* article should be equal to that of the material used to make it, since some, like Dr Kalecki's footwear, are made from unrationed materials. Their unauthorized manufacture is difficult and the number of producers not unmanageably large, so that the latter can be made the ultimate recipients and footwear given whatever pointing is thought desirable. One can also, if one likes, make an exception in the case of unimportant articles made from cloth, such as Dr Kalecki's ties, without seriously upsetting the system (presumably the Board of Trade wanted to avoid fractions, as there can be no greater difficulty in applying the yardage basis to ties than to trousers). But for all important garments *made from a material which one wants to include in the rationing system* the pointing rule must be observed.

Dr Kalecki now says that if this sort of system were applied to cakes one would have to fix quotas limiting the amount of sugar and fats which bakers could obtain, because otherwise very sweet cakes would be made. This is entirely false. Sugar and fats would be pointed higher per pound than flour, so that the materials in a pound of very sweet cake would require more coupons than those in an 'austerity model'. If cake is pointed on the basis of the latter the baker would automatically be limited in the amount of sugar he could use, since otherwise he would progressively run down his stock of ingredients. On Dr Kalecki's system, however, the baker collects coupons on the basis of the price he charges, which includes the (extremely variable) cost of converting the ingredients into a final product; the efficient low-cost producer of utility cakes must therefore raise his price or go out of business, and the creator of elaborate models will take more coupons than he needs for his ingredients, with which he can cover black market sales. These results are hardly what one wants in total war, quite apart from the staff engaged in fixing retailers' flour quotas, bakers' sugar quotas, and so on.

W. B. Reddaway from the outbreak of the war had been involved in the government administration of the system of rationing in Great Britain. At first, like Kalecki, he believed that this system should be based on limiting the value of purchases, or expenditure, for as many articles as possible. The practical difficulties in putting this idea into practice, as he recalls in his chapter on rationing in the *Lessons of the British War Economy*, made him base the system of rationing on unchangeable features of individual goods and to search for 'mixed' solutions.

Though the problems of rationing were still intensely discussed in the Oxford University Institute of Statistics and in the *Bulletin*, until August 1942 Kalecki returned to the subject only in the context of his studies in the domestic sources of war finance and the general financial situation of Great Britain.

Differential Rationing

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/11 (1942), 215–17; repr. in *Studies in War Economics*, 175–8.

[2]
The idea of combining in one system the rationing of coal with that of clothing was put forward earlier in Kalecki's paper 'Differential Rationing', see pp. 27–8 above.

Some Problems of Non-Food Rationing

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/17 (1942), 325–8.

Rationing and Price Control

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/4 (1944), 58–61; repr. in *Studies in War Economics*, 142–6.

During his stay in England Kalecki had some contacts with the French Left and the French government in emigration, among others with Pierre Mendès-France. In December 1944 Kalecki received an invitation from the ambassador of France in London to visit Paris as an adviser to the French government (in which Mendès-France was then the Minister of the Economy). In January, on one of the first ships that sailed across the Channel, Kalecki went to France where during the two-week visit he prepared two memoranda: (i) on the rationing of expenditure during post-war reconstruction, and (ii) on the black market. They follow in Annexes 3 and 4 respectively.

He also met with Mendès-France, who was then a great supporter of monetary reform in France and who—according to recollections by Kalecki dictated in 1963 to his biographer, Tadeusz Kowalik—towards the end of his discussion with Kalecki had pondered: 'Why are we debating all that? They won't do anything that you suggest.'

During his visit in France, at the invitation of F. Perroux, Kalecki gave two lectures addressed to economists and government senior staff, but the present editor was unable to determine their subjects or other details.

ANNEXE 3

Rationing of Expenditure[1]

Rationing of expenditure may be realized in two ways: (i) By distributing to the population coupons which must be surrendered when pur-

[1] Published from the typescripts (in English): 'Rationing of Expenditure' and 'Wages and Prices in a System of Comprehensive Rationing' which survived in Kalecki's papers.

chases of consumption goods and services are made. Such a scheme may apply to all consumption goods and services or only to a specified group of them, for instance, only to purchases in retail shops.[1] (ii) By blocking of all cash and banking accounts in existence, arranging for all incomes to accrue in blocked money, and unblocking a specified amount per month per person, as is suggested now in France.[2]

Either method presents in its application similar problems, although in a different form, and has its technical advantages and disadvantages. In the present situation in France there are some elements which favour the 'blocked money' method: (i) blocking of existing cash and accounts is to be undertaken in any case in connection with taxation of 'war wealth', and (ii) the 'blocked money' method provides for a tighter control than the 'spending coupons' method and in present-day France with its unsettled economic conditions in general and a huge black market, which has developed under German occupation, in particular, this is an important advantage. We attempt, therefore, to elaborate below in some detail the 'blocked money' scheme in which are incorporated, however, certain elements of the 'spending coupons' method. We shall discuss the problems and the difficulties arising in the application of the scheme and shall try to find for them a satisfactory solution.

The Essence of the Plan

The general pattern of the operation of the plan is as follows.

1. All existing accounts are blocked. The notes in circulation are declared not to be the instrument of payment and have to be paid into blocked accounts.

2. At the beginning of each month a specified amount per adult person and, say, 60 per cent of this 'expenditure ration' per child under 14, are unblocked. From the unblocked account one may draw cash. This will be paid out in a new type of notes. (The old notes have been declared invalid as means of payment.) All payments except for specified purposes as, for instance, rent have to be made in cash.

3. Arrangements (described below) must be made to see that all current incomes should accrue on blocked account.

[1] See M. Kalecki, 'General Rationing', this volume.

[2] This scheme has been for the first time outlined by Tibor Scitovsky, 'The Political Economy of Consumers' Rationing', *Review of Economic Statistics*, 34/3 (1942)).

The operation of the plan will require the following measures. First, each person must have only one account on which unblocking is carried out. Otherwise cash from two or more accounts could be drawn. The best way of control seems to be that everybody should have one and only one account in the Post Office Savings Bank. This can easily be enforced. In addition, one can have other banking accounts, however, unblocking being carried only on the Post Office Savings Bank account. The simplest way of conducting unblocking seems to be the following procedure. In the Post Office Savings Bank book there are two accounts: the 'blocked money' account and the account with the *right* to unblocking to which at the beginning of each month is credited the 'expenditure ration'.[3] If cash is withdrawn the amount is debited both to the blocked account and to the account with the unblocking right. Neither of these accounts must be overdrawn.

Secondly, the purchases of consumer goods and services with exceptions to be specified later (as, for instance, rent) have to be paid in cash. However, in order that all incomes accrue on blocked account this cash must be blocked after it has reached the retailers.[4] For, if this were not the case, the retailers would get their profits in cash and make the payments both to their employees and to their suppliers also in cash. The latter would enable first the wholesalers and consequently the producers to behave likewise. So that finally a series of incomes would accrue in cash. The way of enforcing retailers to pay their proceeds into blocked accounts is described in the next section. We shall still add here that all wage and salary payments will have to be made in blocked money. (The alternative course of making wages payable in cash in so far as they do not exceed the 'expenditure ration' and the rest, if any, by cheque would be fairly complicated because the number and age of workers' dependants would have to be taken into account. When both husband and wife work the position is even more complicated. In addition, the procedure would lend itself to abuse because the employers could draw cash for wage payments to fictitious workers.) Further, it should be stressed that all transactions in blocked money must be made in non-transferable cheques. For, as we shall see later, it is an essential part of the scheme that all transactions in blocked money should be subject to control in order to prevent the formation of a

[3] This account corresponds to spending coupons in the 'coupon scheme'.

[4] See T. Scitovsky, 'Political Economy of Consumers' Rationing', 124.

'black market' (see pp. 498–501). On the other hand, it will be necessary to make the firms monthly small allowances of cash for their 'out-of-pocket expenses', i.e. for purchases they make in retail shops.

Control of the Retail Market

The enforcement of retailers' paying their proceeds into blocked account is the most difficult point in the plan. The only way of control is to be able to compare all retailer's sales with all his purchases. This requires a centralization of all wholesale trade in final consumption goods into a single agency which would keep for every retailer a register of all his purchases. The value of these could be then compared with the value of his cash payments into blocked account. The existing wholesale firms would be employed by the Central Agency as its agents. Some of them would, of course, become superfluous and would have to be liquidated.

The system would then function as follows. The retailer on payment of his cash proceeds into his blocked account obtains a 'cash receipt' which he posts (without charge) to the Central Agency where the respective amount is put to his credit in his register. On the other hand, all his purchases from the Agency are put there to his debit. These two amounts will not balance because the retail price exceeds the wholesale price by the retail margin. But from the type of goods he buys (and his purchases will have to be specified in detail in his register) it will be seen what is the customary margin and it will be therefore possible to judge to a fair degree of approximation whether the cash paid into blocked account 'covers' his purchases, or not.

The same method will apply to bakers, confectioners, etc. Their purchases of raw materials from the Central Agency will be compared with their cash payments into blocked account. There is no doubt. however, that here the control will be less certain than in the case of 'pure retailers'.

The above arrangement does not ensure full control of the retail market. The producer may sell his products not to the Central Agency but to a middleman and the latter can resell the goods to the consumers taking payment in blocked money. This, however, may be easily prevented by the control of producers' banking accounts. Indeed, all transactions will be shown there and it will be easy to trace any sales made to the home market outside the Agency. Such sales would, of course, to be severely punished.

It is hardly necessary to add that the Central Agency controls the whole selling not only of home-produced commodities but of imported products as well.

The Agricultural Sector

According to the preceding section the Central Wholesale Agency will have buying monopoly for consumption goods. This must apply *inter alia* to the agricultural sector or otherwise the scheme would break down. Some modifications, however, will be necessary. It will be impossible and undesirable to prevent the peasant from selling a part of his produce on local markets to consumers against cash (or from selling it to the local shop sharing the cash proceeds with the latter). As a result peasants would have a source of cash in addition to the 'expenditure ration' which they may use for additional purchase of consumption goods. Nothing can be done about this leakage which, however, is not very important. In addition it is likely that cash obtained in this way will be frequently hoarded by the peasants as the money which is 'better' that the blocked one they will receive for their products from the Central Agency.

Preventing peasants from selling to middlemen for blocked money can be done, as described above for producers in general, by scrutiny of their accounts. This is more difficult with regard to the peasants than with regard to the manufacturers only because the former are more numerous than the latter. There is, however, no need to examine *every* account. It is quite sufficient if only accounts of larger producers and, say, one-tenth of the accounts of the smaller ones picked at random will be examined in a given year. The larger producers are then fully controlled and for the smaller the risk of being caught and punished will be sufficiently great in order to discourage illegal sales. (The same method will be applied to all industries where there are many small producers.)

Perhaps much more serious than the above problems is that of the possible lack of confidence of peasants in the blocked money they will receive for sales to the Central Agency. This may have undesirable political repercussions and also hamper the effort to increase agricultural production. It must be made clear to peasants that for blocked money they can buy everything they need for agricultural *production* (implements, fertilizers, etc.), pay their debts, acquire government securities, and so on. Nevertheless, in the initial period the peasant

may distrust this argument because there may be a great scarcity of implements, fertilizers, etc., and thus it may look as if nothing can be done with blocked money. The production of these goods should be then given first priority; the peasants should be enabled to order them and given bills of delivery for a date to be strictly respected.

It should perhaps be explained to the peasants that 'rationing of expenditure' favours them as compared with the urban population. For although a part of their food consumption is covered out of their own production they enjoy the same 'expenditure ration' as the urban population and thus can spend more on non-food goods than the latter.

Consumer's Purchases in Blocked Money

It has been mentioned above that some consumers' purchases would be excluded from the 'expenditure ration', i.e. they would be paid in 'blocked money'. In the case of rent the reason for such an exception is that a tendency for equalization of rent per person would cause serious dislocations. In addition in many regions accommodation may not be scarce. Where it is scarce the problem must be settled by billeting. There are, however, many other services and some consumption goods which must be excluded from the 'expenditure ration' for various reasons. As education and entertainment require no raw materials and very little labour, there is no point in cutting down expenditure on them. It is true, there may be some scarcity of cinemas because of inadequate numbers of suitable buildings, which will result in long queues, but this is not a serious problem. In addition, it would be difficult to ensure that all cash that ought to be spent on education and entertainment should be paid to the respective earners into blocked account.

It is obvious that medical assistance must also be excluded from the 'expenditure ration'. With regard to domestic service this will also be necessary because it is impracticable to enforce the payment of servants' earnings in cash. Servants' wages will thus be paid like other wages in blocked money. (Where the servant is living in, the total wage will have to be fixed in money terms and he/she will have to pay his/her employer a certain amount drawn from his her account in cash for food.) Excluding expenditure on domestic service from the expenditure ration may be considered disadvantageous from the point of view of release of labour for reconstruction. The experience shows, however, that in full employment it is difficult and expensive to get a full-time servant so that there is no danger of much labour being absorbed in this way. As to part-time domestic service this is frequently done by married women who would not undertake any other job.

The above makes it clear that it will be necessary to put all services except gas, electricity, and travelling on 'blocked money payments' list. With regard to the latter items it is not difficult to enforce the payment of cash proceeds into blocked accounts because of the large size of the enterprises in question.

There are, however, further items to be put on the list of 'blocked money purchases'. It may be advisable in order to avoid inflicting hardship on non-householders by 'rationing of expenditure' to introduce a 'mixed system' for restaurants: a definite percentage of the bill would be paid in cash, the rest in blocked money. (Of course this would have to be taken into account by the Central Agency when checking cash proceeds of restaurants paid into blocked account.) Further, all repairs should be included in the sphere of 'blocked-money payments' because of the difficulty of control and because they are very essential, the supply of new goods being cut severely. It will be even necessary to treat similarly tailoring from material supplied by customers because of the difficulty of control.[5]

Turning to goods, newspapers, books, and medicines should be included in the list of 'blocked-money purchases', as well as implements, etc., because they are bought mainly not by the general public but by peasants and craftsmen. Further, for household goods for newly married couples, bombed-out people, etc., licences would be given for paying the purchases in blocked money.

With such a large sphere of payments in blocked money it would be obviously impracticable for this to be done only by cheques. Special warrants (issued by the Post Office Savings Bank or by Banque de France) would have to be introduced which one could draw from the blocked account. This, however, introduces a serious complication in the system. The warrants, if no precautions are taken, will circulate as a second currency, and this will deprive the system of one of its greatest advantages, namely the possibility to have a control over all transactions in blocked money, which is an effective weapon against the black market. To restrict the circulation of warrants the following arrange-

[5] This will probably lead to a division of tailoring firms into material and tailoring departments.

ments may be made. The warrant will be valid for payment only for, say, a week and will be stamped accordingly when issued from blocked account. In the following week it must be paid back into blocked account by its receiver, so that after two weeks it becomes invalid both for payment and making a deposit. The 'life' of a warrant cannot thus exceed a fortnight which limits very much its role as a medium of circulation.

In connection with consumers' payments in blocked money whether by cheque or by warrants there still arises the following complication. People with sufficiently low incomes may be able to draw more cash than they spend on goods payable in cash. For instance, if the income of a family is equal to its aggregate expenditure ration they will have more cash than they actually want because a part of their income will be spent on rent, etc., payable in blocked money. Now, if they pay for these items in cash, house-owners, etc., will accumulate it without being forced to pay it into a blocked account. We thus see that not only is it necessary to prohibit the purchase of goods payable in cash for blocked money, but also services and goods payable in blocked money for cash. In order to make this prohibition effective it seems necessary to grant consumers a benefit of, say, 25 per cent whenever a consumer exchanges cash for blocked money.[6] This will induce the consumer having spare cash to put in the blocked account as much of it as is necessary to get the amount required for a given payment in blocked money. If, for instance, he has to pay Fr. 500 and the benefit is 25 per cent, he will pay into the blocked account 80 per cent of the amount, i.e. Fr. 400 in cash, receive a cheque or warrants for Fr. 500, and will thereby make the payment.

This measure is necessary since the rent-payer, for instance, may be offered a discount by the house-owner if he pays in cash. Of course, such a transaction may take place even with the above arrangement in operation if the discount offered is higher than the benefit, but the existence of the benefit will certainly prevent it to a great extent.

It should also be stressed that the measure suggested constitutes a certain assistance from the state to people with low incomes. (The respective financial operation will consist in issuing to the Post Office Savings Bank government securities to cover in their balance sheet their liabilities due to crediting of benefits to consumers.)

[6] That, of course, should not apply to a retailer paying his proceeds into blocked account.

Specific Rationing

Rationing of aggregate retail spending does not guarantee that there will not arise a shortage of a particular commodity at existing prices. Imagine, for instance, that in a system of rationed expenditure the supply of meat is reduced. This will cause a rise in prices of meat or, if prices are kept constant by control, shortages, and queues will ensue. Now the rise in prices of meat is highly undesirable. Even with rationing of expenditure there is not a full equality in consumption of goods because incomes of many people are so low that they cannot afford to make full use of their expenditure ration. It will thus be easier for the relative well-to-do to shift their expenditure from other goods to meat and an unequal distribution of this necessity will result. It is difficult to remedy the situation by a cut in the consumption ration. The cut must be very drastic to assure equilibrium of demand for and supply of meat in particular. Thus, the most advisable course in such a case is specific rationing of meat in addition to the general rationing of retail spending.

It follows that it may be necessary to supplement rationing of expenditure by specific rationing of necessities. The advisable course is to leave in the initial period all the existing schemes for specific rationing of necessities in operation and deration single commodities only after it is certain that no serious increases will result with the expenditure ration adopted.

Regulating the Expenditure Ration

Fixing the expenditure ration at a 'proper' level is far from simple. The first approximation may be obtained by estimating roughly what is the available supply of consumption goods and services covered by the scheme as compared with the pre-war period. (In this estimate the situation in agriculture, available imports, the position of industrial plant, and the labour which is planned to be made available for production of consumption goods must be taken into consideration.) The total planned rationed expenditure is obtained by multiplying the value of pre-war consumption of goods and services covered by the scheme by the index of planned physical consumption of these goods and by the index of planned prices. From this may be derived the expenditure ration making a rough allowance for the fact that some people with low incomes will be unable to afford to make full use of their expenditure rations.

However, after a ration of expenditure roughly estimated—or if that proves impossible, almost arbitrarily fixed—is introduced it may be found that a general tendency for price increases still exists, or—if prices are controlled—for unofficial price increases, shortages in shops, queues, etc. This will show clearly that the ration is too high and must be reduced.

There may be, however, a more complicated case. Shortages may appear not in general but only in certain sectors. If the scarcities of some commodities are not offset by surpluses in other commodities (which are reflected in accumulation of stocks) there exists a scarcity of consumption goods *in general* and a further reduction of expenditure is called for. But this will not solve the problem: a readjustment in the *structure* of supply is still necessary. This may be done through the change in the structure of imports, through stimulating exports of the goods which are in surplus, in order to make it possible to import more of the scarce commodities, and through readjustment of the structure of home production. (The existence of the Central Wholesale Agency will be very helpful in this respect.)

In general, however, it will be impossible to alleviate in this way all sectional scarcities. The next thing to do then is to ration specifically scarce necessities (as suggested in the preceding section; it has been indicated there that in the initial period existing schemes for specific rationing of necessities should be left in operation). With regard to non-necessities, if too much rationing is to be avoided, the following two alternative methods may be applied.

1. Indirect taxes are imposed on 'scarce commodities' and subsidies granted on surplus commodities up to a point where demand is shifted from the former to the latter so as to correspond to the actual position of supply. (This corresponds to changes in point values in point schemes in Great Britain.)

2. The second method is less satisfactory but much simpler in operation: all prices are kept constant by control; as a result a haphazard distribution of 'scarce goods' prevails, i.e. a state where some people get the commodities in question and some do not; and the money which people do not succeed in spending on 'scarce commodities' is directed to purchases of 'surplus commodities'.

As in the course of reconstruction the supply of consumers' goods will gradually expand, the expenditure ration will be correspondingly raised. But this will be a slow process. For the high expenditure ration

will be used to the full not only by people who can afford to spend so much out of their *current* income, but also by those relatively poorer ones who have accumulated savings on blocked account in the past when the expenditure ration was below what they would wish to spend at that time and who are able to dissave now. Each increase in the expenditure ration would thus mean not only a higher consumption out of present income but will open an outlet for dissaving. This factor will extend considerably the necessary period of the operation of the scheme just like in Great Britain the accumulated war savings will make it necessary to extend the period of control and rationing.

Concluding Remarks

The plan described above is fairly complex. It imposes many inconveniences upon the public and requires for its administration many skilled and conscientious officials. In the initial period of its operation it may not work very smoothly and may come into its own only after some time. It may, therefore, be asked whether the British rationing system, based on a number of separate rationing schemes covering together a considerable part of consumption, is not more advantageous.

It is very difficult to give a categorical reply to this question. The following points, however, must be made:

1. The British system also requires quite a lot of administrative work if all separate schemes are taken together.

2. The British system is much less comprehensive than rationing of expenditure. In the unrationed sector in Great Britain either prices are very high, or if prices are controlled there appear acute shortages.

3. The plan described above provides much better safeguards against the black market (because it makes possible a strict control of transactions of producers). This is very important in present French conditions.

Moreover, the 'blocked money' system offers in France an important advantage quite apart from being an effective method of curtailment of consumption in the period of reconstruction. It would greatly facilitate the introduction of a progressive income tax (say, of the British type) which is the keystone of modern taxation and which may be very important in securing full employment through redistribution of income *after* the reconstruction period. Indeed, the full

control of accounts provided in the 'blocked-money scheme' would enable the government to fight evasion of income tax in the first year of operation and would thus pave the way for its establishment as a permanent element of the French fiscal system.

Wages and Prices in a System of Comprehensive Rationing

Wage increase may affect prices through two channels. First, an increase in wage-rates causes a rise in effective demand for consumption goods. If their supply does not increase correspondingly—and this is the case in which we are interested here because we consider an economy where factors of production are scarce—there will be an inflationary pressure on prices. Secondly, quite apart from this there will be tendency of prices to increase because the rise in wages causes an increase in prime costs of production. The pressure on prices from the cost side will exist, as opposed to that from the demand side, even if a rise in demand could be satisfied by a rise in supply, i.e. in a situation where there are reserves of plant and labour.

We shall first consider the problem of inflationary pressure on prices in a system of comprehensive rationing. In this discussion we shall assume that the pressure on prices from the cost side is neutralized by price control and subsidization. We shall further consider the procedure which allows us to achieve this aim.

Wages and Inflation under Comprehensive Rationing

We shall discuss this problem for two systems of comprehensive rationing: (i) the British system which is based on a number of separate rationing schemes covering a substantial part of consumption goods; and (ii) the system of rationing of expenditure as presented above.

In the British system an increase in the wage bill causes a rise in demand for rationed goods only in so far as some of the wage-earners use their rations more fully. This will necessitate some reduction in rations to equilibrate increased demand with unchanged supply of rationed goods. In the unrationed sector inflationary pressure on prices will appear for two reasons: (i) as a direct result of the increased purchasing power of the wage-earners; and (ii) as a result of a reduction in rations which will tend to induce customers in general to spend more on unrationed goods. Thus there will be either a price increase in the unrationed sector or, if prices there are controlled, a state of haphazard distribution will result. (Where such a state has prevailed previously it will be intensified.)

In the system of rationed expenditure the effect of an increase in wages will be as follows. Some workers will be able to make fuller use of the expenditure rations and if the supply of goods is unchanged it will be necessary to reduce these rations somewhat to prevent price increases. In addition, the *structure* of demand will in general change. This may aggravate the existing sectional shortages (see p. 502) but it may also mitigate them. What will be the actual outcome depends on the nature of sectional shortages. We can conclude that the inflationary impact of the wage increase may, broadly speaking, be satisfactorily countered by a reduction in the ration of expenditure.

The higher the relation of wages to prices, the higher is consumption out of a given real national income in an unrationed economy because a greater percentage is saved out of higher than out of lower incomes (in higher incomes we include undistributed profits). Thus, as already shown above, the higher is the relation of wages to prices the lower must be the expenditure ration in order to reduce the demand for consumption goods to a given level of their supply, and the longer will be the period during which rationing of expenditure will be necessary to prevent inflation. At the same time, the higher will be the ratio of wages to prices with which the economy will emerge from the period of reconstruction (and thus the higher will be the propensity to consume), the lower will be the level of investment necessary to maintian full employment. A high level of wages in relation to prices achieved within the period of transition will contribute to the solution of the problem of 'underconsumption' after the conditions have returned back to normal.

Costs and Prices

It has been mentioned above in passing that the pressure on prices from the cost side is neutralized by price control and subsidization. That means that when wages increase prices are kept stable either by a reduction in profit margins or, where this is considered impracticable, a subsidy per unit of output is granted to the industry in question.

It may be asked how these subsidies are to be financed. This may be done either by letting the budget deficit increase (which in the system of rationed expenditure can have no inflationary repercussions) or by taxation. If the latter course is taken there arises a question what *type* of taxation is to be used.

It is easy to see that it is not reasonable to finance subsidies which aim at keeping down prices in spite of wage increases by indirect taxation. For indirect taxes will tend to drive up prices and thus price stabilization will not be achieved. The proper way is to finance subsidies by an increase in the progressive income tax. (We assume that the French fiscal system will be reformed and that such a tax will be in existence.) Also such a tax increase will deprive some workers of the part of the benefit of wage increases but only in so far as their incomes are so high as to be subject to income tax.

There arises here, as in other applications of income tax, a difficulty that an increase in income tax reduces the net rate of profit and thus discourages private investment. If this is considered harmful—which is not always the case because at the beginning of reconstruction it may happen that the demand for investment goods may be so great as compared with the available resources that it will be necessary to restrain it—the income tax may be modified in such a way as not to affect the expected profitability of new investment. This point will be elaborated in a later memorandum.[2]

It should be added that the same procedure of reduction of profit margins or subsidization financed by borrowing or by a progressive income tax will apply in the case where the pressure on prices from the cost side is due not to a wage increase but to a rise in the price of foreign raw materials. It should be further stressed that the adverse repercussions of wage increases upon the competitiveness of exports do not necessitate the depreciation of the franc because they may be dealt with by export premia.

ANNEXE 4

The Problem of the Black Market[1]

The rationing system in France is fairly comprehensive. However, only a part of available supplies reaches the consumers by means of it; the rest goes to the black market which plays a substantial role in the

[2] See Annexe 4.

[1] Published from the typescript (in English) which survived in Kalecki's papers.

distribution of food and clothing. The purpose of this note is to suggest some remedies against this state of affairs.

Control of Wholesale Trade and Transport

All purchases from the producers must be made by government controlled wholesale trade. To enforce this, however, at least approximately, it will be necessary to obtain full control of transport. This is easy in case of railway transport. The crucial problem is to control transport by road.

This may be done, for instance, in the following way. At all approaches to towns, substantial forces of special police are posted. Drivers of the lorries must state the government-controlled depot to which the goods are to be carried, otherwise the goods are confiscated. They then would be accompanied to the depot by a policeman who would make sure that unloading is actually done at the declared place of destination. As lorry-owners at present make high profits on black market transports, the government should remunerate them generously for their transport services for otherwise they may be discouraged from running lorries altogether. For, with the present precarious condition of lorries (and particularly of tyres) running lorries without a rather high reward may not be a paying proposition. One must also take into consideration the possibility of a 'strike' of lorry-owners.

The high cost of transport, however, must not be passed on to the consumer. The controlled prices should remain unchanged and thus additional transport costs must be borne by the government. This is of course a temporary arrangement, for after the transport system returns to normal there will be no reason for high rates in the transport by road.

Monetary Measures

The exchange of notes intended for the census of the 'war wealth' offers an opportunity for attacking the black market from another direction. For technical reasons a time-lag of a few months will exist between the withdrawal of old notes and the distribution of new ones. If properly conducted, this operation may contribute to the suppression of the black market in that period. Although the effect will be temporary, it may nevertheless be important because in the meantime the position of

imports and transport may improve and thus the problem will become easier to tackle.

The course of the operation may be presented as follows. 'Old' notes are paid into Post Office Saving Bank accounts which are opened for every family. Each month a certain specified amount of cash in new notes per adult person and, say, 60 per cent of it per child will be released for withdrawal. (The Post Office Saving Bank deposits will of course consist not only of blocked notes but of 'old' deposits and those made subsequently to blocking of notes.) No withdrawals from other bank accounts are permitted except for the sake of wage payments. *Payments by cheque are not restricted.* After the lapse of a specified period withdrawals of cash (in 'new' notes) become free again.

It is clear that in the period of blocking of cash there will be some limitation of expenditure which will tend to reduce prices on the black market and thus make it less profitable. This market will also be directly deprived of cash which is used for settling transactions.

But it may easily be seen that either of these effects will be considerably weakened if retailers are not forced to pay their proceeds into bank accounts. For, as they pay for their purchases by cheque, they will accumulate cash at a high rate. And they will thus be able to sell this cash with agio to consumers and to the black market dealers against cheques.

In order to enforce the payment by retailers of their proceeds into a bank account it will be necessary to establish an inspection of shops. For the cash paid into the bank account the retailer receives a cash receipt. When inspected he shows this receipt to the inspector who is able to judge whether the receipt is of the same order of magnitude as the estimated proceeds. (In the trade of rationed goods the estimate may be based on the coupon turnover of the shop.) It is perfectly clear that by this crude method the retailer may be forced to pay only a part of his proceeds into the bank account but in any case the loophole in the system will be considerably reduced. (Of course not all shops need be visited as the mere threat of inspection and penalty will be a deterrent.) The same procedure should be applied to restaurants, cinemas, etc. There is no doubt that this constitutes a serious complication of the scheme but without it one cannot expect the blocking of notes to exert a serious pressure on the black market. Thus if it is not undertaken, one must rely almost entirely upon the control of the

wholesale trade and transport. In any case it is important that tightening of the control of wholesale trade and transport should proceed the monetary measures, so that the government will be able to lay hand immediately on the supplies that will cease to flow into the black market as a result of monetary measures.

The Problem of Agricultural Prices

If the black market were to a great extent eliminated, the incomes of the farmers would fall considerably. This may cause a peasant 'strike', i.e. the peasants may hoard food. It is therefore advisable to grant them a certain increase in the official prices. However, in order not to encourage hopes for a further increase which may again stimulate it, it is necessary to announce that the increase is only temporary and that the official prices will be gradually reduced in the course of the year to their present level. As in the case of transport costs, the rise in the prices paid to the peasant must not be passed to the consumer but borne fully by the government.

II. WAR FINANCING AND ECONOMIC EQUILIBRIUM

Wage Bill and Cash Circulation

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/5 (1940), 2–6.

Wage Bill and Cash Circulation: A Supplement

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/6 (1940), 10–13.

War Finance in the First Half of 1940

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/7 (1940), 7–18.

[2]
See M. Kalecki, 'Wage Bill and Cash Circulation', this volume.

[3]
The original entry here was −85, which was a mistake (460 − 425 − 100) = −65. This was now corrected as were the resulting entries for savings (840 − 65) = 775 and the sum of savings and direct taxes (918 + 775) = 1,693.

The 'Mysteries' of the Money Market

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/8 (1940), 2–5.

The Third Quarter

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 2/10 (1940), 1–5.

Notes on Finance

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/3 (1941), 51–3.

The Excess Profits Tax was introduced in Great Britain at the beginning of the war and raised to 100 per cent in the budget of May 1940. Many economists, Keynes including, believed that this increase, although raising budget revenues in the short run, was detrimental in the long run, since it would weaken the activity of many firms and their motivation for introducing cost-saving and profit-making innovations. Hence, the measure was believed to create more problems than it would solve (see *Collected Writings of John Maynard Keynes*, xxii. 245–54). In an article published in *The Times*, of 15 Nov. 1939, Keynes wrote: 'The second pseudo-remedy [for closing the inflationary gap] is an anti-profiteering measure, which exalts into undue prominence the least significant cause of rising prices' (ibid. 43). Subsequently the EPT was somewhat reduced.

Kalecki was more interested how to make the 100 per cent Excess Profits Tax work so that it would not have the negative side-effects emphasized by Keynes. Hence Kalecki showed that even under the 100 per cent EPT regime the most efficient plant would be in operation, and how to ensure that in implementing government contracts entrepreneurs would have to stick to most effective management (see also 'Excess Profits Tax and Government Contracts' and 'The Excess Profits Tax and the Problem of Post-War Reconstruction', this volume).

In a letter of 15 Oct. 1940 to Joan Robinson Kalecki wrote about the Excess Profits Tax:

Dear Mrs Robinson,
Thank you very much for your letter and in particular for the news about Sraffa's prospective release.

As to the EPT the position is as follows. As standard profits are taken alternatively profits in 1935, 1936, the average of 1935 and 1937 or 1936 and 1937. (Anybody will obviously chose the highest of these alternatives.) But in the case of 'low profits' in the standard period the standard profit may be raised to the level providing 6 per cent on ordinary share capital (and sometimes even more). In the case of capital increase since the standard period, the standard profit is increased by 8–10 per cent of the capital increment. The wear-and-tear allowance is by 20 per cent higher than that calculated according to the usual rules. Apart from this, an additional allowance is made for equipment acquired for wartime production which is likely to lose a great part of its value in peacetime (the estimate of this allowance is of course arbitrary and of provisional character, to be adjusted after the war). Increases in the salary of company directors is subject to EPT but not in those cases where they perform managerial and technical work having less than 5 per cent of the share capital. Finally, profits below Ł100 or Ł150 per partner if there is more than one owner, with a maximum of Ł3,000, are exempted. This together may set free quite a substantial part of the increase in profits as compared with [the] prewar period, though it is impossible to estimate even the order of [its] magnitude. An important matter is the time-lag in collection which seems to be about a year (e.g. in the July budget the revenue from EPT for 1940/1 is estimated still on the basis of 60 per cent EPT). Thus as long as profits increase the collection of the EPT lags behind the EPT due from current profit.

On what will you lecture in this term? Have you looked through my paper on the rate of interest?

I shall certainly come to Cambridge when Sraffa will be back if only I shall get a permit from the police (Cambridge is a protected area).

Your[s] sincerely,
M. Kalecki

(The latter was saved by Joan Robinson who in 1976 gave it to the Editor of Kalecki's *Works*. Pierro Sraffa since 1927 has resided in England. After the attack of Germany on France and England, the citizens of countries of the fascist coalition in England were interned and subsequently sent to the dominions. Keynes made many efforts to have this decision cancelled, regarding it as shameful as well as ineffective, and also to make use of special regulations to ensure special treatment, among others, of P. Sraffa,

E. Rothbarth, H. W. Singer, and E. Rosenbaum; see *Collected Writings of John Maynard Keynes*, xxii. 190–1. Kalecki's article mentioned at the end of his letter is 'The Short-Term Rate and the Long-Term Rate', published in *Oxford Economic Papers*, 4 (1940); see *Collected Works of Michał* Kalecki, ii, Oxford, Clarendon Press, 1991.

The Financial Position on the Eve of the Budget

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/4 (1941), 61–5.

The Budget and Inflation

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/6 (1941), 112–13.

The budget for 1941, introduced in the House of Commons on 7 April by the Chancellor of Exchequer, Sir Kingsley Wood, was noteworthy for its new approach to the fundamental problem of war finance and the rejection of inflation as the instrument of balancing government expenditure with its revenues. In achieving its target it relied on cost-of-living subsidies to prevent cost inflation, and on new taxes to absorb excess demand and thus to limit demand inflation. The 'inflationary gap' represented the volume of excess demand that unless siphoned off by additional fiscal measures would underline market equilibrium at given prices either by 'open' inflation, or by its suppressed forms. The novelty of the budget consisted also in that it provided a more solid statistical basis for the main components of total expenditures, revenues, and sources of financing the budget deficit (this, as well as the theoretical underpinning of the 1941 budget, is believed to be Keynes's contribution to it, see R. S. Sayers, '1941—The First Keynesian Budget', in C. F. Feinstein (ed.), *The Managed Economy*, Oxford, Oxford University Press, 1983).

Kalecki's article was accompanied by a twin-piece 'The Budget and Economic Mobilization', by T. Balogh; they both opened the issue of 26 April of the *Bulletin* and were preceded by the following note of the Editor:

> The budget proposals of the Chancellor of the Exchequer have been received with general approval both in the House of Commons and in the press. This universal satisfaction seems to derive from two facts. It is claimed that the budget is 'realistic' in demanding higher sacrifices and distributing the burden squarely and that it shows imagination by embodying tentatively Mr Keynes's plan of deferred pay. Secondly, it is argued that the new measures represent a real effort to prevent inflation.
>
> Closer scrutiny reveals that on both counts the budget does not deserve fully the praise it is credited with. To emphasize its shortcomings is not to detract from the Chancellor's merits, but to guard against imprecision that the present sacrifices will carry us through the most critical period of the war. Shortage of labour and shipping which is at the root of the trouble will make greater sacrifices, enforced by non-fiscal measures, imperative (*Bulletin*, 3/6 (1941), 1).

The 'measures' alluded to in the Editor's lead was, of course, some form of comprehensive rationing advocated by Kalecki. Sayers, who records Kalecki's criticism of the 1941 budget (and considers it as 'showing little appreciation of the great advances made by Sir Kingsley Wood'), reiterates why this measure was ill-received in government circles: 'The idea of minimizing the task of financial policy by severe and elaborate regimentation of the economy had been in the minds of the experts from the beginning of the war, and there was quite serious thought of it from time to time in 1940 and 1941. But in general it was decisively rejected, ... partly in distaste for the methods of a totalitarian enemy, partly on the ground of administrative impossibility, but also in the belief that the British people would be more wholehearted in their war effort if such extreme reversal of established ways could be avoided' (R. S. Sayers, '1941—The First Keynesian Budget', 115 for both quotations).

What Is Inflation?

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/8 (1941), 159–64; repr. in *Studies in War Economics*, 80–5. A Portuguese translation, 'Que é inflação?', appeared in M. Kalecki, *Economia* (ed. by J. Miglioli), São Paulo, Editora Ática (1980), ch. 8, 111–17.

In the third quarter of 1940 budgetary expenditure increased sharply, by about 75 per cent on an annual basis; moreover, on account of military operations imports of food declined by about 25–30 per cent (at constant prices), and the supplies of foreign raw materials by about 30 per cent. Kalecki kept emphasizing that the running-down of stocks, although in the short run helped to close the gap between supplies and demand, after some time would result in shortages in shops, accelerated inflation, and the appearance of some forms of suppressed inflation. Hence his stress on not underestimating the actual volume of the inflationary gap in the 1941 budget, and the necessity of closing it by means of a system of comprehensive rationing (see e.g. 'The Third Quarter', 'The Financial Position on the Eve of the Budget', and 'The Budget and Inflation', all this volume). Yet, it was not until his 'What is Inflation?' that on the basis of the balance-sheet method of formation and distribution of national income (that he had used extensively ever since his 1933 *Essay on the Business Cycle Theory*, see *Collected Works of Michał Kalecki. Capitalism: Business Cycles and Full Employment*, i, Oxford, Clarendon Press, 1990) he separated different kinds of inflation and used them for examining of the financial position of the British war economy.

In contrast to other definitions of inflation, Kalecki focused not on the rise of prices alone, but rather on the process of the inflationary spiral, when after the initial fall of real wages money wages are unable to catch up with prices; thus, the essence of inflation is for him the rise of prices of consumer goods in relation to prime costs of their production, and the appearance of 'inflationary' profits (more on the relation of prices to prime costs, see *Collected Works of Michał Kalecki. Capitalism: Economic Dynamics*, ii, pt. 1, Oxford, Clarendon Press, 1991). Kalecki's definitions and classification of inflation were commonly used in subsequent debates, also after the war (they were returned to in the Polish economic debates of the early 1980s, in relation to acute internal disequilibrium). In 1941 Kalecki believed that he had succeeded not merely in defining various kinds of inflation, but also in determining its actual measure; however, in his post-war publications he did not go back to his concept of the measure of inflation.

According to Worswick, Kalecki's model of inflation 'fits very well the transition from a peacetime economy with underemployment to a war economy in which war expenditure first sucks in unemployed resources and then is carried still further so that consumption, initially raised by the multiplier, has to be halted and then made to fall once more.... The model fits well... to the point where the vicious spiral is set in motion. It does not look ahead to the case where that spiral has been going on for some time. For instance, there is no suggestion of the possibility that prices could be rising, and even accelerating, at a time of falling profit margins. In fact the kind of situation we saw in the late 1960s and early 1970s appears to be explicitly ruled out.... Kalecki was to modify this position a few years later when we wrote the Full employment book [see *The Economics of Full Employment*, Oxford, Blackwell, 1947], and we were trying to foresee the working of full employment in peacetime circumstances' ('Kalecki at Oxford, 1940–44', 21).

After the war, in the UN Secretariat, Kalecki devoted much attention to inflationary and deflationary tendencies in the early post-war period (see Annexe 6 below). These studies gave rise to his paper 'A Model of Hyperinflation' (see *Collected Works of Michał Kalecki*, ii). Later Kalecki dealt with inflationary phenomena and threats to market equilibrium, especially under accelerated economic growth, in connection with his studies of the planned economy and the developing economics (see *Collected Works of Michał Kalecki. Socialism: Functioning and Long-Run Planning*, iii, and *Collected Works of Michał Kalecki. Developing Economies*, v, Oxford, Clarendon Press, 1992 and 1993 respectively).

The Share of Wages in the National Income

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/9 (1941), 196–8. In the *Bulletin*, 3/11 (1941), 262, an errata to Table 16 was introduced: the figure in the second row, fifth column, should read 1,154 and not 1,514; this has been corrected in the present volume.

Wartime Changes in Employment and the Wage Bill

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/13 (1941), 294–8.

Changes in Stocks of Commodities, 1940

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/15 (1941), 335–8.

Recent Trends in the Financial Situation

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 3/17 (1941), 389–93.

The Burden of the War on Wages and Other Incomes

[1]
First published as 'The Burden on Wages and Other Incomes' (next to J. Nicholson's 'Changes in Real Incomes', both of which appeared under a common heading 'The Burden of the War') in the *Bulletin of the Oxford University Institute of Statistics*, 4/1 (1942), 10–11; repr. as 'Measuring the Cost of the War' in *Studies in War Economics*, 221–2.

Excess Profits Tax and Government Contracts

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/2 (1942), 40–3; repr. in *Studies in War Economics*, 386–9.

Employment, Wage Bill, and Cash Circulation

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/3 (1942), 67–70.

The Problem of Profit Margins

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/5 (1942), 114–17; repr. in *Studies in War Economics*, 382–5.

The Budget

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/6 (1942), 129–32; repr. as 'The Budget (1942–1943)' in *Studies in War Economics*, 88–91.

[2]
The quotation is after H. of C. Deb., vol. 379, col. 113.

[3]
i.e. *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure, 1938, 1940 and 1941*, London, April 1942, HMSO, Cmd. 6347.

Wages and the National Income, 1940 and 1941

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/7 (1942), 150–3.

[2]
Cmd. 6343, p. 16.

War Finance, 1940 and 1941

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/8, (1942), 161–6.

The Financial Situation in the First Half of 1942

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/13 (1942), 247–52.

[2]
See M. Kalecki, 'Wartime Changes in Employment and the Wage Bill' and 'Employment, Wage Bill and Cash Circulation', this volume.

The Fall in 'Small' Savings

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 4/15 (1942), 290–3; repr. in *Studies in War Economics*, 113–16.

[2]
In the original Kalecki mistakenly refers to his 'Notes on General Rationing' (*Bulletin*, 3/5 (1941)) instead of his 'Notes on Finance' (*Bulletin*, 3/3 (1941)).

[3]
See Charles Madge, 'The Propensity to Save in Blackburn and Bristol', *Economic Journal*, 50/4 (1940).

Sources of Manpower in the British War Sector

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/1 (1943), 2–11. See also 'Sources of Manpower in the British War Sector in 1941 and 1942', and 'Employment in the United Kingdom during and after the Transition Period', both in this volume.

[2]
See R. F. Bretherton, F. A. Burchardt, and R. S. G. Rutherford, *Investment and the Trade Cycle*, Oxford, Clarendon Press, 1941.

The Wartime Trend of Deposits

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/4 (1943), 63–6.

The Burden of the National Debt

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/5 (1943), 76–80; repr. in *Studies in War Economics*, 124–8.

The problem of the government debt already appears in Kalecki's publications of the middle of the 1930s on the mechanism of the business upswing generated by government deficit-financing. In his essay 'A Theory of Commodity, Income, and Capital Taxation' he put forward the concepts of a 'capital tax' and a 'modified income tax' that would enable financing the budget deficit without undermining the propensity to invest (see *Collected Works of Michał Kalecki*, i). He used the concept of capital taxation not only in the present article, but also is his 'Political Aspects of Full Employment' and 'Three Ways to Full Employment', published in 1943 and 1944 respectively (see *Collected Works*, i). The concept of the modified income tax as a solution of the 'burden of the debt' problem was welcomed by Keynes as evidenced by his letter to Kalecki of 30 December 1944 (see ibid. 579).

The Budget 1943

[1]
First published as 'The Budget' in the *Bulletin of the Oxford University Institute of Statistics*, 5/6 (1943), 96–7; repr. as 'The Budget (1943–1944)' in

Studies in War Economics, 92–4; the original title was expanded by the present editor in order to avoid confusion with Kalecki's 'The Budget' published one year earlier.

Profits, Salaries, and Wages

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/8 (1943), 125–9.

[2]
See *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938, 1940, 1941 and 1942*, Cmd. 6438, London, HMSO, 1943.

[3]
For more on the influence, in Kalecki's theory of income distribution, of changes in prices of raw materials on the one hand and the cost of labour on the other, on the relative share of wages in the national income, see *Collected Works of Michał Kalecki*, ii, pt. 1 and the relevant editor's notes (esp. 480–1, 486–92, and 503–10).

War Finance, 1940, 1941, and 1942

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/9 (1943), 137–42.

Sources of Manpower in the British War Sector, 1941 and 1942

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/11 (1943), 173–8; repr. in *Studies in War Economics*, 35–44.

[2]
See R. F. Bretherton, F. A. Burchardt, and R. S. G. Rutherford, *Investment and the Trade Cycle*.

The Financial Situation in the First Half of 1943

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/13 (1943), 216–20.

[2]
See 'The Diary Note', *Bulletin of the Oxford University Institute of Statistics*, 5/4 (1943), 71–2.

The Problem of 'Small' Savings

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5/16 (1943), 260–5; repr. in *Studies in War Economics*, 108–12.

The Budget: A Stabilization Policy

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/7 (1944), 101–4; repr. as 'The Budget (1944–1945)' in *Studies in War Economics*, 95–8.

The White Paper on the National Income and Expenditure in the Years 1938–1943

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/9 (1944), 137–44; repr. in *Studies in War Economics*, 99–107.

[2]
See *An Analysis of the Sources of War Finance and Estimates of the National Income and Expenditure in the Years 1938 to 1943*, Cmd. 6520, London, HMSO, 1944.

III. POST-WAR RECONSTRUCTION

Economic Implications of the Beveridge Plan

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5 (1943), suppl. 4, 2–7.

During the war Sir William Beveridge was closely associated with government economic administration: *inter alia*, he headed the Imperial Committee on Food Rationing and was a member of the Committee on Fuel Rationing. At the request of the government, in November 1942 he prepared 'A Report on Social Assurances and Related Services' (for the revised and expanded version of this report, see W. Beveridge, *Full Employment in a Free Society*, London, Allen & Unwin, 1944). The report gave rise to an animated discussion, also in the USA where the left wing of the Democratic Party ever since the Roosevelt's New Deal has worked on a similar plan of social security and full employment (for Oscar Lange's contributions to these projects, see O. Lange, *Works*, viii. 204–5, Warsaw, Polish Economic Publishers (1986), in Polish). The debate in Britain focused on the problem whether she would be

able to afford the additional costs involved in maintaining full employment and expanding social benefits. In February 1943 the Oxford University Institute of Statistics joined these discussions, devoting a special issue of the *Bulletin* to several key problems of the Beveridge Plan. In the introduction to the special issue of the Bulletin its Editor wrote *inter alia*:

> The proposals submitted by Sir William Beveridge were unusually detailed, and a full critical survey of the 'Report' would perforce be very long. In the three articles in this Supplement the authors have attempted to select only major issues. The first, by M. Kalecki, shows how different methods of financing the plan would affect the British economy, and concludes that even if employers' contributions to unemployment insurance were taken over by the Exchequer, and if full pensions were granted at the start of the scheme, the additional taxation would present but a moderate transfer problem. Moreover, the transfer problem would be reduced if the cost of unemployment above 5 per cent were borne, not by taxation, but by borrowing. Such borrowing—far from being 'unsound' finance—would generate employment and thus act as an economic stabilizer.
>
> The statistical background for this theoretical analysis is given by J. L. Nicholson. His article compares benefits and contributions under the existing system with those proposed under the Beveridge scheme, describes the revenue and expenditure of the social security budget, and provides quantitative estimates of the effect of social security finance on prices, wages, and income tax.
>
> The third article, by Miss M. C. Stewart, considers the scheme from the point of view of insurance business and administration. It discusses the present machinery and investigates the repercussions which the proposed reforms would have on existing insurance agencies and their staffs. In economic terms, it is argued, neither the transfer of claims nor the loss of business or employment in the private insurance sector, which is at least partly compensated by an extension in the public sector, would present difficult problems. The proposed reorganization is equivalent to technical progress in manufacture, and will itself contribute towards raising the standard of living, provided that the displaced factors are re-employed elsewhere.
>
> If the estimates and the economic analysis given in the three articles are correct, it would appear that Britain will be able to afford a measure of social security such as that envisaged in the 'Beveridge Report' (*Bulletin*, 5 (1943) suppl. 4, 1–2).

Kalecki's contribution was discussed at length in the *Financial News* of 19 March 1943; its editor, in the introduction to his 'Financing the Beveridge Scheme: Mr Kalecki Urges More Flexible Plans for Unemployment Relief', wrote:

> That Britain can well afford to adopt the Full Beveridge Scheme for Social Security is the conclusion reached by the Oxford Institute of Statistics. Mr M. Kalecki declares that it cannot seriously impair the competitive position of British exports, and that, in any event, an adjustment of export prices in foreign currencies could be averted by a very modest adjustment of the exchange rate, at the price of an equally slight rise in living costs.
>
> On the basis of 1938 national income, and with the tax structure then existing, Mr Kalecki holds that we could finance all unemployment above 5 per cent by borrowing, and charge the increase in employers' contributions to income tax. On the terms of the Beveridge plan, the cost of unemployment benefit would then be halved, and full rates of old-age pensions could then be granted immediately. The total income-tax charge involved would be 2*s.* above the 1938 rate of 5*s.* 6*d.* in the £. With serious underemployment, borrowing would generate activity and act as an economic stabilizer.

Oxford University Institute of Statistics vigorously advocated full employment policies after the war, as evidenced by what was published in the *Bulletin* at that time, but more importantly, perhaps, by *The Economics of Full Employment*, published in October 1944, only a few weeks after Beveridge's *Full Employment in a Free Society*. 'The subtitle of the Oxford Book was *Six Studies in Applied Economics*. There is no question that each of the six authors pulled his full weight; even so Joan Robinson was right when she devoted a long review in the *Economic Journal*... to the contributions of Kalecki and Balogh, dealing respectively with the domestic and international aspects of full employment, and she was also right in observing that we had not wholly succeeded in integrating the two approaches.' (G. D. N. Worswick, 'Kalecki at Oxford, 1940–44', 25. See also *Collected Works of Michał Kalecki*, i, pt. 6 and the corresponding editorial notes as well as 'The White Paper on Employment Policy' and 'Employment in the United Kingdom during and after the Transition Period', this volume.)

International Clearing and Long-Term Lending

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 5 (1943), suppl. 5, 29–39.

The questions of the organization of the post-war system of international trade and finance became the subject of intense debates already in 1943. That year government plans for the post-war reconstruction of the international clearing system were announced in the USA and Great Britain (see *Proposals for an International Clearing Union*, Cmd. 6437, London, Apr. 1943, HMSO, and the *Preliminary Draft Outline of a Proposal for an International Stabilisation Fund of the United and Associated Nations made public by the Secretary of the Treasury on April 7, 1943*; US Treasury, Washington DC 1943; they were known after the names of their main authors as the 'Keynes' Plan' and the 'White's Plan' respectively). On 23 May 1943 Keynes gave his much-publicized presentation in the British parliament, in which he developed and elaborated his proposal (for more on Keynes's plan and the actions he took to get it implemented, see *The Collected Writings of John Maynard Keynes*, xxv, London, Macmillan, 1980; see also J. Steindl, 'J. M. Keynes: Society and the Economist', in F. Vicarelli (ed.), *Keynes's Relevance Today*, London, Macmillan, 1985, 120–3; on the affinity between Keynes's plan and that of H. Schacht of 1929–30, see R. E. Lüke, 'The Schacht and the Keynes

Plans', *Banca Nazionale del Lavoro Quarterly Review*, 1985, no. 152; for Lange's position on Keynes's and White's plans, see O. Lange, *Works*, viii. 198–200).

In August 1943 the Oxford University Institute of Statistics, in co-operation with Nuffield College, prepared and published a special issue of the *Bulletin*, where in four papers Keynes's and White's plan were examined. In the introductory ('Lessons of the Past') the Editor pointed out the significance of the problem discussed and outlined five basic criteria that should be met by the new system of international trade and clearing in order to avoid the defects of the pre-war system. E. F. Schumacher in 'The New Currency Plans' put forward proposals supplementary to those of Keynes and White. In 'The Foreign Balance and Full Employment' T. Balogh addressed the links between the balance of payments and full employment. Between the latter two, there was a paper by Kalecki and Schumacher who pointed out that the formation of an international clearing organization (or fund) would not suffice for solving the question of providing the rest of the world with a satisfactory supply of foreign exchange of the countries which experience notorious surpluses in their balance of payments' current accounts and increase their reserves of foreign exchange. To overcome this problem, Kalecki and Schumacher proposed to establish, next to the clearing union, an affiliated investment bureau whose credit activity would assure the availability of foreign exchange of countries which experience chronic export surpluses. Thus international liquidity would be maintained in the system. This type of arrangement was very much discussed in the 1960s and was known as the 'Link'. Kalecki and Schumacher were possibly first to suggest it.

Kalecki's and Schumacher's proposals were subsequently developed in T. Balogh's contribution on the international aspects of full employment in *The Economics of Full Employment* (see esp. the chapters 'Multilaterialism and Full Employment' and 'Full Employment within a Region', 157–80). Then, in his 'Multilateralism and Full Employment' Kalecki attempted to solve the problem of assuring at the same time the full benefits of the international division of labour and international trade with full employment (see *Collected Works of Michał Kalecki*, i).

For further discussions on the Oxford Institute's proposals concerning the linking of the international clearing system with a system of long-term credit, see T. Balogh, 'The New Plans for International Investment Board', *Bulletin*, 5/15 (1943), and E. F. Schumacher and T. Balogh, 'An International Monetary Fund', *Bulletin*, 6/6 (1944).

[2]
Proposals for an International Clearing Union, ch. III, point 8.

[3]
Ibid. ch. II, point 6 (8), b(i).

[4]
The essence of Keynes's idea was to establish a unit of international clearing called 'bancor', which would be accepted by central banks of the British Commonwealth, the USA, and the other member countries of the International Clearing Union. The value of the bancor would be expressed in gold and subject to changes. The member countries would set the exchange rate of their domestic currency in relation to bancor. Every central bank of a country belonging to the union would have to open an account in bancors which would make it possible for it to settle foreign liabilities. In principle the balances on these accounts would not be exchangeable for gold but would be carried forward. However, special regulations were supposed to prevent the permanent accumulation of unwanted, positive or negative, balances in bancors. After other measures had been exhausted, these regulations boiled down to equalizing changes in the exchange rates of local currencies in relation to the bancor.

Excess Profits Tax and Post-War Re-Equipment

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/4 (1944), 58–61.

The article was preceded by the following lead of the Editor:

Whether industry will have adequate financial reserves under a system of Excess Profits Tax to carry out the re-equipment for peacetime needs has been much discussed. The following article by Mr Kalecki discusses this important question and shows: (*a*) that in spite of EPT no problem would arise if prices had remained unchanged during the war; for any depreciation not made good would then accrue in the form of free liquid reserves sufficient to restore real capital; and (*b*) that the actual rise of prices during the war leads to certain deficiencies of firms' own reserves for re-equipping plants after the war.

After estimating the order of magnitude of this deficiency for British industry Mr Kalecki explains that part of the gap will be filled by refunding of the 20 per cent EPT rebate in the reconstruction period, and that the remainder can comfortably be covered by capital issues.

On this analysis there would seem to be no strong case for a modification of EPT to meet industrial needs now or in the immediate post-war period.

[2]
See *An Analysis of the Sources of War Finance and Estimates of the National Income and Expenditure in the Years 1938 to 1943*, Cmd. 6520, London, HMSO, 1944.

The White Paper on Employment Policy

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/8 (1944), 137–44.

[2]
See *Employment Policy*, Cmd 6527, London, HMSO, 1944.

[3]
Ibid., para. 3, p. 4.

[4]
Ibid., para. 13, p. 7.

[5]
Ibid., para. 68, p. 23.

Employment in the United Kingdom during and after the Transition Period

[1]
First published in the *Bulletin of the Oxford University Institute of Statistics*, 6/16–17 (1944), 265–87.

Kalecki's paper was introduced to the readers of the *Bulletin* by the Editor who wrote:

How long will be the transition period after the end of the war in Europe during which manpower will be too scarce to meet all the demands for industrial reconstruction and domestic restocking? And what will happen, when this reservoir of piled-up reconstruction demand has been exhausted; will Great Britain suffer a post-war slump or can we expect that the economy will run near to full employment with a moderate level of taxation and a balanced budget?

These are the two questions to which Mr Kalecki seeks to give an answer in the following article. As the reconstruction period in this country is likely to be lengthy—it may well be more than six years—this means looking ahead into the 1950s. But to anticipate the economic development of a country amidst a troubled world over so many years may appear to be a very risky undertaking. It is therefore important to understand the nature of such economic forecasts. They are 'conditional forecasts' and are based upon two sets of assumptions: those derived from estimated facts[1] and trends, and those dependent on future economic policy. The former determine broadly orders of magnitude, the latter are necessarily conjectural. The validity of the predictions depends upon the degree to which the basic assumptions will be fulfilled in actual fact. But the 'economic model' constructed on these foundations retains its value even if either the factual or the policy assumptions are modified. The reader is free to substitute what he regards as more plausible assumptions, and to trace the effect such modifications would have on the working and structure of the model. In fact, the model itself operates with variants, i.e. with alternative assumptions in various parts.

The main results which Mr Kalecki derives from his set of assumptions are:

[1] This article was with the printer when the White Paper (Cmd. 6564) on the War Effort of the UK was published. The information contained therein could, therefore, not be utilized, but a preliminary check showed that the factual assumptions made here are not inconsistent with the data given in the White Paper.

(*a*) That the transformation period in Great Britain will last for more that six years, i.e. into the early 1950s, and thus be very much longer than that of the USA, estimated in a similar way by Mr Steindl in a previous Bulletin at two or three years.

(*b*) That at the end of this period the aftermath of the war will not only have been completely overcome, but also the standard of living of all classes of the community will be considerably higher than it was before the outbreak of war if full employment is maintained.

(*c*) That public spending to ensure full employment will roughly balance with public revenue if taxation on higher incomes were raised to midway between the pre-war rate and the wartime rate, while the burden of taxation on the lower incomes were, broadly speaking, kept unchanged.

(*d*) That Britain's export problem, though serious in a period of full employment at home and, possibly, instability around, may cause a relative reduction in the standard of living but will leave it still higher than before the war.

Joseph Steindl's article referred to by the Editor of the *Bulletin* is 'Post-War Employment in the USA', *Bulletin*, 6/12 (1944). For Kalecki's later comparison of full employment policies in the UK and USA, see 'The Maintenance of Full Employment after the Transition Period: A Comparison of the Problem in the USA and the UK', *Collected Works of Michał Kalecki*, i, and the Editor's notes therein, pp. 582–92.

PART 2

THE POST-WAR AMERICAN ECONOMY

Determinants of the Increase in the Cost of Living in the USA

[1]
First published in the *Review of Economics and Statistics*, 30/1 (1948), 22–4. Publishers' permission to reproduce this essay is gratefully acknowledged.

This is Kalecki's contribution to a symposium on the problems of inflation. Next to Kalecki, other contributors to the symposium were K. E. Boudling, J. S. Davis, G. Haberler, S. E. Harris, R. B. Heflebower, A. P. Lerner, F. Machlup, F. C. Mills, and S. H. Slichter. The participants of the symposium agreed on the sources of inflationary pressures in the post-war economy and that in the then prevailing conditions taxes should not be reduced but the propensity to save increased. The greatest differences of opinion referred to the control of the economy and the rationing of products in short supply. Whereas Haberler, Machlup, and Lerner strongly opposed rationing and price control, seeing in them the sources of disequilibrium, inefficient allocation of resources, etc. (although they also were inclined to accept some moderate programme of control of the economy), Kalecki believed that the increase of prices in the USA in the second quarter of 1947 was primarily the effect of lifting price controls (see 'Ten Economists on the Inflation', *Review of Economics and Statistics*, 40/1 (1948), 1–29; for other studies of Kalecki in the post-war American economy not included in Part 2 of the present volume, see *Collected Works of Michał Kalecki*, ii).

The Economic Situation in the USA as Compared with the Pre-War Period

[1]
First published as 'Sytuacja gospodarcza Stanów Zjednoczonych w zestawieniu z okresem przedwojennym', *Ekonomista*, 3 (1956), 3–13; repr. with minor editorial charges and abbreviations in M. Kalecki, *Z ostatniej fazy przemian kapitalizmu*, Warsaw, Polish Scientific Publishers (1968), 30–42.

The English translation appeared in M. Kalecki, *The Last Phase in the Transformation of Capitalism*, New York–London, Monthly Review Press (1972), 85–97. The Swedish translation, 'Der ekonomiska läget i Förenta Staterna jämfört med förkrigsperioden', was published in M. Kalecki, *Tillväxt och stagnation i modern kapitalism*, Boc-Universitetet, Bo Cavefors Bokferlag (1975), 28–37. The Italian translation, 'La situazione economica degli Stati Uniti in confronto al periodo prebelico', appeared in M. Kalecki, *Sul capitalismo contemporaneo*, Rome, Editori Riuniti (1975), 43–53. The

Spanish translation, 'La actual situación económica en los Estados Unidos comparada con el periodo preguerra', was published in M. Kalecki, *Sobre el capitalismo contemporáneo*, Barcelona, Editorial Crítica (1979), 35–47. All translations were based on the 1968 edn. of the paper. The Monthly Review Press permission to reproduce this article is gratefully acknowledged.

For the extension of this study, see M. Kalecki, 'Economic Situation in the USA, 1956–1961', in *Collected Works of Michał Kalecki*, ii.

The Fascism of Our Times

[1]
First published as 'Faszyzm naszych czasów' in *Polityka*, 8/46 (1964), repr. in M. Kalecki, *Z ostatniej fazy przemian kapitalizmu*, 43–50.

For the English translation, see M. Kalecki, *The Last Phase in the Transformation of Capitalism*, 99–105. The Swedish translation, 'Vara dagars fascism', appeared in M. Kalecki, *Tillväxt och stagnation i modern kapitalism*, 68–73. The Italian translation, 'Il fascismo dei nostri tempi', appeared in M. Kalecki, *Sul capitalismo contemporaneo*, 91–6. The Spanish translation, 'El fascismo de nuestro tiempo', was published in M. Kalecki, *Sobre el capitalismo contemporáneo*, 93–100. All translations were based on the 1968 edn. of the paper. The Monthly Review Press permission to reproduce this article is gratefully acknowledged.

Among some clippings from *Monthly Review* which survived in Kalecki's papers there is an article 'Fascism in America' (signed 'Historicus', 4/6 (1952)). Its author points out that a political system does not have to have the features of the German or Italian fascism, or use their symbols, and still be fascist in nature. Kalecki's article appears to be a continuation of this line of thought.

Vietnam and US Big Business

[1]
This article first appeared as 'Wietnam przez pryzmat USA', *Polityka*, 11/3 (1967), repr. in M. Kalecki, *Z ostatniej fazy przemian kapitalizmu*, 51–8.

For the English translation, see M. Kalecki, *The Last Phase in the Transformation of Capitalism*, 107–145. The Swedish translation, 'Vietnam och USA:s storfinans', appeared in M. Kalecki, *Tillväxt och stagnation i modern kapitalism*, 52–8. The first Italian translation, 'Capitalisti "vecchi" e "nuovi" ' (without section 6 and with considerable cuts in section 5), appeared in *Il Manifesto* (6 June 1970), 22–4. A new Italian translation was published as 'Il Vietnam nell'ottica USA' in M. Kalecki, *Sul capitalismo contemporaneo*, 97–103. The Spanish translation, 'Vietnam y las grandes empresas norteamericanas', was published in M. Kalecki, *Sobre el capitalismo contemporáneo*, 101–9. All translations except the first Italian one were based on the 1968 edn.

of the paper. The Monthly Review Press permission to reproduce this article is gratefully acknowledged.

Shortly after the publication of this article in *Polityka*, Kalecki received letters of support from Mr Jerzy Baumritter (the Chief Editor of *The Great PWN Encyclopedia*) and Mr Wiesław Górnicki (then correspondent of the Polish Press Agency and of *Życie Warszawy* daily in New York). In reply to Górnicki Kalecki wrote in a letter of 24 Feb. 1967 among other things:

Dear Mr Górnicki,
Your mentioning of my article in your correspondence for Życie Warszawy and your letter of 23 January 1967 gave me great pleasure. My article was written on the basis of reading the press (not very extensive) and on the data on the American national income, taken from the Survey of Current Business.... Hence the recognition for my idea of someone who is *on the spot* is extremely valuable for me.

I completely share your views on the spread in our country of the 'American myth' and on the close analogy between the USA and Hitlerite Germany. For the present Hitlerism in the strict sense of the word is only 'for export', but it is being unavoidably accompanied by corresponding developments at home. (I point this out also in my paper.) This is indeed, as you say, a sick country.

It seems to me that in the meantime the contest among the various groupings has intensified, for those East Coast papers, which we both mention, have already begun to criticize the Vietnam War directly (though, obviously, only from the viewpoint of its efficacy).

I even wonder whether these new scandals (CIA and Garrison) are not somehow connected with this—perhaps only in the sense that the atmosphere of this contest emboldens people to make certain disclosures. But how all this will end is very difficult to say (Kalecki's Papers).

On 23 November 1966 the 'International War Crimes Tribunal' started its investigations in London. It was founded by Lord Bertrand Russell (together with J.-P. Sartre and I. Deutscher) with the immediate objective to investigate American actions in Vietnam. At its session on 20 November–1 December 1967, the Russell tribunal unanimously passed a verdict that charged the USA with a crime against peace and genocide in Vietnam. After the verdict was announced, *Trybuna Ludu* (the daily of the Polish United Workers' Party) interviewed a number of Polish intellectuals, Kalecki among them. He said:

The condemnation by the Russell tribunal, headed by the famous French writer Jean-Paul Sartre, of the shameful nature of the American war in Vietnam is fully justified. This nature results directly from the essence of this war. It resulted from a peasant uprising against the south Vietnam feudal landowners and bears a clearly class character. It is supposed to have a deterring effect on similar agrarian revolutions elsewhere, especially in Latin America. That is why there are no checks in it against destroying the civilian population and the sources of its livelihood. Its continuation threatens the gradual extermination of the Vietnamese people (*Trybuna Ludu*, 20/355 (23–26 Dec. 1967), 10).

The articles 'The Fascism of our Times' and 'Vietnam and the US Big Business' especially gave rise to different comments of the reviewers of Kalecki's collection *Z ostatniej fazy przemian kapitalizmu* and of its English translation. On the one hand, J. Beksiak wrote: 'What is especially noteworthy here is that the author goes beyond economics in the narrow sense. The economic mechanism is examined in the context of the present social and political relations, and both aspects of the problem are treated as an inseparable whole.... The analysis of links between extremely reactionary political tendencies and government interventionism must be also pointed out' (see 'Stimulating the Business Upswing in Nazi Germany' [*Collected Works of Michał Kalecki; Studies in Applied Economics, 1927–1941*, vi, Oxford, Clarendon Press, forthcoming], 'The Fascism of our Times' and 'Vietnam and the US Big Business'). The author shows how the understanding of the mechanism of the capitalist economy helps not only to comprehend current developments, but also enables us to foresee their further course' ('Two Books by Michał Kalecki', *Nowe Książki*, 20/15 (1968), 1063).

On the other hand, J. L. Dietz wrote: 'The next three articles [i.e. 'The Economic Situation in the United States as Compared with the Pre-War Period', 'The Fascism of Our Times', and 'Vietnam and the US Big Business'] all emphasize the growing importance of the military-industrial complex in an advanced capitalist economy. The last two of these essays are the least satisfying of the six essays. They reflect a more emotional side of Kalecki; his usual logical and theoretical argument is weighted with the type of rhetoric that may be less than convincing to the uninitiated' ('The Last Phase in the Transformation of Capitalism, by Michał Kalecki', *Quarterly Review of Economics and Business*, 14 (1974), 132).

The *Il Manifesto* translation of the 'Vietnam and the US Big Business' was followed by a comment by P. M. Sweezy, who apparently was asked by the editor of the journal to bring Kalecki's article up to date. However, Sweezy thought it was pointless, and this for the following reasons:

1. Kalecki was no doubt right in that ever since 1966 there was a shift in the US to a war or a semi-war economy. This has not changed since Kalecki wrote his article, only inflation has accelerated, as the monopolies have

brought about sharp price increases also in branches where capital equipment was not fully employed. Taking into account the rise in prices and tax-rates, real wages have even fallen somewhat compared to 1965. Hence, for the first time after the war, voices of protest against the war could be heard among workers and leaders of the smaller trade unions. These protests, according to Sweezy, might turn out to be important for the future of the movement against the war.

2. The Nixon administration represented 'old' rather than 'new' groups of big capital. This could be clearly seen in the way anti-monopoly legislation and other legal regulations were used to restrain the offensive of 'new' capital against what was subject to the 'old' and to the disadvantage of concerns which often had their headquarters in the West or the South West. The fall in the Stock Exchange in the middle of 1969 completed the defeat of 'new' capital. The limitations of armament expenditures that next followed, though not very large, have struck an especially heavy blow at the aircraft and rocket industries which were the bastion of 'new' capital.

3. The division in the ruling class caused by the war in Vietnam hardly ran along the line separating big capital into 'old' and 'new'. Regardless of what forces pushed the USA into the quagmire of South East Asia (in this matter Sweezy thought Kalecki's division into 'old' and 'new' capital to be of great significance), the fact was that in 1970 the entire ruling class feared the global political consequences of withdrawing from there (i.e. of a decisive military defeat). The reason was that despite the negative consequences of continuing the war (domestic and international) the ruling class in the USA had not by then taken and decisive measures towards bringing it to an end. Moreover, under the American political system essential political changes are almost impossible during the term of office of the same president. An opportunity for such a change came up during the elections in 1968, but then the ruling class still expected a 'miracle' in Vietnam. In 1970 the situation was developing in the direction of the ever greater involvement of the USA in South East Asia and an ever more complicated domestic situation in the USA; the result of this was beyond prediction.

4. According to Sweezy, the goal of the anti-war movement in 1970 and later should be to make it impossible to govern the USA normally so long as the war in South East Asia lasted. When that became clear, the ruling class would have to make a choice between total repression aimed at the anti-war movement (i.e. between some forms of fascism or a military dictatorship) and withdrawal from Vietnam, Laos, and Cambodia, although for some time probably not yet from Thailand (see 'Una nota di Sweezy', *Il Manifesto* (6 June 1970), 24).

PART 3

ON POLITICAL ECONOMY AND ECONOMISTS

Econometric Model and Historical Materialism

[1]

This essay was first published in the volume *On Political Economy and Econometrics: Essays in Honour of Oscar Lange*, Warsaw and Oxford, Polish Scientific Publishers and Pergamon Press (1965), 233–8; 2nd edn., 1970. Publishers' permission to reproduce this essay is gratefully acknowledged.

Polish translation appeared as 'Model ekonometryczny a materialistyczne pojmowanie dziejów', in *Ekonomista*, 4 (1964), pp. 724–9. The Japanese translation was published as 'Keiryo keizaigako—to shiteki yuibutsuron', in *Keizai-Hyoron*, 16/10 (1968), 154–60. The Portuguese translation, 'Modelo econométrico e materialismo histórico' appeared in M. Kalecki, *Economia*, ch. 2, 43–50.

Why Economics is Not an Exact Science

[1]

This is the matriculation lecture given by Kalecki on 8 June 1964 at the University of Warsaw upon conferring on him the honorary degree; first published as 'Dlaczego ekonomia nie jest dotąd nauką ścisłą?', in *Życie Gospodarcze*, 19/25 (1964), 2, and as 'Dlaczego ekonomia nie jest nauką ścisłą?', in *Biuletyn Naukowy Wydziału Ekonomii Politycznej UW*, 7/16 (1965), 3–7.

The essay appeared in the following translations: English—*Polish Perspectives*, 7/9 (1964), 62–5; French—'Pourquoi l'économie n'est-elle pas une science exacte', *Perspectives Polonaises*, 7/9 (1964), 73–9; Portuguese—'Por que a Economia ainda nâo é uma ciencia exata', in M. Kalecki, *Economia*, ch. 1, 39–42. Publishers' permission to reproduce this essay is gratefully acknowledged.

Conferring the degree was Professor Oskar Lange whose speech on this occasion was also published in *Życie Gospodarcze*, 19/25 (1964), 2, in Polish. The ceremony at the University of Warsaw was a part of joint celebrations of the sixtieth birthday of Oscar Lange and the sixty-fifth birthday of Michał Kalecki; they took place in the Main School of Planning and Statistics on 21 Nov. 1964. For Kalecki's speech on that occasion, see *Collected Works of Michał Kalecki; Developing Economies*, v. 230–1.

Review of Grundgedanken zu einer Theorie der stoerungdfreien Geldschoepfung *by F. von Havas*

[1]
Economic Journal, 47/4 (1937), 713–14. Publishers' permission to reproduce this review is gratefully acknowledged.

Review of Die Aufgaben des Geldes *by E. Lukas*

[1]
Economic Journal, 48/1 (1938), 76–7. Publishers' permission to reproduce this review is gratefully acknowledged.

Review of An International Statistical Comparison of Production and Income *by L. Landau*

[1]
Economic Journal, 49/3 (1939), 513–15. Publishers' permission to reproduce this review is gratefully acknowledged.

The Polish title of Landau's book was *Gospodarka światowa: Produkcja i dochód społeczny w liczbach* (The World Economy; Production and National Income in Figures). See also Editor's notes to 'Ludwik Landau—Economist and Statistician', p. 533 below.

Review of Économique Rationelle *by G. and E. Guillaume*

[1]
Economic Journal, 50/2–3 (1940), 276–8. Publishers' permission to reproduce this review is gratefully acknowledged.

The Work of Erwin Rothbarth

[1]
First published in the *Review of Economic Studies*, 27/2 (1944–5), 121–2. Publishers' permission to reproduce this obituary is gratefully acknowledged.

Erwin Rothbarth was born in Frankfurt and was killed in action near Venlo, Holland, in December 1944. He came to England in 1933 and three years later graduated with honours from the London School of Economics. From 1938 he worked at the University of Cambridge. He was one of the most zealous participants of the debates that followed the publication of Keynes's *General Theory of Employment, Interest and Money*. Rothbarth also participated in the research headed by A. C. Pigou on the relation of prices to wages and interest rates and in the research project supervised by Keynes on forced savings (see L. Cuyvers, 'Erwin Rothbarth's Life and Work', *Journal of Post Keynesian Economics*, 6/2, Winter 1983–4).

Ludwik Landau—Economist and Statistician

[1]
First published as 'Ludwik Landau—ekonomista i statystyk', in *Życie Gospodarcze*, 19/11 (1964), and as 'W dwudziestą rocznicę zgonu Ludwika Landaua (1901–44)', in *Biuletyn Instytutu Gospodarstwa Społecznego*, vii (special issue in memory of Ludwik Landau), 219–21. These publications were based on the memorial lecture read by Kalecki at a special session of the Institute of National Economy at the Main School of Planning and Statistics, on 20 Feb. 1964 (next to Kalecki the two other contributors to the session were Professors Jerzy Tomaszewski and Edward Strzelecki). In the present edn. this lecture is combined with Kalecki's review of Landau's *Chronicle of the War and Occupation*, i–iii. (Warsaw, PWN, 1962–3), to which Kalecki referred in the last part of his lecture; the review first appeared as 'Kronika lat wojny i okupacji', in *Nowe Drogi*, 18/2 (1964), 116–17. Publishers' permission to reproduce these articles is gratefully acknowledged.

Landau's *Selected Writings* was prefaced by Michał Kalecki, Witold Kula and Tadeusz Szturm de Sztrem (see "Słowo wstępne' in Ludwik Landau, *Selected Writings*, Warsaw, PWN (1957), v–xvi, in Polish). In its Part 1 the preface presents a biographical information about Landau that is more extensive compared to Kalecki's memorial lecture, and in Part 3 it discusses Landau's contributions in the context of development of social sciences and the links between them and economics. Part 2 of the preface, which may be attributed to Kalecki, largely overlaps with his memorial lecture and his review of Landau's *World Economy: Production and National Income in Figures*.

[2]
See Kalecki's review of this book in the present volume.

The Work of Oscar Lange

[1]
This memorial lecture Kalecki gave at a special session of the Senate of the Main School of Planning and Statistics, on 6 Oct. 1965 (the other contributor was the Chancellor of SGPiS, Professor Wiesław Sadowski). It was first published as 'Dzieło Oskara Langego' in *Życie Gospodarcze*, 20/41 (1965), 1 and in *Prace i Materiały*, MZPGKSR, 3/3–4 (1965), 5–7. The English translation appeared in *Economic Journal*, 76/2 (1966), 431–2. The publishers' permission to reproduce this obituary here is gratefully acknowledged.

[2]
See Oscar Lange, *Optimal Decisions: Principles of Programming*, Warsaw and Oxford, PWN and Pergamon Press, 1971.

[3]
See Oscar Lange, 'A Model of Economic Growth', *Mathematical Studies in Economics and Statistics in the USSR and Eastern Europe*, 1/3 (1965), 3–48.

[4]
See Oscar Lange, *Theory of Reproduction and Accumulation*, Warsaw, PWN, 1969.

[5]
See Oscar Lange, *Introduction to Econometrics*, Warsaw, Oxford, and London, PWN and Pergamon Press, 1966.

[6]
See Oscar Lange, *Wholes and Parts: A General Theory of System Behaviour*, Warsaw, Oxford, and London, PWN and Pergamon Press, 1965.

[7]
See Oscar Lange, *Political Economy*, i, Warsaw, Oxford, and London, PWN and Pergamon Press, 1974, and ii, Warsaw, PWN, 1971.

On Paul Baran's Political Economy of Growth

[1]
First published in *Monthly Review: An Independent Socialist Magazine*, 17/6 (1965–6), 58–60. The Polish translation appeared as 'O "Ekonomii politycznej wzrostu" Paula Barana', *Życie Gospodarcze*, 21/6 (1966), 1. The publishers' permission to reproduce this note here is gratefully acknowledged.

The note was intended as Kalecki's contribution to the special issue of *Monthly Review* (16/11, Mar. 1965) in commemoration of Paul Baran on the first anniversary of his death; the note arrived late, however, and was published in the next issue of the magazine. For a biography of Paul Alexander Baran and a list of his most important publications, see the special issue of *Monthly Review*, ibid.

Joan Robinson

[1]
This is an entry in *Wielka encyklopedia powszechna PWN* [The Great PWN Encyclopedia], Warsaw, PWN (1967), 5.

Since the time of Kalecki's note, in addition to numerous papers published in many periodicals, the following more important books of Joan Robinson appeared: *Economics: An Awkward Corner* (London, Allen & Unwin, 1966), *Freedom and Necessity: An Introduction to the Study of Society* (London, Allen & Unwin, 1970), *Economic Heresies: Some Old-Fashioned Questions in Economic Theory* (New York, Basic Books, 1971), and (with John Eatwell) a

textbook *An Introduction to Modern Economics* (London, McGraw-Hill, 1973). Joan Robinson died on 5 Aug. 1983.

[2]
London, Macmillan, 1933; 2nd edn., 1969.

[3]
See E. H. Chamberlin, *The Theory of Monopolistic Competition*, Cambridge, Mass., Harvard University Press, 1933.

[4]
London, Macmillan, 1937.

[5]
Kalecki's implied reference here is to Joan Robinson's 'The Foreign Exchanges' and 'Beggar-My-Neighbour Remedies for Unemployment', both repr. in Joan Robinson, *Collected Economic Papers*, iv, Oxford, Blackwell, 1973.

[6]
London, Macmillan, 1956; 3rd edn., 1969.

[7]
See Joan Robinson, *An Essay on Marxian Economics*, London, Macmillan, 1949.

The Economics of Edward Lipiński

[1]
First published as 'Ekonomia Edwarda Lipińskiego' in *Ekonomista*, a special issue in honour of the eightieth birthday of Edward Lipiński, 2 (1969), 329–65. The publishers' permission to reproduce this essay here is gratefully acknowledged.

It is difficult to attribute to Kalecki in this paper much more than perhaps a few paragraphs in Sect. 2 that refer to the Institute for the Study of Business Cycles and Prices and his collaboration with Lipiński. The chief contributor to the essay is Professor Tadeusz Kowalik.

[2]
New York, International Library, 1900.

[3]
Warsaw, Książka, 1926–9.

[4]
The first appeared in *Kuźnia*, 2/6 (1914), and the second in *Tygodnik Polski*, 3/6 (1914).

[5]
Chicago, Ill., S. A. Bloch, 1909.

[6]
Przedświt, 39/3 (1920), 26–7.

[7]
Ibid.

[8]
It was patterned after the German Survey Committee and had a similar scope of investigation.

[9]
E. Lipiński, 'Institute for the Study of Business Cycles and Prices', *Przemysł i Handel*, 9/7 (1928), 244, in Polish.

[10]
See M. Kalecki, *Essay on the Business Cycle Theory*, in *Collected Works of Michał Kalecki*, i.

[11]
See M. Kalecki and L. Landau, *An Estimate of Social Income in 1929*, and Michał Kalecki and Ludwik Landau, *Social Income in 1933 and the Foundations of Periodic Studies on Changes of Income*, both in *Collected Works of Michał Kalecki*, vi.

[12]
See M. Breit, *The Interest Rate in Poland*, Cracow, Polska Akademia Umiejętności, 1933, in Polish.

[13]
For more on Kalecki's resignation, see *Collected Works of Michał* Kalecki, i. 506.

[14]
See A. Heydel and others, *State Control in Poland*, Cracow, Towarzystwo Ekonomiczne, 1932, in Polish.

[15]
They are available in Polish only; the French summary of *Revisions* appeared in *Temps Modernes*, 12/132–3 (1957), 1288–1303.

[16]
See E. Lipiński, *Karl Marx and Problems of the Present*, Warsaw, PWN, 1969, in Polish.

[17]
i.e. 'cunning and reason'; cf. Charles Taylor, *Hegel and Modern Society*, Cambridge, Cambridge University Press, 1979.

[18]
The quotation is given by Tadeusz Kowalik on the basis of his unpublished interview with Lipiński.

PART 4

MISCELLANEA

I. NOTES AND PAPERS FOR HILARY MINC

Comparison of Changes in Energy Consumption in the Polish Five-Year Plan, 1956–1960 and in West Germany, in 1950–1954

[1]
This note was written for Hilary Minc as 'Porównanie zmian w zużyciu energii w Polsce w planie pięcioletnim 1956–1969 i w Niemczech Zachodnich w okresie 1950–1954'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/2/55, dated 3 June 1955). First published in the Polish edn. of Michał Kalecki's *Works*, vi, Warsaw, PWE (1988), 527.

On Kalecki's advisory work for Hilary Minc in 1955–6 and their contacts immediately after the war, see *Collected Works of Michał Kalecki*, iii. 258–9, 263, and 267–8. For the list of all memos written by Kalecki for Minc in 1955–6, see ibid. 267–8.

Expansion of Trade with India

[1]
This note was written for Hilary Minc as 'Rozszerzenie handlu z Indiami'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/3/55, dated 22 June 1955). First published in the Polish edn. of Michał Kalecki's *Works*, vi. 528.

Attached to this note was a two-page memo on Polish–Indian trade relations, on which Kalecki's note was based.

The first trade agreement between Poland and India was concluded on 22 Apr. 1949 for one year. In Jan. 1951 a protocol was signed establishing non-quota lists of goods for 1951; the term of the first agreement was extended several times as were the lists of goods. The government of India was not interested in signing a clearing agreement which suited Poland since the permanent export surplus in trade with India gave Poland considerable foreign exchange revenues.

In connection with the industrialization programme, India was eager to increase the import of various industrial equipment, rolling-stock,

textile machinery, machine tools, etc., and Poland could, no doubt, share in these increased supplies. According to an estimate of the State Commission for Economic Planning, Poland could export to India many kinds of equipment and complete industrial plants. In relation to the intended expansion of Polish exports to India, the above-mentioned memo suggested that Poland's imports from India be increased. Poland was interested in Indian iron ore, whose prices (c.i.f. Polish seaports) were about the same as those charged by other suppliers from capitalist countries. In addition to iron ore, import was also considered of some volume of cotton, tragacanth gum, goatskins, tea, coffee, spices—i.e. articles previously not imported from India. Owing to the sensitivity of the Indian partner not to be merely a supplier of raw materials for European countries, it was suggested that the possibility of importing some Indian industrial products, should be explored.

Trybuna Ludu of 5 Apr. 1956 announced the conclusion of a new long-term trade agreement with India for the period from 1 Apr. 1956 to 31 Dec. 1959. The list of goods, renewable for each calendar year, included in Polish imports from India iron ore, manganese ore, mica, shellac, tanning extracts, coffee, tobacco, spices, hides, raw cotton and cotton products, jute products, handicraft and cottage industry products, etc. The export list included construction, road-building, textile, grinding and welding machines, complete industrial plants, equipment for sugar-mills and alcohol distilleries, machine-tool factories, rolling-stock factories, and also agricultural equipment, tractors, electrolytic zinc and sheet zinc, chemicals and cement. The agreement provided that accounts would be settled in Indian rupees.

The Trade Mission to Burma

[1]
This note was written for Hilary Minc as 'Misja handlowa do Burmy'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/4/55, dated 8 July 1955). First published in the Polish edn. of Michał Kalecki's *Works*, vi. 529.

The Place of Poland in Europe in Industrial and Agricultural Production

[1]
This note was written for Hilary Minc as 'Miejsce Polski w Europie w produkcji przemysłowej i rolniczej'. Its copy survived in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/6/55).

Clearing of Stocks

[1]
This note was written for Hilary Minc as 'Upłynnianie zapasów'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/8a/55). First published in the Polish edn. of Michał Kalecki's *Works*, vi. 530–2.

The Problem of Allocating the Surplus in the Financial Plan for 1956

[1]
This note was written for Hilary Minc as 'Problem rozdysponowania nadwyżki planu finansowego w 1956 r.'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/10/55). First published in the Polish edn. of Michał Kalecki's *Works*, vi. 533–4.

Kalecki put forward his idea of 'directed' allocation of stocks once again in his note for Hilary Minc, ' "Guided" Allocation' (GM/MK/2/56; it survived in Kalecki's papers only); the latter is not included because it largely overlaps with Kalecki's note GM/MK/10/55.

Notes on Planned Output of Cotton Textiles in 1956

[1]
This note was written for Hilary Minc as 'Uwagi', dated 24 Nov. 1955, and classified as strictly confidential. Its copy survived in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/14/55). Attached to it is a memo on the planned output of cotton textile production in 1956 and a memo on sales of textile products in barter transactions.

The Investment Plan and Inventories of Machines

[1]
This note was first published as 'Plan inwestycyjny a remanenty maszyn' in the Polish edn. of Michał Kalecki's *Works*, vi. 535–7. It includes four notes written for Hilary Minc. Its first paragraph and Table 72 are the note 'Wielkość i struktura remanentu maszyn' (The Volume and Structure of Machines in Stocks, GM/MK/12/55); Table 73 represents the note 'Nakłady inwestycyjne w gospodarce uspołecznionej' (Investment Outlays in the State Sector, GM/MK/15/55), and Table 74 the note 'Wskaźniki zaopatrzenia w niektóre artykuły budowlane w 1956 r.' (Indices of Supply of Some Construction Materials, GM/MK/16/55); the last two notes are dated 24 Nov. 1955. The final part of the present note overlaps with 'Plan inwestycyjny a remanenty maszynowe' (Investment Programme and the Stocks of Machines, GM/MK/17/55). The respective copies of these notes survived in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106).

Notes on Mao Zedong's Report

[1]
This note was written for Hilary Minc as 'Uwagi o referacie Mao Zeduna'. Its copy survived in Kalecki's papers and in the Archives of the Council of Ministers (Cabinet of the First Deputy Prime Minister, Hilary Minc, ref. no. 3/106, GM/MK/13/55). First published in the Polish edn. of Michał Kalecki's *Works*, vi. 538–40.

Kalecki's *Notes* refer to the report 'On the Question of Agricultural Co-operation' delivered by Mao Zedong on 31 July 1955 at a conference for the secretaries of provincial, urban, and regional committees of the Communist Party of China. On 11 Oct. 1955 the sixth (expanded) Plenary Session of the Central Committee of the Communist Party of China accepted a resolution on co-operatives in agriculture that followed the these put forward in the Mao Zedong's report (see 'Resolution of the Question of Co-operation', *Xinhua yuebao*, 73/11 (1955), 9–13).

[2]
The quote is after Mao Tse-tung, *The Question of Agricultural Co-operation*, Peking, Foreign Languages Press, (1956), 31–2.

II. REINFORCED-CONCRETE CONSTRUCTIONS

Reinforced-Concrete Two-Slab Ceiling

[1]
Kalecki submitted this patent to the Polish Patent Office in 2 Aug. 1929, where it was filed under the number 12702, approved on 7 Nov. 1930, and published in the Polish Patent Office records on 16 Jan. 1932 under the number EO4c2/24.

Professor Józef Zagórski in a note written for Mrs Kalecki and dated 30 Mar. 1974 wrote:

> Sometime in 1930–2, probably not later than that I think, Professor Kalecki showed me his paper on a floor-beam, the project of which he himself designed. I still see its drawing in front of my eyes, as my memory is visual. Kalecki's article was published in the *Żelbet* journal, although I am not sure about the journal's title. It was weekly or a monthly. For some time we received it regularly in the Institute and I remember its light-green cover. Later either it changed its title or was discontinued. On another

occasion, at the same time, Professor Kalecki showed me a patent that he obtained for this beam. It was the only case in my life when I came across an authentic patent and an inventor. The beam was of reinforced concrete construction which at the time was a novelty. Michał did not conceal that he was, in his own modest way, proud of his invention. He also told me that before he had started work for the Institute, together with his friend, an architect, he made calculations of the strength of various constructions for several construction firms. This is all I know about Professor Kalecki's career as a constructor. (The note is in Kalecki's papers.)

Following this note Mrs Adela Kalecki traced Kalecki's patent in the Patent Office, and Kalecki's published papers on concrete constructions.

The strength calculations mentioned in Zagórski's note were made in the late 1920s, and concerned the floor parameters for the Polish Military Museum (for a project of the famous Polish architect, Stefan Bryła; see 'Communiqué of the Office of the Chapter of the Bryła Decoration', *Życie Warszawy*, 28/138, 10 June 1971, suppl. *Życie i Nowoczesność*, no. 56, p. 2), and the floor parameters of a machine factory in Toruń. Kalecki's partner and collaborator in this engineering-construction venue was Norman Bay, Kalecki's close friend from 1915, with whom Kalecki attended the same college and shared room during the entire period of his studies in Gdańsk. Many years later, in reply to Mrs Kalecki enquiry, Bay recalled:

I came to Warsaw in the spring of 1927. There I worked for a while with Adam Ehrenberg who considered himself obligated to me for an important favour rendered while we were both in Gdańsk. He was then employed by a large firm, the Enterprise of Reclamation, and since he was unable, for obvious reasons, to introduce me into this firm, he was passing to me the overflow of their work.

Then, in the fall of 1927 Michał or I came across an advertisement in a technical paper which seemed quite interesting. One of the largest engineering firms in Poland, the Polskie Towarzystwo Budowalne, was looking for engineers versed in the theory of hyper-static systems [i.e. statically indeterminate systems].

We went to see them and were received by their chief engineer, Mr Czyżowski. The problem was a project of an aeroplane hangar of a large span, and he wanted it to be designed by the use of a special method of construction introduced by an Austrian engineer, Professor Melon. Both Michał and I had never heard of the Melon systems and after a minute of embarrassment we pretended to have another engagement and offered to come back the next day.

We went to a library, obtained a book about the Melon method. By five o'clock in the morning we declared ourselves to be specialists in the Melon system. We returned the same morning to Czyżowski's office and explained to him how we intended to proceed, all in great detail.

The project included a cost estimate. Since neither of us had any experience in estimating I again went to my friend Ehrenberg. He offered to prepare a complete estimate in his office. Later he refused to accept any part of our remuneration. Mrs Ehrenberg was as generous as her husband. She emptied one room in their apartment, installed two work tables, sofas, etc.; their maid fed us, day and night, during the six weeks allotted to the project.

The Company's consulting engineer, Professor Bryła, asked to see us to discuss the finished work, and found our design outstanding. Then Czyżowski offered us to take over the design and supervision of construction of the Museum (then called 'Military Museum') and Michał and I accepted.

In May 1928 I received an invitation to go to Paris and after consulting with Michał and Czyżowski I accepted and left for Paris in June 1928.

This is all I know about engineering work by Michał.

(Excerpt from the letter of Norman Bay to Ada Kalecki, of 29 Oct. 1970; Kalecki's papers. In letters of 2 Oct. 1979 and 13 Feb. 1980 to the editor of Kalecki's *Collected Works* Bay recalls that Kalecki continued to work for the Polskie Towarzystwo Budowlane until the end of 1929; Bay did not know, however, why Kalecki gave up this collaboration in particular, and engineering construction and designing in general. Neither Mrs Kalecki, nor any of Kalecki's friends and collaborators were able to answer this question.)

The well-known Polish construction engineer, Professor Jan Kopciowski, wrote to Mrs Kalecki in a note of 21 May 1976 about the significance of Kalecki's patent as follows:

The leading idea of the author of the patent was an economical solution of reinforced-concrete floors and roofs and an improvement of the parameters of thermal and acoustics isolation of these constructions. The principle accepted in the patent is still valid, but at the present time the use of new insulating materials as well as progress in acoustics and thermal isolation make more effective solutions possible. At the beginning of the 1930s, when the patent was submitted, the author's suggestion was an original solution, which testified to his interests and investigations in technical progress in reinforced concrete. (The note is in Kalecki's papers.)

At the request of the editor of *Collected Works of Michał Kalecki*, the following opinion was prepared by Professor Michał Knauff, Head of the Department of Land Engineering of the Warsaw Engineering University, on the present-day relevance of Kalecki's reinforced-concrete constructions:

Constructions similar to the two-slab reinforced-concrete ceilings according to the patent of 1930 are not built now. Also in the 1930s in Poland numerous types of rib-and-slab floors were used which were made more economical that the construction suggested in the patent—and this probably explains why it did not find broad application.

Interesting is the opinion expressed twice in the description of the patent that 'the upper slab, *b*, has the function of a strut between the plates, *d*'. Unfortunately, we do not know how Kalecki in his calculations of the floor considered the postulated role of the upper slab. Perhaps, by making some changes in the construction, one could try to use the upper slab of a floor made up of the two unconnected slabs, or connected only at some points, as a pressed element. However, a more exact examination of such a construction would require consideration of the rheological (i.e. dependent of time) properties of the concrete, which was impossible in 1930, since research into these properties only started at that time.

The article 'The Wall as a Construction Element of Reinforced Concrete Skeletons' popularizes the idea of using reinforced-concrete beam-walls. Beam-walls are sometimes used today in industrial buildings and structures; e.g. one often finds constructions of cubicoid containers in which the side walls are examined as beam-walls. Kalecki deals with the principles of calculating reinforcement constructed in the form of an orthogonal grid; this is one of the basic methods of reinforcing beam-walls that is used until today.

In comparison with contemporary methods of calculating such constructions, Kalecki's analysis is very simplistic; it can give rational results only with not very high beams, i.e. those in which the height does not exceed one-fifth of the span.

The article 'Calculation of Ribbed Ceilings of a Certain Type in the Installation of Mounted Slab' concerns a construction made up of slabs arranged in a grid of equal squares supported at all crossings by pillars. In different variants such a construction was always much used in concrete structures. Kalecki deals exclusively with the case of square slabs. The bending moments in the slabs are calculated according to the German regulations of the time. The methods suggested in the article for calculating pillars has long since been replaced by more general methods which can also be used for rectangular slabs with sides of unequal length. However, the problem of calculating pillars in ribbed floors of this type is solved in a similar way in practice today. More exact solutions, e.g. based on the theory of upper-load-bearing capacity, are still the subject of research.

Clearly evident in Kalecki's articles is what we today commendably refer to as 'an engineering way of thinking'; in these articles important technical problems are examined from a practical point of view, with the use of such theoretical methods as were available at that time to a practising engineer with broad interests and thorough professional preparation.

The Use of Reinforced-Concrete Construction in Poland

[1]
First published as 'Rozpowszechnienie budownictwa żelbetowego w Polsce', in *Cement*, 2/8 (1931), 250–1 The publishers' permission to reproduce this paper here is gratefully acknowledged.

Calculation of Ribbed Ceilings of a Certain Type in the Installation of Mounted Slab

[1]
This is Kalecki's contribution published as 'Obliczenie pewnego typu stropów żebrowych w założeniu płyty zamocowanej', in the *Memorial Volume of the First Polish Congress of Reinforced-Concrete Engineers, Warsaw, 21–22 Nov. 1931*, Warsaw, Związek Polskich Fabryk Portland-Cementu (1931), 197–200. The publishers' permission to reproduce this paper here is gratefully acknowledged.

In the course of the congress Kalecki took on active part in the discussions on several other contributions (see ibid. 353, 354, 357, 358, and 359).

The Wall as a Construction Element of Reinforced-Concrete Skeletons

[1]
First published as 'Ścianka jako element konstrukcyjny szkieletów żelbetowych', in *Cement*, 3/4 (1932), 89–91. The publishers' permission to reproduce this paper here is gratefully acknowledged.

III. MATHEMATICAL PAPERS

On the Gibrat Distribution

[1]
First published in *Econometrica*, 13/2 (1945), 161–70. The publishers' permission to reproduce this paper here is gratefully acknowledged.

This study, next to his 'On the Choice of Techniques in a Socialist Economy', represents a point, in a sense, half-way between Kalecki's economic studies and his 'purely' mathematical research. The latter dealt with one of the most topical problems of centrally planned economies and, at the same time, provided a novel approach to the determination of extreme values of a function; the former with a mathematical solution of the function of distribution of variables of important economic meaning.

The Gibrat distribution, known today as the 'log-normal distribution' in 1970s attracted much attention of economists dealing with problems of the size of firms and concentration in industry (see e.g. S. J. Prais, 'A New Look at the Growth of Industrial Concentration', *Oxford Economic Papers*, 26/2, 1974, and R. Marris, *The Theory and Future of the Corporate Economy and Society*, Amsterdam, North-Holland, 1979, ch. 3). Referring to Kalecki's paper Prais wrote:

> As time goes on, the forces making for a dispersion of sizes cumulate, and one naturally expects to find that the dispersion of firm-sizes increases over time. But the essential connection between these two pieces of research (first, the observation of growing industrial concentration and, secondly, the observation that economic variables closely followed a log-normal pattern) did not become apparent for some time. At first indeed it was perversely misunderstood; that misunderstanding is still of some interest, and I hope I may be permitted to spend a moment on it. In a paper on 'The Gibrat Distribution' . . . Kalecki wrote as follows: 'The argument implies that as times goes by the standard deviation of the logarithm of the variate considered increases continuously. In the case of many economic phenomena, however, no tendency for such an increase is apparent (for example in distribution of incomes)' [p. 410]. Kalecki perceived that the dispersion of economic distributions would increase over time if generated by this time of process, and for this important theoretical insight he deserves much credit. But, curiously enough (in spite of his intellectual background), he averted his eyes in that paper from the problem of increasing industrial concentration, and its possible connection with the Gibrat process; instead he