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Reclaiming Marx's 'Capital': A Refutation of the Myth of Inconsistency, Andrew Kliman, Lanham: Lexington Books, 2007

Abstract

This book seeks to defend Marx's theory in *Capital* against the long-standing criticism of logical inconsistency, which has provided the main justification for the rejection of Marx's theory over the last century. This book presents a new interpretation of Marx's theory that has emerged over the last several decades called the 'temporal single-system' interpretation (commonly abbreviated as TSSI). Kliman argues that the TSSI eliminates all of the alleged logical inconsistencies in Marx's theory, and therefore logical inconsistency is not a valid reason to reject Marx's theory. I agree in general with much of this book, but I disagree on some points, especially the use of one-commodity models and its interpretation of the transformation-problem.

Keywords

Marx, temporal determination, single system

This book seeks to defend Marx's theory in *Capital* against the long-standing criticism of logical inconsistency, which has provided the main justification for the rejection of Marx's theory over the last century. This book presents a new interpretation of Marx's theory that has emerged over the last several decades called the 'temporal single-system' interpretation (commonly abbreviated as TSSI).¹ The significance of this name will be explained in the following paragraphs. Kliman argues that the TSSI eliminates all of the alleged logical inconsistencies in Marx's theory, and therefore logical inconsistency is not a valid reason to reject Marx's theory. This book is written in an accessible style for non-specialist readers, and I will come back to this point at the end.

Kliman argues that Marx's theory has been misinterpreted in two main ways: (1) It is assumed that Marx's theory is based on the logical method of *simultaneous determination*, according to which input-prices and output-prices are determined simultaneously (and also that the rate of profit is determined simultaneously with input- and output-prices), and all these prices (and the rate of profit) are derived from the physical quantities of input-output coefficients and the real wage. In other words, it is assumed that Marx's logical method is the same as Sraffa's logical method (or linear production-theory in general). Kliman argues instead that Marx's theory is based on the logical method of *temporal determination*, according to which input-prices and the rate of profit are determined prior to output-prices and are taken as given in the determination of output-prices. (2) It is assumed that values and prices of production are separated into *two distinct systems*, which are determined independently of each other. Kliman argues instead that values and prices of production are interrelated in an all-inclusive *single system*. Not only do prices of production depend on value and surplus-value, but value and surplus-value also depend in part on prices of production for two reasons: because the constant-capital component (or the value-transferred component) of the value of commodities is equal to the prices of production of the means of production, and the variable-capital component (which is subtracted from the

1. Other proponents of the TSSI, to varying degrees – it is not a monolithic group – include Alan Freeman, Guglielmo Carchedi and Alejandro Ramos.

new value produced to determine surplus-value) is equal to the actual money-wage, which is equal to the prices of production of the means of subsistence.

Kliman argues further that, if these two misinterpretations are corrected, then Marx's theory is no longer logically inconsistent, but is, instead, logically coherent. Therefore, Marx's theory cannot be legitimately rejected on the grounds of logical inconsistency. I agree in general with both of these key-points, and I think these points are important contributions to Marxian scholarship. However, I also disagree with Kliman and the TSSI on some points, which will be discussed below.

The book consists of twelve chapters. The first three chapters provide a brief introduction to Marx's theory, to the debate over the logical inconsistency of Marx's theory, and to 'contending interpretations' of Marx's theory. The main contending interpretations that are discussed are simultaneous determination versus temporal determination and dual system versus single system. Chapter 4 discusses the criterion that should be used to assess the relative accuracy of contending interpretations of Marx's theory (the criterion of coherence, or 'making sense of the whole'). Chapters 5 and 6 focus on the issue of simultaneous determination, and argue that simultaneous determination is incompatible with Marx's theory. Chapters 7, 8, and 9 discuss the two main charges of logical inconsistency against Marx's theory: the falling rate of profit (Chapter 7) and the transformation-problem (Chapters 8 and 9). Chapter 10 is concerned with the 'fundamental Marxian theorem', and argues that this theorem cannot be proved on the basis of simultaneous determination, but only on the basis of temporal determination. Chapter 11 is a critical evaluation of empirical tests of the labour-theory of value as presented by Shaikh, Ochoa, and Cockshott and Cottrell. Chapter 12 presents a summary of the main conclusions of the book.

The Okishio-theorem

The Okishio-theorem is based on linear production-theory and states that technological change which reduces the cost for an individual capitalist (at the prevailing equilibrium-prices) can never reduce the rate of profit for the economy as a whole (at the new equilibrium-prices). Okishio claimed that his theorem refuted Marx's theory of the falling rate of profit, according to which technological change could cause the rate of profit to fall. Kliman argues (in Chapter 7) that the Okishio-theorem does not refute Marx's theory, because the Okishio-theorem is about a different rate of profit from that considered in Marx's theory. The Okishio-theorem is about the *static equilibrium-rate of profit*, with input-prices equal to output-prices, and the rate of profit determined simultaneously with input- and output-prices, whilst Marx's theory is about the *average rate of profit*, with input-prices not necessarily equal to output-prices, and input-prices and the rate of profit determined prior to output-prices. Kliman presents a one-sector numerical example (a 'corn-model') which shows that technological change which reduces costs causes the 'simultaneous' static equilibrium-rate of profit to rise, but causes the 'temporal' average rate of profit to fall. Kliman concludes that the Okishio-theorem does not therefore refute Marx's theory.

I have doubts and misgivings about Kliman's one-commodity examples (see below), but I agree with Kliman that the Okishio-theorem does not refute Marx's theory, because the Okishio-theorem is about a different rate of profit from Marx's theory (although my own

interpretation of Marx's rate of profit is somewhat different from Kliman's). I think that this argument is an important contribution of Kliman's work (and of the TSSI in general). Almost the entire debate over Marx's theory of the falling rate of profit and the Okishio-theorem has assumed that the Okishio-theorem applies to Marx's theory. However, if this basic assumption is mistaken, as Kliman argues, and as I agree, then the results of the Okishio-theorem do not necessarily apply to Marx's theory, and we need to go back to square one and examine Marx's theory more thoroughly, as well as the differences between Marx's theory and the Okishio-theorem. Kliman's analysis is a useful start, but much more needs to be done along these lines.

Kliman also argues that the Okishio-theorem even fails in terms of its own premises (p. 118) (he has made this argument more forcefully in previous papers). This argument is that the Okishio-theorem assumes only that the new rate of profit that is established after technological change will be equal for all sectors, and does not explicitly assume that the new rate of profit will be a static equilibrium-rate of profit with input-prices equal to output-prices. Instead, the equality of input and output-prices is a conclusion of the Okishio-theorem, not a premise. This argument seems to contradict Kliman's first argument (discussed in the previous paragraphs) that the equality of input- and output-prices is a premise of the Okishio-theorem, but not a premise of Marx's theory. In any case, the equality of input- and output-prices is clearly a premise of the Okishio-theorem, even if not explicitly stated. The theoretical framework of the Okishio-theorem is linear production-theory, which assumes the simultaneous determination of input-prices and output-prices and the rate of profit – by the system of equations: $p = (pA + pB)L(1 + r)$ – which clearly assumes that the simultaneously-determined input-prices (on the right-hand side of the equation) and output-prices (on the left-hand side) will be equal. Therefore, Kliman's second argument, that the Okishio-theorem fails on its own premises, itself fails because of a mischaracterisation of the premises of the Okishio-theorem. Even if this assumption is not explicitly stated, it is clearly embedded in the theoretical framework of the Okishio-theorem. Perhaps Okishio regarded this premise so obvious as to not need be explicitly stated. It cannot be otherwise in linear production-theory, in which input-prices and output-prices are determined simultaneously. What is false is not the theorem itself, but Okishio's claim that his theorem refutes Marx's theory of the falling rate of profit.

Temporal determination and the falling rate of profit

In the debate over simultaneous versus temporal determination, the main controversial issue has to do with the valuation of constant capital when the price of the means of production changes, and the effect of this valuation on the trend in the rate of profit. According to simultaneous valuation, constant capital would be revalued immediately to the new price of the means of production; that is, constant capital would be valued at '*current replacement-costs*'. According to one version of temporal determination, constant capital would not be revalued at all, but would remain equal to the original price of the means of production at the time the means of production were purchased; that is, constant capital would be valued at '*historical costs*'. Kliman (and the TSSI) has added a third possible interpretation, a different kind of temporal determination: constant capital is valued at the

time the means of production enter production, but not thereafter; he calls this the ‘*pre-production reproduction-costs*’ valuation of constant capital.

Kliman argues it is clear from the textual evidence that Marx rejected historical cost-valuation, but that does not mean that he assumed current replacement-cost valuation; there is the TSSI middle-ground interpretation (pre-production cost-valuation), which Kliman argues Marx had assumed (pp. 95–9). According to this interpretation, if there is a change in the price of the means of production between the time the means of production are purchased and the time these means of production enter the production-process, then the constant capital will be revalued accordingly; but there is no revaluation if the price of the means of production changes after the means of production enter production (until the next period of production).

Most of the controversy over this issue has been concerned with the valuation of the *flow* of constant capital, which is a component of the *value* of commodities: value = constant capital + new-value. The issue is whether this constant-capital component of the value of commodities is determined by historical costs, current replacement-costs, or pre-production reproduction-costs. However, I think this emphasis is misplaced, and that this particular issue is actually of very little significance, because the magnitude of the flow of constant capital has no influence on the amount of surplus-value produced in a given period. The reason is that the flow of constant capital is also a component of the *cost* of commodities, and the key-point is that the constant-capital component of the value of commodities is the *same magnitude* as the constant-capital component of the cost of commodities. Whatever the magnitude of the constant-capital cost is, that is the magnitude that becomes the ‘transferred-value’ component of the value of commodities. Therefore, in the determination of surplus-value, these identical magnitudes of constant capital *cancel out*, and have no influence whatsoever on the magnitude of surplus-value:

$$\begin{aligned} S &= P - K \\ &= (C + N) - (C + V) \\ &= N - V \\ &\neq f(C) \end{aligned}$$

Therefore, even if the simultaneous and temporal interpretations assume very different magnitudes of the flow of constant capital, these different magnitudes have no effect on the magnitude of surplus-value, because each of these two interpretations will have the same magnitude of constant capital as components of both value and cost, which will cancel out in the determination of surplus-value (for example, substitute 2C for C in the above equation). Kliman’s examples in Chapter 7 assume that variable capital = 0, and thus that surplus-value = new value. The magnitudes of surplus-value are the same for both the simultaneous interpretation in Table 7.2 and the temporal interpretation in Table 4. Even though the magnitudes of constant capital are different in these two tables, the magnitudes of surplus-value are exactly the same. Therefore, the different interpretations of the flow of constant capital have no effect on the magnitude of surplus-value, the numerator of the rate of profit. The only way the rate of profit could be affected by different interpretations of constant capital is through the *stock* of constant capital in the *denominator* of the rate of profit. The stock of constant capital consists of both *fixed capital* (which lasts for more than one period, and, in many cases, lasts for many periods) and *circulating capital* (which is

entirely consumed in one period). Over time, as a result of ongoing mechanisation, most of the stock of constant capital is fixed capital invested in machinery and equipment, buildings, etc.

Unfortunately, there is very little discussion in this book (or in Kliman's previous articles) about the valuation of *fixed capital* and its effect on trends in the rate of profit. All the numerical examples in the book assume only circulating constant capital. This is sufficient for a critique of the Okishio-theorem, since the Okishio-theorem itself assumes only circulating capital, but it is not sufficient for a proof of the falling rate of profit in the more general case including fixed capital. Furthermore, it is not entirely clear how Kliman interprets the valuation of fixed constant capital if there is a change in the price of the means of production. In a previous article,² Kliman assumed that fixed constant capital is valued at *historical cost*; that is, it was assumed that there is *no cheapening* of fixed capital over its entire lifetime, which obviously would contribute to a falling rate of profit.³ However, in this book, as mentioned above, Kliman agrees that Marx rejected historical cost-valuation, and he seems to assume that, in the event of a change in the price of the means of production, fixed constant capital would be revalued in the *next* period (p. 123). But it is not clear from this very brief discussion how this revaluation would affect the trend in the rate of profit. In future work, Kliman should clarify how he would incorporate depreciating fixed capital into his TSS-interpretation of the rate of profit.

Furthermore, not only are Kliman's 'proofs' and numerical examples in terms of the unrealistic case of circulating capital only, they are also in terms of a *one-commodity model*, in which inputs and outputs are the *same commodity* (for example, the corn-model), which gives a misleading view of the revaluation of circulating constant capital. In a multi-sector model, the price of the means of production depends very little or not at all on the price of the output produced with these means of production (for example, the price of cotton does not depend on the price of yarn). In this case, if the price of the means of production declined by, say, 10 per cent, then, according to Kliman's temporal interpretation, constant capital would not be devalued in the current period, but it would be devalued in the *next period*, presumably by the full 10 per cent, equal to the new price of the means of production. The delayed temporal devaluation would 'catch up' with the simultaneous devaluation, and then they would be equal, and continue to be equal in future-periods (unless there were another change in the price of the means of production, in which case there would be another delayed devaluation, and another 'catch-up' in the next period, and so on).

However, in a one-commodity model, in which the means of production and the output are the *same commodity* (for example, corn), the price of the corn as means of production and the price of the corn as output become interdependent, in ways that delay the devaluation of constant capital, and give the appearance of more permanent effects. Assume again a 10 per cent decline in the price of corn as means of production. According to Kliman's temporal interpretation, the devaluation of constant capital does not occur in the first period. As a result, the price of the corn as output in the first period will be higher than it would have been if constant capital had been devalued immediately. Furthermore, in the second period, the price of the corn as means of production will be higher (than if constant

2. Kliman 1999.

3. This article also assumes 'non-depreciating fixed capital'; that is, fixed capital that lasts forever.

capital had been immediately devalued), because it is equal to the price of the corn as output in the first period, which is higher. Therefore, there is not a full 10 per cent adjustment to the new price of the corn as means of production in the second period, but only a partial adjustment to something less than that, which prolongs and magnifies the effects of the initial delayed devaluation. This further effect of delayed devaluation of constant capital is evident in a comparison of Table 7.4 (temporal determination) and Table 7.2 (simultaneous determination). However, this bigger effect is only an artefact of the one-commodity model, and this artefact disappears in a multi-sector model, in which the prices of the means of production are largely independent of the prices of the output produced with these means of production. In a multi-sector model, as explained above, the price of the means of production, and hence the constant capital, would not be affected by the price of the output of the first period, and would be fully devalued in the second period, and thereafter equal to the simultaneous valuation of constant capital (unless the price of the means of production declines again, etc.). Therefore, I do not think that Kliman has conclusively proved that technological change can cause the rate of profit to fall, even in the unrealistic case of circulating capital only, because Kliman's 'proof' is in terms of a one-commodity model which exaggerates the effects of the delayed devaluation of constant capital on the rate of profit.

Kliman also claims, in a footnote, that he has also disproved the Okishio-theorem for the circulating-capital-only case 'in the context of multiple sectors' (p. 137, n. 6). However, the numerical example as presented in the cited paper has only two sectors, and Good 1 is a very significant input to its own production ($4/5$ of a unit of Good 1 as-input is required to produce one unit of Good 1 as-output), similar to the one-commodity model. Therefore, the price of Good 1 as-input is heavily dependent on the price of Good 1 as-output, which again exaggerates the effects of the delayed devaluation of constant capital. Dong-Min Rieu changed Kliman's numerical example, and reduced the quantity of Good 1 required to produce a unit of Good 1 from 0.80 to 0.59 (which is still very high and almost as unrealistic), and recalculated the simultaneous rate of profit and the temporal rate of profit according to Kliman's equations. In this case, the temporal rate of profit *increased*, instead of decreased (although increased less than the simultaneous rate of profit).⁴ Therefore, Kliman's 'refutation' of the Okishio-theorem in the case of circulating capital only with two goods is not valid under these slightly more realistic assumptions. In future work, Kliman should present more realistic multi-sector models in which goods are not significant inputs to their own production as outputs.

Transformation-problem

In Chapters 8 and 9, Kliman claims to refute the long-standing criticism, initiated by Bortkiewicz, that Marx's theory of prices of production in Part 2 of Volume III of *Capital* 'failed to transform the inputs of constant capital and variable capital from values to prices of production.' Kliman agrees that Marx himself in Volume III did not transform the inputs (that is, that constant capital and variable capital are assumed to be equal to the values of the means of production and means of subsistence, respectively), but he argues

4. See Moseley and Rieu 2009 for further discussion of the results of this simulation.

that what Marx presented was only the first period of a *multi-period transformation* of values into prices of production. Kliman claims to complete Marx by continuing the transformation-process into subsequent periods in a logically coherent way. In Kliman's second period, the inputs of constant capital and variable capital are changed, and are assumed to be equal to the prices of production of the means of production and means of subsistence in the first period. Because constant capital and variable capital change in the second period, the prices of production of the output also change in the second period, in order to equalise the rate of profit across sectors. In this book, Kliman does not continue the transformation beyond the second period, but in an earlier article, he (and co-author McGlone) did.⁵ In this earlier article, the iterative process begun in the first two periods continues in subsequent periods, until prices of production finally converge to long-run equilibrium-prices in the fourteenth period.⁶

Kliman claims that his interpretation successfully refutes Bortkiewicz's criticism that Marx's theory of prices of production violates the equilibrium-conditions of simple reproduction – that the price of the output of each department (or each industry) in a given period must be equal to the money-demand for the output of that department in the same period. For example, the price of the means of production (Department I) in a given period must be equal to the money-demand for means of production by all firms in that same period; that is, it must be equal to the constant capital invested by all firms in that period. Bortkiewicz argued that this condition is violated in Marx's theory of prices of production, because constant capital is still equal to the values of the means of production, but the output of Department I is equal to the price of production of the means of production (and a similar argument with respect to variable capital and the means of subsistence).

However, Kliman argues that Bortkiewicz's condition is *not the appropriate equilibrium-condition* for simple reproduction. The means of production of a given period are not sold for the constant capital invested in the same period, but are instead sold for the constant capital in the *next* period. And Kliman argues that this condition is always satisfied in his interpretation (and similar conditions are also satisfied for means of subsistence and luxury-goods).

In my view, Kliman's interpretation of Marx's theory of prices of production is mistaken, for two main reasons. In the first place, there is no textual evidence to support Kliman's interpretation of a multi-period transformation-process. In all of Marx's discussions of the transformation, it is presented in only *one period*, and as complete in that one period. There is never a single comment by Marx that his single-period analysis is only the first period of a multi-period process, and that his single-period analysis should be supplemented and continued into future periods.

Secondly, and more importantly, Marx's prices of production are *long-run centre-of-gravity prices*, that change if and only if the productivity of labour or the real wage changes, and Kliman's prices of production are *not* long-run centre-of-gravity prices, because they continue to change from period to period, even though the productivity of labour and the

5. Kliman and McGlone 1998.

6. Kliman's interpretation is mathematically the same as Shaikh's 'iterative' interpretation of the transformation-problem, except that Shaikh's iterations are assumed to be logical iterations within a single period, instead of a series of real historical periods. For further discussion of this point, see Moseley 2008.

real wage remain constant.⁷ The reason why Kliman's prices of production continue to change from period to period is the on-going equalisation of the rate of profit and the transformation-process itself. The prices of production of the output at the end of the first period become the prices of the inputs at the beginning of the second period. If prices of production were to remain constant – that is, if the prices of production of the output of the second period were equal to the prices of production of the output of the first period – then rates of profit in the second period would not be equal across industries. Therefore, in order to equalise the rate of profit in the second period, the prices of production of the output of the second period must change and must be different from the prices of production of the output of the first period.

The same logic applies to future-periods, until the prices of production of the output eventually converge to long-run equilibrium-prices. Therefore, Kliman's prices of production continue to change from period to period as a result of the ongoing equalisation of the rate of profit and the transformation of output-prices into prices of production, even though it is assumed that the productivity of labour and the real wage remain the same. This important feature of Kliman's prices of production clearly contradicts Marx's concept of prices of production as long-run 'centre-of-gravity' prices, that change only if the productivity of labour or the real wage change. Therefore, I do not think that Kliman's interpretation of Marx's theory of prices of production is an accurate interpretation, and I do not think that Kliman has effectively answered Bortkiewicz's critique.⁸

The fact that I disagree with Kliman's interpretation of prices of production and his response to Bortkiewicz's critique does not mean that I agree with Bortkiewicz. I have presented an interpretation of Marx's theory of prices of production⁹ which: (1) rejects simultaneous determination and assumes a single system of values and prices of production, similar to the TSSI; (2) does not assume that the transformation of values into prices of production takes place over multiple periods, but, instead, applies to a single period; (3) assumes that prices of production are long-run centre-of-gravity prices that change only if the physical productivity of labour (or the real wage) changes; and (4) effectively answers Bortkiewicz's critique.

Interpretative criteria

Kliman argues in Chapter 4 that the main criterion for choosing among contending interpretations of Marx's theory is which interpretation '*makes sense of the whole*'; that is, which interpretation makes it possible to derive the main conclusions of Marx's theory, especially the falling rate of profit. I agree that this is an important criterion, but I do not think it is the main criterion, or the first consideration, in an assessment of different interpretations of Marx's theory. The first consideration should be a thorough examination of *what Marx actually wrote* on the particular subject that is in dispute (e.g. his theory of prices of production). If such a thorough review of the textual evidence strongly favours one interpretation over other interpretations, then this interpretation is the preferred one,

7. See Moseley 1999 for an extensive discussion of this issue.

8. In this book, Kliman responds very briefly to this criticism in a footnote (p. 109, n. 2) and I respond to Kliman's footnote in Moseley 2008.

9. See Moseley 1993 and 2000a.

no matter what the implications might be for the other conclusions. On the other hand, if the textual evidence is mixed and ambiguous, then one should consider Kliman's criterion of which interpretation better 'makes sense of the whole'.

Kliman applies his criterion to the controversy over the transformation-problem. He argues that his interpretation of the transformation-problem is consistent with Marx's conclusion of a falling rate of profit, but other interpretations (such as mine) are not (pp. 164–5); therefore, his interpretation is the preferred one. I argue, to the contrary, that the textual evidence is so overwhelmingly against Kliman's interpretation of the transformation-problem (a multi-period process, in which prices of production are not long-run centre-of-gravity prices, but, instead, change every period, even though productivity and the real wage remain the same) that Kliman's interpretation should be rejected, even though it may be more consistent with the conclusion of a falling rate of profit.¹⁰

'Fundamental Marxian Theorem'

Chapter 10 is about the 'Fundamental Marxian Theorem', which was first presented by Okishio and Morishima. Simply put, the 'Fundamental Marxian Theorem' (FMT) is that profit is positive if and only if surplus-labour is also positive. Kliman argues that the FMT cannot be proved on the basis of simultaneous determination, because that proof assumes that no good has a negative surplus-product; but, in reality, some goods might have a *negative surplus-product* (that is, the total output produced in a given period might be less than the uses of this product as inputs to other industries and as workers' consumption). If these goods with a negative surplus-product have high values and prices relative to other goods, then it is possible that, for the economy as a whole, profit might be negative and surplus-labour positive (or vice versa), thereby contradicting the FMT. Kliman presents a numerical example that illustrates this possibility.

In an earlier paper, Kliman concluded that, because of this unrealistic assumption of no negative surplus-products, the FMT 'does not apply to the real world' and is invalid on those grounds.¹¹ However, in this book, Kliman argues that 'the FMT is a claim about the real world', and therefore its assumptions should be modified to include this more realistic assumption of possible negative surplus-products. However, if this more realistic assumption is incorporated, then the simultaneous FMT can no longer be proved; in other words, it is possible that profit might be negative and surplus-labour positive (or vice versa).

In other words, Kliman's earlier argument is what might be called an 'external critique' – the simultaneous FMT is invalid because a key-assumption on which it is based is unrealistic. There is nothing wrong with the internal logic of the simultaneous FMT, if its assumptions are accepted, but its assumptions are unrealistic and therefore unacceptable. By contrast, his argument in this book is an 'internal critique' – the simultaneous FMT is invalid on the basis of its own assumptions (modified to be more realistic).

10. In addition, I have argued above that Kliman has not yet convincingly demonstrated that his interpretation is able to prove the possibility of a falling rate of profit, especially not for the general case with fixed capital, and also not even for the unrealistic special case of circulating capital only.

11. Kliman 2001, p. 103.

I think Kliman's previous external critique is the more appropriate one, because the assumption of a negative surplus-product *cannot* be incorporated into linear production-theory, which is the theoretical basis for the simultaneous FMT. Linear production-theory assumes that no good has a negative surplus-product; this is not just a simplifying assumption that could be dropped, but is a necessary assumption in this theory. If this assumption were dropped, then positive prices could not be determined by linear production-theory, and the simultaneous FMT could not be derived on the basis of linear production-theory.¹²

My own critique of the simultaneous FMT is that it is based on linear production-theory, which is different from Marx's theory (similar to Kliman's critique of the Okishio-theorem). Therefore, whether or not the FMT is valid on its own terms has no bearing on Marx's theory of surplus-value. Furthermore, Marx's theory of surplus-value leads to a much stronger conclusion than the FMT. The FMT tells us nothing about the magnitude of profit, except that it is positive. Marx's theory, on the other hand, determines the magnitude of the total profit (or surplus-value), which is proportional to the total quantity of surplus-labour, with the 'monetary expression of labour-time', or the money-value produced per hour of labour (MELT), as the factor of proportionality; that is, $S = (\text{MELT}) SL$.

Kliman argues, in the final sections of Chapter 10, that the TSSI *is* able to prove the FMT. However, in order to make his 'proof', Kliman introduces a new extraneous assumption, which unnecessarily complicates and confuses the issue: that the MELT is changing. And, in particular, his proof requires the assumption that the MELT is declining over time. If the MELT is not declining, then Kliman's proof does not work. In the previous sections of this chapter, the MELT is assumed to remain constant throughout, and it is argued that the price of the net product (or profit) may be negative even though surplus-labour is positive, because a few commodities might have a negative net product (or negative surplus-product) and high relative prices. By contrast, in the discussion of the TSSI-proof, the price of the net product is negative, not because of a negative net product in physical terms, but because the MELT is declining. This assumption of a declining MELT requires the introduction of the distinction between *real* profit and *nominal* profit, with the real profit equal to the nominal profit adjusted for the declining MELT. Kliman presents a numerical example which shows that a declining MELT results in a negative nominal profit, but a positive real profit, which Kliman claims is 'what Marx's theory is really about'. In this way, Kliman concludes that the TSSI is able to prove that real profit is positive if and only if surplus-labour is positive; that is, it is able to prove the FMT.

However, this is not a general result, but the result of the special assumption of a declining MELT. It still remains to be shown that the TSSI can prove the FMT under the assumption of a constant MELT. The starting point of this demonstration should be a negative price of the net product, due to a few commodities having negative net products and high relative prices (as in the earlier sections of Chapter 10). Then it should be shown how the TSSI can prove the FMT on the basis of these assumptions (which Kliman used to criticise the 'simultaneous' proof of the FMT). I do not see how this could be done. And if it cannot be done, then the TSSI is not able to provide a general proof of the FMT on the basis of its own assumption of negative net products.

12. For further comments on Kliman's external critique, see Moseley 2008.

Empirical tests of the labour-theory of value

Chapter 11 discusses the attempts by various Marxian scholars (Shaikh, Ochoa, and Cockshott-Cottrell) to defend Marx's labour-theory of value by conducting regression-analyses of the correlation between prices and labour-values of individual sectors of the economy. These analyses have generally shown a high correlation between prices and labour-values (prices of individual sectors are roughly proportional to labour-values, with small deviations), which these authors have interpreted as providing strong empirical support for the labour-theory of value.

Kliman argues that there are several problems with this empirical defence of Marx's labour-theory of value. In the first place, it does not respond to the logical criticism of inconsistency in Marx's theory. Secondly, Marx's theory does not predict that prices of individual sectors should be roughly proportional to labour-values (because of the equalisation of profit-rates across sectors), so a weak correlation between prices and labour-values would not contradict Marx's theory. And, thirdly, high correlations between prices and labour-values are 'spurious correlations', which are due to a third variable that has not been included in the analysis – the total size of industries, as measured by the total cost of each industry. Once industry-size is taken into account in the analysis, then the high correlation between prices and labour-value disappears.

I agree with Kliman's criticisms of these empirical studies, especially that Marx's theory does not predict that the prices of individual commodities should be proportional to their labour-values, and, thus, the correlation between prices and labour-values is not an appropriate empirical test of Marx's labour-theory of value. I would add that the type of empirical test appropriate for Marx's theory is to compare the main conclusions that are derived from the labour-theory of value – conflict between capitalists and workers over wages, and over the length of the working day, and over the intensity of labour, inherent technological change, the falling rate of profit, inherent boom-bust cycles, etc. – with the historical evidence of capitalist economics. I have argued that the results of such an empirical test show that Marx's theory has impressive explanatory power, and, certainly, much more explanatory power with respect to these important phenomena than any other economic theory, by far.¹³

Conclusion

As mentioned in the beginning of this review, this book is written especially for non-specialist readers. It takes an adversarial stance in relation to specialists in Marxian scholarship. It argues that all the TSSI-conclusions have been proven in the literature and have not been refuted by the specialists, but the specialists nonetheless refuse to acknowledge the validity of the TSSI-conclusions. As a result, many non-specialists continue to accept the verdict of the specialists – that 'Marx's theory has been shown to be logically inconsistent'. Therefore, the main goal of this book is to convince non-specialists that this widespread view of the specialists is wrong, and that Marx's theory can be interpreted in a way that is logically consistent. Kliman also challenges specialists to acknowledge that the TSSI has successfully refuted the long-standing criticisms of Marx's theory.

13. Moseley 1995.

As I hope I have made clear in the above, I am sympathetic to the TSSI and agree with its two main points of temporal (or sequential) determination and a single system of values and prices. I also agree with the general thrust of the TSSI to re-examine Marx's texts in order to understand better Marx's logical method, and to be able to more fairly and knowledgeably evaluate the logical consistency of Marx's theory. However, I do not agree with some of the TSSI-conclusions, as indicated above.

My own suggestion to non-specialists would be similar to Kliman's – that they should be aware that the 'conventional wisdom' of the logical inconsistency of Marx's theory is being increasingly challenged and (in my view) is mistaken, because it is based on a misinterpretation of Marx's logical method. For example, the Okishio-theorem is not a refutation of Marx's theory of the falling rate of profit, because it is based on a different linear production-theory. Much more work needs to be done on Marx's theory of the falling rate of profit (multi-sector models with depreciating fixed capital), but Kliman and the TSSI have made valuable contributions. Furthermore, even if Marx's theory does not conclusively prove that technological change always causes the rate of profit to fall, Marx's theory does provide a much more substantial theory of the trend in the rate of profit and the effects of technological change on the rate of profit than any other economic theory, past or present. Indeed, mainstream-microeconomics and macroeconomics provide no theory whatsoever of the trend in the rate of profit and the effects of technological change on the rate of profit. Therefore, if one wants to pursue these important questions, Marx's theory would seem to be the best place to start.

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