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MARX'S ECONOMICS: A COMMENT ON C. C. VON WEIZSÄCKER'S ARTICLE

1. PROFESSOR VON WEIZSÄCKER's article about my book [1] contains comments criticising statements which do not in fact appear in the book. The main example is as follows: In section 4, " Are Marxian values good aggregators? ", Professor von Weizsäcker writes: [2]

> " Morishima claims that Marxian values are more stable weights for purposes of aggregation of industries than prices would be. Considering that prices for a stable rate of profit can be considered as labour requirements or employment multipliers for a system with a rate of growth equal to this rate of profit, I have doubts whether Morishima's proposition is really valid."

But I do in fact distinguish everyday market prices from the equilibrium production prices. I write:

> " Finally, the above Marxian aggregation in terms of values is compared with the Keynesian aggregation in terms of wage-units. Keynes took the ratios of the market prices of the commodities to the wage rate as the aggregators. As was pointed out by Marx, relative market prices fluctuate with time, . . .'. (p. 102).
>
> " Being distinguished from market prices in terms of labour, the values which Marx used as weights of aggregation remain unaltered, so that they are intrinsic to commodities as long as there are no changes in the methods of production adopted in society " (p. 88).

On the other hand, as for the equilibrium production pri ces (*i.e.*, von Weizsäcker's " prices for a stable rate of profit "), I write:

> " It must be noted that the value system is not the only system of weights according to which industries can be aggregated without causing the circularity. The equilibrium production prices, which are the ' transformed ' values, can also play a role in the aggregation problem equivalent to that of values " (p. 103).

[1] Morishima, M., *Marx's Economics: A Dual Theory of Value and Growth* (Cambridge University Press) 1973. von Weizsäcker, C. C., " Morishima on Marx," this JOURNAL, December 1973.

[2] He also alleges that any condition for non-distorting aggregation is not sufficient for obtaining accurate aggregate price equations. But in the book I have carefully discussed the aggregation problem, so that I believe I am right. See my *Marx*, pp. 98–101, especially.

I have also shown that my general theorem implies, in the case of aggregating all capital good industries into one department, that they are aggregatable without distortions if they have the same value-composition of capital; similarly for consumption-good industries.

Finally, in Chapter 14 where I decide myself not to accept the labour theory of value, I return to the aggregation problem and write:

> " Therefore the values may easily change [once alternative production processes are allowed for—M.M.], so that they cannot serve as solid weights for aggregation " (p. 189).
>
> " [However,—M.M.] we ought also to admit that the Marxian economists' ' surrogate ' two-or-several-department model can often be suggestive and provide useful conjectures, such as their ' laws of motion of modern society.' It can supply a first approximation to reality, if the aggregation conditions are carefully examined and found to be approximately fulfilled. Thus the usefulness of the departmental analysis based on the concept of ' actual values ' depends on the carefulness and skill of the economists who use it, though it cannot be provided with a full theoretical justification " (p. 194).

2. The appearance of disagreement between Professor von Weizsäcker and myself can be exaggerated since his article does not discuss at all the final 14th chapter of my book in which I give my own comments and views concerning the mathematical interpretation of Marx's own views which I give in the first 13 chapters. Since I reserved criticism until the final chapter, the earlier 13 chapters may have given an exaggerated impression of admiration for Marx, especially since I was indeed impressed by his analytical powers which I did consider superior to those of many of his contemporaries, but this does not mean that I accept either his assumptions or his labour theory of value. My earlier chapters *interpret* Marx, and I would like to remind Professor von Weizsäcker and your readers that my *verdict* is reserved for Chapter 14, which he does not discuss, where in fact I propose to abandon the labour theory of value.

It would be a pity if the critical section 5 of his article were to lead your readers to believe that he and I were in disagreement about the need for a model more complex than Marx's simple model. I have offered a simple model because Marx's reproduction model is simple. However, I point out that this simple model can be connected with such an orthodox theory as Hicks's trade-cycle theory to obtain a more satisfactory scheme (see pp. 127–8). Moreover, I insist in Chapter 13 that the original Marxian reproduction model should be regarded as a prototype of the von Neumann theory, and by elaborating the latter we may get a richer view of the economy. The working of the von Neumann model was discussed in my *Theory of Economic Growth*, and I regard, as I said in the Preface of my *Marx* book, the complete *Marx* book as an introduction to the former.

3. I would like also to discuss some technical points where there may be real disagreement between us.

(i) In section 3, he insists that the fundamental Marxian theorem does not hold if we take technological change into account. But I would argue

that even in such a case the theorem does hold. In brief, my proof runs as follows: the wage–profit frontier and the exploitation frontier shift rightwards if we have technological improvement. After the shift, also, the exploitation frontier is above the wage–profit frontier. Q.E.D.[1]

(ii) In section 2, having reproduced my proof of the identity of Marx's two definitions of value, von Weizsäcker criticises me in saying that the Marxian values interpreted as employment multipliers are hypothetical because they are static employment multipliers. He then proposes alternative multipliers, that is balanced-growth employment multipliers. My view is that these alternative multipliers are also equally hypothetical because the actual economy does not necessarily grow in balance.[2] We can easily show that the employment multipliers $a_o(I - A)^{-1}$ and the balanced-growth employment multipliers $(1 + g)a_o[I - (1 + g)A]^{-1}$ (both in his matrix notation) are related by

$$(1 + g)a_o[I - (1 + g)A]^{-1} = a_o[I - A]^{-1}f(g)$$

where

$$f(g) = I + g\left(\sum_{t=0}^{\infty}(1 + g)^t A^t\right)$$

Therefore, the balanced-growth multipliers are no more than weighted sums of the static multipliers or compound multipliers. Or, alternatively, we may say that the balanced growth multipliers are obtained by transforming the static multipliers by $f(g)$. As the static and the balanced-growth employment multipliers are identical with Marxian values and production prices, respectively, this transformation problem is dual and identical with Marx's transformation problem of value into price, which I carefully examine in Chapters 6 and 7.

4. Finally, there is probably a real disagreement concerning the problem posed in section 1 of his article. There he compares two simple-commodity-production economies which are alike in all respects except that the inhabitants of one are different from those in the other in the propensities to consume or to save commodities. He proposes this problem with the intention of criticising Marx's conclusion that in any simple-commodity-production economy the long-run equilibrium prices of commodities are proportional to their values.

[1] When technological changes are allowed for, von Weizsäcker's equation, surplus value = net accumulation + value of capitalist private consumption, which he quotes from Marx's *Capital* and uses to refute my fundamental Marxian theorem, does not hold if the values are defined in Marx's way; in fact, its right-hand side must have an additional term of "stock appreciation" due to changes in the values of commodities. Also, see E. Wolfstetter, "Surplus Labour, Synchronised Labour Costs and Marx's Labour Theory of Value," Economic Journal, September 1973, pp. 805–6, especially.

[2] Academic concepts should not be criticised because of their being hypothetical, but should be assessed from the viewpoint of their analytical usefulness.

In the derivation in Chapter 4 of this Marxian conclusion, it is true that I assume that no one saves. But this is just for the sake of obtaining a simple general equilibrium model. Even if savings are allowed for, we have the same long-run conclusion. Marx's simple-commodity-production economy is a hypothetical economy where there is no capitalist, so that after paying for the means of production consumed in the production process, everything goes into the workers' pockets. In the short-run equilibrium, income per man-hour may be different from person to person. In the long run, however, workers can and will move from one occupation to another, so that income per man-hour will finally be equalised throughout the society. Therefore in long-run state of equilibrium, we have

$$p = pA + wL,$$

where A represents the physical-input coefficient matrix, L the labour-input coefficient vector, p the equilibrium price vector, and w the uniform equilibrium income per man-hour.

As the two economies which we compare are provided with the same techniques of production, it is obvious that they have the same long-run equilibrium prices. It is also obvious that these prices of commodities in terms of labour (*i.e.*, p/w) are equal to their values. Furthermore, it is seen that in spite of the same prices prevailing in the markets the commodities are demanded in different proportions in these economies, as the inhabitants there are assumed to be different in the propensities to consume (or to save) commodities; therefore, the two economies will produce commodities in different proportions, in the state of long-run equilibrium. Evidently, in von Weizsäcker's example, five-year-old wine will be produced more in the " patient " economy than in the " impatient."

It is thus apparent that these propositions concerning prices and outputs, which are in complete conformity with the non-substitution theorem, are long-run propositions. On the way of transition from the historically given initial state to the long-run equilibrium state, prices may differ from values, depending on the supply–demand circumstances, and therefore income per man-hour may not be equalised throughout the jobs. Also, it is clear that the propositions do not hold even in the long run if mobility of labour among jobs is limited by some reasons, say sociological or geographical, or if the long-run equilibrium is not stable. Furthermore, the equilibrium prices may be different between the two economies if there are alternative methods of production to produce the same commodities and the two economies choose different methods. Marx did not discuss these problems in a satisfactory way. Instead, he assumed that there prevails a very smooth passage to the long-run equilibrium from any initial point in his frictionless simple-commodity-production society, a purely abstract and purely imaginary construction.

This is my interpretation of Marx's simple commodity production, but it is not entirely my own view. I am afraid that Professor von Weizsäcker may have left your readers with the impression that my own views were those which I gave as my interpretation of Marx, which interpretation he, von Weizsäcker, is well able to criticise. My own views are given, not in Chapter 4, but in Chapters 13 and 14. In these chapters I am concerned with general problems of choice of techniques, determination of production periods of commodities and determination of periods of utilisation of capital goods. Obviously, von Weizsäcker's corn–wine story is an example of these problems. My main conclusions there are (i) that although these predominantly Austrian problems were discussed by Marx himself (Chapter 13), they can be solved in a better way by modifying or extending his model into von Neumann's and (ii) that where alternative methods are available, the labour theory of value is no longer valid as values may not be calculated uniquely. These together imply that my own view is different from what I have developed as the interpretation of Marx's.[1]

I would tackle the Austrian problems by using the von Neumann (or the Marx–von Neumann) model. Of course, I know that the original von Neumann model has a number of economic weak points. But it has been greatly improved by endeavours of various writers. I myself have contributed something in the previous books, *Equilibrium, Stability and Growth* and *Theory of Economic Growth*, and with my Marx book, these, as I have said before, can be considered a trilogy. The problem of traverse from the long-run equilibrium of one economy to that of another, which is completely neglected by Marx in his analysis of the simple-commodity-production economy, may be discussed, concerning the capitalist economy, in a more satisfactory way, by using the generalised von Neumann model than by any other model, provided, of course, that the assumption of balanced growth is removed. However, I believe we should not blame Marx too much in this respect, because the problem still remains unsolved by us, in spite of the flood of papers on economic growth during the past twenty years.[2]

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[1] However, I have recently found that my fundamental Marxian theorem is independent of the labour theory of value. See "Marx in the Light of Modern Economic Theory," *Econometrica*, forthcoming.

[2] Notably, Hicks's recent book, *Capital and Time* (Oxford University Press, 1973) deals with the problem of traverse. For Marx's own discussion of the simple-commodity-production economy, see for example *Capital*, Volume III (Progress Publishers, 1966), pp. 175–8.