

Reprinted from:

THE ECONOMIC LAW OF MOTION OF MODERN SOCIETY
H.-J. Wagener and J. W. Drukker (eds.)
Cambridge University Press, 1986

Are There Macroeconomic Laws? The 'Law' of the Falling Rate of Profit Reconsidered

DONALD J. HARRIS

I

Are there macroeconomic laws? This is the question which motivates the discussion presented in this paper. To clarify the question, let me first define my terms. By macroeconomic laws I mean, specifically, regularities which operate at the level of the economic system as a whole and which, though deriving from actions of individual agents in the economy, are nevertheless such as to dictate outcomes which discipline, coerce and even contradict the intentions of the individual agents. To constitute a law, moreover, such regularities must be permanent built-in features of the economic process. They cannot be merely transitory, ephemeral elements associated with historically contingent factors.

The presumption that there are such laws derives from the recognition that the economy as a whole is not just the sum of its parts. Hence the motion of the economy cannot simply be deduced from the movement of its individual parts. As such, this presumption entails a profound methodological principle. This principle is, in my view, one of the most important and significant common elements which underpins and unites the analysis of Marx, Schumpeter and Keynes. Here, then, is the point of contact of this discussion with the overall theme of this symposium. If we are concerned to appraise the significance of the works of Marx, Schumpeter and Keynes, it would seem necessary to confront this fundamental presumption that ties together their respective ideas on the nature of the capitalist economic process.

Despite the fact that this presumption occupies such illustrious company, it is nevertheless necessary to pose the question asked above. In particular, it is necessary to ask whether the specific formulation and conception of such macroeconomic laws that have been put forward by these authors in fact constitute a law in the sense defined. Can they be sustained as valid economic laws?

To consider this question in depth I shall examine here in some detail the idea that there exists a necessary tendency (call it FTRP) for the rate of profit to fall in the course of the accumulation process taking place in the capitalist economy. Marx was emphatic in proposing this as a *law*. He considered it to be

'the most important law of modern political economy' (Marx 1973b: 748).¹ He was, of course, following in the tradition of the English Classical Economists in which the same idea had been firmly entrenched, though supported on different grounds. But, interestingly enough, it is also the case that there exists a distinct conception of a FTRP within neoclassical theory.² In Keynes, as well, the idea is embodied in his projection of the long-term prospects for capitalism resulting in the 'euthanasia of the rentier' (Keynes 1936: 375-6). In the Schumpeterian system, it occurs in the form of the idea that the profitability of innovations tends inevitably to be eroded so that the economy settles back to the conditions of the 'circular flow' in the absence of new innovations which are not themselves inevitable (Schumpeter 1934). Though it is based in each case on quite different foundations, this conception is one of the most striking and persistent uniformities across different schools of economic thought. Such uniformity deserves further investigation as a significant phenomenon in the history of economic thought, but that task is not undertaken here.³

I am interested in focussing here on the analytical structure of the argument which is mounted to sustain the proposition of FTRP. For this purpose, I shall limit the discussion to a consideration of the logic of the Marxian formulation, contrasting it with that of Classical Political Economy. Marx, of course, sought to counterpose his own conception to the Classical analysis. But, in so doing, he had to grapple with the actual content of the analysis developed by his predecessors. It is possible, therefore, to identify the specific features of the Marxian treatment of this problem in contrast with the structure of the Classical analysis. Accordingly, that analysis is the starting point of this discussion.

II

The essential point of the Classical argument that is relevant for present purposes is that accumulation of capital, consisting of the growth of the wage fund with a corresponding increase of employment, drives down the average product on the land so that, consequently, rents increase at the expense of profits and the rate of profit falls. The economic system ultimately reaches a stationary state where the rate of profit falls to zero and the whole product is absorbed by rent plus wages. The system may indifferently be assumed to expand on the extensive or intensive margin of available land. Also, it does not matter for this discussion that there exists any production outside agriculture. It would turn out, in any case, that the overall average rate of profit for the economy as a whole is determined by the agricultural rate of profit or, in the general case, by the conditions of production and profit of 'basic commodities' (Sraffa 1960; Pasinetti 1974 and 1977).

In simple terms, the argument may be expressed symbolically as follows. At any level of employment the rate of profit is

$$(1.1) \quad r = \frac{(\phi - w)L}{W} = \frac{\phi}{w} - 1; \quad \phi' < 0$$

where ϕ is the marginal product of labor-cum-capital, $W = wL$ is the wage fund, L is employment, and w is the wage. For a given level of the wage, the rate of profit falls as employment increases, for the reason that the conditions of agricultural production dictate diminishing returns on the margin of cultivation. Let the capitalists invest a certain proportion α of their total profits. Then the rate of accumulation g is

$$(1.2) \quad g = \alpha r$$

which, at a given wage, also corresponds to the growth rate of demand for labor. The supply of labor (its rate of growth l_s) is a function of the wage such that

$$(1.3) \quad l_s = l_s(w); l_s(w^*) = 0, l_s' > 0, w^* > 0$$

This relation incorporates the population theory of Malthus. It presupposes a population dynamic governing the labor supply that is uniquely dependent on the level of the wage, where w^* is the 'natural price of labor' or the subsistence wage necessary to sustain a constant population.

Accordingly, there are two sides to the Classical analysis. They come together as integrated features of the Classical theory of accumulation in the manner indicated in Figure 1. On the one side is the productivity of land and its utilization as determined by accumulation in the past. Together with the wage this determines the rate of profit and rate of accumulation from equations (1.1) and (1.2). The higher the wage the lower is the rate of profit and the lower the rate of accumulation. Correspondingly, the demand for labor is a decreasing function of the level of the wage. This relationship is shown as the curve l_d in Figure 1. On the other side is the population dynamic governing the availability of labor. This is shown as the curve l_s . Given these conditions of demand and supply of labor as specified, excess demand for labor drives up the wage which induces expansion of population while reducing profits and thereby cutting down the demand for labor. The wage rises to the point where demand and supply of labor are in balance. A similar process operates in reverse if there exists initially excess supply of labor. In either case, the adjustment takes place through movements in the market wage brought about by excess demand or supply in the labor market. The point of balance occurs at the rate w_0 which exceeds the subsistence level and, at that point, accumulation takes place at the rate g_0 . As accumulation continues, however, there is declining productivity in agriculture. This entails that, in the diagram, the l_d curve shifts to the left. There is a corresponding decrease in the overall rate of profit and in the rate of accumulation. The wage rate falls in step. This process continues until, ultimately, the system converges to the stationary state in which (net) accumulation ceases and the wage rate becomes equal to the

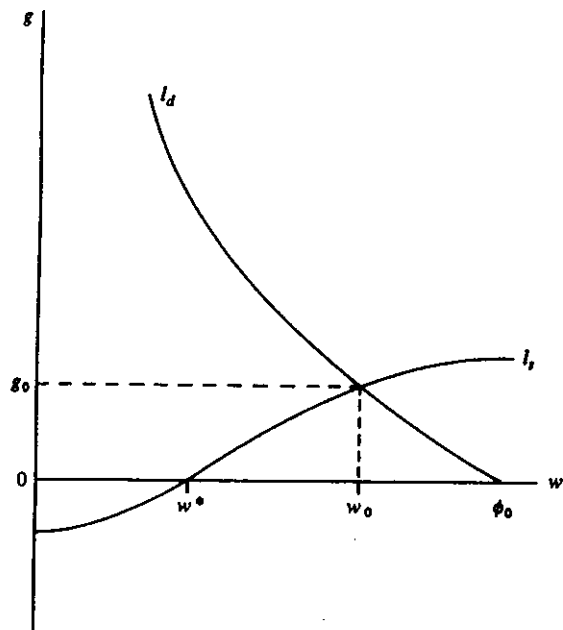


Figure 1

subsistence level. The process as a whole generates not only a falling tendency of the rate of profit but also a falling tendency of the wage. Moreover, it is evident that the wage is not necessarily equal to the subsistence level at all points in the process. In this example, it starts out at a level above subsistence and remains above it as long as accumulation is going on. It is only in the stationary state that the wage is reduced to subsistence. When accumulation is going on, the 'market wage' differs from the subsistence wage; a wedge is driven between them by the rate of accumulation.

We have here the overall dynamic of the accumulation process as conceived within the Classical analysis.⁴ In this conception, accumulation of capital runs up against two impenetrable barriers: on the one side the diminishing fertility of the soil, on the other the given condition of availability of labor which is tied to demographic behavioral propensities of the population. These two factors act as a scissors to cut off the possibility of continued expansion and bring the accumulation process to a halt. Thus accumulation is brought to a halt by conditions which are external or 'natural' in the strict sense that they are predetermined or exogenous to the accumulation process itself. At the same time, this consequence is also the product of the capitalists' own actions in relentlessly seeking to expand the size of their capital.

These features of the Classical analysis were explicitly perceived by Marx and subjected to a fundamental critique. In general Marx argued that, while in

fact Classical Political Economy is firmly and correctly able to identify that the well-spring of capitalist expansion is profit, it is at the same time incapable of grasping the contradictions *internal* to the accumulation process which cause the pool of profits to dry up. Instead, it sees the barrier or limit to expansion as arising wholly from external causes (Marx 1967: III, 259).

As to one side of the Classical argument, that pertaining to diminishing returns in agriculture, Marx argued that what this fails to grasp is that capitalism, in the course of its expansion, does not take as given the existing production conditions. Rather, capitalists, as a necessary condition of their existence as capitalists, strive to revolutionize the conditions of production and consequently to raise productivity, in agriculture as well as in industry. As capital expands into agriculture, therefore, agricultural productivity would increase due to technical change and any presumed tendency for diminishing returns to exist would be washed out (Marx 1967: I, 504–7; III, 617–19). The basis of that ongoing process of change in productivity throughout the economy, Marx presumed, is an increasing ‘organic composition of capital’ (ibid.: I, 621–3). So, Marx at once undercuts this side of the Classical argument and puts in its place an alternative basis for conceiving the process of expansion of the economy. At the same time, it is on this new and altered basis that he seeks to construct his own conception of a necessary tendency of the rate of profit to fall (ibid.: III, chapter 13).

A crucial role is played in the Classical analysis by the assumed population dynamic. In particular, the growth of population in response to wages in excess of subsistence is supposed to provide the labor requirements for expansion and thereby hold wages in check. But this is evidently a highly implausible principle on which to base an account of the process of capitalist expansion. If capitalism had to depend for its labor supply entirely upon such a demographic–biological principle, it seems doubtful that sustained high rates of accumulation could continue for long or even that accumulation could ever get started. This is because, first, there must exist a biological upper limit to population expansion. Accumulation at rates above this limit would drive up the wage to such a level as to reduce or perhaps choke off the possibility of continued accumulation. For the Classical labor supply principle to work it must be presumed arbitrarily that this limit is sufficiently far out or, equivalently, that the supply curve is sufficiently elastic over a wide range.

Even if it is granted that population growth is significantly responsive to the level of wages, it is still the case that the adjustment of population is inherently a long-drawn-out process having only a negligible effect on the actual labor supply in any short period of time. In the interim, any sizeable spurt of accumulation must then cause wages to be bid up, eat into profits, and bring accumulation itself to a halt. From the start, therefore, accumulation could never get going in such a system. Even if it did, its continuation would always be in jeopardy because the mechanism of adjustment of labor supply is an inherently unreliable one, fraught with the possibility that at any time wages

may rise to eat up the profits that are the well-spring of accumulation.

This feature of Classical analysis was also soundly criticized and completely rejected by Marx (Marx 1967: I, 637–9). In its place, he sought to introduce a principle that was internal to the accumulation process, that would account for the continuing generation of a supply of labor to meet the needs of accumulation from within the accumulation process itself. This was the principle of the reserve army of labor or the ‘Law of relative surplus population’ (ibid.: I, chapter 25, sections 3 and 4). It is also based on the presumed tendency of the organic composition of capital to rise. The rise in the organic composition of capital results in a ‘recycling’ of labor through its displacement from existing occupations, due to mechanization of production, into the reserve army where it is held for reemployment elsewhere as the economy expands. In this process, therefore, any presumed external barrier to expansion arising from the size and growth rate of population would be eliminated.

Here, again, Marx undercuts the Classical analysis by reconstituting the accumulation process on a wholly new basis, on the basis of a presumed tendency for the organic composition of capital to rise as the characteristic feature of the process of technical change. Moreover, this step in the argument undercuts both sides of the Classical analysis at one and the same time. For, the very same process of rising organic composition of capital both raises productivity so as to wash out the operation of the law of diminishing returns in agriculture and generates the reserve army of labor so as to eliminate the necessity of the Malthusian Law of Population.

Nevertheless, Marx went on to argue that the process of technical change is itself a contradictory one. Its contradictory feature is that the rise in organic composition of capital would tend to drive down the rate of profit. Thus, in eliminating the basis of the Classical argument, Marx at the same time arrives at a new condition. This is now a condition which is supposed to emerge within the accumulation process itself and is not, therefore, an external condition. It is a condition which is immanent in the capitalist process and derives from the logic of that process. It constitutes an *internal* barrier to capitalist expansion. In this sense, he now claims that ‘the *real barrier* of capitalist production is *capital itself*’ (Marx 1967: III, 250).

It is thus possible to see here, in the explicit terms of Marx’s opposition to and rejection of the Classical analysis, the distinctive features and rationale of the Marxian derivation of the proposed law of FTRP. Both the Classical analysis and the Marxian analysis arrive at the same result, that of FTRP as an inherent feature of the accumulation process. But in each case the specific principles governing the results are fundamentally different. It is now commonly agreed that the twin pillars of the Classical analysis, associated with diminishing returns in agriculture and the Malthusian population theory, are an inadequate and untenable basis on which to constitute a ‘law’ of the accumulation process or a *macroeconomic law* in the sense defined above.⁵ The

question to be considered here is: what can be said for the specific case of the Marxian analysis as regards its conception of the law of FTRP? I proceed to examine this question further in the next sections.

III

The argument, in this case, can be considered from the standpoint of the usual definition of the rate of profit which holds on the assumption that wages are advanced, capital goods are purely circulating capital, and the organic composition of capital is uniform across all industries. Thus, the *value* rate of profit (equal, under these conditions, to the *price* of profit) is the ratio of surplus value S (equal to the difference between total labor employed L and the paid labour V) to the total capital (constant capital C and variable capital V). We then have

$$(2.1) \quad r = \frac{1-v}{q+v}, \quad \text{where } S = L - V, v = V/L, q = C/L$$

Here, v is the value of labor power and q is the organic composition of capital. In this context, the content of the Marxian proposition is the following:

if $v = v^*$, and if q rises indefinitely, then r falls.

But that statement as it stands is tautologically true. It follows from the definition of the rate of profit. For this to constitute a *law* of the accumulation process, a further argument is necessary. In particular, it is necessary to show, first, that there are forces operating within the accumulation process to hold the value of labor power within definite limits. Secondly, it is necessary to give an account of the economic forces which dictate that the organic composition of capital q must inevitably rise as a consequence of the process of technical change which accompanies the accumulation of capital. Moreover, it is necessary to show that these determining forces are permanent, built-in features of the accumulation process which continue to operate despite the existence of counteracting forces, where the counteracting forces themselves are to be regarded as transitory elements entering into the process. Only when these conditions are satisfied could one regard the statement of the law as being fully substantiated.

It is here that one confronts a certain lack of theoretical determinacy or completeness in the existing Marxian analysis of the conditions which are supposed to give rise to the law of FTRP. Put in the simplest algebraic terms, this point may be expressed as follows. For this purpose, note that the value of labor power is to be understood as consisting of the real wage w , representing the magnitude of workers' necessary consumption and λ the magnitude of direct and indirect labor embodied in a unit of consumption. Thus, define

$$(2.2) \quad v = w\lambda$$

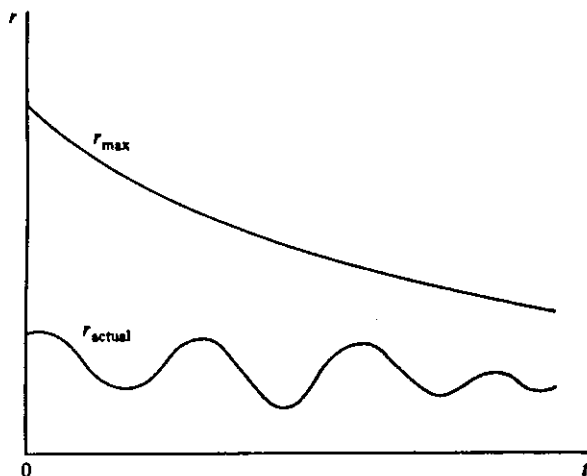


Figure 2

Then, it follows that

$$(2.3) \quad r = \frac{1 - w\lambda}{q + w\lambda}$$

We therefore have here one equation in the four unknowns: r, w, λ, q . Evidently, for a complete determination of this set of variables, additional information is necessary. In general, what is lacking is an explicitly articulated conception of the accumulation process as a whole that would explain the movement of all these variables.

One approach offered in recent discussions for substantiating the proposition of a FTRP is to express it in terms of the maximum rate of profit (Okishio 1972; Himmelweit 1974; Shaikh 1978). Note, in this connection, that the rate of profit is at maximum when $v = 0$, so that at any level of q

$$r_{\max} = \frac{1}{q}$$

Now, if q rises this evidently entails a decrease in the maximum rate of profit. Since the maximum rate establishes an upper boundary on the actual rate of profit, it is inferred that the actual rate must eventually fall. But it should be evident that the variation in r_{\max} tells us nothing about the movement in the actual rate of profit. The actual rate would lie within the boundary established by r_{\max} but could be rising, falling or constant (see Figure 2). There is no way of saying in which direction it moves without a further analysis. The maximum rate itself could fall indefinitely, for instance asymptotically approaching some positive level, and never hit upon the actual rate. Besides, if the maximum rate were to coincide with the actual rate, this would entail either that the wage had

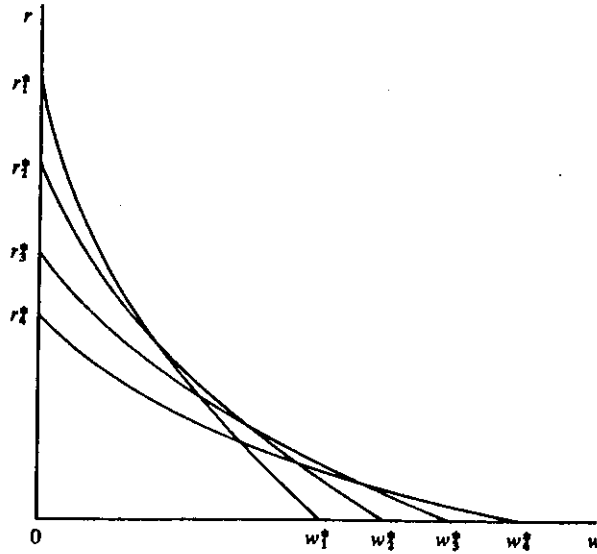


Figure 3

fallen to zero or that $\lambda = 0$. Both of these eventualities are highly implausible outcomes that would have to be ruled out as economically irrelevant. This approach therefore takes us no further than before and amounts simply to a restatement of the condition that the organic composition of capital rises.

It is possible to go further towards an analytical treatment of the argument by giving an explicit specification of the relationships relevant to determination of the rate of profit. For this purpose, a simple model may be constructed which is consistent with the underlying presumptions of the argument.⁶ It consists of the following components in addition to equations (2.1) and (2.2).

First is a specification of the production conditions and of technical change. The production conditions are expressed in the magnitudes of the organic composition of capital q and of the labor coefficient λ (or its inverse, the productivity of labor). From equation (2.3), a given technique of production generates a wage-profit curve with intercepts at $w^* = 1/\lambda$ and $r^* = 1/q$, as illustrated in Figure 3. An essential ingredient of Marxian analysis is the presumption that technical change takes the form of an increase in the organic composition of capital which in turn gives rise to an increase in labor productivity. In the diagram this is represented by a sequential lowering and outward shift of the horizontal intercept. This presumption may be written in functional terms as:

$$(2.4) \quad q = f(t); \quad f' > 0$$

where t is an index of time, and

$$(2.5) \quad \lambda = \lambda(q); \quad \lambda' < 0$$

Next, assume that the capitalists plow back a given proportion of profits to expand the total capital which in this case is $K = C + V$. Accordingly, the rate of accumulation is given by

$$(2.6) \quad g = ar$$

Total employment of labor must satisfy $L = C/q = V/v$. This implies

$$(2.7) \quad L = \frac{K}{q + v}$$

and by differentiation of this relation we get

$$(2.8) \quad l_d = g - \frac{\dot{q} + \dot{v}}{q + v}$$

This equation indicates that *net* growth of the demand for labor l_d consists of two components: (1) the 'gross demand' associated with growth of the total capital at the rate g , and (2) the 'displacement demand' associated with increase in the organic composition of capital and in the value of labor power. Here the displacement demand may be considered to represent, in part, the role of the increasing organic composition of capital in recycling the existing labor force through additions to the reserve army of unemployed labor. It is evident that, even if $\dot{v}/v = 0$, there exists some \dot{q}/q which would make $l_d = 0$. If $l_d = 0$, the reserve army is barely replenished. Otherwise, it is either increasing ($l_d < 0$) or decreasing ($l_d > 0$). In this respect, the accumulation process could be conceived as Marx does, to regenerate its own labor supply as long as the organic composition of capital increases indefinitely at the appropriate rate. Therefore, there need be no recourse to any additional supply of labor from outside the system.

Finally, to close this model, some specification must be made of the conditions determining movements of the wage. Here, the 'relative power of the combatants' in the struggle between labor and capital is considered by Marx to play a decisive role (Marx and Engels 1968: 226; Marx 1967: I, chapter 25). That, in turn, may be significantly dependent on the state of the labor market as represented by the size of the reserve army. Consistent with this line of reasoning, we may write

$$(2.9) \quad \frac{\dot{w}}{w} = \Phi(u); \quad \Phi' < 0$$

where u is the size of the reserve army as measured by the rate of unemployment. If the size of the available labor force is known, then u is also known.

With these relationships in place, we are now in a position to examine more

closely the logic of the presumptions underlying the case for a FTRP. Assume, as in the initial proposition stated above, that $v = v^*$. This implies that $\dot{v}/v = 0$ and hence $\dot{w}/w = -\lambda/\lambda$. From (2.9) this entails a specific condition in the labor market. In particular, the rate of unemployment u must remain at a definite level, that level which ensures that the wage rises at the rate required to keep the value of labor power constant. But if $v = v^*$ and q rises, then from (2.1) the rate of profit is falling. Correspondingly, from (2.6) and (2.8), the gross demand for labor must be decreasing and, for a given displacement demand, the net demand for labor must eventually become negative. Hence the rate of unemployment must eventually increase. This development must, in turn, if (2.9) is to continue to hold, exert downward pressure on the wage so as to reduce wage increases below the rate of productivity growth. Therefore, the condition that $v = v^*$ cannot continue to be sustained. Actually, with a continuing rise in the rate of unemployment v must fall. This would serve to counteract the fall in the rate of profit. Note that this result is consistent with a continuing rise in the wage. It requires only that wage increases are less than proportional to productivity growth.

This result indicates that there are systematic forces internal to the accumulation process itself which may serve to counteract or check any tendency for the rate of profit to fall. The counteracting force arises in this case from the built-up unemployment due to operation of the twin factors of declining growth of capital as the rate of profit falls and continuing displacement of labor generated by the increasing organic composition of capital. If there exists a mechanism of wage determination which is sensitive to the state of the labor market, as is commonly presumed in Marxian analysis, then such growing unemployment must be considered to slow down wage increases relative to productivity growth and thereby counteract the fall in the rate of profit.

Generally speaking, what this result suggests is that the rise in the organic composition of capital, presumed to be inevitable, actually constitutes a two-edged sword. On the one side, it increases the mass of capital over which a given rate of surplus value is divided and consequently reduces the rate of profit for all capitalists. On the other side it weakens the bargaining position of workers in relation to capital and thereby pushes up the rate of surplus value from which all capitalists gain a higher rate of profit. Which of these two contradictory effects predominates remains in general indeterminate, and must be considered to depend on particular conjunctures in the accumulation process, such as would correspond, for instance, to different phases of a cycle or 'wave' of accumulation.

IV

From the preceding analysis we are left with the recognition that, at least for this construction of its underlying logic, the FTRP is actually a

conjunctural or contingent condition dependent on special circumstances that may exist in some phases of the accumulation process but not in others. In this respect, it cannot be regarded as a general law.

But beyond this finding, the case for FTRP as a law of the accumulation process also runs up against another difficulty.⁷ This is that no account is given to support the presumption that the organic composition of capital necessarily rises. The rising tendency of the organic composition is simply posited as a *given condition* of the accumulation process. Precisely this limitation is expressed in equation (2.4) in the model presented in the previous section. If this tendency itself is not to be regarded as an external or natural condition, on the same footing for instance as the Classical law of diminishing returns, then it would require to be given some systematic motivation in terms of the internal logic of the accumulation process. What could conceivably be its underlying rationale?

Some authors have sought to find this rationale in the response of capitalist firms to the pressure of rising wages generated by a shortage of labor (Sweezy 1956: 88–9; Dobb 1940: 102, 127). On this view, the rising organic composition of capital is a form of ‘induced bias’ in technical change. Others have suggested that this tendency derives from the need of all capitals to control labor in production, which control may be exercised through mechanization of the labor process (Wright 1977). There are other variations on these themes, all of which may be considered to have serious limitations as an account of long-term tendencies in the organic composition.

As a matter of the historical record, however, there is some agreement that a rise in the organic composition of capital (as measured by different empirical indices) may be considered to be a ‘stylized fact’ of capitalist development in the nineteenth and early twentieth centuries (Blaug 1960; Sweezy 1981: 46–54). Whether any of the above-mentioned approaches could provide a valid explanation of this stylized fact seems doubtful or, at least, remains to be shown. But one significant aspect of this historical record, which has so far been overlooked, deserves to be considered. This aspect is, in fact, suggested by Marx (1968: II, 18–19) when he writes, with reference to Ricardo’s argument:

In the manner of the economists, he turns a historical phenomenon into an eternal law. This historical phenomenon is a relatively faster development for manufacture ... as against agriculture. The latter has become more productive but not in the same ratio as industry. Whereas in manufacture productivity has increased tenfold, in agriculture it has, perhaps, doubled. Agriculture has therefore become *relatively* less productive, although absolutely more productive. This only proves the very queer development of bourgeois production and its inherent contradictions. It does not, however, invalidate the proposition that agriculture becomes relatively less productive and hence, compared with the value of the industrial product, the value of the agricultural product rises and with it also rent. That in the course of development of capitalist production, agricultural labour has become relatively less productive than industrial labour only means that the productivity of agriculture has not developed with the same speed and to the same degree.

I wish to propose that there is a potentially powerful inference contained in these comments. Marx is here pointing to a tendency for different sectors of the economy to develop unevenly. He emphasizes, in this passage, the relation between agriculture and manufacturing. Elsewhere, he emphasizes the relation between sectors producing capital goods and consumer goods. In general, we might say that there is in fact a generalized tendency to *uneven development* that is characteristic of the process of capitalist development. Now it may well be that the supposed rise in the organic composition of capital could be explained as the product of a specific dynamic of uneven development taking place within the context of the nineteenth and early twentieth centuries. It would be attributable, in that case, to specific features of the accumulation process in that historical period associated with a relatively more rapid rate of productivity growth in manufactured consumer goods compared to capital goods and raw materials (agricultural and mineral products). Derived changes in relative values and prices of these products, along with a tendency to increased mechanization of production and increased 'through-put', would then show up as a rise in the organic composition of capital appropriately measured.⁸

This is put forward here as a plausible hypothesis that is worth further exploring. Ironically, if shown to be a valid hypothesis, it would then turn out that there is a common 'historical phenomenon' underlying both the Ricardian and Marxian conceptions of FTRP. This historical phenomenon is the tendency to uneven development. But it would then become clear also that the FTRP associated with those specific historical conditions is not an 'eternal law'. This is because those particular historical conditions operating in the nineteenth century had within them the seeds of their own transformation. That transformation would come from the continuing process of accumulation and technical development by which, subsequently, production of certain critical raw materials is revolutionized and the capital goods industry itself becomes fully elaborated and articulated as a self-propelling factor in the process of development.⁹

V

A key feature of the Marxian analysis is the conception of the capitalist economy as a mode of production which is inherently self-limited. Contrary to some vulgar interpretations, this does not imply spontaneous breakdown. Nor does it deny individual will. This self-limited character is supposed to derive from the existence of systematic barriers or internal limits to its movement. Marx set himself the scientific task of discovering those barriers in capital itself. That is, so to say, his 'theoretical project'. It must be taken to mean specifically that the laws of motion of this system cannot be discovered merely from contemplating the behavior of atomistic agents, but

rather from analysis of the system-level influences affecting the activities of the individual agents.

The falling tendency of the rate of profit was conceived as one such systematic influence or, in the sense defined in this paper, as a *macroeconomic law*. The essential feature of this law as it is usually proposed is that it expresses the logic of capital in general, which is to say some inner necessity of the system of individual capitals in its totality as a system. In particular, it is argued that each capital acts individually to do the best it can to increase its profits by introducing innovations (or to expand 'relative surplus value'); but when all capitals do, it turns out that there is a reduction in the rate of profit for all of them. However, after all is said and done, the best that can now be said for this supposed 'law' is that it is broadly descriptive of a particular phase in the development of capitalism. Hence it could possibly lay claim to validity only as a contingent historical condition.

In conclusion, I wish to suggest that there is a way forward for continuing the theoretical project. This is to recognize, as suggested in the last section, that there exists a phenomenon of uneven development as a characteristic feature of the development process. What is involved here is a general principle, one might say *the principle of uneven and combined development*. Specifically, it could be argued that the basic impulses which drive the movement and development of the economy emanate from a built-in tendency to uneven development operating at the level of individual sectors of the economy and, at the most microeconomic level, at the level of the individual capitals. This tendency operates always within certain macroeconomic balancing conditions with which it is dialectically interlinked. It is the specific combination and interplay of these macroeconomic conditions with the uneven development of the individual capitals which determines the concrete form of motion of the economy. To put this another way, it is the contradiction between accumulation of individual capitals and the reproduction process of the aggregate capitals which determines the movement of the economy. The exact conditions of operation of this process, as to its mechanisms, interdependencies, determining conditions, and concrete forms, require to be systematically worked out. In this project, it seems clear that the insights of Marx, Keynes and Schumpeter have an important role to play. It is also a many-sided task requiring the efforts of many scholars. Some results of this effort by the present author will be the subject of another work (Harris s.a., s.l.).

Notes

- 1 The argument for the law itself is given in detail in Marx (1967: vol. III, part III).
- 2 This conception and its limitations are discussed at length in Harris (1978: chapter 9; and 1981).
- 3 For a discussion of the long history of the idea of a falling rate of profit see Tucker (1960).
- 4 In terms of its formal structure, this presentation of the Classical analysis is in

agreement with that of Casarosa (1978). Other renderings are also given by Blaug (1978: chapters 3 and 4), Johansen (1967), Pasinetti (1974) and Samuelson (1978).

5 For an appraisal, see for instance Blaug (1978: chapters 3 and 4).

6 A similar model is presented and analyzed in greater detail in Harris (1983).

7 It also runs up against another theoretical difficulty arising from the underlying logic of competitive behavior among individual capitals. This is discussed in Harris (1983).

8 For some suggestive evidence in this connection, see Lewis (1978), Chandler (1977) and Rostow (1978).

9 The crucial role of the capital goods industry in this respect is emphasized in Rosenberg (1976) and was a factor in Marx's own analysis (Marx 1967: III, chapters 4 and 5).

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