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Interest and Profit in Smith, Ricardo and Marx*

Massimo Pivetti

1. In the theory of distribution of Smith, Ricardo and Marx normal profits are regarded as *resolving* themselves into two parts, the money rate of interest and the normal profit of enterprise. This means that for those authors interest and profit of enterprise cannot be explained independently from each other. Given the normal rate of profit, determined in their theory by the real wage rate and production techniques, either the rate of interest or entrepreneurial profit must result as a residual magnitude. There are however important differences, between Smith and Ricardo on the one hand and Marx on the other, in the analysis of the relationships between the rate of profit, the rate of interest and profit of enterprise. By bringing these differences to light, we aim to add further support to a concept of money interest and profit of enterprise as the *determinants* of normal profits – a concept we have put forward in a previous article in this journal.[1] In the final section of this paper the main elements of our determination of distribution will be recalled, and we shall sum up the differences between our view and the classical one.

2. Ricardo follows Smith in believing that the rate of interest is "ultimately and permanently governed by the rate of profit";[2] they view lasting changes in the former as the effect of lasting changes in the latter. "It is evident – says Ricardo – that much will be given for the use of money

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[1] See M. PIVETTI, "On the Monetary Explanation of Distribution", in this Journal, Vol. 1, n. 2, 1985, pp. 73-103.

[2] D. RICARDO, *Principles of Political Economy and Taxation*, 3rd edition 1821, in *The Works and Correspondence of David Ricardo*, edited by P. Sraffa, Vol. 1, Cambridge, Cambridge University Press, 1951, p. 297.

when much can be made by it",[3] and what can be made by the productive use of "money" depends, given production techniques, on the real wage rate – on the quantity of the produce of the country that is consumed by the labourers: "it is this, and this alone, which regulates profits".[4]

At the same time, however, Smith and Ricardo argue that profits must at least be sufficient to provide an "adequate compensation" for the "risk and trouble" of employing capital productively. According to both authors, then, of the two magnitudes into which profits resolve themselves, interest is the residual one: what remains of profits after deducting a normal remuneration for the "risk and trouble". Let us examine their concept of this remuneration.

3. "The revenue derived from stock, by the person who manages or employs it – says Smith – is called profit. ... Part of that profit *naturally* belongs to the borrower, who runs the risk and takes the trouble of employing it; and part [which is called the interest] to the lender, who affords him the opportunity of making this profit".[5] Ricardo specifies that accumulation would cease altogether if the profits of the farmer and the manufacturer were "so low as not to afford them an adequate compensation for their trouble, and the risk which they must necessarily encounter in employing their capital productively".[6] This particular statement of Ricardo's has been referred to as an early statement of what has since come to be known as the "liquidity preference theory":

> the factors "risk and trouble" set a minimum price ... to the productive employment of wealth as against other forms of holding wealth which do *not* involve "risk and trouble". These are essentially similar therefore to the illiquidity risk on which Keynes concentrated attention, and which causes the yield of long-term bonds to stand higher than the *normal* (or expected) level of the short-term rate of interest. ... the fact [is] that gilt-edged securities themselves possess considerable advantages from the point of view of liquidity, both in relation to less marketable securities and even more in relation to investment in real assets such as factories or houses. The additional yield of, say, house property in relation to gilt-edged is a reflection, not mainly of the uncertainty concerning the future level of rents, but of the easy marketability of gilt-edged in relation to house property, which makes it possible for the investor to consider gilt-edged holdings as a form of reserve that can be readily "switched" into other forms as and when profitable investment opportunities present themselves; this easy marketability is certainly absent in investment in real property (or plant and equipment).[7]

[3] *Ibid.*, p. 296. For this reason he also agrees with Smith that the progress of the normal rate of profit over a sufficiently long period of time might be *inferred* from the progress of interest.

[4] *Ibid.*, p. 125.

[5] A. SMITH, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), edited by E. Cannan, London, Methuen, 1961, p. 59 (italics added).

[6] D. RICARDO, *op. cit.*, p. 122.

[7] N. KALDOR, "Economic Growth and the Problem of Inflation", *Economica*, November 1959, pp. 287-8.

Naturally, different investments in real assets may present very different illiquidity risks, owing to various factors: the higher the degree of specialization of a certain plant or factory, for example, the less 'marketable' the corresponding investment and the higher the remuneration under discussion – given all the other elements of "risk and trouble" covered by it.

It seems to us that by focusing on the illiquidity risk one will more readily acknowledge, first of all, that profit on capital employed in production must normally exceed its 'pure' remuneration (interest) – that competition and profit of enterprise, that is to say, are fully compatible phenomena. Secondly, it will be ackowledged that the main "risk and trouble" elements covered by the remuneration under discussion are not of a temporary-accidental nature – i. e. the normal profit of enterprise tends to be a fairly stable magnitude, account having also been taken of the fact that a profit of enterprise regarded as normal on the basis of objective elements present for a sufficiently long period, will continue for some time to be so regarded in spite of changes in those elements, until the changes themselves have lasted long enough to have resulted in a diffused awareness of their presence.

A third point that is brought to light when one tries to single out the main elements covered by the normal profit of enterprise, is that this part of total profit will be different in the different spheres of production. It follows that the normal rate of profit will also have to be different in the various employments of capital. This is clearly recognized by Ricardo who points to given and stable proportions between the normal rates of profit in the various trades, as a result of "any real or fancied advantage which they possess or forego":

> A capitalist, in seeking profitable employment for his founds, will naturally take into consideration all the advantages which one occupation possess over another. He may therefore be willing to forego a part of his money profit, in consideration of the security, cleanliness, ease, or any other real or fancied advantage which one employment may possess over another.
> If from a consideration of these circumstances the profits of stock should be so adjusted that in one trade they were 20, in another 25, and in another 30 per cent., they would probably continue with that relative difference, and with that difference only; for if any cause should elevate the profits of one of these trades 10 per cent. either these profits would be temporary, and would soon again fall back to their usual station, or the profits of the others would be elevated in the same proportion.[8]

The implication for the notion of "natural price" follows immediately in Ricardo's text:

> Let us suppose that all commodities are at their natural price, and consequently that the profits of capital in all employments ... differ only so much as, in the esti-

[8] D. RICARDO, *op. cit.*, p. 90.

mation of the parties, is equivalent to any real or fancied advantage which they possess or forego.[9]

4. According to this conception, then, "natural prices" will have to be such as to ensure that, in each sphere of production, what remains of the value of the product after deducting wages and the replacement of the means of production, is sufficient to remunerate "adequately" the "risk and trouble" and to pay interest at an uniform rate. In a system of price-equations *à la* Sraffa (with circulating capital only and wages paid *post factum*)[10], we would have as unknowns, together with "natural prices", the rate of profit of *each* sphere of production (r_a, r_b, ..., r_k) and the money rate of interest (i) – $2k + 1$ unknowns, determined by the following $2k + 1$ equations:

$$(A_a p_a + B_a p_b + \ldots + K_a p_k)\ (1 + r_a) + L_a w = A p_a$$
$$(A_b p_a + B_b p_b + \ldots + K_b p_k)\ (1 + r_b) + L_b w = B p_b$$
$$\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$
$$(A_k p_a + B_k p_b + \ldots + K_k p_k)\ (1 + r_k) + L_k w = K p_k$$
$$(A_w p_a + B_w p_b + \ldots + K_w p_k) = w$$
$$r_a = i + \rho_a i$$
$$r_b = i + \rho_b i$$
$$\ldots\ldots$$
$$r_k = i + \rho_k i$$

where one of the k commodities is the produced money-commodity of the system, the medium in which prices and the wage w are expressed.

The real wage *and* the normal profit of enterprise in each sphere of production are taken as given in these equations. The real wage rate, determined by historical and social conditions independently of prices and of the rates of profit, consists of a specified bundle of commodities (A_w, B_w, ..., K_w) – a given quantity of a composite wage-commodity 'w'.[11] The normal profits of enterprise, determined by "any real or fancied advantage which one employment [may] possess over another", are expressed in terms of given ratios ρ_a, ρ_b, ... ρ_k betwen the profit of enterprise of each employment and the (unknown) rate of interest (for ex. the normal profit of enterprise in the industry which produces A, $npe_a = 1/2i$; $npe_b = 3/2i$;

[9] *Ibid.*

[10] Cf. SRAFFA's equations in Part I of *Production of Commodities by Means of Commodities*, Cambridge, Cambridge University Press, 1960.

[11] Naturally, the wage commodity 'w' will be composed only of those amongst the k commodities 'a', 'b', ..., 'k' that are wage goods, taken in the proportions in which they enter into the real wage.

...; $npe_k = 2i$). Indeed, Ricardo's idea that the "real or fancied" advantages possessed or forgone by the various capital employments result in given and stable proportions between the normal rates of profit, entails the idea of given and stable ratios between the two parts of normal profit.

The normal remunerations for the "risk and trouble" could also be directly conceived as magnitudes proportional to capital employed in production (and as such be taken as given in the above equations). This appears to be the conception of Adam Smith: given the recompense for the risk and trouble in percentage of capital, a rise of the "ordinary rate of profit" results, in his view, in a rise in the rate of interest, which will consequently account for a *larger* proportion of the ordinary rate of profit.[12] Differently then from in Ricardo's conception, the normal rates of profit of the various trades would not be elevated in the same proportion by a persistent lowering of the real wage rate. The chief point however is that both authors' views of the excess of profit over interest entail that the rate of profit and the rate of interest will move in sympathy with each other, over the long-run. A strictly parallel long-run course of the two rates is obtained if one follows Smith in expressing the normal excess of profit over interest in terms of given ratios between profit of enterprise and capital employed in production (*Fig.* 1a); such a parallel course is not obtained by adopting instead Ricardo's view in terms of given ratios between profit of enterprise and interest – though also in this case the rate of profit and the rate of interest will always move in the same direction (*Fig.* 1b).

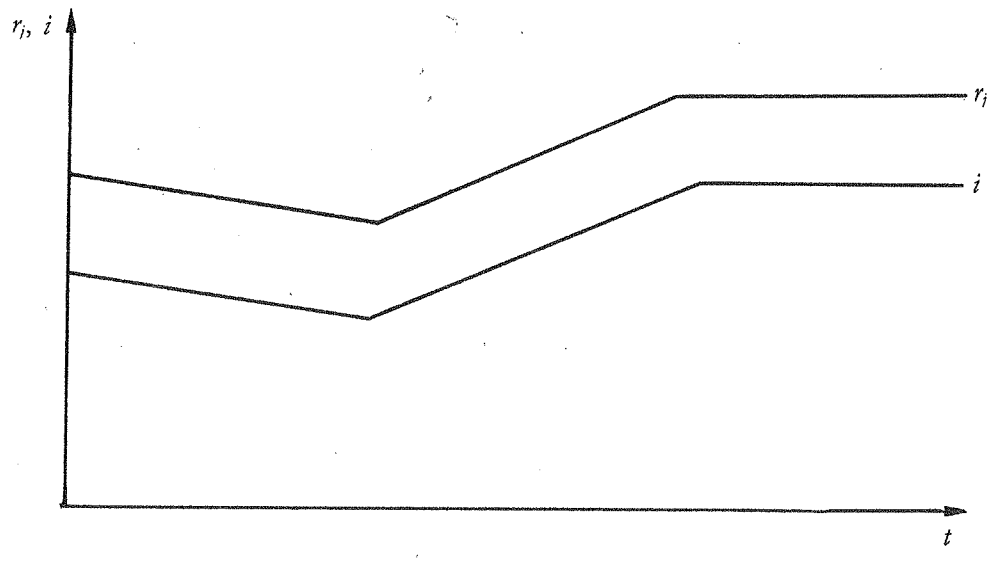

Fig. 1a

[12] Cf. A. SMITH, *op. cit.*, p. 109.

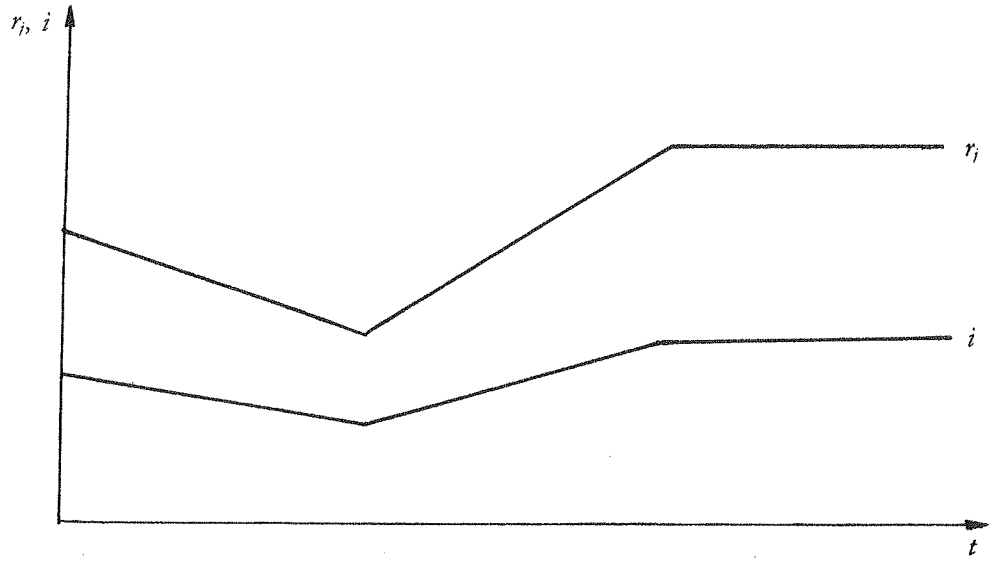

Fig. 1b

t = time
i = rate of interest
r_j = normal rate of profit in j. Alternatively, the upper curve may be taken to represent the long run behaviour of a weighted average of the k normal rates of profit.

5. Also for Marx normal profits are determined, in a given situation of tecnique, by the real wage. But concerning the relationship between profit and interest, Marx's view is quite different from that of Ricardo and Smith, whilst it is very similar to that to J. S. Mill.

For Ricardo "The rate of interest, though *ultimately and permanently* governed by the rate of profit, is however subject to temporary variations from other causes";[13] whereas according to J. S. Mill "[the rate of interest] is also acted upon by causes particular to itself, and may either rise or fall, *both temporarily and permanently*, while the general rate of profit remains unchanged".[14] This latter view is shared by Marx, who regards "the average rate of interest prevailing in a certain country" as a magnitude with respect to which the normal rate of profit only represents its "maximum limit", being determined within that limit by socio-economic and institutional circumstances unrelated to the real forces which, in his analysis, govern the normal rate of profit.

[13] D. RICARDO, *op. cit.*, p. 297 (italics added).
[14] J. S. MILL, *Collected Works*, Vol. IV, "On Profits and Interest", in *Essays on Some Unsettled Questions of Political Economy*, 1844, p. 305 (italics added).

This notion of the rate of interest as a largely autonomous magnitude with respect to the rate of profit, entails that of the two parts into which for Marx also normal profits resolve themselves, it is profit of enterprise that constitutes the residual magnitude: "assuming the average profit to be given, the rate of the profit of enterprise is ... determined ... by the rate of interest. It is high or low in inverse proportion to it".[15] *Fig.* 2 depicts a possible long-run behaviour of the money rate of interest (i), in relation to that of the (average) normal rate of profit (r), according to Marx's (and Mill's) conceptions.

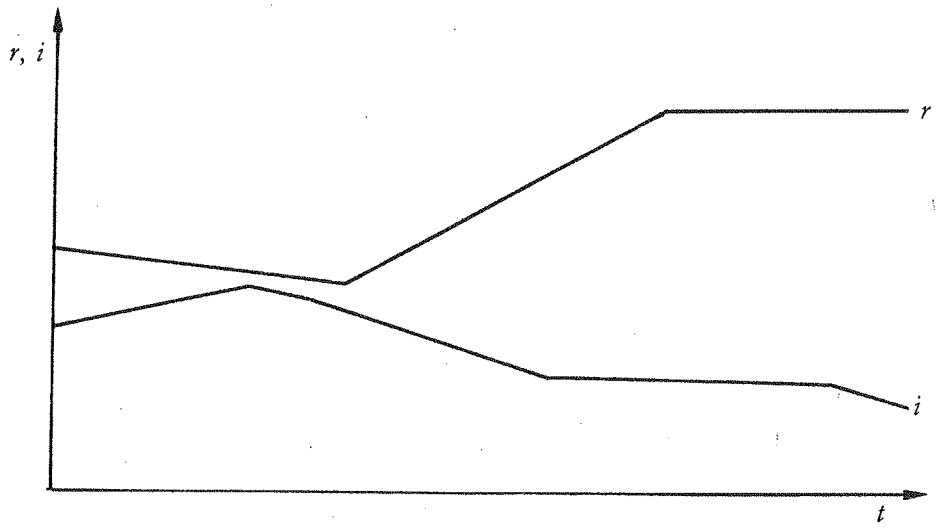

Fig. 2

Thus the excess of profit over interest – shown in the figure by the difference between the two rates at any one time – is regarded by Marx as a magnitude which, for a given real wage rate and production tecniques, is inversely related to the rate of interest and can be as low as possible, both in relation to capital employed in production and to the rate of interest, depending on the level of the latter.[16]

[15] K. MARX, *Capital: A Critique of Political Economy*, Vol. III (1894), London, Lawrence & Wishart, 1977, p. 379. In a note to this passage, Marx quotes G. Ramsey: "The profits of enterprise depend upon the net profits of capital, not the latter upon the former" (*An Essay on the Distribution of Wealth*, 1836, p. 214) – specifying that for Ramsey "net profits" always means interest. As was to be expected, also for J. S. Mill the profits of enterprise "are regulated by the rate of interest, or are equal to profits *minus* interest" (J. S. MILL, *op. cit.*, p. 301).

[16] If the rate of interest is taken as given in the equations laid down in the previous paragraph, then the overdetermination of the system can be avoided only by not taking profits of enterprise as given, either in relation to capital employed in production or to the rate of interest.

6. In our opinion it is very difficult to reconcile this view with the idea that profit must *normally* exceed interest, in order to cover objective elements of "risk and trouble". Indeed, even when such elements are "fancied" rather than objective – i. e. when conventional factors play an important part in determining the normal excess of profit over interest – no grounds seem to exist for believing that the prevailing opinion concerning the normal remuneration for "risk and trouble" should be *inversely* related to the rate of interest. On the other hand, if one were to give up the idea of "real or fancied" elements of "risk and trouble" as the determinants of profits of enterprise, then it would be hard to escape the conclusion that profits of enterprise must tend to be nil, because competition between the producers would tend to equalize profit and interest. Such equalization is however ruled out by Marx, who maintains that

> all capital, whether borrowed or not, is differentiated as interest-bearing capital from itself as capital producing a net profit. ... The employer of capital, even when working with his own capital, splits into two personalities – the owner of capital and the employer of capital; with reference to the categories of profit which it yields, his capital also splits into capital-*property*, capital outside the production process, and yielding interest of itself, and capital *in* the production process which yields a profit of enterprise through its function. ... The profit of enterprise springs from the function of capital in the reproduction process... But to represent functioning capital is not a sinecure, like representing interest-bearing capital.[17]

It is clear from these passages that Marx believes, in no lesser degree than Smith and Ricardo, that normal profit must exceed interest. But if the excess of profit over interest springs from the fact that "to represent functioning capital is not a sinecure like representing interest-bearing capital", then no basis seems to be left for the idea that "the rate of the profit of enterprise ... is high or low in inverse proportion to the rate of interest". Profit of enterprise cannot be high or low irrespective of the elements of risk and trouble that explain its existence: by the competition between the producers, profit of enterprise must tend in each employment towards a normal level determined by any "real or fancied" disadvantage that it possesses, both in relation to interest-bearing capital and in relation to the other forms of "functioning capital". Marx's view of profit of enterprise appears therefore on the whole much less consonant with the presuppositions of its existence as a permanent phenomenon, than that of Smith and Ricardo.

Quite on the contrary, Marx's position concerning the explanation of the rate of interest strikes the modern scholar as a significant step forward with respect to the conception of Smith and Ricardo. From a consideration of the role played by the monetary authorities and the credit system,

[17] K. MARX, *op. cit.*, pp. 372, 375 and 380.

by the world market and domestic customs,[18] Marx is led to regard the money rate of interest as "independently determined". The point is, however, that Marx's "autonomous determination" of the rate of interest is accompanied by a marked weakening of the connection between this variable and the normal rate of profit, because the latter still depends in his analysis, as in that of Smith and Ricardo, on the real wage. In fact, the only connection between interest and profit is seen by Marx in that the normal rate of profit would constitute "the maximum limit of interest", whilst within that limit the average rate of interest prevailing in a certain country ("as distinct from the continuously fluctuating market rates") could take any level whatsoever.[19] To a very large extent, then, in Marx's analysis both rates appear capable of being determined independently from each other – hardly an acceptable conception in the light of our discussion of profits of enterprise.

7. In contrast with the above, no weakening of the connection between interest and profit is implied by a notion of the rate of profit as a magnitude which is arrived at in each sphere of production by a process of adding up *two* autonomous components – the money rate of interest and the normal profit of enterprise. As in Smith and Ricardo, profit and interest will move in sympathy over the long-run but the causal relationship connecting them goes in the opposite direction: lasting changes in the rate of profit are the effect, not the cause, of lasting changes in the money rate of interest, the latter being the variable which governs the ratio of prices to money wages.[20]

The significant starting point to understand the actual mechanism whereby this causation occurs, and to study its implications, lies in a consideration of the money rate of interest as an autonomous determinant of normal money production costs, together with money wages and production techniques (an interpretation of interest not requiring any particular assumption as to the kind of capital employed in production: borrowed, share or firms' own capital).[21] The ratio of the price level to the money wage will then be seen as the connecting link between the rate of interest and the rate of profit: by the competition among firms within each industry, a lower rate of interest causes a lowering of that ratio, hence bringing about a lower rate of profit.

It seems to us that this approach to the determination of distribution can hardly be ignored by anyone who, while not being prepared to deny any long-run connection between the rate of interest and the rate of profit, is however strongly inclined to regard the rate of interest as a magnitude

[18] *Ibid.*, pp. 362, 364 and 367.
[19] *Ibid.*, pp. 362-3.
[20] Cf. M. PIVETTI, *op. cit.*, pp. 82-7.
[21] Cf. *ibid.*, pp. 83-4 and 92-100.

governed by circumstances which have nothing to do with a pre-determined normal profitability of capital – to regard it as a "monetary phenomenon", to use Keynes' expression.

With the help of the system of equations laid down in para. 4, the differences between this conception and that of the classical economists can be summed up in the following propositions:

(1) The real wage rate is now determined as the residual variable in the relationship between wages and profits; it therefore takes the place of the rate of interest amongst the unknowns of the system of equations.

(2) The rate of interest depends on monetary policy decisions, which are taken under a wide range of constraints having different weights both amongst various countries and for the same country at different times. These constraints can be external, or monetary and fiscal or distributive.[22] This seems to confirm Marx's idea that there is no general law for the determination of the rate of interest[23] – the important thing about the absence of such a law being the autonomous or 'prior' determination of the rate of interest; the fact that interest rate policies, both in the short and the long-run, do not appear to be constrained by a pre-determined normal profitability of capital.

(3) The normal profits of enterprise in the various trades depend on the "real or fancied" advantages which they possess or forgo. As in the classical conception, custom and convention enter into the determination of profits of enterprise, which are likely to be fairly stable magnitudes.

(4) Together with the money rate of interest and the normal profits of enterprise, the *money* wage rate in our system of equations is now taken as given. The money wage is the direct outcome of wage bargaining and depends on economic as well as institutional conditions, such as the levels of employment and the forms of organization of the workers.

(5) The unknowns p_a, p_b, ..., p_k to be determined are now the *money* prices of the commodities 'a', 'b', ..., 'k'. As both the wage and all the prices are expressed in money proper (there is no produced money-commodity), an equation for a composite wage commodity may be written

$$(A_w p_a + B_w p_b + \ldots + K_w p_k) = p_w$$

where the given bundle (A_w, B_w, ..., K_w) now refers to a 'unit' of the wage commodity 'w', and p_w is its (unknown) money price.

[22] See *ibid.*, pp. 78-81 and 91-2.
[23] Cf. K. MARX, *op. cit.*, p. 364.

(6) Given the money wage w, for any value of p_w there is a corresponding real wage w_r. We therefore can write the additional equation

$$w_r = w/p_w$$

This gives $2k + 2$ equations and $2k + 2$ unknowns: $k + 1$ prices, the normal rates of profit r_a, r_b, ... r_k and the real wage w_r. The system thus determines the price level, together with distribution of income between profits and wages. For a given situation of technique, the price level depends on the money wage and on the money rate of interest, with the latter acting as the regulator of the ratio of the price level to the money wage.

A few final remarks linked to proposition (3). We pointed out in para. 4 that Smith treats the remuneration for the "risk and trouble" as a given ratio to capital employed in production, whilst Ricardo treats it as a given ratio to the money rate of interest. It is worthy of mention here that both these ways of treating the normal profit of enterprise are consistent with our conception of the rate of interest as the regulator of the ratio of prices to money wages, which only requires lasting movements in the rate of interest not to be associated with *contrary* movements in nominal profits of enterprise as percentages of capital employed. By contrast, the possibility of such contrary movements should be acknowledged under an interpretation of normal profits of enterprise as magnitudes given in *absolute terms*. It seems to us very unlikely, however, that a careful review of the main elements of "risk and trouble" would support an interpretation of the normal excess of profit over interest in any particular trade as an absolute magnitude, independent of the amount of capital employed in production. The more so, if one considers that in the conditions of modern capitalism the "risk" elements covered by this component part of profit largely outweigh, and should be treated separately from, the "trouble" elements of the owner-manager of a firm taken into consideration by Smith and Ricardo. Indeed, such terms as "wages of management" or "wages of supervision" might more properly be used to describe the remuneration, entirely divorced from profit, which is required to cover those "trouble" elements.

An increasing separation of wages of management from profits of enterprise was apparently present already in Marx's time, due to the development of stock companies and the credit system.[24] Remuneration for top management seems to be often related today to gross output and *actual* profits, rising and falling according as output and profits rise above of fall short of their normal levels.[25] In practice, then, remuneration for top management might be regarded as part of actual profits of enterprise, which

[24] See *ibid.*, pp. 383ff.

[25] See on this R. MARRIS, *The Economic Theory of 'Managerial' Capitalism*, London, Macmillan, 1964, p. 66 ff.

of course can move contrariwise (in percentage of capital employed) to the rate of interest. But this is clearly irrelevant to our reasoning, which concerns the effects of movements in the rate of interest on normal profit rates and never refers to actual profits.[26]

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[26] Cf. M. PIVETTI, *op. cit.*, pp. 81-2.

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