contents

On the Monetary Explanation of Distribution *

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1. INTRODUCTION

1. Within the classical-Marxian approach to distribution the real wage rate and the rate of profit are not symmetrically and simultaneously determined: on the contrary, after either one of these two variables has been explained independently from both the social product and the other distributive variable, then the other one is determined as a residue. Once the view is abandoned that real wages consist of the necessary subsistence of the workers, and the possibility of variations in the division of the social surplus is admitted, a theory of distribution on these lines requires a solution to the question of which of the two distributive variables should be regarded as independent or 'given' in the present reality of the capitalist economy, and through which social-institutional channels distribution between profits and wages is actually arrived at. As is well known, the rate of profit is treated as the independent variable over large part of Sraffa's *Production of Commodities by Means of Commodities* — the choice resting upon the idea that the rate of profit is "susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest" [1].

[1] P. SRAFFA, *Production of Commodities by Means of Commodities*, Cambridge, CUP, 1960, p. 33.

This paper deals with that idea, with a view of making some steps forward in the direction suggested by Sraffa for explaining distribution of income between capitalists and workers.

It is perhaps worth starting by recalling that economic theory is in substantial agreement in recognizing that there is a connection between the rate of profit on the one hand and the money rate of interest on the other; that these two tend to move in sympathy, that is to say, when a sufficiently long period of time is taken into consideration. The significant theoretical question is rather the *nature* of the connection between the two rates; which of the two ultimatly governs the other — a question the two alternative approaches to distribution need not answer uniformly.

A monetary determination of the rate of profit is fully compatible with the analytical setting of the classical-Marxian approach[2], whereby distribution between wages and profits does not depend on the relative scarcities of labour and capital; it depends on the relations that workers and capitalists establish with one another. These relations will *primarily* act either upon the real wage or upon the rate of profit, as the two distributive variables cannot *both* be independently determined one from the other. And from the logical view point, there is no element in the classical approach which is in contrast with the possibility of class relations acting primarily upon the rate of profit, thus determining the real wage as the residual variable. It is this possibility which constitutes the actual object of study when one asks whether the rate of profit is susceptible of being determined by the money rate of interest; whether this determination is supported by reality or not.

2. Section II of this paper will briefly consider Marx's and Keynes' critical positions on the commonly received conception of the money rate of interest as a magnitude subordinate to the normal rate of profit; we then proceed to examine what we regard as the main circumstances supporting a 'prior' determination of interest in actual experience. Section III will deal with the actual mechanism by which the long-term interest rate governs the rate of profit — how the rate of interest can be arrived at as the regulator of the ratio of prices to money wages. This role will be seen as arising from a consideration of the rate of interest as an autonomous determinant of normal production costs; an interpretation of interest not requiring any particular assumption as to the kind of capital employed in production (borrowed, share or firms' own capital). The question of the excess of profit over interest is then considered in section

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[2] For a reconstruction of this setting, see P. GAREGNANI, "Value and Distribution in the Classical Economists and Marx", *Oxford Economic Papers*, 36, 1984 (see in particular pp. 320-21 on the compatibility referred to in the text).

IV, where the normal rate of profit in each particular sphere of production will be arrived at by a process of adding up *two* autonomous components: the long-term rate of interest plus the normal profit of enterprise. This conception of profits will be compared in section V to the classical-Marxian conception — interest and profit of enterprise regarded as the two magnitudes into which normal profits *resolve* themselves —, with particular reference to the role played by competition among capitalists in determining the distribution of income between profits and wages. Sections VI and VII will focus on a few significant implications of regarding the rate of interest as 'setting the pace' in its connection with the rate of profit: the effects of wage bargaining on distribution; the explanation of the price-level — in particular the question of the influence of the rate of interest on the price-level; the effects of changes in interest rates on the inducement to invest, are the main questions which will be considered. Section VIII finally distinguishes between the nominal rate of interest and the real rate (the money rate corrected by reference to any change in the value of money) and tries to point out some interesting results of postulating equalisation of the rate of profit with the *real* interest rate.

2. THE RATE OF INTEREST AS A "MONETARY PHENOMENON"

3. According to both classical and marginalist economists there is between the normal rate of profit and the money rate of interest a long-run causal relationship going from the former to the latter — so that the rate of interest is ultimatly determined by those 'real forces' which explain the course of the normal rate of profit: the "fundamental phenomena of Productivity and Thrift"[3], as far as marginalism is concerned; the real wage rate and production techniques in the classical theory of distribution up to Ricardo.

An important implication of this way of conceiving the relation between the two rates is the denial of any substantial power on the part of the monetary authorities. Whatever part monetary policy may play in governing the actual course of the market rate of interest, the power of the monetary authorities is thought to be more apparent than real: given the state of the real forces governing the "natural real rate", the impact on the price level or on real output and accumulation of any lasting discrepancy between the courses of the two rates would force the monetary authorities so to act as to make the rate of interest move in sympathy with the rate of

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[3] D. H. ROBERTSON, *Essays in Monetary Theory*, London, Staples Press, 1940, p. 25.

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profit. It seems, then, that Sraffa's suggestion is in sharp contrast with both main streams of economic theorising.

Concerning however the commonly received conception of the money rate of interest as a subordinate phenomenon, somewhat dissenting views had already been expressed both before and after the inception of marginalism. The two most outstanding cases are those represented by Marx and Keynes; let us briefly consider their positions, before looking at concrete reality.

Marx does not appear to share Smith's and Ricardo's view that lasting changes in the rate of interest must reflect changes in the normal rate of profit. In fact, his position on the relation between profit and interest is much nearer to that of J. S. Mill, who argues that "although the rate of profit is one of the elements which combine to determine the rate of interest, the latter 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"[4]. Also for Marx the rate of interest is influenced but not exclusively governed by the general rate of profit — the latter having rather to be regarded, in his view, as "the maximum limit of interest"[5]. He maintains that "The average rate of interest prevailing in a certain country — as distinct from the continually fluctuating market rates — cannot be determined by any law. In this sphere there is no such thing as a natural rate of interest in the sense in which economists speak of a natural rate of profit and a natural rate of wages"[6].

The main point Marx endeavours to highlight by insisting on the absence of a general law in the determination of the rate of interest, is the latter's marked degree of autonomy from the rate of profit. The fact that "many borrow without any view to productive employment"[7]; the existence of a developed credit system[8]; the discount rate policy of the Bank of England and "the direct influence exerted by the world market on establishing the rate of interest"[9]; finally, the fact that "Customs, juristic traditions, etc. have... much to do with determining the average rate of interest"[10], are the main socio-economic and institutional circumstances

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[4] 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). Note the difference with respect to Ricardo, who maintains that "The rate of interest, though *ultimately and permanently* governed by the rate of profit, is however subject to *temporary* variations from other causes" (D. RICARDO, "Principles of Political Economy and Taxation" [3rd ed. 1821], in *Works and Correspondence*, Sraffa ed., Cambridge, CUP, 1951, p. 297 [italics added]).

[5] K. MARX, *Capital*, Vol. III (1894), London, Lawrence and Wishart, 1977, p. 360.

[6] *Ibid.*, p. 362.

[7] *Ibid.*

[8] *Ibid.*

[9] *Ibid.*, p. 364, n. 68; p. 367.

[10] *Ibid.*, p. 364.

which, according to Marx, combine to militate in favour of an "autonomous determination" of the rate of interest. As we have tried to argue elsewhere[11], such a conception of the rate of interest cannot easily be reconciled with the Marxian (and Ricardian) conception of the real wage as the independent or given variable in the relation between profits and wages; there remains however the suggestion — of particular interest to us here, and that Marx seems to derive from an unprejudiced observation of facts — of "the average rate of interest prevailing in a certain country" as a magnitude determined by influences unrelated to those real forces governing in his analysis the ordinary rate of profit.

The unprejudiced observation of concrete reality clearly plays a significant part also in Keynes' interpretation of the rate of interest as a "monetary phenomenon"[12]. The fact that Keynes is far from being entirely happy with his monetary explanation of interest — considering it "exceedingly simple", a theory which "by itself does not carry us very far"[13] — does not shake his conviction that the rate of interest is *not* determined by the real forces envisaged by traditional theory. Accordingly, he maintains that it is the profitability of capital which tends to adapt itself to the rate of interest, and not the rate of interest to the profitability of capital — "instead of the marginal efficiency of capital determining the rate of interest, it is truer ... to say that it is the rate of interest which determines the marginal efficiency of capital"[14]. As has been argued, the persistence in Keynes' analysis of some traditional premises seriously weakens his conception of the rate of interest as a magnitude determined by monetary factors[15]. But, again, what is of interest to us here is that *notwithstanding* those traditional theoretical premises Keynes is led to regard the rate of interest as the regulator of the rate of profit, rather than the other way round.

4. It would of course be most desirable for us to be able *directly* to verify by experience which of the two rates should be regarded as 'setting

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[11] See M. PIVETTI, "Interesse e profitto d'impresa: parti in cui il profitto si risolve o *determinanti* del profitto?", in *K. Marx, 1883-1983. Giornate di studio*, Istituto Gramsci, Roma, 16-19 dicembre 1983, forthcoming.

[12] Cf. J. M. KEYNES, *Collected Writings*, Vol. XIV, "The General Theory and After: Part II", pp. 80, 206, 229 and 231.

[13] *Ibid.*, p. 213; cf. also p. 215.

[14] *Ibid.*, p. 123; see on this point para. 17, below.

[15] "The idea of an investment demand schedule constitutes an obstacle which a monetary theory of interest cannot easily overcome. Indeed, admitting an elastic investment demand schedule leads to maintaining, on the one hand, the existence of a full-employment level of the rate of interest and, on the other, the presence of inflation, or deflation and unemployment, when the actual rate of interest is not the full employment one; the idea that the market rate of interest tends to gravitate towards its full employment level then acquires plausibility" (P. GAREGNANI, "Notes on Consumption, Investment and Effective Demand: II", *Cambridge Journal of Economics*, 1979, 3, pp. 78-79).

the pace' in the causal relationship connecting them. Unfortunately, it is extremly difficult to establish precise causation in complicated economic phenomena like the one we are dealing with. As Wicksell says "concrete reality is altogether too shifting and complex for us to be able directly to appeal to its testimony: an isolation of the phenomena is both difficult and doubtful"; moreover, whereas "the level of the rate of interest on money... (is) just known to economic statistics, about the magnitude of the natural rate on capital nothing is really known at all" [16]. We must try, then, some indirect appeal to concrete reality, and content ourselves with a judgement less 'quantitative' and clear-cut in character. The question is ultimately that of deriving from actual experience elements capable of showing that the interest rate policy of any one country, both in the short and in the long run, is susceptible of being explained on the basis of circumstances which are clearly independent of the factors regarded by the two alternative theoretical approaches as the determinants of the profitability of capital. It seems to us that two sets of such circumstances are particularly well-suited to illustrate the autonomous or 'prior' determination of the rate of interest: those connected with the management of government debt, and those connected with any one country's position vis-à-vis the rest of the world.

5. As the Radcliffe Report endeavoured to make clear more than twenty-five years ago, the size government debt has historically acquired, in relation to the other financial assets of the private sector, makes it impossible for the authorities to adopt a passive or neutral policy with respect to interest rates — leaving them to be determined "by market forces" — even if they wanted to do so. "Such a policy of neutrality is ruled out by the facts that, in our economies nowadays, the Government is the largest borrower and that certain forms of government debt are the ultimate means of payment. ... In present circumstances — and all forseeable circumstances — ... the authorities must have a positive policy on interest rates, because debt operations are inescapable" [17].

Naturally, among such "inescapable operations" there is the servicing of the debt; the question of the cost of debt service, and of its fiscal implications, can actually be singled out as the most important factor behind debt management and the interest rates policies followed over long periods in this century. Thus the origin of the 1932-51 twenty-year period of cheap-money policy can be traced to the purpose of reducing the charges for interest in the national budget, and making room for other

[16] K. WICKSELL, *Lectures on Political Economy*, Vol. II-Money (1906), London, Routledge and Kegan, 1962, p. 90; "The Influence of the Rate of Interest on Commodity Prices" (1898), in *Selected Papers on Economic Theory*, London, Allen & Unwin, 1958, p. 85.

[17] Committee on the Working of the Monetary System, *Report*, London, HMSO, 1959, para. 492.

expenditures (particularly for social service expenditures, in the 1930's). It will be recalled that as far as England is concerned, the cheap money programme was inaugurated in the summer of 1932 by the great War Loan conversion operation — "the largest conversion operation in the history of the National Debt" [18] — which firmly established 3½ per cent as the gilt-edged long-term rate. As has been argued, the manner in which the conversion operation was carried out, the series of measures by which it was accompanied (a substantial credit expansion among them), and the published beliefs of the Treasury and the Bank of England that cheap money would continue, all succeded in convincing investors that the fall in interest rates was a long term phenomenon — so that "the belief in cheap money helped to make it effective" [19]. (Basically that experience and that combination of manoeuvres are what Keynes had in mind when writing in 1936 that "the rate of interest is a highly conventional phenomenon", and that the level of the long-term rate of interest established by convention "will not be always unduly resistant to a modest measure of *persistence* and *consistency of purpose* by the monetary authority" [20].)

Besides the pressure for the minimum cost of debt service, the second important motive behind debt management and the long-term behaviour of interest rates has been historically the desire to lengthen the average life of the securities outstanding — more generally, to ensure the debt structure more consonant with the need not to lose control of the general liquidity of the economy. It is with reference to this 'monetary' aspect of debt management in the post-war experience that we find in the Radcliffe Report the thesis according to which "It is not merely that monetary action and debt management interact so that they ought to be under one control: they are one and indivisible; debt management lies at the heart of monetary control" [21]. This second motive of the authorities in their management of the debt is generally in contrast with the aim of holding interest rates down so as to get the new debt placed as cheaply as possible — the desired structure of the debt requiring the long-term rate to be pushed to a level that is high enough to attract sufficient firm holders for it. In periods of rapidly rising government debt, the debt manager's aim to avoid the growth of its liquidity to a degree thought dangerous from the point of view of keeping control of the monetary situation is bound to entail a marked and lasting rise in interest rates, as shown by the

[18] E. NEVIN, *The Mechanism of Cheap Money; A Study of British Monetary Policy, 1931-1939*, Cardiff, University of Wales Press, 1955, p. 92.

[19] W. A. MORTON, *British Finance 1930-1940*, Madison, The University of Wisconsin Press, 1943, p. 248; cf. also E. NEVIN, *op. cit.*, pp. 92-107.

[20] J. M. KEYNES, *The General Theory of Employment Interest and Money* (1936), London, Macmillan, 1964, pp. 203 and 204 (italics added).

[21] Committee on the Working of the Monetary System, *op. cit.*, para. 603.

experience of the United States economy during this first half of the eighties.

In addition to debt management and its motives, the level of interest rates in any one country is clearly influenced by its relations with the rest of the world. Low rates of interest, for example, simply cannot be a long-term phenomenon in a relatively small and internationally integrated economy unless low interest rates prevail and persist in the rest of the world. Given the generally acknowledged long-period connection between the rate of interest and the rate of profit, if a persistent cheapening of money is hindered by external constraints, then a persistent lowering of the rate of profit cannot take place either — even if domestic circumstances were such as to favour a change in the normal distribution of income between wages and profits. It is worth stressing here that the weight of external influences in the determination of the rate of interest may be significant also for the large and dominant economy; thus it is difficult to conceive how, in the conditions of the eighties, the authorities of the United States could have managed a relatively rapid growth of domestic demand without the strengthening of the dollar achieved through their policy of high and rising interest rates. The influence of the country's position *vis-à-vis* the rest of the world in the determination of interest rates, must have been indeed very significant also in the days when Great Britain was the dominant capitalist economy. Think of the interest due to Great Britain (as a major lender country) from abroad, and the importance of its level from the point of view both of interest recipients (British firms and citizens) and of Britain's balance of payments. Think also of the dear-money policy over a large part of the twenties, a necessary counterpart of the restoration of the pound to its pre-war parity with gold[22].

6. It seems, then, that the level of the rate of interest in any one country is strongly influenced by circumstances which have nothing to do with those different 'real forces' regarded by the classical and marginalist economists as the determinants of the normal rate of profit. Actual experience, in other words, seems to validate Marx's (and J. S. Mill's) idea of an "autonomous" determination of the money rate of interest — autonomous in the sense that interest rates *do* experience lasting changes

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[22] It is worth noting here that in the *Treatise*, at a time when Keynes still regarded Wicksell's "natural rate of interest" as a very useful and significant concept, the general British-led return to the Gold Standard round about the mid twenties is referred to as an event "which served to maintain the market rate of interest somewhat regardless of the underlying realities of the natural-rate" (*A Treatise on Money* [1930], Vol. II - "The Applied Theory on Money", London, Macmillan, 1965, p. 379; on Keynes' change of view about the significance of the "natural-rate" concept, cf. *General Theory, op. cit.*, pp. 242-44). On the British experience with the restoration of the pre-war parity, see D. E. MOGGRIDGE, *British Monetary Policy 1924-1931*, Cambridge, Cambridge University Press, 1972.

which are very reasonably explainable without any need to refer to a *primum movens* represented by changes in the normal profit rate.

As schould be clear from what has been said, we do not think that interest rate policies are unconstrained — i.e. that monetary authorities can always bring the rate of interest to whatever level they deem desirable: the disposition or will may not be accompanied by the necessary power, owing to obstacles of a monetary nature[23], to external constraints, to the distributive implications of their action[24]. The upshot of our argument is rather that interest rate policy, both in the short and in the long run, does not appear to be constrained by a somehow pre-determined normal profitability of capital. Our view then is that the rate of interest should be regarded as a "monetary phenomenon", meaning however by this that in the causal relationship between the rate of interest and the rate of profit it is the former which 'sets the pace'. Naturally, the main implication of such a view is that, for explaining distribution and its variations in actual experience, the analysis of the factors influencing and/or conditioning the interest policy adopted by a country should come to the forefront. In the following sections we shall basically endeavour to explain the actual mechanism whereby lasting changes in interest rates must be followed by corresponding changes in normal profit rates, and to point out some significant aspects of this causation.

7. But before so doing, let us be explicit about what we understand by "normal rate of profit". By this concept we simply mean what the theories of distribution endeavour to explain: classical and Marxian expressions such as "natural rate of profit", "permanent rate of profit" or "general rate of profit", and marginalist expressions such as "natural or real rate of interest" and "equilibrium of full-employment rate of interest", never refer to actual or effective profits but to normal profits. The latter, reckoned gross of interest[25], correspond to the rate of return on capital

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[23] Thus Sayers, in illustrating the U. K. government's failure to enforce an "ultra-cheap" money policy in 1945-47, points out that "Given market sentiment" as to future prices of government securities, "creation of bank deposits on an enormous scale would have been necessary for holding the 2½ per cent. line: the only alternative was retreat" (R. S. SAYERS, *Modern Banking*, Oxford, Clarendon Press, 1964 [6th ed.], Appendix 2, p. 318).

[24] Cf. para.s 12 and 13, below.

[25] "The 'classical' concept of profit related to the incomes derived from the ownership and management of capital by a group of people known as capitalists; ... Ideally, it was the income of the owner-manager of a firm. If a farmer, manufacturer or merchant employed borrowed funds, his profits were always reckoned gross of the interest that he paid out" (G. S. TUCKER, *Progress and Profits in British Economic Thought, 1650-1850*, Cambridge, CUP, 1960, p. 77). As for marginalism, in Wicksell's long-period equilibrium the "normal or natural rate" corresponds to "the expected yield on the newly created capital", which tends to exceed loan interest, "the money rate", to compensate for "the risk attached to every productive undertaking" (K. WICKSELL, *Lectures, op. cit.*, pp. 191 and 193).

which would be obtained by firms using dominant or generally accessible techniques, and producing output at levels regarded as normal at the time the capacity was installed. As actual profits always deviate from normal profits, economic theory is in substantial agreement in regarding the normal rate of profit as a magnitude which cannot be arrived at statistically and empirically. Thus, as we saw above, Wicksell says that "nothing is really known at all" about "the magnitude of the natural rate on capital", so that "the only escape is to appeal to generally accepted economic principles"; and Marx says that "the general rate of profit appears blurred and hazy"[26], a magnitude which can be arrived at only through analysis. Now, the reason why it is this "blurred and hazy" magnitude which has always been taken into consideration by economic theory, remains that given by Smith in the *Wealth of Nations*: though actual profits are always deviating from normal profits, they are constantly tending towards them.

3. THE RATE OF INTEREST AS THE REGULATOR OF THE RATIO OF PRICES TO MONEY WAGES

8. To understand the actual mechanism by which changes in the long-term rate of interest are susceptible of causing corresponding changes in the rate of profit, it is perhaps convenient for us to follow a three-stage line of reasoning.

The first stage simply consists in regarding competition as the mechanism by which prices tend to be equated to normal costs. This role of competition is generally acknowledged by economic theory. The second stage of the reasoning would also be widely acknowledged, in one form or another, though its implications for the theory of distribution are generally overlooked. It consists in looking at the rate of interest as a determinant of production costs, together with money wages and production techniques. Thus, lasting changes in interest rates *constitute* changes in normal costs, which, *ceteris paribus*, will result in corresponding changes of the price level.

The third stage of the reasoning comes about as a consequence of the first two: by the competition among firms within each industry, a lasting change in interest rates causes a change in the same direction in the level of prices in relation to the level of money wages, thereby generating changes in income distribution. A persistent fall in interest rates causes a fall in prices relatively to the wage level, and thereby brings about a lower

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[26] K. MARX, *op. cit.*, p. 368.

rate of profit and a higher real wage; whilst a persistent rise in interest rates will raise the rate of profits, and thus reduce the real wage[27].

This picture, and in particular the notion that lasting changes in interest rates consitute changes in normal costs, does not rest on the assumption that all capital employed in production is borrowed capital. Interest (as economic theory has always looked at it) is the price for the use of capital — the 'pure' remuneration of capital, whatever the form of its employment, whether financial or real. If production is carried on with the firm's own capital, interest constitutes its opportunity-cost, and as such will enter into that normal cost which in the long run tends to be equated with the unit price. Firms would not continue to replace plant which is wearing out unless the prices for their commodities were such that they could not do better for themselves by investing their depreciation funds in gilt-edged securities; conversely, commodity prices could not permanently involve rates of return on the firms' funds exceeding the relevant rates of interest by more than a normal remuneration for the "risk and trouble" of productively employing capital (on this remuneration, see the following section).

The case of share capital does not alter the fundamentals of the picture. It may be presumed that the nearest competing alternative to shares are long-term bonds, and that ordinary shares will be held only if the expected yield on them exceeds the yield on long-term bonds. As there is a significant section of the investing public ready to switch from one kind of investment to the other, this tends to maintain their respective yields at a steady level. At any given time there will be, that is to say, a certain relationship between the prices of the various classes of securities: a shift in the price of one large class must be followed by a general shift in the whole range of prices[28]. Thus, a rise in prices for long-term government bonds — a fall in the 'pure' long-term rate of interest resulting from the pursuing of a cheap money policy — will be followed

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[27] Given the level of the money wage, the change in the price level resulting from a lasting change in the rate of interest would also be necessarily accompanied by a change in relative prices — owing to the different weight of interest in the production costs of the different commodities; it follows that the real wage, whilst rising or falling in terms of any commodity, will rise or fall to a different extent in terms of each different commodity. It is possible, then, to distinguish between two effects on prices of a persistent change in the rate of interest: a change in the price level; and a change in relative prices. Both effects would follow from intra-industrial competition causing the rate of profit to move in sympathy with the pre-determined rate of interest.

Given the money wage and production techniques, the so called "reduction to dated quantities of labour", when it can be applied, provides the simplest way to calculate the effects on money prices and on the real wage of changes in the rate of profit brought about by changes in the rate of interest. With the reduction to dated labour terms it can be easily seen, in particular, that reasoning in terms of money prices, for a given level of the money wage, amounts to a reasoning in terms of "labour commanded" (to a given change in the rate of profit, there will correspond in both cases the same change in relative prices and in the real wage).

[28] Cf. R. S. SAYERS, op. cit., p. 210.

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by a rise in prices for securities generally[29]. But a higher quotation for existing equities implies that companies can raise capital by issuing shares on more favourable terms; in the words of Keynes, a high quotation for existing equities has "the same effect as if (companies) could borrow at a low rate of interest"[30]. We may therefore conclude that also the issue of common stocks, as a method of financing investment available to joint-stock companies (corporations), will become cheaper (or dearer) in the face of a persistent fall (or rise) in interest rates.

It seems, then, that quite irrespective of the kind of capital employed in production — borrowed, share or firms' own capital — a lasting lowering (or rising) of interest rates will tend to make normal costs stand lower (or higher) than they would otherwise have done, and thus affect prices correspondingly[31].

The upshot of the entire argument developed so far is the singling out of the rate of interest as the regulator of the ratio of prices to money wages. To help us to crystallize our ideas, it may be worth calling attention to the main difference between this view and the familiar post-Keynesian theory of distribution: one may say that whilst in that theory changes in the level of prices in relation to the level of money wages are determined by changes in aggregate demand, according to our view they are determined by lasting changes in interest rates[32].

4. ON THE EXCESS OF PROFIT OVER INTEREST

9. As was hinted above, profits on capital employed in production will normally include, besides interest — what we called the 'pure' remuneration of capital, also a remuneration for the "risk and trouble" of productively employing it — what may be termed a normal profit of

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[29] On the general cheapening of the raising of funds in the capital market by British industry after the inception of cheap money in 1932, cf. NEVIN, *op. cit.*, ch. VI.

[30] J. M. KEYNES, *General Theory*, *op. cit.*, p. 151, n. 1.

[31] The distinction between "own" capital and borrowed capital may be relevant to costs in a rather indirect way, and quite apart from the question of the rate of interest. The proportion between the two kinds of capital is likely to influence the rate of expansion and the dimension of firms (cf. P. W. S. ANDREWS, *Manufacturing Business*, London, Macmillan, 1949, pp. 236-48), and, through this channel, the methods of production they use.

[32] Unless one *assumes* situations of full-utilization of existing capacity, there appears in fact to be no analytical reason (outside an orthodox approach to value and distribution), why changes in aggregate demand should be associated with changes in distribution; they will rather tend to be associated with changes in output, and, in long-run analysis, also with changes in productive capacity. See in this connection R. CICCONE, *Accumulation, Utilisation of Capacity and Income Distribution: Some Critical Considerations on Joan Robinson's Theory of Distribution*, unpublished, presented at the Conference on "Sraffa's *Production of Commodities by Means of Commodities* after 25 Years", Florence, August, 1985; see also F. VIANELLO, "The Pace of Accumulation", *Political Economy-Studies in the Surplus Approach*, 1, 1985.

enterprise. How does this excess of profit over interest affect our conception of the rate of interest as the regulator of the ratio of prices to money wages? When the profit of enterprise is taken into consideration, such a conception implies assuming that lasting changes in the rate of interest do not tend and are not likely to be associated with opposite changes in the normal profit of enterprise; it is necessary to assume, that is to say, that the remuneration for the "risk and trouble" is independent of the rate of interest and is a sufficiently stable magnitude[33].

It would seem that these are quite reasonable assumptions. If profit *does* normally exceed interest — i.e. if competition does not tend to equalize profit and interest — then the excess of the former over the latter must cover objective elements of "risk and trouble" or elements which are regarded as objective by the majority of the investing public[34]. Such elements, moreover, must have been present for a sufficiently long period of time for a certain profit of enterprise to have come to be regarded as normal, and also when conventional factors play an important part in determining the normal profit of enterprise in a particular production sphere, the convention itself will generally be rooted in some persistent facts and will not tend to change except in the face of lasting changes in those facts.

Actually, these views about the normal profit of enterprise are largely consistent with classical conceptions: production and accumulation would not continue, Ricardo argues, if the profits of the farmers and manufacturers 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". Such "adequate compensation" will be different in the various employments of capital, according to "any real or fancied advantage which one employment may possess over another"; and once so adjusted as to reflect those relative advantages, "the profits of stock would probably continue permanently with that relative difference, and with that difference only" — so that, if we "suppose that all

[33] It is also necessary not to conceive the normal profit of enterprise as a magnitude given in absolute terms; cf. on this question n. 38, below.

[34] As an important example of one such element one may refer to the illiquidity risk. The additional yield of investment in real assets, such as factories or houses, in relation to gilt-edged securities, "is a reflection, not mainly of the uncertainty concerning the future level of (say) 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)" (N. KALDOR, "Economic Growth and the Problem of Inflation", *Economica*, November, 1959, p. 288). Needless to say, different investments in real assets may present very different illiquidity risks, owing to various factors: the higher the degree of specialisation of a certain plant of factory, for example, the less "marketable" the corresponding investment and the higher (given all the other elements of "risk and trouble") the normal profit of enterprise.

commodities are at their natural price, ... profits of capital in all employments... (will) differ only so much as, in the estimation of the parties, is equivalent to any real or fancied advantage which they possess or forgo"[35].

There remains however, in spite of substantially the same interpretation as regards the normal excess of profit over interest, the most important difference between our view and the Ricardian conception. Interest is viewed by Ricardo (and Smith) as a residue, or what remains of profits once the normal remuneration for the "risk and trouble" has been deducted: given the latter remuneration, "much will be given for the use of money when much can be made by it"[36]. Interest and profit of enterprise are thus conceived by Ricardo, as by the whole classical-Marxian approach, as the two magnitudes into which normal profits — determined by real wages and production techniques — resolve themselves[37]; whereas, according to our view, the same two magnitudes should rather be regarded as the autonomous *determinants* of the rate of profit. We shall see in the following section how on the basis of these two ways of approaching the explanation of profits, quite different views may be developed concerning the role of competition among capitalists in determining income distribution.

10. To return to our immediate subject and conclude, the normal rate of profit cannot be regarded as being strictly determined by the rate of interest. In the explanation of distribution under discussion it is necessary to take into consideration also the profit of enterprise, and by so doing the normal rate of profit in each particular production sphere (r_a) will be

[35] D. RICARDO, *op. cit.*, pp. 90 and 122. The classical conception of the normal excess of profit over interest has little in common with the views one finds in Knight's *Risk, Uncertainty and Profit*. This author distinguishes between "a measurable uncertainty, or risk proper" and a "true or unmeasurable uncertainty", and contends that it is the latter which gives rise to "pure profit" (i.e. the excess of profit over interest) regarded as an aspect of "the divergence between actual and theoretical competition" (cf. F. H. KNIGHT, *Risk, Uncertainty and Profit* (1921), London, The London School of Economics and Political Science, Series of Reprints of Scarce Tracts in Economic and Political Science No. 16, 1933, pp. 18-21 and ch. VII). Even more distant from the classical conception is Schumpeter's "entrepreneurial profit" — a temporary surplus over costs, accruing to the innovating entrepreneur (cf. J. A. SCHUMPETER, *The Theory of Economic Development*, Cambridge-Mass., Harvard University Press, 1934, ch. IV).

[36] D. RICARDO, *op. cit.*, p. 296. Natural prices, on the basis of this conception, will have to be such as to ensure that, in each production sphere, what remains of the value of the product after deducting wages and the replacement of the means of production, is sufficient to "adequately" remunerate the "risk and trouble" and pay interest at an uniform rate.

[37] Of the two magnitudes into which the normal rate of profit resolves itself, Marx tends to regard profit of enterprise ("unternehmergewinn") as the residual one. This arises from the fact that, as we saw in para. 3 above, in Marx's analysis the rate of interest is regarded as a largely autonomous magnitude with respect to the rate of profit. On the differences between the classical economists and Marx in the analysis of the interest-profit relationship, see M. PIVETTI, *op. cit.*

arrived at by adding up two autonomous components: the long-term rate of interest (i) or 'pure' remuneration of capital, plus the normal profit of enterprise (npe_a) or the remuneration for the "risk and trouble" of productively employing capital in that particular production sphere. In symbols:

$$r_a = i + npe_a$$

Provided that npe_a is a sufficiently stable magnitude, and one which is independent of i and of lasting changes in i, the picture given above remains substantially unaffected: lasting changes in the rate of interest will cause corresponding changes in profit rates, and inverse changes in the real wage[38].

5. COMPETITION AND DISTRIBUTION

11. The difference pointed out at the end of paragraph 9 between our conception of normal profits and the classical-Marxian conception has important bearings upon the question of the role and scope of competition among capitalists in determining the distribution of income between profits and wages. We shall focus on this question in the present and following paragraph, starting with the views of the classical economists and Marx.

These authors consider the real wage as constituting the independent

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[38] npe_a has been conceived in the text as a magnitude *proportional to capital* employed in production. This is also the conception of Adam Smith: given the recompense for the risk and trouble in percentage terms, a rise in the "ordinary rate of profit" will result 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 (cf. A. SMITH, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), Cannan ed., London, Methuen, 1961, Vol. 1, p. 109).

But the "real or fancied advantages" possessed by the various capital employments could be also thought of as tending to resolve themselves in *given proportions* between interest and normal profits of enterprise (for ex.: $npe_a = 1/2i$; $npe_b = 3/2i$; ..., $npe_k = 2i$; ...). This appears to be Ricardo's conception: from a consideration of those advantages, he refers to given and stable *proportions* between the normal rates of profit in the various trades (cf. D. RICARDO, *op. cit.*, p. 90). Even this way of interpreting the normal profit of enterprise, however, is compatible with our conception of the rate of interest as the regulator of the ratio of prices to money wages. As was said at the beginning of this section, such a conception requires lasting movements in interest rates not to be associated with *contrary* movements in normal profits of enterprise as percentages of capital employed.

The possibility of such contrary movements should instead be acknowledged within 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 a view of the normal excess of profit over interest in any particular trade as an absolute magnitude, independent of the value of capital employed in production; the more so, if one considers that in the conditions of modern capitalism the "risk" elements covered by the remuneration under discussion largely outweigh the "trouble" elements of the farmer and manufacturer considered by the classical economists.

or "given magnitude" in the relation between the two distributive variables, maintaining that its normal level is determined by "subsistence" — a notion covering not only physical needs but also historically developed social needs, which are considered as a "second nature"[39].

The wage thus having been explained in terms of subsistence, the normal rate of profit must be determined as a residue on the basis of the dominant (generally accessible) techniques of production. Those firms which, within each sphere of production, employ more backward or more advanced techniques than the dominant ones, earn profits that are respectively smaller or greater than normal.

Within this conception, the conditions of competition no longer have any role to play as regulator of the normal distribution of income between wages and profits. Given the dominant methods of production, the normal rate of profit depends exclusively on wages: if real wages, as determined by historical and social conditions independently from prices and from the rate of profit, absorb only a part of the net product of the economy, it is simply impossible for competition, however intense it may be, to determine prices such as to render nil or "as low as possible" what remains of the value of the product after the means of production have been reintegrated and the wages paid[40].

It is certainly true that the competition amongst the owners of capital plays an important role in Smith's theory: he makes the level of the "natural" rate of profit depend on it. But this is precisely where the basic contradiction in his theory may be seen: on the one hand he considers the real wage to be determined by subsistence; on the other he maintains that the rate of profit is determined by competition amongst capitalists, which, by growing more intense as accumulation proceeds, would make "the ordinary profit as low as possible"[41]. In short, his reasoning proceeds as if *both* distributive variables could be determined independently from each other.

But leaving aside Smith's contradiction for the purposes of the present argument, we may say that in classical and Marxian theory competition is envisaged essentially as the mechanism whereby, in each sphere of production, a single price tends to be established: the price that enables the means of production to be reintegrated on the basis of the dominant

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[39] "The actual value of the labour-power... depends not merely upon the physical, but also upon the historically developed social needs, which become second nature. But in every country, at a given time, this regulating average wage is a given magnitude" (K. MARX, *op. cit.*, p. 859).

[40] On the basis of Sraffa's price equations (cf. *Production of Commodities, op. cit.*, para.s 1-4) it is easy to see that, given the wage in terms of specified necessaries and the methods of production, if there is a surplus-product in the economy then the system necessarily determines, together with prices, also a positive general rate of profit which no competition whatsoever among capitalists can eliminate or change.

[41] A. SMITH, *op. cit.*, p. 106.

production techniques, and wages and profit to be paid at their normal rates. These latter must be explained independently from competition, and, in Marx's words, *it is they that regulate competition*, rather than being regulated by it[42].

The competition amongst firms within each sphere of production and the free transferability of capital from one sphere of production to another — and hence the process whereby profit rates gravitate towards their respective normal levels — may be impeded by the presence of monopoly elements in this or that sphere of production. This however will affect the division of profits amongst the particular stocks making up social capital, but not the normal distribution of net output between profits and wages. If the process of gravitation "meets obstacles — Marx argues — in the various spheres of production in the form of artificial or natural monopolies, ..., so that a monopoly price becomes possible, which rises above the price of production... then... the monopoly price of certain commodities would merely transfer a portion of the profit of the other commodity-producers to the commodities having the monopoly price"[43].

It should finally be remembered that these authors ascribe to the conditions of competition *on the labour market* the possibility of influencing real wages for fairly long periods of time, and hence of causing shifts away from the normal distribution of income between capitalists and workers. We are referring to the possibility that under certain circumstances, connected with the pace of accumulation and the growth in productivity of labour, the wage may move above or below the subsistence level. When accumulation proceeds at a very rapid pace, and "every year furnishes employment for a greater number than had been employed the year before, ... the scarcity of hands", Smith argues, "occasions a competition among masters, who bid against one another, in order to get workmen, and thus voluntarily break through the natural combination of masters not to raise wages"; in contrary conditions there would be a "scarcity of employment, and the labourers would be obbliged to bid against one another to get it", so that "the competition of the labourers and the interest of the masters would soon reduce (wages) to this lowest rate" (i.e. the rate *indispensably* necessary "to maintain the

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[42] "And when we speak of a necessary rate of profit, what we wish to know is precisely the rate of profit independent of the movements of competition, which in turn regulates competition itself. The average rate of profit sets in when there is an equilibrium among the competing capitalists... When this equilibrium is established, why is the general rate of profit now 10, or 20, or 100%? Because of competition? No, on the contrary, competition has eliminated the causes producing deviations from 10, 20, or 100%. ... The magnitude of this profit itself is independent of competition". (K. MARX, *op. cit.*, p. 865).

[43] *Ibid.*, p. 861.

labourer, and to enable him to bring up a family")[44]. Starting from Smith's analysis, Marx went on to consider the movements of wages above and below the normal average level as regulated "by the varying proportions in which [in the periodic alternations in the industrial cycle] the working class is divided into an active army and a reserve army, by the increase or diminution in the relative amount of the surplus population, by the extent to which it is alternately absorbed and set free"[45].

12. Let us now attempt to focus on the possible role of competition with respect to the explanation of distribution based on the notion we have put forward that the normal rate of profit consists of the sum of two autonomous components: the long-term rate of interest plus the normal profit of enterprise. Given the money wage, the real wage appears here as a residue on the basis of the price level reflecting the dominant techniques in the different spheres of production and the normal profit rate determined in each sphere in the way we have just indicated.

Analogously to the classical analysis considered above, greater (or lesser) profits than normal will reflect more advanced (or more backward) techniques than the dominant ones. And over the short run effectively greater or lesser profits than normal will also be obtained each time "effectual demand" is greater or smaller than the volume of production that was considered normal when the productive capacity was installed.

Differently however from in the classical analysis, since in this approach the real wage constitutes the residual variable, the presence of monopoly elements in this or that sphere of production may affect not only the division of profits amongst the different employments of capital, but also the distribution between profits and wages. Given in fact the money wage, the possibility for some commodities to obtain "a monopoly price which rises above the price of production" will translate into a ratio price level/money wage which will be higher than it would if there were no monopoly elements, and hence into a lower real wage.

If we thus assume, to start with, that the presence of monopoly elements exerts no influence on the long-term interest rate, it follows that lasting effects of the conditions of competition on distribution may only be obtained in one direction: higher profits than normal. For the long-term interest rate and the normal remuneration of "risk and trouble"

[44] A. SMITH, op. cit., Vol. I, pp. 77 and 80. Also Smith understands by "necessaries", "not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without", and "the want of which would be supposed to denote that disgraceful degree of poverty, which no body can well fall into *without extreme bad conduct*" (Vol. II, p. 399, italics added).

[45] K. MARX, *Capital*, Vol. I (3rd ed. 1883), Harmondsworth-Middlesex, Penguin Books, 1976, p. 790.

establish, in each sphere of production, the minimum or "necessary" level below which the profit rate cannot go, over the long run, however intense one may suppose the forces of competition to be[46].

In any case, we believe that the possibilities of distribution being more favourable to profits as a result of the presence of monopoly elements should not be overrated. Even in spheres where the entire production is carried on by a very small number of firms, any agreements they may make — aimed, for example, at avoiding price-cutting when normal costs go down — will tend to be inhibited by the freedom of capital movement and hence by the fear that new firms might move into the market. Already at the end of the forties Andrews was maintaining that "competition is much more important than modern economists tend to recognize"[47]. More recently, much the same thesis has been maintained on the basis of the *growing* adherence to reality, in modern capitalism, of the hypothesis of the free mobility of capital[48]. It appears to us to be probable that, apart from situations of natural monopoly (control over the source of a scarce and indispensable input by one producer or group of producers), the "monopoly elements" most easily encountered in reality are those arising from forms of institutional protection granted to particular firms or industries[49].

We must lastly consider the possibility that the conditions of competition influence the normal profit rate via the long-term interest rate. Amongst the main factors that may be identified at the root of a possible influence of the conditions of competition on the rate of interest, is the level of the real wage. Let us see why.

In our approach it has been said that the real wage is the residual variable in the relation between wages and profits, since the normal profit rate in each sphere of production is arrived at by adding up the rate of interest and the normal profit of enterprise. To acknowledge however that

[46] Indeed, in this lies the fundamental difference with respect to the explanations of industrial profits in terms of the greater or lesser strength of the forces of competition: in the present approach that *positive* level of profit is explained, which, when established, brings to an end any action by competition. As the chief explanations of industrial profits in terms of the strength or weakness of the forces of competition, we refer to those contributed by M. KALECKI (*Costs and Prices* and *The Class Struggle and the Distribution of National Income*, both republished in "Selected Essays on the Dynamics of the Capitalist Economy, 1933-1970") and J. STEINDL (*Maturity and Stagnation in American Capitalism*, Oxford, Blackwell, 1952, ch.s 4 [sect. 3], 5 and 7).

[47] P. W. S. ANDREWS, *op. cit.*, p. 24.

[48] Cf. J. A. CLIFTON, "Competition and the Evolution of the Capitalist Mode of Production", *Cambridge Journal of Economics*, 1, 1977, in part. pp. 143 et seq.

[49] An important case of institutional protection against competition is that provided by patents. Referring however to such legal restrictions on freedom of entry, Andrews observes that "even when he has a firm patent for a new, indispensable and unique article, the business man's pricing policy will still be affected by the knowledge that some potential competition always exists" (*op. cit.*, p. 173). It may be added that a particularly high profit of enterprise for the period of validity of the patent is ultimatly the reward for the "risk and trouble" of developing and applying new knowledge.

lasting variations in the interest rate determine variations in the normal distribution between profits and wages, is not to concede that the real wage may move to any level whatsoever. Thus, in each concrete situation, it would be hard to carry on the productive process in an orderly manner if the real wage were lower than certain levels reflecting institutional and historical as well as economic circumstances, such as the degree of organization of the workers, the levels of employment, the strength of the unions, etc. So let us imagine that the profits of enterprise within the different spheres of production are kept abnormally high by the widespread presence of "monopoly elements", and/or that a protectionist policy keeps the price level/money wage ratio high via backward techniques and a low productivity of labour. In these conditions, efforts to ensure standards of living (i.e. real wages) considered indispensable for social stability could lead to a policy of low interest rates.

In short, underlying the case of a possible influence of competition which we have just considered there is the fact that the level of the real wage constitutes *in any case* an important constraint on the freedom of monteray policy to establish the level of interest rates. If the conditions of competition have a negative effect on wages — via the levels of the profits of enterprise or the methods of production adopted — then beyond certain limits, which will vary from one situation to another, a compensatory effect will have to be sought in the level of interest rates.

6. WAGE BARGAINING, DISTRIBUTION AND THE PRICE LEVEL

13. Let us now proceed to the following question: if changes in normal profits are governed by lasting changes in long-term interest rates, real wages being a residue, are there any effects of wage bargaining on distribution between wages and profits? According to the view expounded above, this question amounts to that of the influence of wage bargaining on monetary policy. In fact, if the notion of the rate of profit as a sum of two autonomous components — the long-term rate of interest + the normal profit of enterprise — is founded; considering that the normal profit of enterprise must be regarded as independent of the behaviour of any other component of total unit cost — being governed by "any real or fancied advantage which one employment may possess over another"[50], then wage bargaining, in order to have any persistent effect on income distribution, will ultimatly have to exert some influence on the level of the rate of interest. It seems, then, that there will not be 'direct' effects of wage bargaining on normal distribution, but possibly 'indirect' effects, via

[50] Cf. para. 9, above.

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monetary policy, on the latter depending directly the level of the rates of interest.

Let us consider, for example, a marked rise in money wages. If interest rates were kept unchanged, prices would rise (unless the increase in money wages was compensated for by a growth in productivity). Assuming a closed economy, the main shortcoming of the rise in prices would probably have to be singled out in its impact on the real income of social classes and groups other than the capitalists and the wage earners. This impact, in situations where the economic and political weight of the injured social categories is significant, could then constitute an obstacle to a policy of unchanged interest rates. Particularly so, if an unchanged ratio of prices to money wages caused strong unions to ask for and obtain new wage increases.

If an open economy is assumed, the freedom of monetary authorities to establish interest rates is further restricted by foreign competition. In the face of strong unions and a relatively rapid growth of money wages, sticking to high interest rates could impair the competitiveness of domestic products leading to lower output levels. It is true that if interest rates are kept at sufficiently high levels, balance of payments problems arising from current accounts could be compensated for by net capital inflows, but this might simply enable domestic demand to be sustained in the face of lower growth rates of domestic output. Over the short run firms might decide to content themselves with lower than normal prices, in order not to lose shares of the domestic and external markets and so as to prevent capacity utilisation from falling; but sooner or later capacity and output would tend to be adjusted downwards — unless there occured a lasting lowering of interest rates, and hence a persistent redistribution of income from profits to wages.

A relatively small and internationally integrated economy, however, will generally not be able to *keep* the rate of interest at low levels, if the other countries do not follow the same policy. A lowering of interest rates in such cases will usually be of too short a duration to influence the production costs of goods, and hence normal prices. This seems to imply that income distribution, in a relatively small and internationally integrated economy, will largely be affected by the long-term monetary policy followed by the major economies.

14. Other considerations of this kind could be developed; other types of obstacles to the ability and freedom of monetary policy to establish the level of the rates of interest can be pointed out[51]. All of them, we believe, would go to show that the question of the impact of wage bargaining on

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[51] See para.s 5 and 6, above.

income distribution cannot be decided on a apriori basis — the power of the unions, as reflected in the behaviour of money wages, being *one* of the circumstances upon which distribution ultimately depends. Marx's expression "respective powers of the combatants"[52] may be regarded as a way of summing up all such circumstances. But according to the view expressed here, the money rate of interest should be looked on as the magnitude on which those "respective powers" discharge themselves *in the first place*, and through which distribution between profits and wages is actually arrived at.

15. According to our view, then, the level of the real wage prevailing in any given situation is the *final* result of the whole process by which distribution of income between workers and capitalists is determined. Wage bargaining and monetary policy are regarded as the main channels through which class relations act in determining distribution, and those relations are seen as tending to primarily act upon the profit rate — rather than upon the real wage rate, as maintained by both the classical economists and Marx. It seems to us that in the conditions of modern capitalism it is difficult to conceive of the real wage rate as the independent or given variable in the relationship between wages and profits — the difficulty, as we see it, arising from the fact that the direct outcome of wage bargaining is a certain level of the money wage, and that the price level cannot be determined before and independently from money wages. Let us briefly consider this question, before proceeding with the development of our argument.

Given the methods of production and distribution between profits and wages, the level of prices simply depends on the level of money wages. Thus, in our picture, the long-term rate of interest enters into the determination of the price level because it contributes to regulate the ratio of the latter to the money wage — i.e. distribution between profits and wages.

If instead the real wage rate is taken as given, the ratio of prices to money wages will be determined by the condition that it must be such as to ensure the given level of the real wage; and on this basis wage bargaining, in determining money wages, can be thought of as determining also the price level. In such a picture monetary policy plays a purely passive role — the level of the rate of interest having to accomodate to lasting changes in the ratio of prices to money wages, rather than governing that ratio. Now, what we are ultimately facing here is a conception of the ratio of prices to money wages as being determined by a magnitude — the real wage rate — which is not actually known before

[52] K. MARX, *Wages, Price and Profit* (1898), Peking, Foreign Languages Press, 1975, p. 74.

that ratio is known. This explains in our opinion why of the two alternative propositions — that the ratio of prices to money wages depends on the real wage rate, or that the real wage rate depends on the ratio of the price level to the money wage — the latter is easier to digest: in actual fact, there are no circumstances determining real wages as distinct from those acting through money wages, the level of prices and the ratio of prices to money wages[53].

16. What in our picture appears to be in sharp contrast with commonly received opinion is the influence of the rate of interest on prices. According to traditional views, low and decreasing interest rates would be accompanied by high and rising prices, and viceversa; whereas, according to the explanation of distribution under discussion, given money wages and production techniques, a lowering of the rate of interest, provided it were not of a temporary nature, would bring about lower prices — there would be, in other words, a direct relationship between the rate of interest and the price level.

If one looks back into economic literature, the first outstanding author who strongly sustained such a relationship between the rate of interest and the price level was the 19th century English economist Thomas Tooke, the leader of the Banking School. Arguing against the dominant opinion that a low rate of interest raises prices and that a high rate depresses them, Tooke actually maintained that a persistent reduction in the rate of interest constitutes a diminution of the cost of production, which could not fail, by the competition of the producers, to bring about a fall of prices[54]. He went so far as to state that it is difficult to find evidence of

[53] The above argument does not apply to situations where real wages consist of a specified bundle of consumption goods determined by the necessary subsistence of the workers, so that they can be treated "on the same footing as the fuel for the engines or the feed for the cattle" (P. Sraffa, op. cit., p. 9). Apart from such situations, the conception of the real wage as the given variable — i.e. the idea that class relations tend to primarily act upon the real wage rate — does not raise the above difficulties if a produced money-commodity is assumed within a labour theory of value framework: with given methods of production, there would be under such conditions a perfect correspondence between changes in the "money" wage and changes in the real wage measured in therms of any commodities.

[54] "A general reduction of the rate of interest is equivalent to or rather constitutes a diminution of the cost of production. This ... operates in all cases where an outlay of capital is required, according to the length of time ordinarily occupied in bringing the commodities, whether raw produce or finished goods, to market; the diminished cost of production hence arising would, by the competition of the producers, inevitably cause a fall of prices of all the articles into the cost of which the interest of money entered as an ingredient" (T. Tooke, An Inquiry into the Currency Principle (1844), London, The London School of Economics and Political Science, Series of Reprints of Scarce Works on Political Economy No. 15, 1959, p. 81).

Although Tooke does not develop the distribution theory implications of this view of the influence of the rate of interest on prices, it follows from what has been said so far that there is implicit in it a causal relationship between the rate of interest and the rate of profit going from the former to the latter. The significant point is the inclusion of the money rate of interest among the autonomous

facts more in contrast with the influence ascribed to a low rate of interest in raising prices, and viceversa: "The theory is not only not true", he wrote in 1844, "but the reverse of the truth"[55].

Strictly connected with the influence ascribed to a low rate of interest in *lowering* prices (and viceversa), are Tooke's views about money and prices — his main contention being "that the prices of the commodities do not depend upon the quantity of money...; but that, on the contrary, the amount of the circulating medium is the consequence of prices"[56]. (A disposition on the part of the Bank of England and the country banks to add to the quantity of money in circulation, he would argue, will result in its effective increase only if other independent circumstances, such as an extension of trade and a rise in prices, are "coincidently" in progress[57].) It seems, then, that we owe to Tooke's unprejudiced observation of facts the first conception of "endogenous money" in the history of economic analysis[58].

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determinants of normal production costs, together with money wages and production techniques. The ratio of the price level to the money wage then becomes the connecting link between the rate of interest and the rate of profit: a lower rate of interest causes a lowering of that ratio, hence bringing about a lower rate of profit. Tooke's theses may thus be connected with Sraffa's suggestion of a monetary determination of the rate of profit, and give that suggestion significant support.

[55] *Ibid.*, p. 84. Both Wicksell and Keynes recognize that a high rate of interest is generally associated in actual experience, not with low or falling prices, but with rising prices. (Wicksell refers to statistics covering the period from 1850 to 1915; Keynes refers to A. H. Gibson's statistics, covering a period of more than a hundred years from 1791 to 1920. The "Gibson Paradox", as Keynes calls the phenomenon — "One of the most completely established empirical facts within the whole fleld of quantitative economics, though theoretical economists have mostly ignored it"; *Treatise, op. cit.*, Vol. II, p. 198 —, ceases of course to appear as a paradox in the light of the view here sustained). Both authors use the same argument — indeed, Wicksell's argument — to reconcile the phenomenon with their theory: the "*primum movens*" are generally changes in the "natural real rate", and, in the words of Keynes, "movements of bank-rate have so often represented a belated and inadequate effort to follow a movement of the natural rate" (*ibid.*, Vol. I, p. 196n; cf. also Vol. II, p. 203). Substantially the same argument, it is worth noting, would have to be held by anyone rejecting a monetary theory of interest, whether on marginalist or on classical grounds (cf. para.s 3 and 6, above).

[56] T. TOOKE, *op. cit.*, p. 123.

[57] Cf. *ibid.*, pp. 65-66.

[58] The expression "endogenous money" is used by Kaldor in a well known article ("The New Monetarism", *Lloyds Bank Review*, n. 97, 1970) in which he argues that the money supply tends to accomodate itself to the needs of trade. (Other examples of very similar ways of thinking by modern economists can be found in R. HINSHAW, ed., *Inflation as a Global Problem*, London, J. Hopkins Press, 1972; see in particular the positions of R. Harrod and J. Rueff on the relation between money and prices, pp. 51, 99, 109 and 147.)

The thesis "that prices are not high or low because much money circulates, but that much or little money circulates because prices are high or low" is expressed by Marx in the *Grundrisse* (Rough Draft 1857-1858; Engl. trans., *Grundrisse: Foundations of the Critique of Political Economy*, Harmondsworth-Middlesex, Penguin, 1973, p. 195); it is present also in the chapter on money in *Capital* (Vol. I), but without any reference to Tooke. Marx's debt to Tooke and the Banking School, however, is substantially acknowledged both in the *Grundrisse* and in *A Contribution to the Critique of Political Economy* (1859); moreover, in a letter to Engels (5 March 1858, a few days after Tooke's death) he refers to Tooke as to "the last English economist of any value" (*M.E.W.*, Lawrence & Wishart, London, 1983, Vol. 40, p. 284).

But if the idea is agreed upon that commodity prices do not depend on the quantity of money — that the quantity of money is an effect, not a cause, of the level of monetary expenditure — and a produced money-commodity world is not assumed, then the question arises of what determines the price level. Our answer is already contained in the explanation of distribution put forward: the price level depends on the level of the money wage (on the socio-economic and institutional circumstances governing money wages), given the level of the money rate of interest — given the magnitude, that is to say, governing distribution of income between profits and wages.

7. THE RATE OF INTEREST AND THE INDUCEMENT TO INVEST

17. Let us now point out how the conception of the rate of interest as an autonomous determinant of normal profits and normal costs, may lead to a view of the influence of the rate of interest on spending decisions that is very different from the commonly received one.

What is ultimately in question when discussing the two connected topics of the relation between money and prices and of the influence of the rate of interest on the price level, are the effects of changes in interest rates on the inducement to purchase commodities. Thus Tooke, consistently with his position, criticizes the notion that the facility of borrowing at a low rate of interest, not only confers the power of purchasing commodities, but affords also the motive, the inducement to do it. "The error", he says, "is in supposing the *disposition* or *will* to be co-extensive with the power"[59]. And Wicksell, for his part, bases both his view of the influence of the loan rate on prices and his criticisms of Tooke's view upon the interest elasticity of the demand for loan capital[60].

Now the notion, sustained here, that the rate of profit moves in sympathy with the rate of interest, through changes in prices relative to money wages, may help to explain that lack of sensitivity of investment

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[59] T. TOOKE, op. cit., p. 79. Tooke is perfectly aware of the important *permissive* role played by money: given the inducement to purchase commodities, "given the force of the motive", he writes in the *History of Prices*, "the extent to which it can be acted upon is doubtless affected as regards persons who can buy only on credit, or who must borrow in order to be able to buy, by the greater or less facility of borrowing" (*A History of Prices and of the State of the Circulation in 1938 and 1939*, Vol. III, Longman, Orme, Brown, Green, Longmans, London, 1840, p. 154).

[60] Cf. K. WICKSELL, *Interest and Prices* (1898), Kelley, New York, 1965, ch. 7; *Lectures*, cit., Vol. II, pp. 175-208. For a criticism of the Friedman school's contention that changes in the money supply have a "direct effect" on the demand for goods, and not only an "indirect effect" *via* the rate of interest, see N. KALDOR, "The New Monetarism", cit., p. 9n.

On the classical economists' views about the sensitivity of aggregate expenditure with respect to the rate of interest, see M. CAMINATI, "The Theory of Interest in the Classical Economists", *Metroeconomica*, XXXIII, 1981.

decisions to lasting changes in the long-term rate of interest, pointed out by so many contributions, both on theoretical and empirical grounds, starting from the famous "Oxford inquiry" at the end of the thirties[61]. Let us consider a very simple example, taken from Wicksell, where capital is committed for an "infinite period" as in building activity[62].

Consider a house which, given production techniques and money wages, can be built for 100 million and which brings in 4 million net in rent. At a rate of interest (*i*) of 4% the capital value of the house will also be 100 million and this kind of investment would just be profitable at $i = 4\%$. Imagine now, always following Wicksell, that *i* falls to 3% while a similar house can still be built for 100 millions. Then, according to both Wicksell and Keynes the purchase of such a house would have become an extremely profitable investment, the capital value (or demand price) of the house having risen to 133 millions — much higher than its supply price. (In the case of Wicksell, since the normal situation of the economy is characterized by the full employment of all productive factors, the increased monetary spending will result in a rise in prices; in the case of Keynes, it could bring about a rise in income and employment.)

The important point here is that both authors' ways of thinking are based on the idea that the rate of return on the real asset in question (more generally, on the *existing* stock of capital goods) is unaffected by the assumed change in the rate of interest. If instead it is acknowledged that in the face of a lasting lowering of the rate of interest competition among firms within the house-letting industry will bring about a lowering of rents[63], then no increase in building activity (in investment in houses) should be expected as a consequence of a lower rate of interest: the demand price of houses would not increase relative to their supply-price. Note that we do not need to say anything about what happens to the level and composition of output: such gravitation of the rates of return toward the level of the money rate of interest, we have repeatedly been referring to, is independent of the level and composition of output, and would occur even if they remained the same. Whereas in Keynes, the rates of return on the various types of capital assets will evenctually adapt themselves to the new lower level of the money rate, but through increases in the capital stock due to net investments, and the consequent changes in the level and composition of output[64].

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[61] Cf. T. WILSON and P. W. S. ANDREWS (eds.), *Oxford Studies in the Price Mechanism*, Oxford, Clarendon Press, 1951, and the first three issues of the *Oxford Economic Papers*, 1938-39.

[62] Cf. K. WICKSELL, "The Influence of the Rate of Interest", *op. cit.*, p. 79.

[63] A lowering of the long-term rate constitutes a lowering of the normal production costs of residential services, to which their prices (hence rents) will tend to accomodate.

[64] For a particularly concise and clear-cut account of this latter way of postulating the relation between the rate of profit and the rate of interest, see J. ROBINSON, *Introduction to the Theory of Employment*, London, Macmillan, 1938, pp. 80-81.

18. What we have been saying about the role of monetary policy and the rate of interest in determining distribution, does not rule out any traditional-type influence of the rate of interest on prices and activity. In considering the influence of the money rate on distribution and the price level, we have always been referring to *lasting* changes in interest rates. The effects of changes of a temporary nature may be altogether different. A lowering of the long-term rate, for example, regarded as temporary, is likely to induce an expansion of significant expenditure categories where capital is committed for very long periods, such as house purchases and capital expenditures by state and local governments, thereby exerting a temporary pressure also on the price level. The reason for this expansion can be found, in the light of our theory, in the fact that the corresponding investment projects will tend to be anticipated so as to take advantage of the cheap money situation, which, being regarded as temporary, is not expected to affect their rates of return. If however the opinion should spread that low (high) interest rates have come to stay, no positive (negative) impact on such expenditures would occur[65].

According to our way of thinking, then, the little weight of such factors as depreciation and obsolescence allowances would explain the sensitivity of investment spending on long-lived capital goods (e.g. houses) to *temporary* changes in interest rates; there would be no difference, however, between this kind of investment and investment in machinery and equipment, as far as the influence of *lasting* changes in interest rates is concerned.

19. Finally, to regard the rate of interest as 'setting the pace', in its connection with the rate of profit, has another implication which is worth indicating here. This is that changes in interest rates *will* tend to be associated with changes in aggregate demand, but by a different route from the one traditionally envisaged. Both the propensity to consume and the inducement to invest, it will be acknowledged, are most likely to be affected by changes in the normal distribution of income between profits and wages. Indeed, *this* is the route by which we envisage the rate of interest to influence the level of output and its composition. The directions of such influence, however, cannot be predicted on the basis of some apriori functional link, ultimately because the impact of changes in distribution on the inducement to invest is bound to be different in each

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[65] It may be added that to acknowledge that lasting dear-money policies represent, by themselves, an inflationary factor, does not lead to the exclusion of any effect of such policies on prices in the commonly-expected direction. Thus, to the extent to which a dear-money policy is associated with lasting programs of credit restrictions, a check on the rise in prices might come about through the negative impact of the restrictions (in the availability of funds, in relation to the demand for them) on activity levels, hence on the level of employment and of money wages.

different concrete situation, and may go either way. If, for example, a lasting lowering of interest rates is assumed, then, according to our view, there will be a fall in normal profit rates; the negative impact of this fall on the inducement to invest may or may be not counterbalanced by a rise in *effective* profit rates (i.e., higher utilization rates of existing capacity resulting from the rise in real wages) and/or by investment decisions intended to restore normal profit rates to their former levels by the introduction of new productive processes. But although the weight of all such elements will have to be distinctly studied in each case — in order to appraise the impact of a change in distribution on activity levels — it can still be concluded, on the basis of the explanation of distribution under discussion, that both the level and composition of output will be affected by changes in money rates of interest.

These considerations hint at the question of the importance of money in long-period analysis of output levels. In traditional long-period analysis — both in the monetarist and the "neoclassical synthesis" version — the relationship between the rate of interest and the rate of profit (Wicksell's "natural real rate") does not play any role in the explanation of output levels. The process of gravitation of the money rate towards the normal rate of profit is significant for explaining changes in the price level and/or fluctuations of output around its normal or full-employment level. Money, that is to say, may be important to the gravitation of the economy towards its full-employment output; but with respect to the latter and to its composition and changes, money and the money rate of interest do not have any role to play. Things are likely to be very different within the alternative theoretical approach to value and distribution, if the notion that the normal rate of profit is governed by the money rate of interest is well founded. The point, of course, is the significance of income distribution for effective demand: if money plays an important role in determining income distribution, it will also play an important role in the determination of the level and composition of output.

8. NOMINAL AND REAL RATES OF INTEREST

20. In discussing the influence of the rate of interest on the rate of profit, we made no distinction between the nominal rate of interest and the real rate — the money rate corrected by reference to any change in the value of money between a loan being advanced and its being repaid. In fact, competition among firms within each industry should tend to cause the rate of profit to move in sympathy with the real rate of interest, rather than with the nominal one — the former constituting the actual price for the use of capital in production, or its opportunity-cost.

The real rate of interest depends on the nominal rate and on the rate of

100

increase in prices: if nominal interest is 20 per cent. per annum and the value of money is falling by 20 per cent. per annum, the repayment of 120 a year hence in return for 100 loaned today will leave the lender with a sum of the same real value and with zero real interest. Let us now make for simplicity the following assumptions: normal profits of enterprise are absent, so that the rate of profit can be regarded as being strictly determined by the rate of interest; capital employed in production is only circulating capital; a year is the period of turnover of circulating capital in the production of the various commodities; there are no changes in productivity.

If nominal interest is 20 per cent. per annum and 100 is the amount of capital (the price of the capital goods) employed in production at the beginning of the year, equalization of the rate of profit with the real rate of interest by competition among firms simply implies that, *whatever the change in prices during the year*, firms should be left at the end of the year with 120 after having paid wages[66]. The magnitude of both the real rate of interest and the rate of profit will depend on the change in prices necessary to bring about this result: it will be the lower the higher the rate of increase in prices. Thus, if 10 per cent. is the rise in prices necessary to leave firms with 120 after having paid wages, 9 per cent. (10/110) would be the rate of profit = real rate of interest; it would be zero with a 20 per cent. rise in prices, and 20 per cent. if there was no change in prices during the year.

But what does govern the change in prices in the conditions assumed? If equalization of the profit rate with the real interest rate requires that firms be left with "120" after wage-payments, then the change in prices will, at first, exclusively reflect the change in money wages: following an increase in money wages Δw, the nominal rate of interest r_n remaining the same, prices would rise at first in a lesser proportion than money wages; the real rate of interest and of profit falls and the real wage rises — the more so, the higher the rate of increase in money wages and the consequent increase in prices. After this first increase, prices would keep on gradually rising year after year till both the prices of all capital goods and profits at the given r_n have risen in the same proportion as money wages. At that point prices would cease to rise, and the real rate r_r would have risen back to r_n — the level at which r_r was before Δw. But throughout the inflationary process following the assumed Δw (i.e., during each of the yearly production cycles making up the whole period of transition to the new equilibrium price level) r_r would have remained below the given r_n.

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[66] This amounts to saying that in the presence of inflation and of an unchanged nominal interest rate, firms are led by competition to use in their calculation the 'historical' purchase price (the price of the capital goods at the beginning of each yearly production cycle), rather than the current reproduction prices of capital goods.

It seems, then, that as far the influence of wage bargaining on distribution between wages and profits is concerned, the notion that the rate of profit tends to gravitate towards the *real* level of the money rate of interest has the following implication: rising money wages, if nominal interest is kept unchanged, tend to result in a temporary redistribution of income in favour of workers[67]. In order to keep distribution constantly unaffected, the nominal rate of interest would have to be varied by reference to any change in the rate of inflation. *Given* a certain (desired) level of r_r — the real rate of interest and of profit — the nominal rate r_n required to validate $\bar{r}_r$ is an increasing function of the rate of inflation, $\dfrac{\Delta p}{p}$:

$$r_n = \bar{r}_r + (1 + \bar{r}_r)\,\frac{\Delta p}{p} \qquad (1);$$
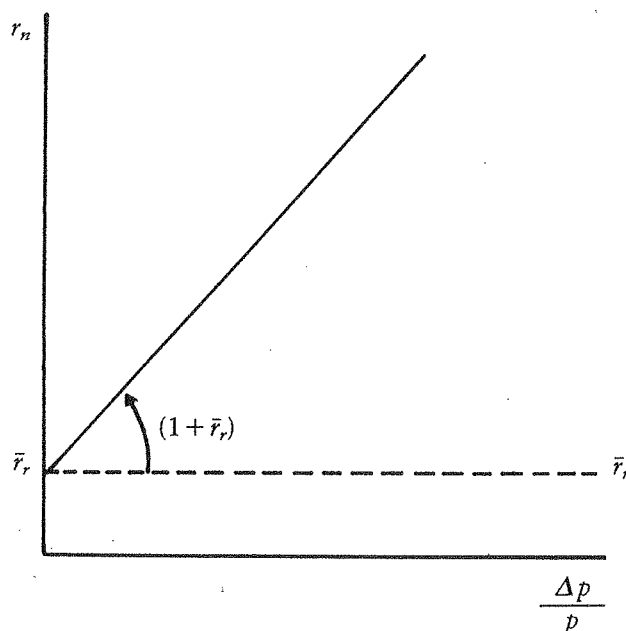
graphically:

Fig. 1.

This relation provides us with a simple short-cut to determine the level of r_n necessary to maintain $\bar{r}_r$ in the face of any rate of increase in money wages, $\dfrac{\Delta w}{w}$. What one actually wants to know is the level of r_n which,

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[67] The redistribution of income need not be just a short-run phenomenon, if, starting from an equilibrium situation with no inflation and $r_r = r_n$, a *series* of yearly increases in money wages is assumed, instead of a single Δw. With a given r_n, the yearly increases in money wages could prevent the ratio of prices to money wages from rising back to its starting level.