Texto Para Discussão
Número 36

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Fevereiro - 94

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* I am grateful to Amitava Krishna Dutt for his useful comments. I need hardly add that he is not responsible for, or necessarily in agreement with, the argument that I have tried to develop here. Other comments are equally welcome.
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1. Introduction

The main purpose of this paper is twofold. First, it is intended to develop a critical assessment of some recent theoretical attempts to provide a monetary explanation for the long period positions of some systemic variables such as output and employment and income distribution. Basically, it is intended to critically outline the alternative arguments put forward by Panico (1988) and Pivetti (1991) to support a monetary theory of distribution and, to a lesser extent, Rogers' (1989) formulation on a monetary determination of long period unemployment equilibrium (1). Second, it is intended to evaluate to what extent, if any, what is called here 'new stagnationist' approach to growth and distribution that has been developed by authors such as Rowthorn, Taylor, and Dutt can benefit from the monetary formulations mentioned above. It should be stressed at the ouset, though, that the comparative analysis developed in what follows is not to be interpreted as ultimately arguing for a complete synthesis among these two distinctive research programs, but rather as evaluating the extent to which they can benefit of each other in the consolidation of their theoretical edifice, specificities notwithstanding.

The paper is organised in the following way. Section 2 critically outlines the somewhat alternative explanations for a monetary theory of distribution put forward by Panico and Pivetti. Section 3 presents a brief critical survey of the main arguments advanced by Rogers to support a monetary determination of long period unemployment equilibrium. A general overview of what is called here 'new stagnationist' approach opens Section 4, in which is also evaluated to what extent, if any, some insights contained in the monetary

approaches discussed previously can, should and need be incorporated into the 'new stagnationist' tradition. Finally, some concluding remarks close the paper.

2. Searching for a monetary theory of distribution

Both Panico's and Pivetti's formulations on money and distribution may be conceived as falling within the so-called classical approach to distribution. As it is detailed in what follows, both of them clearly attempt to put forward an explanation of distribution between profits and wages along the lines of the classical political economy or, more precisely, along the lines of the Sraffian recovery of the so-called surplus approach to distribution (2). In clearing the ground for the recovery of classical political economy, Sraffa is said to had provided a consistent critique of the neoclassical theory of the rate of profit and so of the entire neoclassical explanation of value, distribution and output.

Unlike the supply-and-demand approach adopted by neoclassical theory, the surplus approach to value and distribution treats the two basic distributive variables - the real wage and the rate of profit - as being neither symmetrically nor simultaneously determined. In the surplus approach, only after either one of these distributive variables has been explained independently of both the social product and the other distributive variable, then the latter is determined as a residual. While the classical economists and Marx, on one hand, considered the real wage as independent variable, and the rate of profit as a residual to be determined on the basis of the dominant techniques, Sraffa, on the other hand, conceived the rate of profit as susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest.

Both Panico and Pivetti have taken up the suggestion given by Sraffa concerning the fundamental role played by the rate of interest in the determination of distribution and carried it forward into a really coherent and promising analysis of the very complex relationship between the rate of interest and the rate of profit (3). As it is well-known, this relationship is often ignored in most of traditional analysis, either classical or neoclassical, it being assumed that the rate of interest is equal to the rate of profit or deviates only by some risk factor; put somewhat crudely, despite monetary factors are allowed to determine only everyday fluctuations in the rate of interest, it is argued that its average value over long periods depends upon the rate of profit to be made from the employment of capital in production (4).

Notwithstanding Sraffa's claim that the rate of profit should be made to depend upon the money rate of interest, one cannot fail to recognise that he did not put forward clear and explicit arguments to support it. Yet, as Panico (p. 1) correctly stressed, this suggestion underlines a very important aspect of the issue at stake, namely, that any attempt to invert the causal relationship between the rate of interest and the rate of profit is bound to put forward an alternative theory of value and distribution; monetary factors have to be allowed to affect the rate of profit, the distributive variables and the determination of prices (5).

2.1 Panico on interest, profit and distribution

The main purpose of Panico's work is to examine the possibility of relating the theory of interest and that of value and distribution in a way different from that envisaged by traditional analysis of conceiving the rate of interest as just another aspect of, and determined by, the rate of profit.

Following Sraffa's suggestion, Panico's stated purpose is to put forward a monetary theory of the rate of profits that may give some initial understanding about how monetary factors and policies are likely to affect inflationary processes and the distribution of income amongst bankers, industrial capitalists and workers (p. 1). In closely following Sraffa's suggestion, Panico's purpose is to allow monetary factors and policies to clearly play a role in distribution, thus presenting a true alternative to the essentially real explanations advanced by neoclassical theory. In the latter one, both relative values and income distribution are determined in terms of supply and demand, it being that all distributive variables are determined endogenously and simultaneously, together with equilibrium prices and quantities. In other words, the neoclassical approach is based upon the principle of substitution to determine the distributive variables in terms of supply and demand functions for productive factors (p. 2-3).

Given that Panico's purpose is to set the stage for a monetary determination of the rate of profit, the framework adopted by him is the so-called surplus approach, an approach that analyses the conditions that have to be satisfied for the reproduction of the economic system at the existing level of activity. Panico justifies the choice of the surplus approach by arguing that it allows one to take the rate of profits as an independent variable, determined from outside the system of production, and the real wage rate as a residual one. For Panico, whether the real wage rate or the rate of profit is to be taken as an independent variable is largely dependent of prevailing economic, social and political conditions. In his view, the strength of the surplus theory of value and distribution relies exactly upon it is compatibility with different ways of relating those distributive variables (p. 5).

Panico argues that any explanation intended to provide a consistent monetary theory of distribution along the lines

suggested by Sraffa must fulfil two conditions. First, it must be based upon a theory of the rate of interest that allows for variations in the rate of interest, both temporary and long-lasting, which do not depend upon variations in the rate of profits. Second, it must provide a mechanism through which competitive market forces causes variations in the rate of profit to be determined by variations in the rate of interest. Given that he interprets Marx and Keynes as providing important insights both for a monetary theory of the rate of interest and about how the rate of interest determines the rate of profit, he makes extensive use of several writings of them in order to provide an explanation that fulfil these two conditions (6). Put directly, Panico uses them to derive a model describing the different ways in which competitive forces, set in motion by the activity of bankers, financial asset holders and producers, can bring about interactions between the rates of interest and profit, and can consequently affect the prices of commodities and the real wage rate.

Panico interprets Marx's writings as discussing the analytical conditions that allow a monetary determination of the average interest rate. According to Marx, Panico argues, the rate of interest depends upon the rate of profits only in the sense that the latter sets the maximum level that the former can reach. He interprets Marx as arguing that several factors other than the rate of profits play a relevant role in determining the average rate of interest (7). For Panico, Marx, by having greatly stressed the historical and conventional character of this determination, thus criticising any attempt based upon either natural or material laws, has provided a monetary determination of the average rate of interest more akin to that of Keynes than to that of those who wanted to stress the role played by the classical forces of productivity and thrift (p. 50).

Panico suggests that Marx's interesting hints about how bankers appropriate their share of income can clarify some

of the competitive forces linking together the movements of the average interest rate and of the general rate of profits (p. 82). The development of Marx's analysis shows that bankers and industrial capitalists share some common interest against workers in the distribution of the social product. Yet, Marx's writings clarify that the relation between these two groups of capitalists also have an antagonistic character.

Using a Sraffian price system explicitly containing the credit sector. Panico models Marx's insights on the competitive forces regulating the conflictual relations between bankers, industrial capitalists and workers over the share of income they can earn. Given the purpose of this paper, it is worth recalling Panico's suggestions of how some conclusions derived from that model can help to investigate inflationary processes and the influence of monetary policies on the distribution of income and the rate of inflation.

In Panico's model, variations in the rate of interest on loans can affect distribution and prices in two ways. First, since interest payments on short-term lending to firms are directly introduced into the cost of production of commodities, a variation in that rate of interest causes an immediate variation, in the same direction, in this cost; when, for instance, it increases, an increase in the cost of production and an immediate transfer of profits from industrialists to bankers results. Industrial producers may then try, if circumstances allow them, to pass their higher costs on in higher prices. In this case, workers will then suffer a loss in their purchase power. In the presence of real wage resistance, however, this may generate a demand for higher money wages and a consequent inflation process (p. 98).

Second, if the variation in the rate of interest on loans is considered to be permanent, a change in the same direction both in the price level and general rate of

conventional determination of the rate of interest in terms of factors operating in the money market, rather than in terms of what determines the real rate of return of capital in the production process (p. 141) [9].

The very complex nature of the relationship between interest and profit resulting from the operation of market mechanisms transmitting stimulations between monetary and real variables is also considered by Panico as another common ground between Marx's and Keynes' formulations, specificities notwithstanding. While Marx envisaged the related movements of these rates as resulting from the working of competition within the banking sector and between this and the industrial sector, Keynes concentrated upon the links between these rates established by the tendency towards equality between the rates of return of all financial and real assets. Put shortly, while Marx analysed how banks appropriate their share of surplus value generated in the production process, Keynes looked essentially at the complexity of financial markets and at the way in which their very operation regulates the rates of return of different kinds of assets and affects investment decisions of industrialists (p. 157-8).

Panico argues that Keynes' innovative writings on how the rates of return of different assets are related one to another, and in particular his insightful analysis in chapter 17 of the *General Theory*, provide a very useful analytical method for investigating how changes in the rates of return of financial assets may affect the rate of return of real capital assets (p. 178). Despite the fact that Keynes did not specifically deal with how the rate of profit charged by producers in the cost of production of their commodities adjusts to changes in conditions prevailing in the financial markets, Panico argues that Keynes' analysis is capable of being used for such a different purpose. The development of Keynes's analysis, on the one hand, allows the difinition of the conditions of equilibrium for the

financial markets and for producers's decisions about pricing, and on the other hand, allows one to study the adjustment processes when these conditions do not hold.

In general lines, Panico's argument runs as follows. In equilibrium all financial and real capital assets have equal own rates of money interest, and the market evaluations of the illiquidity discounts or risk premium of the several financial assets determine the differentials between their interest. On the other hand, the illiquidity discount of the financial assets depend upon the expectations of the future level of their own rates of money interest and on the degree of liquidity of the system as it is perceived by the public.

For Panico, these differentials are affected by the operation of the monetary policy, but they may also move independently of the intentions of the monetary authority. By the same token, another equilibrium condition determines the differential between the interest rates and the rate of profits, for the own rate of money interest of real capital assets to be equal to the own rate of money interest of financial assets. Assuming that the illiquidity discount of the capital assets is equal for all entrepreneurs, as well as assuming differences in efficiency or productivity between firms and workers away, the minimum rate of profit accepted by individual entrepreneurs is uniform for all the economy and can be therefore called the general rate of profits. In equilibrium, the equalization conditions described above must prevail for all financial and real assets. For Panico, when these conditions of equilibrium do not hold, some adjustment process come into operation. Changes in the structure of interest rates and in relative prices occur in order for all rates of money interest to reach equality again (p. 179).

At this point, Panico raises an essentially neo-ricardian criticisms against Keynes analysis. He mentions that Keynes never abandoned the traditional marginalist view of how competitive forces tend to re-adjust the own rates of

money interest of real capital assets among themselves and to changes in the own rates of money interest of financial assets. In other words, Keynes linked the adjustment process to the principle of diminishing marginal returns. For Panico, the acceptance of this principle is not however necessary, and a different view of price formation, such as that based on the 'full cost principle', can be used to describe these adjustment processes. Even if it is assumed, at least in principle, that such a criticism can be raised, Panico can be charged by not supporting it in a consistent way. First, he simply assumes that the adjustment mechanism envisaged by Keynes is an essentially marginalist one. Second, he does not provide any explanation of why Keynes's mechanism, even if neoclassical in nature, is not adequate to deal with the issue at stake. Third, he does not support his claim regarding the possibility of using an alternative price formation, e.g., one based on the 'full cost principle', to describe those adjustment process. As Panico's purpose is to purge Keynes from any neoclassical vestige, one cannot fail to wonder why he did not use that alternative principle in his reformulation of Keynes's analysis.

In any case, Panico draws the following conclusions from the analysis he derived from that of the chapter 17 of the *General Theory*. First, the control of the monetary authority over the interest rates, though existing, has to work through changes in the public evaluation of the degree of illiquidity and of the rate of appreciation of financial assets. In other words, monetary authority may not always fully control the interest rates. Second, the influence of monetary policies on the interest rates works at the beginning through changes in the differentials between the rates on different classes of debts. The whole structure of interest rates therefore may only move with some delay, and this may cause further problems for the monetary authority in implementing its policy. Finally, changes in the whole

structure of interest rates affect the rate of profit charged by producers in the cost of production of their commodities, in the same direction. Only those changes in the financial markets which are persistent enough to modify the whole structure of the interest rates can therefore affect the rate of profit (179-80). The latter conclusion is particularly important within Panico's discussion, for it shows a second way, additional to that pointed out when he dealt with Marx's writings about the distribution of surplus between firms and banks, through which changes in financial markets can affect the cost of production and therefore the price of commodities. Since the aim of Panico's book is to establish the analytical conditions allowing the development of a monetary theory of the rate of profits, the last step in his argument is to combine these two ways through which changes in financial markets can affect distribution and prices in a Sraffian model, where the financial markets, the banking system and the productive sector are described along the lines pointed out by Keynes and Marx (p. 186-7).

2.2 Pivetti on money and distribution

Like Panico's, Pivetti's work is also intended to deal with a view to making some steps forward in the direction suggested by Sraffa for explaining income distribution in terms of monetary factors (p. 4). For Pivetti, this requires a consistent analysis of the nature of the connection between the rate of profit and the rate of interest in order to determine which of the two ultimately governs the other. He argues that a monetary determination of the rate of profit is fully compatible with the analytical setting of the classical-marxian approach, whereby distribution between the rates of profit and wage does not depend on the relative scarcities of labour and capital, but rather on the relations that capitalists and workers are likely to establish with one another (p. 4). Moreover, there is no

element in the classical approach which is in conflict with the possibility of class relations acting primarily upon the rate of profit, thus determining the real wage rate as a residual variable. For Pivetti, it is this very possibility which constitutes the actual object of study when one asks whether the rate of profit is capable of being determined by the money rate of interest, and whether this determination is supported by reality or not (p. 5). In his view, actual experience clearly seems to validate the concept of an autonomous determination of the money rate of interest, in the sense that interest rates do undergo lasting changes which are reasonably explained without any need to refer to a prior change in the normal rate of profit. In other words, the level of the rate of interest in any one country is strongly influenced by circumstances which have nothing to do with those several real forces regarded by the classical and marginalist economists as the determinants of the normal rate of profit. 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 ultimately determined by those real forces which explain the course of the normal rate of profit, namely the real wage rate and production techniques in the classical theory of distribution up to Ricardo and the fundamental phenomena of productivity and thrift in the marginalist theory (p. 8).

Pivetti argues that the rate of interest is a monetary phenomenon which regulates normal distribution by regulating the ratio of prices to money wages. In order to support the conception of a rate of interest determined by monetary factors, he also turns to both Marx's and Keynes' analyses on the prior determination of interest; specifically, he turns to their criticism against the commonly received conception of the money rate of interest as a magnitude subordinate to the normal rate of profit. Hence, Pivetti, by

interpreting the real wage as a residual variable along the lines suggested by Sraffa, clearly modified the early classical approach to value and distribution, for in the latter the money rate of interest was viewed as a magnitude subordinate to the normal rate of profit, being ultimately determined by those real forces, the real wage rate and production techniques, which explain the course of the normal rate of profit.

Before focusing upon the mechanism through which money interest is likely to regulate normal profit, it is worth explicitly pointing out what Pivetti understands by normal rate of profit and money rate of interest. By the former he simply mean what the theories of distribution try 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 or full-employment rate of interest', never refer to actual or effective profits, but to normal profits. The latter, reckoned gross of interest, correspond to the rate of return on capital which would be obtained by firms using dominant or generally acessible techniques, and producing output at levels regarded as normal at the time the capacity was installed. To the extent that actual profits always deviate from normal profits, economic theory is in substantial agreement, Pivetti believes, regarding the normal rate of profit as a magnitude which cannot be arrived at statistically and empirically (p. 20). As to money interest, Pivetti argues that since there is of course no such thing as *the* rate of interest, but rather at one specific time and place a whole host of interest rates depending upon elements such as maturity, quality, marketability, size and other features of the loan, one might think of the rate of interest in terms of the average rate - the mean of the loan and deposit interest rates prevailing within a given economy (p. 21).

In general lines, Pivetti's argument about the actual mechanism by which the long-term interest rate is likely to govern the rate of profit runs as follows. The rate of interest can be considered the regulator of the ratio of prices to money wages when it is taken into account that the rate of interest is an autonomous determinant of normal production cost. The normal rate of profit in each particular sphere of production is arrived at by a process of adding up two autonomous components: the long-term interest rate and the normal profit of enterprise. For Pivetti, the consideration of the latter does not contradict the proposed concept of the money rate of interest as the regulator of the ratio of prices to money wages (p. 22-3).

Taking the first step of his coherent argument, he devises competition as the mechanism through which prices tend to be equated with normal costs. By presuming the rate of interest to be a determinant of production costs, together with money wages and production techniques, Pivetti is in position to argue that lasting changes in normal costs will result in corresponding changes in the price level. Finally, he then concludes that by virtue of 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 (p. 22). That is to say, a prolonged fall in interest rates causes a fall in prices relative to the wage level, and thereby brings about a lower rate of profit and a higher real wage; whilst a prolonged rise in interest rates will raise the rate of profits, and thus reduce the real wage [(10)].

For Pivetti, the notion that lasting changes in interest rates constitute changes in normal costs should not be interpreted as resting on the assumption that all capital employed in production is borrowed capital, and this is so by the very reason that interest is conceived here as the price for the use of capital, i.e 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, then 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 (11). In the case of share capital, a similar rationale applies. As the nearest competing alternative to shares are long-term bonds, ordinary shares will be held only if the expected yield on them exceeds the yield on long-term bonds. As competition tends to maintain a certain relationship between the prices of the various classes of securities, a rise in prices for long-term government bonds - a fall in the long-term rate of interest - will be followed by a rise in prices of securities generally. Put shortly, as a higher quotation for existing equities implies that firms can raise capital on more favourable terms, we may conclude that the issue of common stocks will become cheaper (or dearer) in the face of a persistent fall (or rise) in interest rates (p. 23).

For Pivetti, to the extent that changes in normal profits are governed by lasting changes in long-term interest rates, real wages being a residual, the effects of wage bargain on distribution depends on its influence on monetary policy. Put shortly, onece the normal profit of enterprise is regarded as independent of the behaviour of any other component of total unit cost, then wage bargaining, in order to have any persistent effect on income distribution, will ultimately have to exert some influence on the level of the rate of interest. For Pivetti, there are no direct effects of wage bargaining on normal distribution, but only possible indirect effects through monetary policy (p. 33).

Moreover, 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, namely, that changes in interest rates will tend to be associated with changes in

aggregate demand, but by a very different route from the one traditionally envisaged: demand for capital goods, for instance, are not supposed to be directly affected by changes in the interest rate. To the extent that the normal returns are not independent of the interest rate in Pivetti's analysis, but rather tend to move parallel with it, a lasting reduction (increase) in the long-term rate will not raise (lower) the demand price of a capital good relative to its supply price. Thus no increase in investment should be expected as a consequence of a lasting reduction in interest rates (p. 44-5). In other words, though Pivetti acknowledges that both the propensity to consume and the inducement to invest are important determinants of output, their influence on the latter are supposed to operate primarily through changes in the normal distribution between profits and wages. This is the route, in Pivetti's view, by which changes in the interest rate is likely to influence the level of output. The directions of such influence, however, cannot be predicted on the basis of some *a priori* functional link, ultimately because the impact of changes in distribution on the inducement to invest is bound to be different in each concrete situation, and may go either way (p. 45).

In presenting the main difference between his view and the familiar post-Keynesian theory of distribution, Pivetti argues that whilst in the latter changes in the level of prices in relation to the level of money wages are determined by changes in aggregate demand, in his view they are determined by lasting changes in interest rates (p. 24). Pivetti argues that unless one assumes situations of full-utilization of existing capacity, there appears in fact to be no analytical reason (at least 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 (p. 31) (12). Moreover, Pivetti argues that although Keynes's interpretation of interest is widely recognized as the most important novelty in his analysis, hardly any room is left for that interpretation in the various versions of the 'Keynesian' (original emphasis) theory of distribution (p. 132).

For Pivetti, the idea that the normal rate of profits is determined by the rate of growth of the economic system is indeed clearly incompatible with an interpretation of the rate of interest as an independently determined monetary phenomenon, unless one is prepared to deny any long-run connection between the rate of interest and the rate of profit. Indeed, he argued that "it would (...) require a huge amount of good will on the part of anyone to regard a rate of profit determined by the rate of growth of the economic system as a magnitude 'determined from outside the system of production', which can be taken as 'given before the prices are fixed" (p. 134). In his view, the connection between the rates of interest and profit was not denied by Keynes, who consistently maintained that it is the interest rate, a monetary phenomenon, which sets the pace in its connection with the rate of profit. As a consequence, Pivetti argues, the 'Keynesian' theory of distribution ultimately treats the rate of interest as a subordinate phenomenon, as either in classical or in neoclassical theory (p. 133) (13).

Going on with his diatribe against other theories of distribution, Pivetti refers to an aspect of his approach to distribution which, in his view, very much distinguishes it from the major theories of distribution, marginalist and non-marginalist alike (the Kaleckian one, for instance, we should presume). He argues that by considering the money rate of interest as a magnitude determined from outside the system of production which can be taken as given before the prices are fixed, a very close and direct link is established between the microeconomic behaviour of firms as

to cost computing and pricing, and the macroeconomic outcome as to normal distribution of national income between profits and wages. He maintains that in his formulation the money rate of interest which each firm takes as given at any one time, and on which it bases its calculations, does not have to be validated in the long run by any general equilibrium between demand and supply in the market for goods and production factors; nor does that money rate of interest have to be validated by an independently determined real wage rate, or by the rate of growth of the economic system - these being the variables that govern the ratio of prices to money wages in the classical and the 'Keynesian' theories of distribution, respectively. For Pivetti, to conceive of the money rate of interest as an exogenously determined variable - which governs the ratio of prices to money wages rather than being governed by it - amounts to regarding money interest as a determinant of normal costs and prices; so that the microeconomic mechanism whereby prices are determined on the basis of costing-margins which tend to be adjusted to any lasting change in the rate of interest, is one and the same thing as the very mechanism whereby changes in money interest rate bring about changes in normal distribution (14).

Kalecki's theory of distribution based on the notion of 'degree of monopoly' is also conceived by Pivetti as having several limitations. For Pivetti, Kalecki's view amounts ultimately to maintaining that, given production techniques (which contribute to the determination of the ratio of capital to output), the normal rate of profit is determined by competition. In his view, Kalecki's theory of profits has been criticized, e.g. Kaldor (1955-6, p. 225-6), as mere tautology, simply defining rather than explaining the ratio of price to prime costs. Kalecki's theory cannot be confirmed once that ratio has been defined as the 'degree of monopoly', Pivetti argues, so that the proposition according to which the ratio of proceeds to prime costs depends on

what happens to the 'degree of monopoly' would possess no greater explanatory value than one which stated that the ratio changes when it changes (p. 109). Moreover, Pivetti argues that if one goes along with Kalecki's argument, one is ultimately left with a picture in which the question of the upper and lower limits of profit margins remains quite indeterminate. In his view, by confining attention on the forces of competition, Kalecki was unable to provide any ground to permit one to rule out the possibility that the normal profit will be equal zero or as low as possible; no reason can be found, that is to say, why the action of those forces should always cease bellow a certain positive level of profit. Put another way, since Kalecki, as well as Steindl, tend to identify the circumstances governing distribution with the greater or lesser stregth of the forces of competition, the existence of a positive profit in long period conditions seems ultimately to be attributed to the circumstances that competition is not sufficiently strong to bring it down to zero (p. 110-1).

2.3 Panico and Pivetti: general similarities and differences

Both Panico's and Pivetti's formulations on money and distribution fall within the so-called classical approach to distribution. Both of them clearly attempt to put forward an explanation of distribution between profits and wages along the lines of the classical political economy or, more precisely, along the lines of the Sraffian recovery of the surplus approach to distribution.

Moreover, they share the same ultimate goal, namely, to take up the suggestion given by Sraffa concerning the fundamental role played by the rate of interest in the determination of income distribution and carry it forward into a consistent analysis of the complex relationship between the rate of interest and the rate of profit. On the other hand, it was seen above that any explanation intended

to provide a consistent monetary theory of distribution along the lines suggested by Sraffa must fulfil two conditions. First, it must be based upon a theory of the rate of interest that allows for variations in the rate of interest, both temporary and long-lasting, which do not depend upon variations in the rate of profits. Second, it must provide a truly consistent mechanism through which competitive market forces causes variations in the rate of profit to be determined by variations in the rate of interest. In order to deal with the first condition, Panico and Pivetti rely essentially upon Marx and Keynes, in particular upon their conclusion regarding the very conventional nature of the rate of interest in the long period. Finally, in both cases the main policy conclusion is that restrictive monetary policies tend to have inflationary effects, unless they are attended by a reduction in the real income of workers in favour of capitalists. The opposite effects come from a policy of gradual reductions of the interest rates (p. 99). However, Panico and Pivetti provides two different mechanisms through which a change in the rate of interest is likely to provoke a change in the rate of profit. While Panico's argument is based on Keynes's analysis of how the rates of return of different assets are related one to another, Pivetti's argues that the rate of interest is a monetary phenomenon which regulates normal distribution by regulating the ratio of prices to money wages [15].

However innovative their analysis of how distribution is ultimately regulated by monetary factors might be, and they certainly are, one cannot fail to speculate to what extent the Sraffian system is really the only one which can provide an adequate framework for a monetary theory of distribution, as both Panico and Pivetti implicitly argue. As I intend to suggest in the brief presentation of Rogers's analysis to be put forward in the next section, and especially in the section 4, monetary factors can be

consistently incorporated into discussions about employment, growth and distribution without recourse to the surplus approach.

3. Rogers's monetary theory of unemployment equilibrium

Rogers's starting point is that in capitalist economies - those in which we actually live - producing heterogeneous capital goods which are largely financed by the banking system, the rate of interest emrges as a key independent variable which can determine long period equilibrium. In such economies, Rogers argues, the principle of effective demand originally formulated by Keynes should be conceived as replacing Say's law as the relevant analysis of output and employment, on the one hand, and the concept of monetary equilibrium is to be interpreted as replacing the quantity theory, on the other hand. Put another way, in credit-money capitalist economies monetary forces should be integrated with real forces in the determination of long period positions. Somewhat polemically, at least for those working along the lines suggested by Panico and Pivetti, Rogers argues that the monetary analysis of the *General Theory* appears as a generalization of Wicksell's monetary and capital theory to a monetary system in which the real forces of productivity and thrift cannot determine the rate of interest. In any case, Rogers's main purpose is to provide the theoretical foundations for, in his words, "a unified Keynesian analysis of output and employment".

Furthermore, Rogers argues that the notion of monetary equilibrium provides a sound theoretical foundation for Post Keynesian monetary theory and strengthens the general Keynesian perspective by identifying the necessary conditions for the existence of a long period unemployment equilibrium to which the usual Keynesian stories of perverse dynamic adjustment can readily be appended. To that end, Rogers sustains, like Panico and Pivetti, that the money

rate of interest, as a highly conventional variable in the long period, must be treated as an exogenous variable in a credit-money economy. In his view, the very fundamental theoretical implication of this treatment is that it opens up a role for the principle of effective demand. Put another way, the principle of effective demand emerges as an essential feature of a credit-money because in such a system the rate of interest can set a limit to the profitable expansion of output in the long period before full employment is reached. The principle of effective demand provides therefore a monetary explanation for the existence of a long period equilibrium with unemployment.

A key element in the demonstration of this possibility is the concept of monetary equilibrium used by Rogers to describe the relationship between the rate of interest and the marginal efficiencies of all assets. In Rogers's view, the concept of monetary equilibrium links the rate of interest (a monetary phenomenon), through the marginal efficiecy of capital, to investment, output and employment (real phenomena), in a manner which is not open to the Cambridge critique of neoclassical capital theory. Furthermore, he argues, the concept of monetary equilibrium applies the classical notion of long period equilibrium as a state of rest in which the rates of return on all forms of converting present into future wealth are equalised. For Rogers, this, it seems, is the notion which lies behind the general theory of asset-holding put forward by Keynes in the enigmatic chapter 17 of the *General Theory*.

By reformulating the discussion carried out by Keynes in that chapter, Rogers provides a formal analysis of the relationship between the rate of interest and the marginal efficiencies of all durable assets in terms of their demand and long period or normal supply prices. Rogers then argues that the long-term money rate of interest, a conventional phenomenon, can determine monetary equilibrium in the sense that it sets the rate of return to which all other marginal

efficiencies must adjust in long period equilibrium. The equality between the rate of interest and the marginal efficiency of capital, for instance, occurs through adjustments in the demand prices of capital goods relative to their normal or long period supply prices and determines whether capital goods can be profitably produced. The rate of investment therefore plays an important role in the production of capital goods, i.e. it influences the rate of investment. Put another way, the money rate of interest may rule the roost and this has very important implications for output and employment and long period equilibrium.

4. The new stagnationist approach to growth and distribution

The thesis that in an economy subject to persistent excess capacity demand-related factors usually play a very fundamental role in determining patterns of secular change has a long history in economics (Taylor 1985, p. 383). As recounted by Rowthorn (1981), recent manifestations are the theories of monopoly capitalism of Baran and Sweezy (1966) and Steindl (1952), who in turn follow the contributions of Kalecki (1971), Hobson (1902), Luxemburg (1951) and the Marx of realisation crises and reproduction schemes in Volume II of *Capital*. All these authors are stagnationist in assuming that both the growth rate and the level of capacity utilization are likely to be essentially different under different conditions of income distribution and/or macroeconomic policy, their preferred policies presumably leading to greater equality, increased utilization or step up growth. Put shortly, these authors usually deal with two analytical questions, namely, how output respond in the short run to changes in income distribution and how output adjustments feed back into distribution dynamics, especially under conditions when price and wage inflation rates may be influenced by employment levels, productivity changes, and conflicting income claims (Taylor 1985, p. 283).

As I mentioned before, this paper is intended not only to critically outline the monetary formulation put forward by authors such as Panico, Pivetti, and Rogers, but also to evaluate to what extent, if any, the 'new stagnationist' approach to growth and distribution that has been developed by authors such as Rowthorn, Taylor, and Dutt can benefit from those monetary formulations. To that end, this section make some suggestions about how such an incorporation might be carried out, specificities notwithstanding. I should mention, though, that since I intend simply to suggest the basis for a fruitful integration of some of those monetary formulations into a subset of the new stagnationist approach, I will not provide neither a formal nor a complete derivation of that suggestions.

Moreover, one cannot fail to realize at the outset that these two approaches sometimes deal with very different problematics. While the neo-ricardian approach developed by Panico and Pivetti, for instance, is not directly concerned with the determination of output, but only with the monetary conditions governing the distribution of a given level of output, Rogers's formulation is essentially a long period, monetary theory of output and employment, rather than a theory of distribution. Given their neo-ricardian *pedigree*, the analysis put forward by Panico and Pivetti are open with respect to the determination of the output, and, at least in principle, could be combined with Rogers' formulation (16). New stagnationists, on the other hand, though they are concerned with distribution in its connection with growth, can also explore the possibility of integrating elements of the monetary determination of distribution put forward by Panico and Pivetti, as I briefly outline below. To the extent that the surplus approach is essentially distribution oriented, the latter, in turn, would presumably incorporate growth as subordinated to distribution.

However, one cannot fail to recognize that the frameworks that underlie the neoricardian and the new

stagnationist approaches are quite distinct. Put directly, while the Sraffian framework underlying the contributions of Panico and Pivetti is essentially cost-based, the authors working along new stagnationist lines adopt a fundamentally demand-based framework. Not surprisingly, on the one hand, Panico and Pivetti would certainly disagree with the recourse to excess demand functions to analyse changes in distribution variables; new stagnationist authors, on the hand, would certainly disagree with the idea of not allowing demand factors to play any direct role in income distribution. Furthermore, even though the contributions of Panico and Pivetti are open with respect to the level of output, these authors would probably consider the new stagnationist results regarding growth and distribution too dependent on the excess capacity assumption. Put shortly, they would probably consider some new stagnationist models, e.g., Dutt (1984), Taylor (1985), Dutt (1990-1), Amadeo and Dutt (1991), as explaining only the maintenance of excess capacity through time, but not its very ocurrence at a given point in time [17]. Besides, both Panico and Pivetti would presumably complain that the somewhat definite relationship between the rate of interest and the rate of investment upon which these models rely is a doubtful assumption [18].

Dutt (1990) presents a basic framework for the analysis of growth and income distribution that, by virtue of being an undetermined model, can accomodates different closures. Dutt then explores four alternative ways of closing that framework, which are identified with the neoclassical, neo-Marxian, neo-Keynesian, and Kalecki-Steindl theories of growth and distribution. In order to further demonstrate the generality of that framework, as well as to make some brief suggestions about how some elements of the contributions put forward by Panico and Pivetti might be incorporated into the new stagnationist framework, I 'close' this discussion by providing the basis for a fifth closure.

Following Sraffa's suggestion, this alternative closure should conceive the rate of profit as susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest, which should be conceived, following now the suggestion of Panico, Pivetti, and Rogers, as a highly conventional variable in the long period. The assumption that the rate of profit is exogenously given in the long period could be combined either with an assumption regarding the full capacity utilization or with one stating, like in Kalecki-Steindl approach, that firms have a higher desired rate of accumulation if, *ceteris paribus*, the profit rate is higher, or, *ceteris paribus*, the rate of capacity utilization is higher. In the latter case, the degree of capacity utilization might be determined by a mechanism *'a la* Rogers, i.e., through an equalization mechanism based on chapter 17 of the *General Theory*. Conversely, Pivetti's insight that the rate of interest is a monetary phenomenon which regulates normal distribution by regulating the ratio of prices to money wages could be explored through the incorporation of monetary elements into a Kalecki-type price equation. Finally, another possible modification would be to explore the possibility of incorporating the equalization mechanism described in chapter 17 of the *General Theory* into the relationship between the rate of investment and the expected profit rate that underlies the neo-Keynesian model. In this case, the expected profit rate would be governed not only by the rate of accumulation itself, but also by the expected return on other assets. This seems to be, I would argue, an interesting opportunity for developing Keynes's fundamental insight that money is not neutral, either in the short or in the long period.

5. Concluding remarks

The purpose of this paper was not only to put forward a critical assessment of the recent theoretical attempts to provide a monetary explanation for the long period positions of some systemic variables such as output and employment and distribution developed by Panico, Pivetti, and Rogers, but also to evaluate to what extent the new stagnationist approach to growth and distribution that has been developed by Rowthorn, Taylor, and Dutt can benefit from them. As I mentioned before, this comparative analysis was not intended to argue for a complete synthesis among these distinctive research programs, but rather to evaluate the extent to which they can benefit of each other in the stregthening of their theoretical framework, specificities notwithstanding. Even though I focused upon only a subset of the issues that both of them deal with, leaving aside, for instance, the important connections between inflation and growth and/or distribution, I conclude that 'potential profits' seem to exist in a broader and deeper exchange of ideas between them. If not because a fundamental property of equilibrium is that no unexplored opportunities for further improvement exist, I believe that those possibilities could be explored.

References

(1) Throughout this paper, Panico (1988), Rogers (1989) and Pivetti (1991) will be quoted simply as Panico, Rogers and Pivetti, respectively, followed by the page number.

(2) Even though some early drafts of the so-called surplus approach to value and distributioncan can be found in the works of Petty and Cantillon, it found systematic expression only with Quesnay (1758), being further developed later on by Smith, Ricardo and Marx. For a detailed account of the surplus approach, see Garegnani (1984, 1987 and 1990); for a comprehensive analysis of Sraffa's contribution to political economy see Steedman (1988), Schefold (1989) and Schefold and Bharadwaj (1990).

(3) In Sraffa's words: "The rate of profits, as a ratio, has a significance which is independent of any prices, and can well be 'given' before the prices are fixed. It is accordingly susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest" (1960, p. 33).

(4) In a recent neoclassical book on interest and profit, Dougherty (1980, p. 7) argues that the work of Wicksell and Fisher on how the theory of interest rate is related to the theory of value and distribution should still be considered the clearest available neoclassical treatment of this subject.

(5) Both Panico and Pivetti seem to be arguing that a monetary theory of distribution can be built only through the surplus approach to value and distribution. In other words, a question that arises at this point is whether a monetary determination of distributive variables can be set up outside classical approach. This point will be discussed later on.

(6) Panico combines the two different interpretations of Sraffa's suggestion advanced by Nuti (1971) and Garegnani (1979). Unlike Nuti, who argued that arguments to support Sraffa's view could be found in the writings of Marx, Garegnani (p. 81) claimed that Keynes' writings can provide such a support. He argues that Keynes's suggestion that the average level of the rate of interest is determined by conventional factors, ultimately determined by the policy of monetary authorities, would provide the core of a theory of distribution: if the rate of interest depends on the policy of the monetary authorities, the long period movement of the two major distributive variables also depends upon that policy. Yet, Garegnani admits that "[t]his does not entail maintaining afresh that the wage bargain has no power to change real wages: the policy of the monetary authorities is not conducted in a vacuum and the movement of prices and of the money wages determined in the wage bargain will be amongst the most important considerations in the formulation of that policy" (p. 81).

(7) Panico (p. 44-5) notes that some incipient contributions in the literature before Marx are worth recalling both by virtue of their either intrinsic value and because they are essential to an understanding of Marx position. Ricardo is considered for his development of a consistent way in which to relate the rates of interest and profits within a surplus approach to value and distribution where the real wage is taken as given. Tooke, in turn, is considered for his influence on Marx's writings and for his change from a critical position regarding Ricardo's monetary analysis, in which he introduced the very possibility of permanent variations of the rate of interest independent of those of

the rate of profit... to a subsequent position where these two rates were related in an alternative way to that of Ricardo.

(8) Even though Keynes stressed that his *General Theory* did not follow the Ricardian tradition of being concerned either with the distribution of a given volume of employed resources between different uses or with what determines their relative rewards and the relative values of their products (1973a, p. 4), Panico argues that Keynes, *in route* to the *General Theory*, tried to establish a theoretical analysis where monetary factors affect both the level of output and the distribution of income. Leaving aside the exegetical dimension of the controversy about the existence or not of a theory of distribution in the *General Theory*, I will come back to the implications of such a Neo-Ricardian interpretation later on.

(9) Revealing again the love-hate character of the Neo-Ricardian relationship with Keynes's theory, Panico argued that Keynes, though, partially failed to put his critique of the internal consistency of the dominant theory of the interest rate on solid ground. Although Keynes laid the basis for accomplishing this task, Panico adds, his partial failure was due to the fact that he did not abandon some elements of the traditional theory such as the analysis of capital and investment.

(10) For Pivetti: "It is almost universally recognized that prices respond to cost changes, a major element of which are of course money wage changes. Given money wages, lasting changes in the general level of prices will reflect changes in dominant techniques and in normal profit rates. These latter (...) are arrived at in each sphere of production by a process of adding up two independent components, the money rate of interest and the normal profit of enterprise - so that a direct relationship is *established*, *in* our explanation of distribution, between the rate of interest and the price level: *ceteris paribus*, a lasting change in money interest causes prices to change in the same direction (p. 74).

(11) In Pivetti's words: "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 theri 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" (p. 23).

(12) Since changes in aggregate demand are usually closely associated with changes in distribution in new stagnationist

models, I will come back to this point later on in this paper.

(13) Strangely enough, Pivetti relies upon an essentially neoclassical work on the relationship between the rates of interest and profit to criticize what he calls 'Keynesian' theory of distribution. He approvingly quotes Dougherty (1980, p. 192) remark that in the Keynesian theories of distribution the rate of profit "becomes the mere by-product of the interaction between two exogenous factors, the rate of growth and saving behaviour".

(14) Like Panico, Pivetti suggests that the explanation of the normal rate of profit proposed in his work can be seen in connection with the principle of 'full cost' pricing. His view is that the 'normal' margin for profit considered appropriate to each sphere of production is based upon the same two magnitudes to which attention was repeatedly directed in his work, namely, the long-term money rate of interest, plus a remuneration for the risk attached to each different productive undertaking (p. 122).

(15) Though their contributions are not contemporaneous, it is worth noting that neither Panico nor Pivetti cite each other's work.

(16) in particular, Panico's and Rogers's contributions, by sharing the same source of intellectual inspiration, namely, the chapter 17 of the *General Theory*, can be seen as natural candidates for an integrated long period analysis of output and distribution. A problem with such an attempt, though, is that the Wicksellian flavour of Rogers's model, in which the conventional rate of interest plays essentially the same role as that played by the natural rate of interest in Wicksell's model, is clearly at odds with the neo-ricardian framework underlying Panico's analysis.

(17) Moreover, Panico and Pivetti would probably complain about the argument of excess reserves on the part of banks presented by Amadeo and Dutt (1991) to justify the endogenous nature of money supply.

(18) At this point, Rogers would probably intervene in the debate to suggest that new stagnationist authors evaluate the possibility of incorporating his monetary theory of employment into their framework.

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