



**COLLANA DEL
DIPARTIMENTO DI ECONOMIA**

**EMPLOYMENT THEORY IN THE HISTORY OF ECONOMIC THOUGHT:
AN OVERVIEW**

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ISSN 2279-6916 Working papers

(Dipartimento di Economia Università degli studi Roma Tre) (online)

Working Paper n° 148, 2012

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Per ciascuna pubblicazione vengono soddisfatti gli obblighi previsti dall'art. 1 del D.L.L. 31.8.1945, n. 660 e successive modifiche.

Copie della presente pubblicazione possono essere richieste alla Redazione.

**esemplare fuori commercio
ai sensi della legge 14 aprile 2004 n.106**

REDAZIONE:

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Employment Theory in the History of Economic Thought: an Overview*

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ABSTRACT

The theory of employment is clearly a central question in economic thought. Economists of all traditions and schools have always admitted short run fluctuations in aggregate employment levels associated with the business cycle and explained them with a variety of factors. Yet the central question is, of course, fluctuations around *which long run level of employment?*

Focussing mainly on long run aspects of employment theory, this paper aims at providing an overview of different theoretical approaches that have been prominent in various phases in the history of economics up to the present. It necessarily summarizes and, hence, simplifies approaches and debates, but may be useful in suggesting that text-book accounts of past authors (including Keynes) and approaches may be wrong, or at least very controversial. It may thus stimulate a renewed interest in past authors and suggest the possibility of a different angle in reading past and present controversies.

KEY WORDS: Employment theory; History of Economics, Say's law; schools of thought in macroeconomics

JEL CLASSIFICATIONS: B000; E000; E240; J010

1. Introduction

This paper aims at providing an overview of different theoretical approaches to the determination of employment levels that have been prominent in various phases in the history of economics up to the present. It necessarily summarizes, and hence, simplifies, approaches and debates, but may be useful in suggesting that text-book accounts of past authors (including Keynes) and approaches may be wrong, and are at any rate very controversial. It may thus stimulate a renewed interest in past authors or suggest the possibility of a different angle in reading past and present controversies.

The theory of employment is clearly a central question in economic thought. Economists of all traditions and schools have always admitted short run fluctuations in aggregate employment levels associated with the business cycle and explained them with a variety of factors. Yet the central question is, of course, fluctuations around *which long run level of employment?*

Concerning the replies to this question that were provided in the course of the history of economic thought there is often a good deal of misapprehension among economists, which Keynes himself contributed to nurture, by attributing to all his predecessors from Ricardo to Pigou (with few exceptions, which included Malthus and Marx) the view that both Say's Law and full employment held. Yet things are not

* I thank, without implicating, Annalisa Rosselli for her comments. A somewhat different version of this paper was prepared for the *Handbook of the History of Economic Analysis*, G. Faccarello and H. Kurz (eds), E. Elgar, Cheltenham (U.K.), forthcoming.

so simple, and Keynes's definition of "Classical" economists must be questioned in the light of recent developments in economic theory and the history of economic thought.

Keynes definition is well suited to the approach he intended to attack, that is the marginalist theory of employment, particularly in the form put forward by Pigou in the 1930s. But it is not representative of the approach of Ricardo and other classical economists (classical in the sense of Marx: from Petty to Ricardo, including of course the French Physiocrats). The old classical economists, particularly Ricardo, accepted Say's law and on this basis denied the possibility of 'general gluts' in the economic system. Therefore they did not see the possibility of a fall in the employment level determined by a fall in aggregate demand. And even those who seemed to perceive the possibility and the importance of such phenomena (like Malthus) were unable to provide a consistent explanation of how this could come about.

However, in the classical economists, adherence to Say's law (that is to the view that income is entirely spent, so that, in the aggregate, the value of expenditure is equal to the value of production) did not entail the view that full employment prevails. Indeed there is no sign of such a vision of the economic system, nor there is any reason for it to be there, since the tendency to full employment depends on the complex theoretical construction of demands for factors of production which are inversely related to their rate of return. Such a concept began to emerge only after Ricardo's death with the (at the time highly controversial) wage fund theory, and was fully developed only with the emergence of the marginalist approach.

Keynes's attack was in fact addressed to the latter, and his positive contribution - albeit with some internal contradictions - was meant to demonstrate the normality of a level of employment below full employment not just in the short run but also as a long run equilibrium average position around which the economy fluctuates.

Short after the publication of *The General Theory* however its conclusions were overturned by the neoclassical synthesis put forward by Hicks (1937) and Modigliani (1942), and involuntary unemployment redefined as a short run phenomenon, and/or a phenomenon necessarily caused by the existence of some nominal or real rigidity. Since then to the present mainstream debates on the theory of employment have substantially revolved around the legitimacy to assume such rigidities (generally considered possible only in the short run), and in the case of a positive answer, to investigate their sources and consequences.

Outside the main stream various strands of economic theory by contrast have developed analyses which incorporate and expand Keynes's contribution to employment theory, leading to quite different implications than mainstream economics on a number of fundamental theoretical and policy propositions.

2. The Classical Economists and Marx on Wages and Employment

The habit of conceiving the working of an economic system in terms of demand and supply functions in commodity and factor markets is so deeply rooted nowadays that many economists tend to think of such relations between price and quantity demanded or supplied as self-evident facts, rather than complex theoretical constructs. It is not so however - and as theoretical constructs they have not always been there but made their appearance only quite long after the beginning of scientific enquiry in the field of economics. They were not part and parcel of economics in the classical and pre-classical period, so that the explanations of prices and distribution that we find in

those economists are fundamentally different from the ones we find in the subsequently developed marginalist tradition.

One very important aspect of this difference, which is central to the theme under discussion here, is the determination of wages as the outcome of a social and institutional process. Fundamentally, in the classical approach wages (meaning here the wages of unqualified, adult male labour) are the result of power relations (affected by institutions and economic conditions) between parties with opposite interests, within limits set by the historically acquired living standards of the workers, which determine the subsistence minimum:

What are the common wages of labour, depends every where upon the contract usually made between those two parties, whose interests are by no means the same. The workmen desire to get as much, the masters to give as little as possible. The former are disposed to combine in order to raise, the latter in order to lower the wages of labour.

It is not, however, difficult to foresee which of the two parties must, upon all ordinary occasions, have the advantage in the dispute, and force the other into a compliance with their terms. The masters, being fewer in number, can combine much more easily; and the law, besides, authorises, or at least does not prohibit their combinations, while it prohibits those of the workmen. [...] In all such disputes the masters can hold out much longer. A landlord, a farmer, a master manufacturer, or merchant, though they did not employ a single workman, could generally live a year or two upon the stocks which they have already acquired. Many workmen could not subsist a week, few could subsist a month, and scarce any a year without employment. [...]

But though in disputes with their workmen, masters must generally have the advantage, there is however a certain rate below which it seems impossible to reduce, for any considerable time, the ordinary wages even of the lowest species of labour. [...]

There are certain circumstances, however, which sometimes give the labourers an advantage, and enable them to raise their wages considerably above this rate; evidently the lowest which is consistent with common humanity.

When in any country the demand for those who live by wages; labourers, journeymen, servants of every kind, is continually increasing; when every year furnishes employment for a greater number than had been employed the year before, the workmen have no occasion to combine in order to raise their wages. The scarcity of hands 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. (Smith [1776], I, viii, 11-15; see also Turgot, 1766, par VI and Necker, 1775, pp 137-38 for similar analyses)

The outcome of the bargaining over wages in turn is affected by the institutional setting (the form of government, the degree of organization of the parties, the laws regulating the labour market) and by labour market conditions. The latter were regarded as the result on the one hand, of demographic evolution, which determines the size of working class population and on the other hand of accumulation, which determines the employment level.

Wage differentials were seen as determined by a variety of factors, including the disagreeableness of jobs, the costs of acquiring the skills, the risks they involved or their social standing (Smith, 1976 [1776], I, x.b.1, pp 116-7). An important factor is also the family role of the worker: typically adult male wages were seen to include, at the minimum, not only the subsistence of the labourer but also of his family, while this was not the case for female and child labour. Wage differentials across different employments of labour were regarded as rather stable over time, so that the wages of

different types of work would tend to change in step (Ricardo, 1951-73 [1821], I, pp 20-22, who quotes approvingly Smith on all this matter).

In the Classical economists employment levels were the result, given technology, of the level and composition of social product. Composition depended on technology (determining the requirements of production) and the division of product between different social groups, each characterized by historically and socially determined consumption habits (for a discussion of the analytical structure of the surplus approach see Garegnani, 1984). The level (scale) of production was the result of accumulation, with no constraints arising from the level of aggregate demand. As mentioned the Classics accepted Say's law, that is they saw the identity between the value of production and income, and on the other hand believed that the part of income not spent in consumption would directly or indirectly finance investments in the same period, so that the income deriving from production would be entirely spent either in consumption or investment goods: "No man produces, but with a view to consume or sell, and he never sells, but with an intention to purchase some other commodity, which may be immediately useful to him, or which may contribute to future production" (Ricardo, I, p.290; see also Smith, II.iii.15). This entailed that the economists who, like Ricardo, followed rigorously the implications of this proposition, would deny the possibility of general gluts, that is a lack of aggregate demand causing a general underutilization of existing capital. They only saw the possibility of problems generated by mismatch between production and demand of individual commodities. Accordingly, there was no notion that the aggregate employment level could be negatively affected by lack of aggregate demand. But it could be affected, and persistently *reduced*, by changes in technology as well as changes in the structure of final consumption and output, as clearly maintained in Ricardo's chapter *On Machinery* (I, pp. 391-393). Indeed, adherence to Say's law and its implications should not be regarded as entailing a full employment economy. There were in fact no economic mechanisms in the theoretical approach of the classical economists such as to ensure that the employment level generated by the level and composition of output at any given stage of accumulation would be equal to the available labour force. There are several explicit indications that the economists of that period regarded underemployment or unemployment as a normal feature of the economy (Stirati, 1994, p 39 ff. and 135 ff). Hume for example saw the fear of unemployment as a major source of wage labour discipline: "the fear of punishment will never draw so much labour from a slave, as the dread of being turned off and not getting another service will from a freeman" (Hume, 1955 [1752], p 116-17). On the other hand, the endogenous nature of labour supply in the *very long run* would prevent the emerging of an indefinitely increasing gap between the available labour force and the employed. Concerning such *secular* tendency of labour supply to roughly adjust to the requirements of the accumulation process, while the Classics tended to emphasize the role of population changes, earlier writers had focussed on migration flows, and Marx on the constant re-creation of a reserve army of unemployed or underemployed workers determined by capitalist accumulation itself (1954 [1887], I, pp 589-607; see also Levrero, 2010)

Marx also differed from the classical economists like Ricardo, among other things, for his criticism of Say's law. He saw that in a monetary economy, part of the money income generated by production might be hoarded, thus generating a gap between the value of production and aggregate demand. This could generate realization problems and economic crises (Marx, 1968: 492-543). In Marx therefore the employment level depends not only on the same factors as in his classical predecessors, that is

technology and level and composition of income at a given stage of accumulation, but also on the volume of aggregate demand – though a theory capable of determining a definite level of output and employment on the basis of aggregate demand, keeping into account the interdependence between production, income and consumption expenditure, was advanced only later by Keynes.

In the classical economists and Marx, changes in the employment level could affect the bargaining position of workers and hence the wage level – but a fall in wages caused by higher unemployment was *not* seen as favouring higher employment (Stirati, 1994, 1999). Even before Marx, hints may rather be found at a possible negative effect on consumption demand and hence production (see e.g. Turgot, 1912-13 [1770], III: 288-89). With Marx, the tendency to keep wages low in the face of increasing productivity comes to be regarded as a distinctive inner contradiction of a capitalist system, which leads to realization problems and crises of over-production.

The surplus approach common to the Classical economists and Marx naturally leads to perceive the existence of a conflict of interests over income distribution among social classes. The perception of such conflict by contrast disappears with the subsequent developments in the explanation of distribution. With the emergence of the notion of a decreasing relation between employment and real wage in the wage fund theory and later on of decreasing demand functions for production factors in marginalist theory, any attempt to increase the wage rate above its full employment equilibrium value, for example owing to the action of trade unions, is regarded as causing a fall in the employment level. Thus, it is no longer the case (as it was in the framework of the surplus approach) that a rise in wages would benefit a social group *as a whole* (the workers) at the expenses of other social groups.

3. The wage fund theory

The wage fund theory was clearly stated and consistently adhered to, after Ricardo's death, by influential economists such as McCulloch, J. S. Mill and Senior, though propositions reflecting wage fund notions can be found in few earlier writers, Malthus in particular. In 1869 Mill recanted the theory that ceased to be widely accepted. There was however some attempt to revive it, and some of its contents passed on to the marginal theory.

The wage fund doctrine determines the general or average wage rate as equal in any period to the ratio between a given 'wage fund' and the entire labour supply, usually identified with the labouring population (Mill, 1848 pp. 343-44; McCulloch, 1864, pp 316-17; Senior, 1965 [1836], p. 153). It is therefore the first instance, in the history of economic thought, of the notion of a necessary inverse relation between the real wage level and employment, which rests on the fixity of the "fund" destined to employ labour. Given such relation, competition among the workers and among the employers ensures that: "If the supply [of labour] is in excess of what capital can at present employ, wages must fall. If the labourers are all employed, and there is a surplus of capital still unused, wages will rise" (Mill, 1965-82 [1869], p. 643, also 1987 [1848] p. 362). Equilibrium wages cannot be affected by anything but the ratio between the wage fund and working population, and any attempt to sustain them which does not previously increase that ratio must fail (Mill, 1987 [1848]: 344, 350, 360-62; McCulloch, 1864, pp 317; 320). The leading exponents of the theory were indeed favourable to the repeal of the 'combination law' prohibiting workers' organizations, but this precisely on the ground that these organizations would be

unable to persistently affect the equilibrium wage: combinations cannot keep wages above the full employment rate, as unemployment will cause competition among the workers; while if wages happen to be below that rate, combinations operate in the same direction of, and support, the working of competition. (Mill, 1987 [1848]: 934, 937)

The wage fund was conceived as capital, or savings, destined to the support of the workers by the decisions of the capitalists: “The distinction ... between Capital and Not-capital does not lie in the in the kind of commodities, but in the mind of the capitalist ... all property, however ill adapted in itself for the use of labourers, is a part of capital so soon as it, or the value received from it, is set apart for productive reinvestment”. (Mill, 1987 [1848], p. 56; McCulloch, 1965 [1864] : 316, 318; Senior, 1965 [1836], pp. 189-93).

The wage fund theory came under attack towards the end of the 1860s in the writings of Longe (1904 [1866]) and Thornton (1971 [1869]). In his recantation Mill (1987 [1869]) accepted and developed some of the arguments that had been advanced against the theory. He admitted that there is not such thing as a given ‘wage fund’ set apart by the capitalists, and distinct from their entire income and wealth, which will be paid for labour whatever its price. The quantity of labour a capitalist employs depends on his expected sales, and these are not affected by changes in wages. Hence, argues Mill in his recantation, if workers accept to work for low wages, and the employers can have all the labour they need cheaply, they can and probably will chose to consume more of their income or wealth, rather than attempt to hire more workers. On the other hand, if wages are high (for example because of a successful combination) employers will have to reduce their consumption to be able to obtain the labour they need.

The absence of a foundation for an inverse relation between labour demand and wages, other than a fixed wage fund, in the then prevailing theoretical framework, and the possibility for wage increases to be financed by a reduction in capitalists' profits and consumption appear to be what undermined the wage fund theory.

4. Marginalist theory and Wicksell's and Pigou's explanations of employment fluctuations

In marginalist (neoclassical) theory, the tendency to full employment rests on the two mirror constructs of demand functions in labour and capital markets. These factor demand functions are constructed on the basis of factor substitution in production and, indirectly, in consumption: a change in the wage level was regarded as leading, in the long period, to a change of techniques in production which would entail, with the same quantity of capital incorporated in different capital goods, a higher proportion of labour per unit of capital and output (see for example Hicks, 1973 [1932], pp. 18-21). Such changes in production techniques would be normally accompanied by changes in consumption patterns also leading to a higher proportion of labour demanded with respect to capital: a fall in wages would cause, other things equal, a fall in the relative price of the commodities produced with higher labour intensity, and this in turn would cause and increased proportion of labour-intensive goods demanded by maximizing consumers. Both mechanisms lay behind the construction of aggregate decreasing demand curves for factors of production, and would support the notion that, in the long period, these curves are rather elastic (see for example Pigou, 1968 [1933], pp 40, 96-97). Reasonably high elasticity of labour demand curves is necessary to make

the explanation of distribution based on demand and supply curves plausible. With inelastic curves, large falls in wages would be needed to increase employment in order, for example, to match an increase in population, and this might cause social disruption and economic instability before full employment could be reached. In addition, it has recently been argued that, if demand curves are not very elastic (as suggested by some econometric studies), this would favour the emergence among the workers of social norms tending to prevent competition over wages, since the latter would prove damaging for the social group as a whole (Solow, 1980).

In marginalist theory the decreasing relation between the real wage and employment ensures that if wages are flexible, competition tends to bring the real wage rate at the full employment equilibrium level. Wages will be equal to full employment labour marginal product (or, even with fixed production coefficients, to the marginal contribution to consumers' utility). Where different types of labour exist, wage differentials will reflect different full employment marginal contributions determined by the interplay of labour endowments, consumer tastes and the costs of acquiring different skills, given technology and the amount of capital. Within this framework, human capital theory as an explanation of wage differentials simply adds that differences between types of labour may be brought about by education and training, which entail a cost that may be regarded as a form of investment. Wage differentials would thus reflect the return on such investments, that competition (arbitrage) ought to render equal to what can be obtained on other forms of investments, such as those in physical capital (a conclusion, however, that has not been confirmed by empirical evidence). In neoclassical models however decreasing returns to investment in education and training are assumed, so that the return to human capital does not depend only on the costs of acquiring the skill, but on its cost *at the margin*, and hence also on demand factors (i.e. consumer's tastes) determining the relative scarcity of different types of labour (Becker, 1975).

Decreasing labour demand curves and wage flexibility however are not enough to ensure that the economy will remain at full employment. The further condition is that "Say's law" applies, that is that, in the aggregate, the volume of full employment output will be entirely sold, i.e. the income derived from production will be entirely spent. This requires that saving decisions at full employment output are matched by an equal amount of aggregate investments. In the marginalist approach this rests in fact on different premises than those found in the classical economists. It rests, that is, on decreasing demand function for capital with respect to the interest rate. From this curve is derived a decreasing function of investments with respect to the same variable (equilibrium between demand and supply curves of capital as a stock require that the changes in those stocks, that is the flows of investments and savings are also brought to equilibrium). Thus in the marginalist theory, unlike in the classical approach, the so-called Say's law is based on a economic mechanism whereby the decisions to save and to invest, taken by different subjects, are brought to equilibrium by the interest rate thanks to the decreasing relation with aggregate investments. This was in fact the version of Say's law to which Keynes directed his attack.

In pre-Keynesian times economic theory was characterized by the view that the economy would tend to be at or close to full employment in the long period, but this went along with the acknowledgment of economic cycles. Indeed several interpretations of the business cycle and of temporary states of less than full employment were advanced. Of particular interest for various reasons, including their similarities with recently advanced models and ideas, are the contributions by Pigou and Wicksell.

Writing in 1933, in the middle of the Great Depression and with unemployment peaking, Pigou still saw the roots of unemployment in a lack of real wage flexibility, for which he provided various explanations. Wicksell saw the roots of economic fluctuations and episodes of price inflation and deflation in the existence of a developed banking system capable of creating credit money. The endogeneity of credit money could cause (temporary) divergences between actual and equilibrium interest rate, particularly following alterations of the latter such as could be caused by technical change. The divergence between actual and equilibrium interest rate could accordingly cause phases of over or under investment with respect to full employment savings, which however would soon be corrected by a return to the natural or equilibrium rate of interest thanks to the direct response of the banking system to such situations or, failing this, owing to the changes in bank reserves that would eventually determine the required adjustment (Wicksell, 1934, II: 206-07).

5. Determination of employment in Keynes's *General Theory* and the passive role of the labour market

All present discussions of employment theory cannot but take Keynes's *General Theory* as their starting point - and yet the interpretation of the latter remains highly controversial.

One point in particular calls attention: textbook presentations of Keynes theory of employment claim i) that it is a short run theory of cyclical fluctuations and/or that ii) it rests on the assumption of money wage rigidity. And yet it is possible to find in the *General Theory* very explicit statements to the contrary. In chapter 1 Keynes writes: "I have called this book *The General Theory of Employment, Interest and Money*, placing the emphasis on the prefix *general* [...] I shall argue that the postulates of the classical theory are applicable to a special case only and are not the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium"; in the following chapter he explicitly acknowledges the existence of many theories dealing with the fluctuations in employment, but maintains that the fundamental theory, which assumes an underlying tendency towards the full employment of resources has never been questioned (pp 4-5 and fn 1). The whole of chapter 19 is devoted to analyzing the effects of downward wage flexibility and showing that the assumption of given money wages made in previous chapters is not necessary to his conclusions. Hence textbook interpretation is definitely at variance with Keynes's declared purposes and can be justified only by the claim that, whatever the intentions, Keynes's conclusions on employment theory can be given sound foundations only under the above listed conditions. As we shall see below, this is precisely the result arrived at by the so-called neoclassical synthesis initially proposed by Hicks (1937) and Modigliani (1942), which became the basis of all subsequent macroeconomic debates and developments in mainstream economics. This conclusion, though conflicting with Keynes's intentions, may be justified by certain weaknesses in Keynes's own analysis and assumptions.

Let's very briefly go through Keynesian theory of employment. As already mentioned Keynes's criticism to received theory took as its point of attack Say's law, without however questioning its foundations in marginalist theory, i.e. the theoretical constructs of factor demand curves.

The positive kernel of his contribution is the principle of effective demand, showing that equilibrium between aggregate investments and savings can be reached

through changes in output and employment level, by which aggregate savings adjust to the level of aggregate investments, given the propensity to consume. The possibility to determine a definite level of equilibrium output and employment following a change in the components of aggregate demand by means of the multiplier represents an important progress with respect to earlier analyses recognizing a role of aggregate demand in the determination of employment, as in Marx and the Marxist tradition.

The principle of effective demand as formulated by Keynes however called for a determination of the interest rate alternative to the received one in terms of demand and supply functions of savings (as a flow) or demand and supply of capital (as a stock). This was accomplished by Keynes with his theory of a monetary determination of the interest rate. On the other hand, Keynes did not question the Marshallian foundations of economic theory, and retained both the notion of a decreasing curve of labour marginal product (yet hardly consistent with the existence of unused fixed capacity owing to a lack of effective demand) and of a decreasing function of aggregate investments with respect to the interest rate.

On these premises, Keynes' theory may be represented as a sequence, going from the determination of the interest rate in the money and financial market, to the amount of aggregate investments which, given the propensity to consume, determines output and employment. The price level would reflect marginal labour productivity and hence marginal costs at the level of employment thus determined and hence, with a given money wage, the real wage would tend to equal marginal labour productivity via changes in the price level. This explains how in the *General Theory* the labour market only plays a passive role: both employment and real wage are in fact determined by effective demand.

It may be noted here that Keynes's analysis, precisely because it retains the notion of a decreasing marginal product of labour, entails that the real wage is countercyclical: it falls when employment increases and *vice versa*. When confronted with the empirical results obtained by Dunlop (1938) and Tarshis (1938) which indicated pro-cyclical wage movements Keynes (1939) wrote that those results, which appear to contradict the inverse relation between real wages and employment, would indeed provide further support to his analysis, though he was then reluctant to abandon the traditional Marshallian premises on the basis of that empirical evidence alone.

But what if, when some involuntary unemployment exists, wages were flexible downward? First, Keynes notices that workers cannot bargain directly on *real* wages, but only on *money* wages. The natural question, within the framework just outlined, therefore is: can a fall in money wages determine an increase in effective demand, that is cause an increase in the propensity to consume and in the marginal efficiency of capital, or cause a fall in the interest rate? On these points chapter 19 of the *General Theory* offers very articulate arguments, leading to a negative answer concerning the possibility that unemployment can be overcome by means of wage flexibility. Among these of particular interest is the argument that a fall in wages, if it leads to real income redistribution away from labour incomes towards profits and other high incomes, will lead to a lower propensity to consume and hence have negative effects on aggregate demand and employment. On the other hand, if it is accompanied by price deflation and by expectations of a further fall in the price level (owing to the fall in monetary costs of production) it may cause a fall in aggregate demand due to the decrease in expected returns from investment, the increase of debt burden, and the postponement of expenditure in durable consumption and investment goods. Given

such negative effects, an increase in real money balances, which might lead to fall in interest rates and hence improvement of aggregate investments, ought not to be pursued by means of wage and price deflation: monetary policy would definitely be better suited. However, according to Keynes, even monetary policy would hardly be capable of maintaining investments at the level required to keep the economy at full employment, owing to the difficulties it would encounter in regulating interest rates and, by this means, aggregate investments. Among these liquidity trap phenomena could be set in motion by attempts to lower interest rates below the expected or conventional level, or by the pessimistic expectations typical of a depressed economy. From this follows the Keynesian prescription of public expenditure management as a necessary tool to maintain full employment in a market economy. In addition, since wage downward flexibility is shown to be unable to stimulate higher employment, and since it is likely to have adverse consequences on economic stability, Keynes concluded that the existence of *money wage rigidity is desirable* as it provides an anchor to money prices and thus prevents deflation and economic instability (Keynes, 1936, pp. 270-71).

6. The tendency to full employment in the neoclassical synthesis

The neoclassical synthesis (the IS-LM model) re-established the pre-Keynesian idea that in a market economy with flexible money wages and prices there exist spontaneous endogenous mechanisms, which establish a long run tendency towards full employment: Keynesian outcomes are therefore a special case. This overturn of Keynes's conclusion however was achieved while apparently retaining his contribution in the theory of output and interest rate. This was accomplished by emphasizing the effect of wage and price deflation on the equilibrium interest rate, and of the latter on aggregate investment. The warnings about the negative effects of deflation were disregarded, and though obstacles to wage flexibility were largely recognized, the argument re-established in principle the self-adjusting nature of the economic system, while at the same time it was argued that in practice appropriate monetary policy would normally allow keeping the economy close to full employment. Such greater reliance on monetary policy than had been suggested by Keynes in turn had to do with a different approach to the analysis of money demand and the determination of the interest rate. While Keynes's perspective had been 'speculative' in the sense that he regarded the attitude towards the demand for money as a financial asset as mainly determined by expectations and the search for capital gains, the neoclassical synthesis regards demand for money as part of a portfolio choice based on evaluation of risks and returns, giving rise to much smoother changes in demands for financial assets. Thus, at least in the long run, the Central Bank can ensure an interest rate that brings aggregate investments to a level with full employment savings. More recently, increasing emphasis has been put on the role of the so-called 'real balance effect'. That is, on the role of an increase in real money balances (following a fall in nominal wages and prices) in stimulating private consumption via an increase in the propensity to consume. Such increased emphasis may have been the result of growing uncertainty, on both empirical and theoretical grounds, about the effects of the interest rate on aggregate investments (see below, sect.8). Yet it is to be doubted that the real balance effect can, by itself, provide an endogenous mechanism leading to full employment, as maintained by Patinkin (1987) himself, one of the economist who most contributed to developing the analysis

of such effect. In addition, money wage and price deflation may have serious adverse effects on aggregate demand by routes already suggested by Keynes in chapter 19 of *The General Theory*, among which the increase of the debt burden, which may lead to defaults on the part of firms and households and, as a consequence, banks.

Thus, it can be seen that at the basis of the neoclassical synthesis is, on the one hand, a reference to those Marshallian elements that Keynes did not (could not at the time, since critical arguments concerning those theoretical foundations had not yet been developed) criticize, namely the decreasing demand curves for labour and investment. On the other hand, are the inner contradictions, within the *General Theory*, between the objective of formulating a long run, general theory of employment, and the short run nature of some of the arguments put forward in order to maintain that the interest rate could not easily be established at the level consistent with full employment (Garegnani, 1978-79; Eatwell and Milgate, eds, 1983).

7. Recent developments in the mainstream: labour supply fluctuations versus labour market and price rigidities

Since the contributions by Hicks and Modigliani, the IS-LM model became the shared theoretical framework for all *mainstream* macroeconomic debates. Albeit these have been quite ‘hot’ and sometimes involving strong divergences concerning the appropriate short run macroeconomic policy, these debates never addressed the theoretical foundations of the model and the associated tendency towards full employment (or towards the equilibrium unemployment rate determined by frictions and imperfections) in the long run. Debates have initially concerned the elasticities of IS and LM curves and hence the respective impact of monetary and fiscal policies as countercyclical policy tools. With the advent to dominance of monetarism the focus of debates has become the degree of flexibility of money wages and prices and their speed of adjustment (hence, the speed of adjustment towards potential output), in turn depending on how expectations are formed. The possibility of “Keynesian” outcomes in the short run (i.e. a role for aggregate demand in the determination of output and employment) therefore has come to depend on the assumptions about price expectations. Fluctuations in output and employment however still were seen to depend on aggregate demand shocks, and hence the models required that real wages move counter cyclically to remain consistent with decreasing marginal product for labour and profit maximizing firms. The labour market side of these analyses however has encountered problems on empirical grounds. A number of empirical investigations have confirmed, with greater subtlety and sophistication of the analysis, the results originally obtained by Dunlop and Tarshis, that is that real wages are either moderately pro-cyclical or exhibit no consistent pattern over the cycle (see Brandolini, 1995, for a survey). These results may be regarded as one of the factors that favoured the emergence and acceptance of real business cycle macroeconomic models.

In real business cycle models the labour market is constantly in equilibrium, so that the very concept of unemployment disappears from the analysis: cyclical fluctuations in the employment level reflect short run voluntary changes in labour supply. These are the response of inter-temporally maximizing workers to short run changes in real wages determined by (temporary) supply shocks, the nature of which is not usually discussed in any dept, but may be regarded as due to technical changes or changes in other exogenous variables. While long-run labour supply is generally

admitted to be inelastic with respect to permanent changes in wages, short run changes in labour supply in these models are described as highly responsive to wage changes perceived as temporary, thus rendering real business cycle models consistent with the observation that employment fluctuations are usually large, while real wages tend to be moderately pro-cyclical. Empirical analyses however, perhaps not surprisingly, have found it difficult to confirm the just described short run behaviour of labour supply (Altjonji, 1982, among others; see also Romer, 1996, p 255).

On the other hand the so-called new-Keynesian strand in mainstream macroeconomics purports to provide sound micro-foundations to real and nominal price rigidities which can explain, given the accepted theoretical framework, the existence of persistent involuntary unemployment on the one hand and the short run role of changes in aggregate demand in determining output and employment fluctuations on the other. Looking in particular to labour market analysis, new-Keynesians have provided a large (perhaps too large) number of alternative or complementary models which could explain rigidity in real wages, thus explaining the possibility of some persistent, structural unemployment, the size of which ultimately depends on institutional arrangement concerning unemployment benefits and employment protection. At the same time they have tried to provide foundations for price and/or money wage rigidities that could account for the temporary effects of aggregate demand on employment levels. With respect to consistency with observed facts these models have the advantage that, since there exists some structural unemployment, the short run increase in labour supply does not require a movement along a standard labour supply curve (and hence strongly pro-cyclical real wages), while the assumption that firms do not necessarily change the price level over the cycle (even though marginal costs are changing) entails that (in the short run) they are not moving along their labour demand curves (which would require countercyclical movements of real wages). The new-Keynesian approach therefore seems to have the advantage of greater flexibility in rendering the models consistent with empirical observation of labour market and macroeconomic behaviour, though at the cost of losing clear theoretical foundations, particularly with regard to the theory of income distribution. In these models the macroeconomic *equilibrium* real wage turns out to be determined, as a residuum, by the mark-up of the representative firm, which is seen to depend on the elasticity of demand in product markets, while labour market institutions determine equilibrium unemployment (that is the level of unemployment required to keep the real wage at the level consistent with the given mark-up).

8. Developments outside the mainstream on income distribution and employment determination in the long run.

There are several streams of thought among critical, non mainstream economists. A widely shared view however is the rejection of the supply and demand curve apparatus in factor markets, which is the foundation of the long run tendency to full employment and the associated notion of distribution determined by full employment marginal products. The latter analytical framework has been questioned on the ground of its ability to describe and explain real world phenomena. Such inability however is connected to fundamental flaws in the theoretical construction that have emerged thanks to the results reached by Sraffa (1960), Garegnani (1966, 1970) Pasinetti (1966). These show that when heterogeneous capital goods exist, a fall in wages will not necessarily lead, in an economic system with free competition and profit

maximizing firms, to adopt techniques involving a higher proportion of labour over the value of capital and/or a higher proportion of labour per unit of output: the cost-minimizing technique after the fall in real wage may turn out on the contrary to exhibit a lower proportion of labour over capital and per unit of output. By the same token, it cannot be expected that the relative price of commodities produced with more labour intensive techniques will fall, hence inducing substitution in consumption and thus, indirectly, between factors of production.

These results therefore question the very foundations of factor demand curves (i.e. for labour and capital and hence investments) and with them of the entire edifice of neoclassical theory.

From the point of view of the theory of employment, these criticisms lead to the rehabilitation of the principle of effective demand as the only sound theory of output and employment, and remove from the scene the endogenous mechanisms endeavoured both by the pre-Keynesian versions of neoclassical theory and by subsequent mainstream macroeconomic models. The absence of a tendency towards full employment or equilibrium unemployment need no longer rest on any real or nominal rigidity in wages and prices. Downward flexibility of money prices and wages, even conceding that (as in the neoclassical synthesis) it would lead to a fall in the interest rate, would not by that route be able to stimulate investments, since a sound theoretical foundation of that inverse relation between interest and aggregate investment cannot be provided (Petri, 2004, chpt 7), nor can it be supported by empirical evidence (Chirinko, 1993). Neither would a fall in real wage lead to higher employment by way of substitution mechanisms. On the contrary, by negatively affecting the propensity to consume, it would cause a fall in effective demand and employment. Keynes' statement about the desirability of money wage rigidity as a stability anchor for the economy is therefore vindicated and, in the light of the just mentioned criticisms, can now be extended also to real wages.

The traditional neoclassical foundations were still present in the *General Theory*, and caused tensions between the intended generality and long run nature of the analysis and the need for short run assumptions (such as given expectations on the normal level of the interest rate) in order to state them. Their removal provides the theory with theoretical robustness and generality. The principle of effective demand explains not only aggregate fluctuations of employment, but also its long run level. The meaning of long run in this context requires some clarification, and carries two meanings at once. The first is that when a persistent change in effective demand (for example in public spending) leads to a change in macroeconomic equilibrium output and employment, there will be no endogenous spontaneous mechanism in a market economy, which can restore the previous level of output. The second is that, if there is no mechanism ensuring full utilisation of capacity in any given period, it becomes natural to think that capacity creation over time through investment activity will reflect the degree of capacity utilization. That is, the main determinant of aggregate investments is the trend of effective demand. This implies that while in any given period effective demand determines aggregate output through the degree of utilization of existing capacity, in the long run it will determine potential output through capacity creation (Garegnani, 1992). A parallel way of reasoning can be applied to the labour force: while in any given period effective demand will determine the unemployment rate, over longer periods of time it will tend to affect the size of the labour force available for wage labour. How this may come about was already indicated by Marx when describing the re-creation of a reserve army of labour as part of accumulation processes. Consistently with that approach it may be recalled that, among other

things, changes in the available labour force may be brought about in advanced economies by migration flows and by changes in the activity rates of some sections of the population, particularly women, in response to persistent changes in employment opportunities. In less developed economies effective demand and employment in the wage sector of the economy will affect the proportion of the population in low income, pre-capitalist and informal activities and migration. Thus, evidence of a relative constancy of unemployment rates over very long periods of time may reflect the fact that in the very long-run labour supply is endogenous, rather than result from the adjustment of labour demand to the available labour supply, as would be the case in mainstream analyses.

Rejection of the neoclassical foundations also requires an alternative approach to the theory of distribution. The traditional classical approach, which saw wages as resulting, within limits determined by the historically determined living standards and the institutional setting, from the relative bargaining power of the parties, naturally suggests itself as suitable of developments and integration with the already outlined theory of employment. These theories are consistent with, and can account for empirical evidence often found to be puzzling by mainstream macroeconomists, such as the wide fluctuations of employment accompanied by moderately pro-cyclical movements of real wages (see for example Stirati, 2001); or the downward sloping Phillips' curve, which could very straightforwardly be interpreted as representing the influence of the unemployment rate on wage bargaining (Rothschild, 1993), rather than reflect excess aggregate demand as in mainstream analyses; or the inability of labour market 'rigidities' and institutions to account for the diversity of unemployment experiences (Baker, Glyn, Howell, Schmitt, 2005; Junakar and Madsen, 2004, among others).

Other streams in critical economic analysis tend on the other hand to regard wages as residually determined by the mark-up charged by firms over costs. This in turn is explained with financial requirements and/or growth objectives by firms or the structure of the market for final products (for a critical assessment of these see Pivetti 1992, pp 108-119 and Steedman 1992). Some economists, following an initial suggestion by Sraffa, have highlighted the role of the interest rate in determining the return on capital required by firms and hence, by that route, the rate of profits (Pivetti, 1992). This however should not be taken mechanically, since distribution would ultimately depend also on the behaviour of money wages and prices, and thus be the outcome of actions undertaken by various parties and institutions, including the monetary authorities (Stirati 2001).

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