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## THE POST-KEYNESIAN VIEW ON LABOUR DEMAND IN MICRO- AND MACROECONOMIC FIELDS

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**ABSTRACT.** The aim of this paper is to present the main ideas that could form the core of the Post-Keynesian approach to the analysis of labour demand at both micro- and macroeconomic levels. Specifically, this paper first reviews the essential elements characterising the Post-Keynesian approach to microeconomic analysis of labour demand. To do this, the "traditional view" is first presented, associated with the concept of the firm characterised by the presence of fixed technical coefficients and capacity reserves, and then the essential features of an alternative and more innovative view are described, based on the concept of the firm that emanates from the competence-based theories of organisation. Subsequently, the core of the Post-Keynesian contributions at the macroeconomic level is presented, organising them into two sections: first, those contributions that break away from the "second classical postulate" and second, those that additionally steer away from the "first classical postulate". Finally, the paper summarizes the main ideas that could be the core of the post-Keynesian approach to the analysis of labour demand, both in micro- and macroeconomic fields.

**Keywords:** labour demand, Post-Keynesian economics, labour economics, level of employment, wages.

### 1. Introduction

Some of the most significant contributions to the heterodox analysis of labour demand come from the Post-Keynesian economists. However, it is difficult to identify a single common viewpoint in theoretical analysis of this issue being shared within this branch of literature. Quite the opposite, there are significant internal differences, which, among other issues, may be associated with the degree of utilisation and acceptance of Marshallian tools and, in particular, with the role given to marginal productivity (King, 2002, p. 68). These differences hamper the acceptance and dissemination of the Post-Keynesian view on labour demand. In this sense, it could be said that the present paper has, in one part, a pedagogical objective, which would involve addressing one of the main concerns of the post-Keynesian economists in this field and following in the wake of other works, such as those of Lavoie (2003), Dalziel and Lavoie (2003) or Andini (2009). However, this paper tries to expand and overcome the content of the previous ones in a series of aspects, among which we can highlight three. Firstly, incorporating not only macroeconomic vision but also microeconomic

scope (traditionally left behind in the Postkeynesian views), and highlighting the coherence between both. Secondly, by overlapping and interrelating two alternative classifications of the Postkeynesian vision within the macroeconomic field. Thirdly, by trying to summarize and raise the basic ideas that could constitute the "core" of the Postkeynesian approach to labour demand, in both micro- and macroeconomic fields.

However, it is also possible to find several common elements within those different theoretical approaches; these elements also lead to a significantly different analysis of labour demand from that of the more orthodox economics. In this context, the aim of this paper is to present, in an abridged and more or less structured and comparable way with the orthodox view, the main ideas that form the core of the Post-Keynesian approach to the analysis of labour demand. The hope is that this comparison will not only contribute to dissemination of this approach but also to its discussion and development. To this end, this paper is organised in two sections. The first one reviews the essential elements characterising the Post-Keynesian approach to microeconomic analysis of labour demand. In particular, it first presents what might be called the "traditional view" (which is associated with a particular understanding of the firm characterised by the presence of fixed technical coefficients and capacity reserves), and secondly summarises the essential features of an alternative and more innovative view, based on the notion of the firm offered by the competence-based theories of organisation. In the second section, the heart of the Post-Keynesian contributions to the analysis of labour demand from the macroeconomic point of view is discussed and is organised in two directions: those contributions that imply a breach of the "second classical postulate" (which equals real wages with marginal disutility of labour) and those that additionally steer away from the "first classical postulate" (which equals wages with marginal productivity of wages); at the same time, these two camps are associated with another classification, perhaps more traditional in the post-Keynesian economics, that distinguishes between Marshallian models and Kaleckian models of employment (Lavoie, 2015). Finally, the paper ends with a section of conclusions, which summarizes and present the main ideas that, in our opinion, could be the core of the post-Keynesian approach to the analysis of labour demand, in both micro- and macroeconomic fields.

## **2. The analysis of labour demand labour in the microeconomic level**

### ***2.1. The traditional Post-Keynesian view***

From a microeconomic point of view, the Post-Keynesian approach to the study of labour demand is traditionally linked to its conception of production and of the firm representative of modern economies (Eichner, 1976). Indeed, as the neoclassical analysis of the demand for labour crucially depends on the technological concept of the firm (which is linked to flexible technical coefficients and to the law of diminishing returns) and on the pricing model of the market, the view of Post-Keynesian economics is based on two main pillars (Appelbaum, 1979; King, 1990): first, its concept of technology and of the firm's behaviour, marked by the predominance of fixed technical coefficients and, usually, by unused production capacities; second, the concept of the pricing process, associated with procedures carried out by the firm that add a margin to average (variable) costs.

More specifically, the Post-Keynesian literature has repeatedly emphasised that most of the production in modern economies is carried out in firms affected by (more or less) fixed technical coefficients in the short-term. Firms are subject to these coefficients either for technological reasons (which require the use of productive factors in more or less fixed proportions) or for "management" reasons, bureaucratic or others (Robinson, 1954, 1956; Eichner, 1976; Appelbaum, 1979; Lavoie, 1992). This means that substitution between

productive factors is usually not possible in the short term or, at least, that it is not possible in the manner and with the level of flexibility normally assumed by neoclassical economics. However, this does not mean that it is not possible to increase production in the short term. In many enterprises, production can be increased or decreased by opening or closing plant segments or entire plants (Eichner, 1976, 1985; Lavoie, 1992). Moreover, for various reasons, most enterprises normally operate with capacity reserves: these surplus capacities enable a quick response to any increase in demand; they make it possible to seize new market opportunities and to repair, partially renew or adapt production equipment; they discourage potential competitors from entering the market; and ultimately, they help face uncertainties (Steindl, 1952; Kaldor, 1970; Sylos Labini, 1971; Lavoie, 1992). As a result, enterprises usually produce in the stretch in which marginal and average variable costs are constant, and they can increase production by using a higher proportion of the production capacity without experiencing an increase in those costs. In conclusion, for most enterprises, sales volume may be more restricted by demand than by quantity (Kaldor, 1975).

Second, the Post-Keynesian literature has stressed that in the real world, prices are not determined through the process usually presupposed by orthodox economics. In particular, this approach argues that most firms in modern economies have some market power and that thereby, they enjoy the ability to set prices. In a stylised way, it is considered that prices are usually set by adding a margin to average variable costs (Kalecki, 1954, 1971; Lavoie, 1992; Downward, 2000). This fact, coupled with the above, may imply that production variations do not have to result in price variations. On the contrary, prices may be primarily determined by costs, whereas production may be determined by demand. In other words, cost variations (including labour costs) may lead to price change, whereas demand variations may result in changes in production and therefore in employment (Kaldor, 1975; Appelbaum, 1979; Lavoie, 1992; Davidson, 1994; Moore, 1998).

Apart from these two pillars, the Post-Keynesian view of the labour demand is linked to a third element (Appelbaum, 1979; Seccareccia, 1991): the existence of a dual structure in the economy. Indeed, the above characterisation of the firm's behaviour may essentially correspond to what happens in the heart or in the oligopolistic sector of the economy. Firms belonging to this sector and facing a demand for products with low variability may be characterised by more capital-intensive production technology and a demand for a more stable and highly skilled labour force. On the contrary, the periphery sector may be composed of smaller firms with more labour-intensive production processes, greater employment flexibility, and a less qualified labour force. All of this may relate the concept of labour demand with the characterisation suggested by the theoreticians of labour market segmentation and especially with the arguments arising from the institutionalist approach of the segmentation theory, as well as that associated with radical political economics.

In any case, the fundamental issue is that according to the Post-Keynesian approach, employment and wages are determined separately (King, 1990). Indeed, Post-Keynesian economists argue that the nominal wage largely depends on the bargaining power of workers and firms and on regulatory factors affecting how it is fixed (Appelbaum, 1979). In so far as variations in the nominal wage affect costs, they can result (or not) in variations in product prices. Depending on how variable the prices are, real wages may increase, decrease or remain constant. In contrast, the demand for labour is a derived demand based on the production needs of the firm, and in the short term, this is determined by the demand curve for the firm's product. Therefore, the level of employment directly varies with the level of demand for the product and not with wages. The main conclusion in the Post-Keynesian approach is that there is no direct causal relationship—and certainly not a functional relationship, as presupposed by the neoclassical theory—between labour demand and wages (Appelbaum, 1979; King, 1990; Seccareccia, 1991; Lavoie, 1992; Fleetwood, 2006).

In any case, this view of labour demand presents some issues that have hampered the construction of an alternative to the orthodox conception sufficiently recognised. The first possible criticism is that the former view is more a set of ideas than a fully structured and developed theory. Among other reasons, this is because Post-Keynesian economics has focused its interest and greatest efforts on the study of labour demand within the macroeconomic level, leaving the microeconomic field in the background (King, 2002). Moreover, the above view was also criticised—within the Post-Keynesian literature itself—for the excessive determinism in its construction (King, 2002). This is particularly problematic if one accepts that this approach must be built on the ontological and epistemological foundations provided by critical realism or the Babylonian approach (Dow, 1990; Lawson, 1994). In particular, it could be argued that the microeconomic concept set forth above takes a view of the firm as its starting point that is excessively reduced to its technological content—as in the orthodox approach, albeit with a different content and features—and at times takes a maximising view of the firm's behaviour. Moreover, it is also sometimes possible to detect determinism issues—sometimes of a Manichean nature—in the concept of the pricing process and in the distinction between enterprises at the centre and those at the periphery of the economy.

## ***2.2. A fresh view based on the capabilities approach of the firm***

In view of the aforementioned criticisms, it could be said that the construction of an alternative concept for labour demand that is consistent with the fundamentals of Post-Keynesian economics must focus on analysing the *processes* that drive decision making in this area, on taking as its starting point the acknowledgement that reality is subject to fundamental uncertainty and on a more realistic idea of the behaviour of economic agents in this reality (of firms in particular). In the end, this is a path that some post-Keynesian economists have followed in recent years in other topics, such as, for example, in the theoretical analysis of price determination. In the case of labour demand, One possibility that has already started to be exploited (Fernández-Huerta, 2019) is to build this alternative from the concept of the firm found in the capabilities or competence-based theories of the organisation (Penrose, 1959; Teece and Pisano, 1994; Langlois and Foss, 1999). The use of this approach of the firm –which places knowledge and the learning process at the core of the firms' characterisation– is connected to the traditional literature on internal labour markets and is particularly interesting because several studies have recently highlighted its methodological compatibility with Post-Keynesian economics (Foss, 1997; Dunn, 2000a), as well as with other fields of heterodox economics, particularly with institutionalism and evolutionary economics (Hodgson, 1998b; Dunn, 2000b).

According to this approach, the firm can be viewed as a structured system of competencies or productive capacities contributed by the individuals who work in it (being mainly accumulated in their habits of thought and action), by the organisation as a whole (linked to their routines), and by physical capital; these are all interdependent (Nelson and Winter, 1982; Foss, 1993; Hodgson, 1998c; Augier and Teece, 2007; Teece 2007). This system of competencies is the set of factors the firm has at its disposal to develop its activities, which are very different, difficult to compare and to reduce to a common evaluation scale, and are developed in real time and in an environment subject to uncertainty.

In this context, decisions regarding the demand for labour appear to be related to the firm's production plans (or to the development of different activities). To develop these activities, the firm requires productive competencies, some of which are contributed by individuals. Therefore, the demand for labour is characterised as a demand for the *capabilities* possessed by *individuals*. These competencies have a cognitive nature, which affects

decisions regarding labour demand in various ways. Thus, competencies may differ depending on their complexity and the difficulty involved in acquisition, affecting the firm's ability to incorporate or replace them. Furthermore, the available competencies are conditioned by the socio-institutional environment in which they were generated, which is likely to lead to differences in knowledge (Hodgson, 1998a, 2003). Finally, the competencies required by the firm may differ according to their level of specificity, i.e., the benefit from or need for these competencies to be created or developed internally. Indeed, an important component of the competencies required by the firm must be internally produced or coordinated through a process that necessarily requires time and whose results are uncertain (Penrose, 1959; Foss, 1993; Teece and Pisano, 1994; Hodgson, 1998c). This validates the creation of structures supporting the process of production and the transmission of capacities—such as internal labour markets—and leads to a recognition that the characteristics of the labour supply (in this case, the provision of expertise by workers) are determined by the characteristics of demand. This recognition infringes upon the assumption of independence between both (Eichner, 1979).

Furthermore, the fact that these competencies are incorporated in human beings has, among others, two implications that affect the decisions behind labour demand. The first one is that the firm must redesign its demand for competencies and the activities to be developed by relating them to job positions that are likely to be occupied by individuals; this is a source of indivisibilities and may contribute to the emergence of surplus capacities. In addition, this design creates a series of relationships among the various job positions in the organisation and among these and its physical capital, some of which are not flexible. The second consequence of the fact that some competencies are embedded in human beings is that in order to put them to work, a certain degree of "effort" is required. This implication leads to acknowledging that action also depends on aspects related to motivation and raises the need to establish control mechanisms that help align employees' interests with the firm's objectives.

The fact that decisions regarding labour demand are linked to the firm's action plans leads also to an acknowledgement that these decisions are activated, in most cases, when variations occur in these action plans (in their quantitative dimension or in their content and composition). This fact is somehow linked to the principle of effective demand and does not imply that wages and their variations play no role in the decisions behind the demand for labour. Instead, it implies that they do not have the leading role assigned by neoclassical economics: in the real world, wages are not determined in conjunction with the amount of labour required through an impersonal market. On the contrary, wage determination is the result of some type of negotiation process conditioned by the current institutional framework and by the distribution of power between parties (Robinson, 1937; Appelbaum, 1979; Woodbury, 1987).

In short, this view allows us to overcome some of the previous problems of traditional Post-Keynesian thought (such as determinism, the overly technological notion of the firm, or the concept of a company's maximising behaviour). Instead, it fits within the view of the behaviour of agents -and of their interaction with the institutions and socio-economic phenomena that surround them— that is typical of Post-Keynesian economics and critical realism (Fernández-Huerta, 2008; Fleetwood, 2014). In addition, it allows the incorporation of the main concepts of the traditional Post-Keynesian view of the firm and of labour demand at the microeconomic level (the presence of indivisibilities, fixed technical coefficients, and surplus capacities; the perception of the processes for determining prices and wages). As we shall see, it also aligns with the basic principles of the macroeconomic view of labour demand (the principle of effective demand, interdependence between labour supply and demand, and relative independence of the processes for determining wages and employment levels).

### 3. The analysis of labour demand labour in the macroeconomic level

#### 3.1. *The origins of the Keynesian view: the rupture of the "second classical postulate"*

The Post-Keynesian approach to the analysis of labour demand is often associated, to a greater extent, with the macroeconomic field, wherein its main contributions are concentrated, at least for their significance and dissemination. These contributions obviously date back to J.M. Keynes himself. It is well known that Keynes argued that the demand for labour was dominated by the principle of effective demand and, thus, that the level of employment is determined by the volume of aggregate demand and not by the marginal revenue product of labour. This leads to one of the central messages of the Keynesian view (Thirlwall, 1993): employment is determined in the commodity market and not in the labour market. As King (2002) highlighted, this ultimately implies a rupture with the "second classical postulate" (which aligns real wages with the marginal disutility of labour). Although this postulate is usually associated with labour supply, the rupture has clear implications for employment/unemployment levels. Indeed, the fact that employment and wage levels are determined separately means that although individuals value the current real wage above the marginal disutility of labour (and therefore, wish to work), there may be unemployment whenever there is insufficient aggregate demand.

However, Keynes did not formally break with the first classical postulate, and thus the marginal product of labour continued to play a specific role: that of establishing the value of real wages once the level of employment was determined. Indeed, the principle of effective demand meant that the level of employment was determined outside of the real wage-employment aggregate space—that is, the labour market in its conventional version—by forces operating in the goods market and under the dominant influence of income effects (Riach, 1995). After determining the level of employment, the marginal product of labour allows the establishment of real wages associated with that level (see Figure 1). In other words, in the real wage/employment space, only the real wage rate may be determined: the role of the marginal product of labour in that space may be reduced to allow the shift from the quantitative axis to the price axis but without influencing the result of the quantitative axis.

As a result, Keynes broke with the direct causal relationship between real wages and employment conceived by neoclassical economics. That causation had a single direction: from employment to real wages (Davidson, 1983; Riach, 1995; King, 2002). This is reflected in Figure 1 through the direction of the arrows: it is the level of employment (determined in the goods market) that determines the real wage (through the marginal product of labour), and not vice versa. Changes in real wages thus become a consequence and not a cause of changes in the level of employment. As repeatedly highlighted by Davidson (1983, 1994, 1999), this implies that the curve of the marginal product of labour is not the curve of the demand for labour in a system based on a Keynesian analysis. Furthermore, this also means that high real wages are not the cause of unemployment and that wage rigidity cannot justify the persistence of unemployment. As Davidson (1992) noted, the full flexibility of nominal wages was neither, according to Keynes, a necessary nor a sufficient condition to achieve full employment. Indeed, an increase in aggregate demand may tend to increase the level of employment regardless of the evolution of nominal wages (and vice versa). Further, once the interdependence of the functions behind the supply and demand for labour is accepted, a decrease in the level of monetary wages may lead to a decrease in the output and levels of employment. In fact, wage flexibility is potentially destabilising in the Keynesian view. This conclusion is reinforced if it is acknowledged that in modern economies, money supply is not

an exogenous variable determined by the Central Bank but is driven by the demand for credit (Moore, 1998).

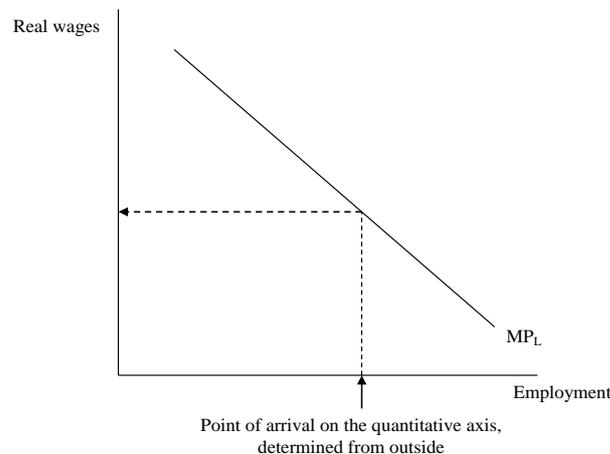


Figure 1. Real wage-employment space in the Keynesian view

Source: adapted from Riach (1995, p. 165).

Many of these elements were also present in the work of J. Robinson, particularly in her *Essays in the Theory of Employment*. Indeed, even though she continued to accept the influence of the law of diminishing returns and thus drew down the curve relating short-term real wages to employment<sup>1</sup>, Robinson (1937) tried to clearly distinguish between her concept of the labour demand curve (or employment curve) and the conventional view. Thus, Robinson (1937, pp. 123-124) stated that "[a] curve can be drawn up, in given conditions, relating the amount of employment were to obtain under equilibrium conditions. This curve has some affinities with the conception of a demand curve because it relates the level of employment to the corresponding wage rate. However, it is fundamentally different in nature from an ordinary curve. The rate of wages is not an independent, and the amount of employment the dependent variable. Both are dependent upon variations in the rate of interests or the level of thriftiness. If circumstances are such that the level of employment is  $x$ , then the same circumstances produce the real wage rate. For lack of a better term the curve will be described as a demand curve for labour, but it is important to bear in mind the distinction between this curve and an ordinary demand curve".

A similar view was expressed by Davidson (1983) when trying to explain, in response to the usual misunderstandings, the Keynesian position regarding the relationship between real wages and employment. In Figure 2, by analogy with the conventional function of aggregate supply,  $Z_w$  represents the sales revenue—in monetary wage-units—that employers hope to obtain.  $D_w$  represents the aggregate demand function, which relates planned expenditure in wage units with employment. The intersection between the functions ( $E_w$ ) determines the equilibrium level of employment ( $L_e$ ). In this context, the curve of the net marginal product of labour ( $MP_L$ ) may be, in the words of Davidson (1983, pp. 106-107), "a market equilibrium curve which specifies real wages outcome associated with any given equilibrium level of employment as determined by the point of effective demand. In other

<sup>1</sup> However, as King (1996, 2002) pointed out, Robinson (1937) acknowledged that this situation did not need to occur in the long term; she therefore drew different curves corresponding to the demand for labour in the long term, varying from the usual curves to others with a positive slope or even turning backwards.

words, once the equilibrium level of output is determined, given the conditions of physical productivity, the degree of competition, etc.,  $MP_L$  shows the resulting real wage<sup>2</sup>.

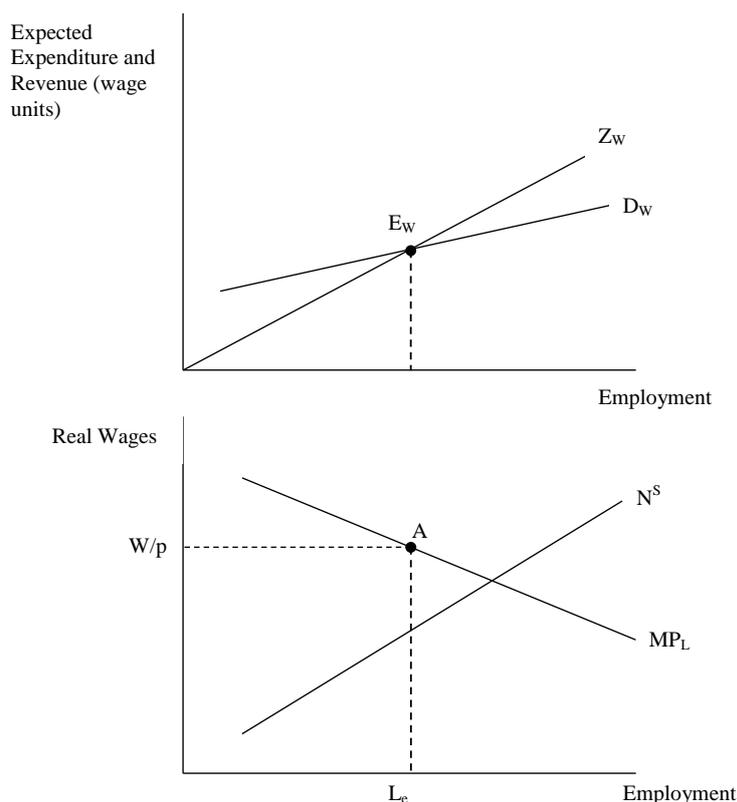


Figure 2. Another Keynesian view of the real wage-employment relationship

Source: adapted from Davidson (1983, pp. 107-108).

This type of models has been frequently used by various post-Keynesian economists, giving rise to different variations and applications of it (Davidson, 1998, 2011; Hartwig, 2006; Allain, 2009; Palacio-Vera, 2009; Heise, 2018). In addition, the essential elements of these models are consistent with the view that is present in all Marshallian Post-Keynesian labour demand models although their formal presentation is different, according to the terminology used by Lavoie (2015). These models maintain the basic properties of the neoclassical production function, in particular the assumption of diminishing returns. In this context, it is possible to identify two types of labour demand. On the one hand is the notional labour demand curve, which represents the combination of employment levels and real wage rates that would maximise potential benefits for employers (if everything produced was actually sold). Assuming that companies will exhibit benefit-maximising behaviours, with decreasing returns and a decreasing marginal product of labour, the employment level that maximises benefits is that which allows the marginal product of labour and the real wage rate to be equal [ $q'(L) = w/p$ ]. Following this, we have the notional labour demand curve (the standard downward-sloping labour demand curve, represented as  $L^D_{\text{notional}}$  in Figure 3):

$$(w/p)_{\text{not}} = q'(L). \tag{1}$$

<sup>2</sup> For simplicity, Davidson (1983) represented the curve of the marginal product of labour (MPL) with a negative slope, given the influence of the law of diminishing returns. However, in a footnote, he clarified that this curve may be horizontal in the relevant range of output in the presence of constant returns, as often assumed by Post-Keynesian theory.

On the other hand, we have the effective labour demand curve, which represents the combination of real wage rates and employment levels associated with equilibrium in the goods market and therefore considers that what is produced should be sold. Based on Keynes' (1936) distinction between induced components of effective demand (those expenditures that are dependent upon current economic activity) and autonomous expenditures (those components of current aggregate demand that are independent of current output) and considering investment as a basically autonomous variable and consumption as partially induced –with two components: consumption out of wages (induced) and consumption out of profits (autonomous)–, then aggregate demand in a closed economy without government could be represented by two components: wages, which for simplicity are considered to be completely consumed (i.e., the propensity to consume out of wages is unity), and autonomous expenses, which would include investment and consumption out of profits:

$$AD = wL + ap, \tag{2}$$

being  $a$  – the real autonomous expenditures. Then, with aggregate supply equal to

$$AS = pq(L), \tag{3}$$

and solving for the real wage rate, the effective labour demand curve is produced ( $L^D_{\text{effective}}$  in Figure 3):

$$(w/p)_{\text{eff}} = [q(L)-a]/L. \tag{4}$$

This curve shows that the real wage rate associated with equilibrium in the goods market (for each level of real autonomous spending and for a given technology) is a function of the level of employment. In other words, the realised real wage does not determine the level of employment but, rather, is the level of effective demand that determines (through the level of employment) the real wage. In Figure 3, equilibrium would be reached at point K (the point of effective demand), which would be associated with a level of employment  $L_K$ ; that level of employment thus determines the realised real wage  $(w/p)_K$ .

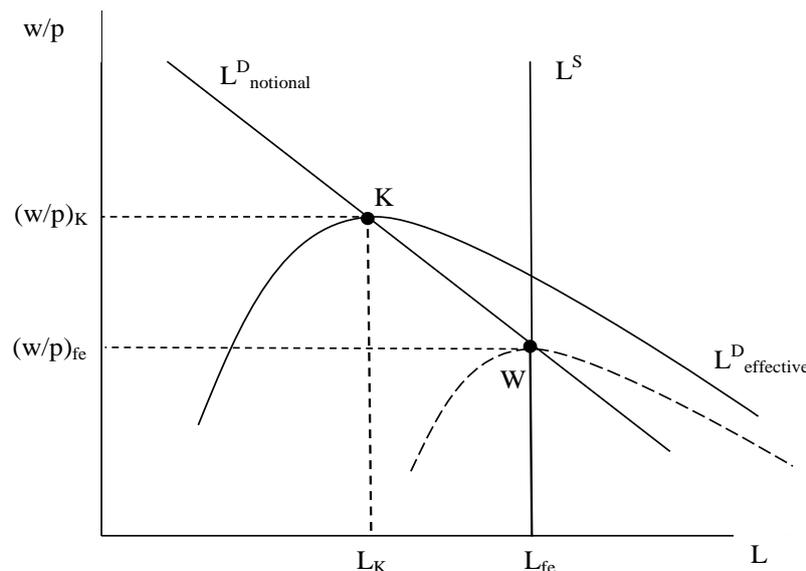


Figure 3. A Marshallian Post-Keynesian model of employment

Source: adapted from Lavoie (2015, 286).

In this context, there must be an increase in effective demand for employment to increase, i.e., a downward shift in the effective labour demand curve. In this simple model, this downward shift could only be produced by an increase in real autonomous expenditures (a). For example, in Figure 3 –which assumes a vertical  $L^S$  labour supply– full employment would be reached at point W. The increase in employment would be accompanied by a drop in real wages due to the assumption of diminishing returns. However, it cannot be said that the drop in real wages has produced an increase in employment since the latter is due to the increase in autonomous spending and, thus, in effective demand.

As in the previous case, this type of employment models have been frequently used in post-Keynesian literature, with different variations and nuances (Nell, 1978; Lavoie, 2003; Stockhammer, 2011).

### 3.2. The current Post-Keynesian theory: the rupture of the "first classical postulate"

In any case, the views set out above continue to use many of the tools and arguments of neoclassical economics, and they particularly continue to lend a significant role to the marginal product of labour in the process of determining the real wage rate. In response to these positions, and over the years, many Post-Keynesian authors—in fact, *the* Post-Keynesians, according to Riach (1995)—went one step further by breaking with the first classical postulate, according to Keynesian terminology, and considering that wages are also determined outside the labour market (Riach, 1995; Davidson, 1999; King, 2002). In other words, the marginal product of labour may not even play the role of determining the real wages associated with a given level of employment, hence allowing a shift from the quantitative axis to that of prices in the real wage-employment space (see Figure 4). On the contrary, both employment and real wages may be determined in the commodity market.

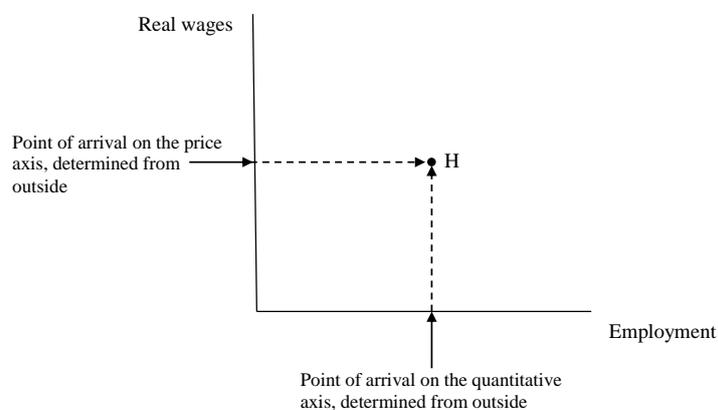


Figure 4. Real wage-employment space in Post-Keynesian theory

Source: adapted from Riach (1995, p. 167).

Specifically, the Post-Keynesian economists argue that the determination of nominal and real wages is subject to different influences, so it is even possible that these wages vary in the opposite direction (Robinson, 1937; Appelbaum, 1979). Thus, the determination of nominal wages is a process that depends upon the past and is conditioned by the bargaining power of workers and firms and by the influence of regulatory or socio-political factors (Eichner, 1979, 1987; Appelbaum, 1979; Seccareccia, 1991). However, at an aggregate level, real wages are a variable of income distribution, which is conditioned by pricing processes developed by firms and is therefore related—among other factors—to the degree of monopoly in the product market (Seccareccia, 1991). This does not mean that real wages do not play a

significant role in determining the demand for labour; quite the opposite: Post-Keynesian economics, when acknowledging that wages are not only costs but also income, incorporates the influence of wages in all of their dimensions. Wages are the main source of income to consume, and therefore their variations may affect aggregate demand, output equilibrium and the demand for labour. This implies that the supply and demand for labour are interdependent. Therefore, the equilibrium level of output is not independent of income distribution and, in particular, of the level of the real wage rate. On the contrary, income distribution between wages and benefits and the possibility that propensities to spend from each type of income are different play a key role in determining aggregate demand and the level of employment (Kalecki, 1971; Lavoie, 1992, 2015).

In addition, this opens the possibility that there may be a positive relationship between the real wage rate and the demand for labour. This possibility was repeatedly highlighted in the Post-Keynesian literature. For example, one possible explanation of this relationship is that suggested by Riach (1995)<sup>3</sup>, who developed a model for the determination of real wages and of the level of employment by trying to incorporate the interdependence between the level and distribution of income. This interdependence appears in the lower left quadrant of Figure 5, in which the YD function represents the equilibrium wage rate corresponding to any output level. This function is drawn as a vertical line, under the assumption that the proportion represented by wages and benefits in the total income does not vary with the output level<sup>4</sup>. The IS function includes the set of equilibrium points between savings and investment corresponding to different combinations of the output level and wage rate. In Figure 5, the IS function is represented by a positive slope under the assumption that investment demand is independent of the wage rate, whereas the proportion of savings resulting from benefits exceeds that of wages. However, this function may have a positive or negative slope, depending on the sensitivity of savings and investment to changes in the income distribution.

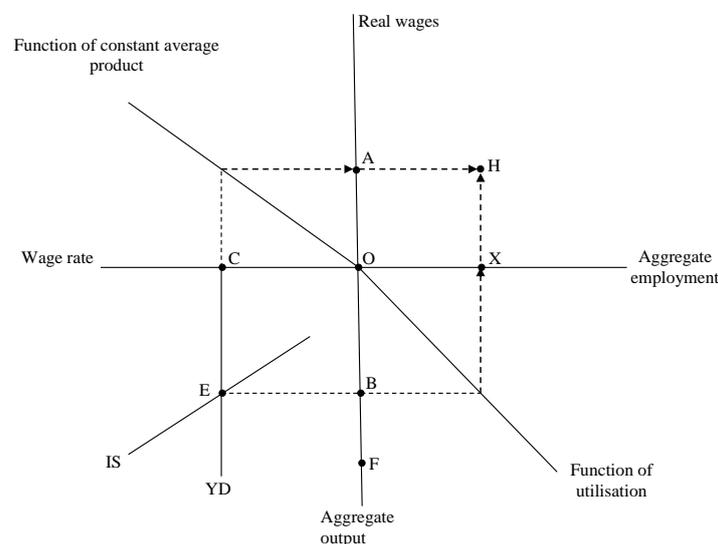


Figure 5. A macroeconomic model for the determination of the level of employment and real wages (I)

Source: adapted from Riach (1995).

<sup>3</sup> Other models that have sought to justify the existence of a positive relationship between the real wage rate and the level of employment were presented by Schefold (1983), Nell (1984), Mongiovi (1991) and Lavoie (1992), among others.

<sup>4</sup> Riach (1995) clarified that the YD function may have a positive or negative slope if the degree of monopoly is related to the level of economic activity, as suggested by Kalecki (1971), among others.

The E point, marking the intersection between the YD and IS functions, shows the output level and equilibrium income (OB). This level is below that corresponding to full employment (OF). In the lower right quadrant, a function of utilisation in the short term is collected, which relates the amount of labour required to address every output level. This assumes the existence of constant returns until the capacity ceiling is reached and results from fixed output technical coefficients and from surplus capacity, in line with the typical Keynesian view. This function is linearly represented until full employment is achieved. The upper left quadrant contains a function whose purpose is to move the wage rate drawn on the horizontal axis to meet real wages on the vertical axis. Its slope reflects labour productivity, which was assumed to be constant. Finally, the upper right quadrant represents the typical real wage-employment space. Point H shows the combination of the level of employment and real wages corresponding to the equilibrium. However, there is no direct causal relationship between these variables, and both were determined outside of the real wage-employment space. Indeed, the level of aggregate employment (OX) mainly depends on the position of the IS function and, therefore, on the state of demand for goods, whereas real wages are determined by the position of the YD function, which mainly depends on the degree of monopoly that is determined by income distribution.

In this context, an increase in real wages can be perfectly compatible with an increase in the level of employment. This possibility is represented in Figure 6. Based on the above situation, suppose that there is a decrease in the degree of monopoly, causing a shift from the YD to YD' function; that is, for each output (and income) level, an increase in the wage rate occurs. As a result of this higher wage rate, the equilibrium output increases, given the underlying assumptions; therefore, the level of employment increases to OV. To the contrary, a decrease in the degree of monopoly results in an increase in real wages to OR. Consequently, the new combination of the level of real wage-employment (K) reflects an increase in both variables.

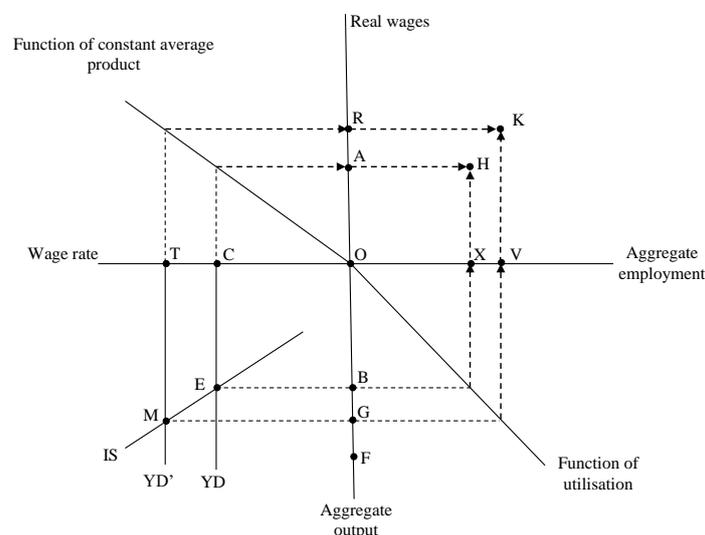


Figure 6. A macroeconomic model for the determination of the level of employment and real wages (II)

Source: adapted from Riach (1995).

This does not mean that an increase in wages *results in* an increase in the level of employment. Indeed, firms do not hire more workers because their wages have increased. However, the impact of the increase in real wages is indirect—via the influence on the level of expenditure—through its impact on what happens in the commodity market (Riach, 1995,

p. 172). In the words of Moore (1998, pp. 143-144), “[i]t makes no more sense to attribute the cause of unemployment to ‘real wages being too high’ than to ‘real wages being too low’. Real wages are what firms given money wages make them. One cannot conclude that a decrease, or an increase, in real wages ‘causes’ employment to rise”. Indeed, as acknowledged by Riach (1995) himself in his model, a decrease in real wages can also be associated with a rise in employment, depending on the slope of the IS function.

In fact, the consequences of a change in the income distribution crucially depend on how the total expenditure reacts. If it is admitted that the possibility of changes in the income distribution may affect investment demand, rather than assuming—as we have done so far—that both are independent, an increase in the wage ratio can generate a change in investment expenditure, reinforcing or counterbalancing the stimulating effect on consumption from this increase in wages (maintaining the assumption that the marginal propensity to consume from wages exceeds that from benefits).

Specifically, if an increase in the wage rate (and therefore a decrease in the profits share) causes a disincentive to invest that exceeds the incentive in consumption expenditure, then the IS function will have a negative slope. This possibility appears in Figure 7<sup>5</sup>. In this situation, an increase in the wage rate that may shift the YD function to YD' may cause, on the one hand, an increase in real wages (from OA to OR) and, on the other hand, a decrease in the level of employment (from OX to OV). However, this new combination of employment and real wages is not the result of the typical causal relationship of neoclassical economics, dominated by the influence of price effects. It may be the result of an income effect.

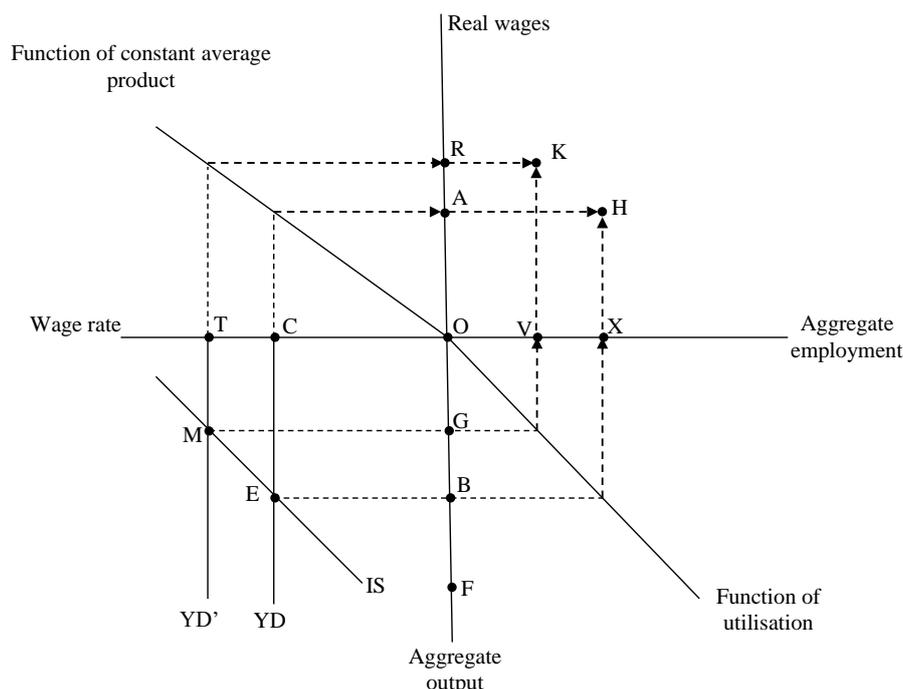


Figure 7. A macroeconomic model for the determination of the level of employment and real wages (III)

Source: adapted from Riach (1995).

The essential elements of the labour demand perspective described in this subsection are present in all Kaleckian Post-Keynesian models (as opposed to the Marshallian models described above), employing perhaps the most widely used classification in the Post-

<sup>5</sup> See also Mongiovi (1991).

Keynesian approach (Lavoie, 2015). Indeed, the Kaleckian models share the essential elements of the representation of aggregate demand seen in the Marshallian models, but they have a different approach regarding aggregate supply. Specifically, this type of model incorporates the basic elements of the microeconomic concept of the company (and labour demand) described in section 2.1. In particular, this type of model assumes the presence of fixed technical coefficients of production and of constant marginal costs (and average variable costs) in the relevant production area (up to full utilisation of productive capacity). Companies can increase short-term production by using more of their production capacity. Thus, although there is no production function in the neoclassical sense, it is possible to build a production function that correlates production and employment. In this regard, the Kaleckian aggregate supply function could be expressed as follows:

$$AS = pq^s = pLy, \tag{5}$$

where  $y$  – represents individual worker productivity (assumed to be constant).

With equal aggregate demand (which, as we have seen, in a closed economy without government can be represented as  $AD = wL + ap$ ), and solving for the real wage rate, the effective labour demand curve is obtained ( $L^D_{\text{effective}}$  in Figure 8), which represents the combinations of employment levels and real wage rates for a goods market to be in equilibrium:

$$(w/p)_{\text{eff}} = y - a/L. \tag{6}$$

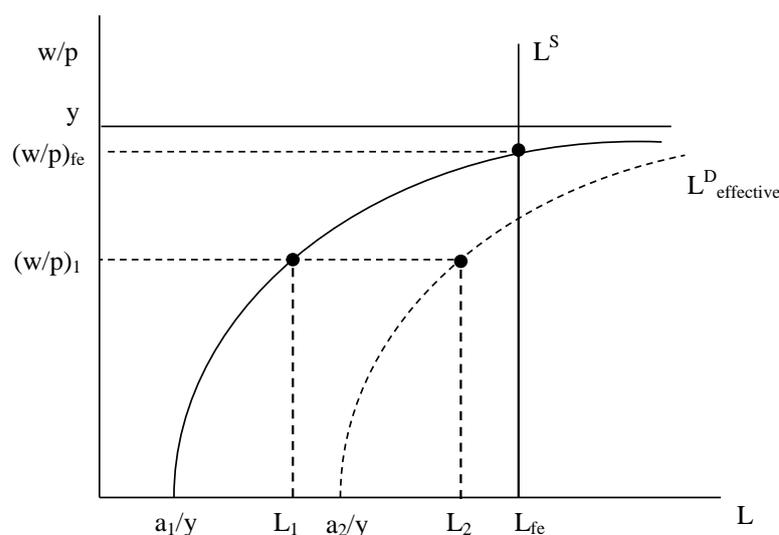


Figure 8. A Kaleckian Post-Keynesian model of employment

Source: adapted from Lavoie (2015, 293).

As seen in Figure 8, as long as companies operate below their full capacity, the effective labour demand curve will always increase up to its asymptote given by ‘ $y$ ’ (unlike what happened in the Marshallian model). In other words, there is no restriction on production (and consequently on employment) on the benefit side. However, the more that it is produced (and sold), the greater the total benefit. The only restriction in this case would be an effective demand restriction. In addition, this effective labour demand curve allows the incorporation of the basic elements of the Post-Keynesian model. For example, if we reposition the previous expression as a function of employment:

$$L^D_{\text{eff}} = a/[y - (w/p)], \tag{7}$$

it can be seen, first of all, that any increase in autonomous spending (in this case, –a simple economy without government– reduced to investment and consumption based on benefits) would have a positive impact on the level of employment. As seen in Figure 7, an increase in autonomous spending ‘a’ (from  $a_1$  to  $a_2$ ) would cause the  $L^D_{\text{effective}}$  curve to shift right, so that each real wage rate would be associated with a higher level of employment.

Second, the level of employment would depend inversely on the difference between labour productivity and the real wage rate (the denominator of the previous expression), i.e., on the distribution of total income between benefits and wages. In this sense, a redistribution towards wages would cause an increase in the level of employment (at least providing this does not trigger a reaction of decreased autonomous spending ‘a’, as we shall see).

In general, there is a positive relationship between real wages and employment levels in this simple model. For a given level of autonomous real expenditure and labour productivity, a higher real wage is associated with a higher level of employment (an upward shift of the  $L^D_{\text{effective}}$  curve), provided that companies operate below their full capacity and as long as real wages do not exceed labour productivity. However, the possibility that this positive relationship could be broken is also readily acknowledged. The main objection in this regard is that companies can decide to reduce their investment expenditures if their benefit margins decrease or, above all, if their total benefits drop as a result of higher real wages. This situation arises in particular if a public or foreign sector is included (and therefore the possibility that there are public or foreign deficits endogenous to economic activity) or if the possibility of saving out of wages is introduced (Lavoie, 2015). Ultimately, this is in accordance with the discussion above and is represented in Figure 7.

This type of Kaleckian models of employment, with some variations, have been fundamentally developed by Lavoie (1996-1997, 2001, 2015) inspired by the previous works of Harris (1974) and Asimakopulos (1975), and have been applied to the analysis of various aspects such as technological unemployment, work-sharing policies, the presence of efficiency wages, or the distinction between variations in the real base wage and the mean real wage.

In short, a major conclusion is that according to the Post-Keynesian approach, there is no dogmatic position regarding the effects of a rise in real wages on employment (Riach, 1995; Lavoie, 1996-1997, 2015; King, 2002; Stockhammer, 2011). As Mongiovi (1991, p. 40) noted, “[t]he net effect on employment of a change in the wage rate depends ultimately on a vast array of circumstances. No absolute rule can be laid down, though in any given situation may be good reasons to expect that a rise or fall in the real wage will influence employment in a particular direction”.

#### 4. Conclusions

The analysis of the demand for labour plays an essential role in post-Keynesian economics. Despite this, it is possible to identify several problems that hinder its diffusion beyond the borders of this branch of thought. First, there is no single and commonly shared vision within this approach. On the contrary, there are some internal differences, which can also be found in the study of many other topics within this branch of literature and which reflects the theoretical development of the Post-Keynesian approach itself. Secondly, the main contributions to the analysis of labour demand have been concentrated in the macroeconomic sphere, while the efforts in the microeconomic field have been much smaller, so that the dissemination and transcendence of the latter has been very scarce. Third, it is difficult to find works that have tried to present together the micro and macroeconomic vision and, above all, that have placed emphasis on presenting the compatibility and coherence between both, which

has contributed to convey the idea that there is not a sufficiently structured theory and to hinder its comparison with the orthodox vision.

In this sense, the present work has tried to contribute to solve (or reduce) these three problems. In this sense, we understand that it is essential to identify the main ideas that form (or should form) the core of post-Keynesian analysis of labour demand, both at the micro and macro level.

In the microeconomic field, the analysis of the demand for labour must start from the recognition that reality is subject to fundamental uncertainty and from a more realistic conception of the behaviour of individuals and economic agents in that reality (in particular, of firms), which recognizes the role played by institutions and socio-economic phenomena in their knowledge and actions. This is especially relevant if we accept, as we believe, that this approach must be built on the ontological and epistemological foundations provided by critical realism. In addition, the analysis of the demand for labour should allow incorporating the essential elements of post-Keynesian microeconomics, in particular its vision of the firm (the presence of indivisibilities, fixed technical coefficients, and surplus capacities; the conception of the processes for determining prices and wages). In this sense, we believe that the vision recently exposed by Fernández-Huerta (2019) offers an adequate and promising framework that allows incorporating all these elements. The essential ideas of this vision could be summarized as follows:

- The firm can be viewed as a structured system of competencies or productive capacities which constitute the set of factors the firm has to develop its activities
- In this context, the demand for labour is characterized as a demand for the capabilities possessed by individuals.
- The fact that these competencies are incorporated in human beings and that most of them have a cognitive nature allows to explain the existence of indivisibilities, of surplus capacities, of more or less fixed relationships with fixed capital (cuasi-fixed technical coefficients of production) and of interdependences between the characteristics of labour supply and demand.
- Decisions regarding labour demand are linked to variations in the action plans of the firms, which connects with the principle of effective demand.
- Wages are not normally determined in conjunction with the amount of labour required (relative independence of the processes for determining wages and employment levels)
- Nominal wages determination is the result of some type of negotiation process conditioned by the current institutional framework and by the distribution of power between parties. In fact, one of the activities that the company must develop is precisely to participate in the wage determination process in accordance with the current “rules of the game” established by the institutional framework.
- Wage variations can be transferred (or not) completely or partially to price variations. In fact, another of the firm's activities is to take part in the process of price-setting.

Regarding the macroeconomic field, the post-Keynesian conception of the demand for labour should be built from the vision of the production theory of this branch of literature and be consistent with the microeconomic conception of the demand for labour (without implying any reductionism). This implies the rejection of both the first and the second classic postulate. Consequently, macroeconomic models of the Kaleckian type are a good starting point to explain the fundamental features of the macroeconomic conception of labour demand. The essential ideas of this vision could be summarized as follows:

- Employment and wage levels are determined separately. There is a relative independence of the processes for determining wage and employment levels, or, at least, there isn't the type of direct causal relationship between real wages and employment conceived by neoclassical economics.

- The level of employment is determined by the volume of aggregated demand, by forces operating in the goods market and under the dominant influence of income effects.
- As a consequence, high real wages are not the cause of unemployment and wage rigidity cannot justify the persistence of unemployment (in fact, wage flexibility can be potentially destabilising).
- The determination of nominal and real wages is subject to different influences. Nominal wage determination is the result of a process of dispute of some kind (see the microeconomic view). Instead, real wages –at an aggregate level– are a variable of income distribution, conditioned by pricing processes developed by firms and related—among other factors—to the degree of monopoly in the product market.
- Wages are not only costs but also income, and therefore their variations may affect aggregate demand. This has two implications: first, the supply and demand for labour are interdependent; second, real wage variations may affect aggregate demand, output equilibrium and the demand for labour.
- There is no dogmatic position regarding the effects of a rise in real wages on employment. These effects ultimately depend on several factors, such as the possibility that the propensities to spend from wages and benefits are different or the response of other expenses (in particular, investment)

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