The aim of this paper is to analyse the theoretical links between a policy of high wages and the level of employment in the theoretical framework of the monetary theory of production (MTP). The ‘high-wage effect’ will be assumed to be operating, i.e. a rise in wages via external intervention induces firms to react via technical advancement, which, in turn, increases the quantity and the quality of capital and hence the level of employment. Credit rationing will also be taken into consideration. Insofar as high wages increase profits, smaller firms facing credit rationing make lower profits than bigger firms, thus resulting in a potential process of raising the industrial concentration ratio. Therefore, in a single-period analysis, a high-wage policy is effective for the purpose of increasing employment only if the banking system behaves in an accommodating way. The bankruptcies of the smaller firms generate a greater demand to the benefit of the bigger firms, thus giving rise to a theoretical solution of the so-called paradox of profits.

JEL: E12; E40; J01
Keywords: monetary theory of production, credit rationing, wages, profits, employment

1 – Introduction

The European Central Bank reports that, in the Euro Zone, negotiated wages declined from 2.66 in 1996 to 2.16 in 2007 and that, in the same period, labour productivity fell from 1.26 to 0.5. From 2006 to 2007 employment was reduced by about 0.2% and, starting from 2000, GDP declined in all the principal European countries. This figure appears to be in sharp contrast with the mainstream view that – due to the operation of a “discipline device” – policies of labour market deregulation should stimulate workers’ effort, thus increasing labour productivity, employment and economic growth (see, among others, Layard, Nickell and Jackman, 1994). Heterodox economists support the opposite view that the reduction of labour productivity as well as the slow growth of employment rates in Europe can be properly explained by the policies of labour market deregulation, insofar as they reduce workers’ ‘morale’. As Frank Wilkinson (1998, p.30) observes: “Long term costs [of deregulation] include the detrimental effects on productivity and employee commitment that accompanies increased insecurity, low morale and the creation of antagonistic, non co-operative and low trust employment system”. Moreover, labour market deregulation – by reducing wages – brings down aggregate demand and employment. Finally, the lack of innovation – mainly dependent on low degrees of division of labour within the
firms - supposedly explains a large part of the phenomenon (cfr, among others, Reinstaller, 2007).

Starting from the latter idea, this paper aims to show that the decline in wages can be considered a major cause of the fall in labour productivity, in view of the so-called high-wage effect, so that labour market deregulation reduces employment. The ‘high-wage effect’ is based on the idea that policies designed to increase wages produce positive social outcomes, insofar as they encourage capitalists to innovate, thus increasing labour productivity and enhancing economic growth. This gives rise to a wage-led growth regime operating on the supply side. Moreover, the bankruptcies of the smaller firms generate a greater demand to the benefit of the bigger firms, thus resulting in a theoretical solution of the so-called paradox of profits. Therefore, in a single-period analysis, a high-wage policy is effective for the purpose of increasing employment only if the banking system is accommodating. This approach has been taken into consideration within the Post Keynesian theoretical framework. In particular, Lavoie (1992) emphasised that the employment level is likely to increase when wages are high, due to what he calls the “Webb effect”. He also remarks that: “higher real wages also induce management to search for more efficient methods of production and to cut down on wasteful processes”. He adds that, as a result, “higher real wages may lead to the elimination of firms or plants which have low productivity” (Lavoie, 1992, p.259).

The paper is organized as follows. Section 2 approaches the nexus between wages, labour productivity and employment in recent contributions in the theoretical framework of the MTP. Section 3 provides a theoretical model, where a positive relation between wages and employment is shown, and section 4 concludes.

2 – Labour market flexibility, employment and the “paradox of profits”

The MTP describes a sequential economy involving three macro-agents: banks, firms and workers: the banking system produces money; firms, in view of the access to bank money, buy inputs and produce commodities; workers supply labour power. The process starts with the bargaining in the money market between banks and firms. Banks supply firms with initial finance; firms need money in order to buy labour power and to start production. In the next phase, firms use bank finance to purchase labour power, paying workers the previously negotiated money wages. After the production process has taken place, firms fix the price level (and/or the proportion of output in consumption and investment goods), so that real wages are known ex-post.

The monetary circuit closes with the repayment of the initial finance to banks and the

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1 Post Keynesian economists have mainly stressed that a wage-led-growth regime is possible in contexts where high wages promote high levels of consumption and, as a result, high aggregate demand and employment. See Marglin and Bhaduri (1990).
2 The idea that economic growth can be lead by a high-wage regime has a long tradition in the history of economic thought (see Forges Davanzati, 1999).
3 Bellofiore (2008) provides a historical reconstruction, within the Marxist theoretical framework and with particular reference to Rosa Luxemburg, of the high-wage effect.
4 In this context, money is a pure symbol, a pure bank liability, and loans make deposits (cf. Realfonzo, 1998).
5 If workers’ propensity to consume is less than one, firms can recuperate the unspent money by selling securities in the financial market. However, the financial market can begin operation only after banks have produced money. Accordingly, and in contrast to the mainstream view, investments on the part of firms must logically come prior to savings.
‘destruction’ of the money originally created. For the sake of our argument, it is important to stress that – in this theoretical framework – the unitary money wage is assumed to be exogenous, depending on the relative bargaining power of firms and workers. This is a crucial difference between the MTP and the standard neoclassical view, where i) workers are assumed to bargain the real wage directly and ii) the unitary real wage depends on the marginal productivity of labour. Moreover, since it is maintained that firms as a whole are able to establish the quantity and the composition of output, the level of employment depends on firms’ decision about how much and what to produce. Also in this case, circuitists reverse the basic principle of the neoclassical approach, by emphasising that in capitalist economies the ‘producer’s sovereignty principle’ is in operation, and income distribution is not based on the marginalist distributive rules but on power relationships (see Graziani, 2003).

Importantly, the exogeneity of the money wage and of employment derives from a possible methodological view which excludes the analysis of the behaviour of individual agents (i.e. holism). However, the MTP does not necessarily presuppose this methodological view, and many attempts to build it on the macrofoundations of microeconomics have been made. The analysis of individual behaviours – driven by their class affiliation – allows the basic schema of the MTP to be used in order to provide answers to two crucial questions, namely: the relation between wages and employment, and the solution of the so-called paradox of profits.

a) With reference to the first point, circuitists maintain that wage flexibility is counterproductive for the sake of increasing the rate of employment. Forges Davanzati and Realfonzo (2004) stress that, under the assumption that – in a Post Keynesian world – labour market deregulation increases uncertainty, it reduces the present propensity to consume, thus generating a reduction of aggregate demand and of employment. Pacella (2008) emphasises that labour market deregulation, by reducing wages, has a negative effect on aggregate demand and unemployment, while it may improve firms’ expectations and, therefore, increase investments. He also shows that labour market deregulation is associated to increasing worker indebtedness.

b) With regard to the second point, the basic schema of the MTP suggests that the money supply is endogenous and demand-driven. The demand for money on the part of firms – so-called initial finance – equals the money wage bill that firms bargain for with workers. In the event workers express a propensity to consume equal to 1, aggregate money revenues equal aggregate money costs, and firms as a whole are unable to pay interest to the banks. This gives rise to a paradox, if one believes that the description of the functioning of a monetary economy cannot be reduced to the case where the monetary circuit does not close with payment in money. Different solutions have been put forward. First, some authors argue that a ‘normal’ degree of indebtedness on the part of firms is a crucial feature of contemporary capitalism, so that no paradox arises within the MTP (Graziani, 2003). Second, it is suggested that firms reimburse banks in real terms and/or the reimbursement in money terms is made possible via public expenditure or a surplus in the balance of payments. Third, when expenditure for consumption goods on the part of bankers in admitted, an additional flux of money allows firms to obtain a monetary surplus (Chapman and Keen, 2005; Forges Davanzati and Realfonzo, 2008). Fourth,

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6 According to this methodological view, agents’ behaviour is profoundly affected by their affiliation to a particular social class and, as a result, the rational choice paradigm cannot apply. The methodology of the Post Keynesian school is discussed, among others, by Rousseaus (1986).
under the assumption that workers become indebted with the banking system, consumer credit may generate money profits (Forges Davanzati and Pacella, 2008). Finally, as suggested by Messori and Zazzaro (2005), in an economy where heterogeneous firms exist, the bankruptcies of the less efficient firms generate additional demand to the benefit of the more efficient firms, who gain money profits.

Starting from these contributions, a theoretical model will be provided where individual behaviours are taken into consideration, focusing, on the one hand, on the link between wages, production and employment, and, on the other hand, on the possibility of realization of a monetary surplus. Specifically, the high-wage effect will be inserted in the basic schema of the MTP, with heterogeneous firms, and it will be assumed that smaller firms face credit rationing. Figure 1 shows the functioning of the monetary circuit under these assumptions. In particular, two types of firms are taken into consideration: \( n \) big firms with propensity to innovate (type-1 firms), and \( m \) small firms with no propensity to innovate (type-2 firms). The logical chain underlying the model presented in the following section – and described in figure 1 – runs as follows. An exogenous increase in wages generates an increase in the stock of capital, as well as the improvement of its quality, on the part of big firms, while the small firms – constrained by credit rationing – do not increase their stock of capital. Due to the improvement of the quality of the goods produced by type-1 firms, their market shares increase at the expense of the smaller firms. This has two basic results. First, given the bankruptcy of the smaller firms, big firms are able to obtain money profits: the ‘paradox of profits’ can be thus solved by considering heterogeneous agents with different bargaining powers\(^7\). Second, due to the operation of the high-wage effect, high wages are associated with high levels of employment (due to the increase in the stock of capital) and output.

\(^7\) The different bargaining powers of type-1 and type-2 firms can be largely explained by their sizes, often associated to their political power. Moreover, the more easily firms are able to move from one economy to another, the higher their bargaining power becomes.
3 – The high-wage effect: employment, output and aggregate money profits

In order to analyse the effects of a high-wage policy on the level of employment and output, the following assumptions are made. The economy is formed by two groups of firms, type-1 firms being bigger than type-2 firms. For the sake of simplicity, only one good is assumed to be produced and, in the initial condition, \( p_1 = p_2 \), where \( p \) is the unitary price. Due to their smaller size, type-2 firms face credit rationing, so that their initial finance is a given, while, for the sake of simplicity, the money rate of interest \((i)\), which represents the unitary cost of financing, and the unitary money wage \((w)\) are assumed to be equal for both types of firms. In view of the high-wage effect, the increase in wages determines an increase in the propensity to innovate. This occurs because an exogenous increase in wages reduces profits and, for the sake of increasing profits, firms tend to react via innovation, if – as will be shown – they are in the position to innovate, with regard to both their propensity to innovate and their willingness to innovate using additional finance. This results in the increase in the quantity of used capital \((K)\) and the improvement of its quality. Moreover, the level of employment \((N)\) is established under fixed technical coefficients, i.e. \( N = dK \), and it is assumed that the bankruptcy-condition is given by negative short-run net profits. For the sake of simplicity the market for capital goods is not explicitly studied in this model. Finally, in line with Messori and Zazzaro (2005), in the initial condition the wage bill is allocated in equal parts for the purchase of the goods produced by type-1 and type-2 firms.

It is important to stress that in a deregulated market economy firms would not find it convenient to voluntarily increase wages. High wages on the part of individual firms would only imply high costs of production and aggregate demand externalities to the benefit of their competitors. Moreover, high money wages would also generate high interest bill for firms to pay the banking system. We have first to hypothesize the function of desired capital \( K_x \) expressed by the generic firm \( x \). In detail, \( x \) sets its level of desired capital according to its conjecture on the intensity of market competition and to its propensity to innovate. More specifically, the desired capital of firm \( x \) comes from the product of the average capital it expects its competitors to have \( K_x^e \) weighted by its constant, exogenous propensity to innovate \( \delta_x > 0 \)

\[
K_x \left( K_x^e, \delta_x \right) = \delta_x K_x^e = \frac{\delta_x}{n + m - 1} \sum_{i=1}^{n+m-1} K_{i,x}^e
\]

(1)

The initial finances \( F \) – before the new level of wages (at the time \( t - 1 \)) – of type-1 and type-2 firms are

\[
F_{1,t-1} = (dw + r) \delta_1 K_{1,t-1}^e
\]

(2)

\[
F_{2,t-1} = (dw + r) \delta_2 K_{2,t-1}^e
\]

(3)

\(^8\) Bhattacharya and Thakor (1993) emphasise the role of a firm’s size (as well as its history) to explain credit rationing, showing that collaterals and size are significant variables in explaining bank-firm relationships. It is assumed here that as a firm’s size increases, the risk of bankruptcy decreases and, as a result, banks may find it convenient to increase the initial finance.

\(^9\) Note that while \( t \) is the current time in which a high-wage policy is in operation.
Note that $\delta_1 = \delta_1^{(1,n)}$, $K_1^e = K_1^{e(1,n)}$, $\delta_2 = \delta_2^{(2,n)}$, $K_2^e = K_2^{e(2,n)}$.

Equations (2) and (3) identify the structure and components – wage bill and capital bill – that are needed to finance additional investments of type-1 and type-2 firms. Note $r$ is the unitary price of the capital good. For the sake of simplicity, $r$ is considered as a given, and capital is homogenous and can be reproduced without scarcity constraints.

Due to the increase of wage and due to credit rationing, instead, banks supply a different level of financing in the following period $(t)$, which inevitably hinders the potential for innovation in type-2 firms.

Equation (4) shows that in $t$ banks guarantee type-1 firms the financing needed to cover the wage bill and the capital bill of the previous time $t-1$ plus the wage bill and the capital bill of current time $t$. Note the capital of the previous time is re-financed only for the physical part already consumed and not yet working $\lambda_{1, t-1}$. On the other hand equation (5) shows that in $t$ banks guarantee type-2 firms a constant amount of financing equal to the level in $t-1$.

The first effect of the increase in wages, due to the high-wage effect, is to modify the market share of both types of firms. In particular, let $w^*$ be the new level of the unitary money wage, and $\vartheta$ the market share of type-1 firms. Since the increase in $K$, due to the increase in $w$, is also associated to the improvement in the quality of capital itself, it affects the quality of the goods produced by type-1 firms and, hence, their market share. Accordingly, the new value of $\vartheta$ - which is the market share of the generic type-1 firm $x$, at the moment $t$ when the State increases wages - is derived endogenously as follows:

$$\vartheta_{x, 1, t} = \frac{\alpha_{x, 1, t} \left[ dw^* \delta_1 \left( K_{1, t-1}^e + K_{1, t}^e \right) + wd \delta_2 K_{2, t}^e \right]}{dw^* \delta_1 \left( K_{1, t-1}^e + K_{1, t}^e \right) + wd \delta_2 K_{2, t}^e}$$

In view of the increase in $w$, and the consequent increase in the quality of the production process for type-1 firms, $\alpha_x$ - which measures the ratio between the money revenues and the total wage bill of the generic firm $x$ – increases.

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10 The idea that innovations increases the demand for money – as in the Schumpeterian world – is supported, among others, by Targetti (1992).

11 For the sake of simplicity, the rate of physical obsolescence of capital $\lambda$ is assumed to be constant.
(i.e. $\alpha > \alpha_{t-1}$), and so does $\vartheta$. Reasonably, not all consumers modify their choices at this stage, in view of the fact that – being non-rational in the neoclassical meaning – they tend to behave following routines, habits and customs. As a result, net money profits of type-1 firms become:

$$\Pi_{x,1,t} = \alpha_{x,1,t} \left[ dw^* \delta_1 (K_{1,x-1}^e + K_{1,t}^e) + wd \delta_2 K_{2,t}^e \right] - dw^* (K_{x,x-1} + K_{x,t}) - rK_{x,t} - i \left[ (dw^* + r\lambda) K_{x,t-1} + (dw^* + r) K_{x,t} \right]$$

Note that, at this stage, money profits rise in proportion to i) the intensity of competition, ii) the exogenous propensity to innovate ($\delta$); iii) consumer tendency to rapidly modify their choices when the quality of product changes, since this positively affects $\alpha$. This result is consistent with the Schumpeterian idea that innovative firms gain extra-profits, and it is also consistent with the view that innovations – and thus economic development - are made possible via the banks’ creation of money:

“The main function of the money or capital market is trading in credit for the purpose of financing development. Development creates and nourishes this market” (Schumpeter, 1961 [1934], pp. 126-127).

The profits function of type-1 firms (see equation 7) at time $t$ is formulated under the condition that the capital acquired in the previous production processes has been paid. Although it is not the aim of this section to study the functioning of the capital market, it could incidentally be pointed out that the increase in wages, determining the increase in the demand for capital goods, increases $r$ and possibly the profits of firms operating in that sector. This result is consistent with the high-wage effect, on the grounds that high wages stimulate innovation and, therefore, the production of $K$ and possibly the improvement of its quality. Net money profits of type-2 firms are:

$$\Pi_{x,2,t} = \alpha_{x,2,t} \left[ dw^* \delta_1 (K_{1,x-1}^e + K_{1,t}^e) + wd \delta_2 K_{2,t}^e \right] - (dw + r) (1 + i) \delta_{x,2} K_{x,2,t}$$

Since, by assumption, in the initial condition the wage bill is allocated in equal parts for the purchase of the goods produced by type-1 and type-2 firms, the increase in the market share of type-1 firms determines an equal decrease of the market share of type-2 firms, so that type-1 firms gain net money profits (i.e. money revenues minus the money wage bill, minus the cost of capital), while type-2 firms make negative profits. In view of equation (6), bankruptcies derive from the fact that since, in the initial condition, the wage bill is allocated in equal parts and, hence, profits are nil for both types of firms, the decrease in $\alpha$ generates a reduction of money revenues.

\[12\] Note that type-2 firms go bankrupt whatever their reaction to the increase in wage will is: they can i) reduce employment, or ii) pay lower wages than $w^*$, thus employing irregular labour; iii) reduce the demand for money. In cases where these firms do not violate the existing norms, their profits are negative, while low wages – in the underground economy – can allow them to reduce prices, thus increasing their market share and hence profits. This is a case where irregular work is ultimately generated by credit rationing.
production costs being the same. Once type-2 firms go bankrupt, type-1 firms obtain the whole money wage bill and money profits become

\[
\Pi_{1,t} = w^* \delta_2 K_{2,t} - \left[ dw^* \delta_1 \left( K_{1,t-1}^e + K_{1,t}^c \right) + r \delta_1 K_{1,t}^c \right] - \left[ \left( dw^* + r \lambda \right) \delta_1 K_{1,t-1}^e + \left( dw^* + r \right) \delta_1 K_{1,t}^c \right]
\]

higher than zero if the wage bill earned by type-2 workers is higher than the cost of capital plus the cost of finance. Note that, due to credit rationing, \( F_2 \) is a given and hence the increase in \( w \) generates an equal decrease in \( N_2 \). At this step, two comments are in order:

a) on purely theoretical grounds, the paradox of profits is solved via the bankruptcies of the smaller firms, constrained by credit rationing. This solution differs from that proposed by Messori and Zazzaro (2005) mainly on the grounds that – unlike their model – it is not the different degree of efficiency which determines the bankruptcies of some firms, but the different degrees of bargaining power in the money market. This result appears to be consistent with the idea – supported by Graziani (1987, 1988, 2003) – that economic crises can derive from the behaviour of the banking system and, particularly, from their autonomous decision not to finance production.\(^{13}\)

b) Unemployment derives from the bankruptcies of the smaller firms, which, in turn, does not ultimately depend on high wage policies but on credit rationing. Thus, it is the behaviour of the banking system that is responsible for the existence of unemployed workers, and the existence of unemployment – in this schema, at least in the short-run – is a necessary condition for the reproduction of the capitalist system, insofar as it guarantees profits. Moreover, high wage policies – by determining bankruptcies - reduces the intensity of competition. Note that – according to the schema proposed here – both in a high-wage and wage-moderation regime, unemployment serves for the realization of profits. In the first case, unemployment depends on the failure of the smaller firms and generates increasing demand to the benefit of the bigger firms. In the second case, unemployment is a necessary condition to reduce workers’ bargaining power, thus favouring wage moderation and, therefore, profits deriving from low costs. Accordingly, in contexts where the propensity and the capacity to innovate is low, firms tend to oppose high-wage policies insofar as they see them as a pure increase in costs of production.

c) On the economic policy plane, interventions designed to regulate the labour market ‘select’ the firms with higher propensity to innovate, so that labour market regulation can be also conceived as a strategy of industrial policy, aiming at stimulating economic growth via the incentive to innovate to the benefit of the firms more able to compete via innovation, in contexts where the banking system is accommodating. Moreover, policies of high wages favour specialization in capital-intensive sectors, which is likely to produce beneficial effects in external trade. Moreover, a feedback effect on the money market has to be considered. The single banks which lend to type-2 firms will suffer losses, while the single banks which lend to type-1 firms make profits, but, of course, banks do not necessarily finance only a single type of firm (cf. Messori and Zazzaro, 2005).

\(^{13}\) In particular, it is suggested that banks can decide not to finance firms in the event that their level of debt is considered too high.
In order to determine the variation of employment, let us suppose that big firms do not acquire small firms.\textsuperscript{14} Of course, in the opposite case, since $N_1$ increases and $N_2$ (at least) does not decrease, total employment rises. One can compare the level of employment in a wage-moderation regime (say $N_{t-1}$) and the level of employment in the high-wage regime (say $N_t$). Hence:

$$\sum_{i=1}^{n_t-m_t} N_{i,t} = d \sum_{i=1}^{n_t-m_t} K_{i,t} \quad (10)$$

where $n$ is the number of successful firms and $m$ is the number of failed firms. As a result, high-wage policies increase the level of employment if, in absolute terms, $\Delta N_1 > \Delta N_2$. Note that the condition $N_t > N_{t-1}$ holds when: $i)$ the ratio of big firms to small firms is high enough, since it is only the existence of big firms which allows the expansion of $K$ and, therefore, of $N_t$; $ii)$ the degree of competition among big firms is high, since the higher it is, the higher the pressure – for the individual firm – to innovate, in order to acquire market shares. One can add that – in view of the Marxian argument – unemployment also increases because type-2 entrepreneurs enter the ‘industrial reserve army’.\textsuperscript{15}

In formal terms, the employment growth rate ($g_N$) is:

$$g_N = \frac{\sum_{i=1}^{n_t-m_t} K_{i,t}}{\sum_{i=1}^{n_{t-1}+m_{t-1}} K_{i,t-1}} - 1 \quad (11)$$

$g_N > 0 \Rightarrow \sum_{i=1}^{n_t-m_t} K_{i,t} > \sum_{i=1}^{n_{t-1}+m_{t-1}} K_{i,t-1}$

Equation (11) states that total employment grows only in the event the increase in the capital stock of type-1 firms is higher than the decrease of capital stock of type-2 firms. Incidentally, one can observe that policies of high wages improve the quality of the workforce, since the increase in $K$ is associated to the improvement of its quality. The improvement of the quality of the workforce, in turn, since it has a positive effect on labour productivity, is likely to generate a high rate of growth, even if condition (11) does not hold. In other words, an economy working under a high-wage regime, insofar as it stimulates innovation and hence produces an increase in productivity, may grow at a higher rate than an economy operating under the regime of wage moderation, even if the rate of growth of employment is lower in the first case.

In general terms, one can note that economies working under high-wage regimes do not need unemployment to ‘discipline’ workers, unlike the case of the wage-

\textsuperscript{14} The rationale for this can be found in the consideration that the profitability of the small firms is low, although the costs of acquisition are also low.

\textsuperscript{15} One can also note that – in some production sectors (industry, above all), $d$ is likely to decline over time, due to the fact that the improvement of capital efficiency reduces the number of workers necessary for its use.
moderation regime. In the first case the existence of unemployed workers also serves for the realization of the monetary surplus insofar as unemployment is associated with the reduction of the number of firms. Note also that in a high-wage regime, the lower the intensity of competition (implying low capital accumulation) and the higher the number of small firms, the more ‘functional’ unemployment there is. Of course, since the number of failed firms depends on credit rationing, the more unaccommodating the banking system is towards small firms, the higher the money profits for big firms. Furthermore, insofar as a high-wage policy determines increased aggregate supply, this may generate a decrease in the inflation rate if the increase in aggregate supply exceeds the increase in the wage bill. If this condition holds, the following results will derive: a) the increase in money wages also determines the increase in real wages, and b) high-wage policies can also determine a reduction of the inflation rate. It is worth noting that, by contrast, in this theoretical context, policies of labour market deregulation, insofar as they reduce aggregate supply, are likely to generate inflationary pressure.

It is also worth noting that – in view of the results reached here – the increase in money wages determines an increase in bank profits, in particular of the banks which finance successful firms. As Messori and Zazzaro (2005, p.119) point out: “if the successful firms are not distributed evenly among the banks, one or more banks may obtain profits”\(^\text{16}\). This occurs because, on the one hand, successful firms make money profits and are thus in a position to pay the money interest bill and, on the other hand, the increase in wages, by stimulating the increase in \(K\), increases the costs of finance on the part of firms, which are, at the same time, a source of profits for banks. Moreover, in the event high-wage policies reduce the rate of inflation, bank profits also increase in real terms. This result may appear in contrast with the dominant view of bankers (including Central Banks), who, as a rule, favour policies of labour market deregulation and wage moderation\(^\text{17}\). This particularly occurs in economies where the number of small labour-intensive firms is higher than the capital-intensive firms, since their propensity and capacity to innovate is low.

\(^{16}\) Assuming positive expectations on the part of the banks, the authors reach the conclusions that – in the event of bankruptcies – the banking system experiences losses.

\(^{17}\) However, it should be considered that the credit contract is normally signed under uncertainty (or asymmetric information), so that the individual bank is not in a position to foresee the reaction of the borrower (which could be a small and non-profitable firm) to the increase in wages. The conventional belief that high wages reduce profits can reinforce the political opposition – on the part of the banking system - to wage increases. Furthermore, on the microeconomic plane, in contexts where banks have a low propensity to risk, the supply of money for paying high wages is likely to be discouraged.
Figure 2: high wages and employment

Figure 2 describes the effects of the high-wage policy on the level of employment. Given an initial money wage bill (MWB$^o$) – which is a rectangular hyperbola, being the result of $F = wN$ – employment ($N$) is fixed in $N^o$, being $Ns$ labour supply. The increase in wage from $w^o$ to $w^*$ generates a shift upwards of the MWB curve to MWB$''$, because of the increase in the capital stock and employment on the part of type-1 firms. Due to credit rationing at the expense of the smaller firms, the total amount of the money wage bill declines with respect to MWB$''$, thus becoming MWB'. The segment A-B reflects the decline of employment with respect to $N''$ due to credit rationing (and the consequent bankruptcy of type-2 firms), thus establishing a final outcome of $N'>N^o$, in the event condition (11) holds.

4 – Concluding remarks

This paper dealt with the ‘high-wages effect’, i.e. the idea that an exogenous increase in wages drives technical progress, thus increasing the rate of growth. A model has been presented, in the framework of the MTP approach. It has been shown that – on the assumption that the economy is formed of heterogeneous firms (big firms with higher capital stock than smaller firms) – an exogenous increase in wages can determine an increase in employment, if i) big firms have a high propensity to innovate and the intensity of competition is high; ii) the banking system is accommodating. The argument presented here casts significant doubts on the mainstream view that policies of labour market deregulation favour higher levels of employment.
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