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Do pro-employment public policies matter?

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Abstract

Theoretical and empirical studies addressing the effectiveness issue of the wage subsidy scheme are somewhat non-concluding. This paper attempts to contribute to the recent litterature of the field by studying the effectiveness of wage subsidies and by comparing their consequences with those associated with capital investment subsidies program. We develop a neoclassical model with Romer (1990)'s variety expansion framework in which we include employees' human capital. We find that the wage subsidy has no effect on the employment rate. This arises because the positive incitation effect of the subsidy is entirely compensated by the negative distortion effect of the tax exerted on human capital investment. Furthermore, a subsidy on capital goods purchased by final firms is likely to be effective in raising equilibrium employment rate provided that the relative contribution of capital goods to production exceeds the one of human capital.

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I- Introduction:

Labour unemployment is today a major concern in both developing and developed economies. Several labour market interventions exist with the intention of improving employment in these economies, particularly among disadvantaged job seekers. Employer-side subsidies are a well-known example of these interventions. These subsidies can be classified as either targeted subsidies (which apply only to specific types of job seekers, such as the young, the skilled or the unskilled) or untargeted subsidies (which usually apply to all new hires that were "hired in response to the subsidy").

In theory, the effectiveness of these subsidies stems from the fact that they lower the wage rate faced by the firm while maintaining the real wage received by workers, which should enhance labour demand. The direct (firm-level) employment effect is determined by the wage elasticity of labour demand (or the elasticity of substitution in a multiple-factor input context) and the percentage by which the wage is subsidised. Benefits may also spill over into the rest of the economy. Higher employment raises aggregate household income, while the subsidy causes average unit production costs, and hence consumer prices, to decline (assuming competitive product markets). Wage subsidies may therefore ultimately stimulate consumption demand, which in turn leads to additional increases in labour demand as firms step up production. This is the indirect or scale effect of the subsidies which depends on consumer demand response to price and income changes. Positive scale effects cause the demand for all factors of production (such as capital investment) to increase, possibly even outweighing the negative substitution effects for non-targeted workers. Employment subsidies therefore have various positive downstream effects, which render them useful to address a number of issues directly and indirectly, including poverty alleviation, income redistribution, and the stimulation of private investment and aggregate demand.

Nevertheless, empirical studies addressing the effectiveness issue of the wage subsidy scheme are somewhat non-concluding. Indeed, Crepon and Desplatz (2003) find that employment in firms that received larger subsidies grew more than employment in firms that employed fewer low-wage workers and hence received fewer subsidies. The authors interpret this as strong evidence for the employment effects of low-wage subsidies. Using Belgium firm-level data, in the late 1990s, Goos and Konings (2007) find that the lump-sum 'Maribel subsidies' reduced the payroll taxes for the low-wage workers more than for the other groups and that the subsidy had significant effects on employment. More recently, Levinsohn and Pugatch (2011) find that while a wage subsidy does lead youth to increase their reservation wages, they do so by a modest amount so that the subsidy increases accepted wages and reduces the probability of lengthy unemployment spells.

However, there are some caveats related to the implementation of such a program. First, employment gains among targeted workers may come at the expense of other workers, who are substituted in favour of the subsidised workers (Aislabie 1980). A second negative effect relates to the need to generate financing for the program. In order to pay for a wage subsidy, a government may have to reprioritize its budget or generate additional revenue through higher taxation. Phelps (1994) argued that savings in welfare entitlements, unemployment benefits, crime fighting, and increased tax revenue might counterbalance the impact of the wage subsidy on the budget. However, it is more realistic to think that higher income or sales taxes would ultimately be necessary to finance the program. This increase would negatively affect households' disposable income levels, thus offsetting at least some of the subsidy program's gains. Indeed, using detailed individual-level panel data, Huttunen, K. et al (2010) estimated the employment effects of a Finnish low-wage subsidy scheme that was targeted to low-wage older workers. The results indicate that the subsidy scheme was not effective in increasing the employment of eligible workers. Quite why the results are so disappointing remains unclear. One explanation is that the subsidy has not been sufficiently large, given that the treatment group (elderly workers) can consist of workers for whom it is particularly difficult to remain employed or to be hired. Another possible explanation is that the wage demand for these workers is simply inelastic.

Korkeamäki and Uusitalo (2009) find that the reduction in payroll taxes in Northern Finland led to somewhat faster wage growth in the target region. The increase in wages offsets roughly half of the impact of the payroll-tax cut on the labour cost. The remaining labour cost reduction had no significant effects on employment. A similar result is found in studies such Bohm and Lind (1993), who evaluate the employment effects of regional wage subsides in Northern Sweeden, Gruber (1994), who evaluates the effects of mandated maternity benefits in the US, Gruber (1997), who examines the changes in the mandatory pension contributions in Chile, and Johansen and Klette (1998), who examine the effects of regional differences in payroll taxes in Norway. These studies typically find that the changes in payroll taxes are almost completely shifted into wages with little effect on labour costs or employment.

The first purpose of the present paper is to explain and justify theoretically this empirical result by studing the effectiveness of firm-side wage subsidies. The second purpose is to compare the consequences of this intervention with those of capital investment subsidies program. We develop a neoclassical model with Romer (1990)'s variety expansion framework in which we include employees' human capital. Individuals decide to invest in human capital by maximizing their gain function, while firms demand the amount of labour that maximizes their profit.

We find that the wage subsidy has no effect on the employment rate because the positive incitation effect of the subsidy is entirely compensated by the negative distortion effect of the tax. That is, under this policy regime, human capital investment declines because of the tax effect so that firms' profit and then employment rate remain unchanged in spite of the wage subsidy increase.
Furthermore, a subsidy on capital goods purchased by final firms has a non-monotonic effect on employment rate. Precisely, as human capital decreases under this program (because of taxation) while investment in capital goods may increase or decrease (depending on the level of the subsidy rate), the effect of the subsidy on firms' profit and then on labour demand, depends on the relative returns of these two inputs. The results found in this study should be seen as complementary to those of Petrucci and Phelps (2005) arguing that a labour subsidy may temporarily increase inputs, but is neutral for steady state while a capital subsidy spurs capital and causes a temporary increase in labour demand which vanishes in the long-run.

Our study is organised as follows. The second section presents the model. It describes the final firms' decision in term of labour demand, the workers' decision in term of human capital investment and finally, the economy's equilibrium. The third section offers comparative statics exercise on the consequences for the economy's equilibrium of the two policies discussed above.

II- The model:

We consider a closed economy which consists of a fixed number of identical active individuals (normalized to unity) and two production sectors: final and intermediate. The final sector comprises a large number of identically and perfectly competitive firms producing a single final consumption good, Y, by combining labour and series of different varieties of capital goods purchased from the intermediate producers. The intermediate sector consists of T firms producing capital goods noted by X. This sector is monopolistic as each intermediate firm is a licence-holder of the capital good it innovates (or it adopts). From the production side, final firms maximize their profit by fixing the number of workers to hire, noted by L and the quantity of capital goods to purchase given the per worker human capital level.

II-1 Individuals' investment in human capital:

Individuals belonging to the active labour force population are identical in all respects. They are endowed with one unity of labour and they invest the same level of human capital, $h > 1$. They decide about their investment in human capital by maximizing their expected labour income in a context of

unemployment. We assume that every worker faces the same probability to find a job. We make here some fundamental hypotheses reflecting either some previous theoretical findings or stylised facts.
- First, investment in human capital entails monetary costs that we note by $\phi(h) = bh$, where b is a positive parameter indicating the per unity cost of human capital.
- Second, being employed, an individual gains a wage, $w(h)$, which increases with his/her human capital, h. We assume that: $w = a h^{\varepsilon}$, where the parameter ε $(0<\varepsilon<1)$ indicates the "individual" marginal return of human capital and a ($a > 0$) is interpreted as per unity returns of human capital. This specification reflects the decreasing human capital marginal return which has been empirically established, namely in the well-known works of Mincer (1974), Psacharopoulos (1994) and Psacharopoulos and Patrinos (2004).
- Third, we assume the absence of any unemployment benefits; an assumption which is especially relevant in the case of developing countries.

In a context of unemployment ($L < 1$), L stands simultanously for total firms' labour demand, employment rate and the probability to be employed which is the same for all individuals. We can define the following expected surplus function of a risk-neutral individual with job uncertainty:

$$G = L\, w(h) + (1 - L).0 - \phi(h) \tag{1a}$$

That is, an individual earns, with probability L, a wage that depends on his human capital h, while he has to subtract the cost of his investment in education, $\phi(h)$.
Following the hypotheses announced above, the relation (1a) re-writes as:

$$G = L\left(a h^{\varepsilon}\right) - b h \tag{1b}$$

This individual has to decide about the amount of his human capital investment that maximizes the surplus function (1b) given the employment rate and the educational cost. The human capital supply function of this worker is therefore given by:

$$h = \left[\frac{\varepsilon a L}{b}\right]^{\frac{1}{1-\varepsilon}} \tag{2}$$

It comes out that the individual level of human capital investment increases with the probability to get a job (i.e. the employment rate), and with the parameters characterising the return of this investment, a and ε. It decreases with the per unity cost of human capital, b.

II-2 Final firms' technology:

For the production technology of a representative final firm i we adopt Romer (1990)'s framework in which we include employees' human capital. That is, the production technology we assume is a constant-returns to scale Cobb-Douglas function in labour measured in efficient units, and series of capital goods varieties, X_j, entering additively in the production technology. Specifically, we consider the following production function of a representative final firm i:

$$Y_i = f(L_i, X_{ij}) = A\,(h L_i)^{\beta} \sum_{j=1}^{T} \left(X_{ij}\right)^{\gamma} \tag{3}$$

where A is the exogenous technological progress, T the number of intermediate firms, and $\beta+\gamma=1$. The assumption of identical individuals implies that worker's humain capital level is the same for all firms. Setting the price of final output to unity, the program of a final firm reads as:

$$\max_{L_i, X_{ij}} \Pi_i = Y_i - \left(a\, h^{\varepsilon}\right) L_i - \sum_{j=1}^{T} p^{X_j}\, X_{ij} \tag{4}$$

where p^{X_j} denotes the price of the capital good of variety j. First order conditions imply that the demanded quantities of capital good of type j and labour are such that their marginal products equal their prices. Hence, we obtain:

$$X_{ij} = \left[\frac{\gamma A}{p^{X_j}}\right]^{\frac{1}{1-\gamma}} L_i\, h \tag{5a}$$

$$L_i = \frac{\beta Y_i}{a\, h^{\varepsilon}} \tag{5b}$$

The price of each capital good variety, p^{X_j}, is set by the corresponding intermediate firm j that holds the licence of innovating (or adopting) that type of equipment. This monopolist sets his price so that his marginal revenue equals marginal cost. That is:

$$p^{X_j}\left(1 - \frac{1}{\left|e_{(X_j/p)}\right|}\right) = C_m^{X_j} \tag{6a}$$

where $e_{X_j/p}$ and $C_m^{X_j}$ denote the demand price-elasticity and the marginal cost of producing the capital good of type j (or holding its licence), respectively.

Assuming this marginal cost equals unity and using from the demand equation (5a) the fact that $e_{X_j/p} = -1/(1-\gamma)$ for all the intermediate capital goods, we can easily show that each monopolist sets a profit maximizing price of:

$$p^{X_j} = p^{X} = 1/\gamma \tag{6b}$$

Substituting this result in equation (5a), we re-write the quantity of capital good of variety j demanded by a representative final firm as follows:

$$X_{ij} = X_i = \left[A\gamma^2\right]^{\frac{1}{1-\gamma}} L_i\, h \tag{7a}$$

Hence, each final firm i demands the same quantity of capital good of variety j.
It follows that total demand addressed by all final firms for a given variety of intermediate good j writes as:

$$X_j = \sum_i X_{ij} = \left[A\gamma^2\right]^{\frac{1}{1-\gamma}} L\, h = X \tag{7b}$$

Using equation (5), the employment rate of the economy is:

$$L = \frac{\beta Y}{a\, h^{\varepsilon}} \tag{8}$$

where Y is aggregate output produced by the final firms which is determined as follows:

$$Y = A(hL)^{\beta} T X^{\gamma} \tag{9}$$

By substituting equation (8) into (9), one may express the employment rate as follows:

$$L = \left(\frac{\beta AT}{a}\right)^{\frac{1}{1-\beta}} h^{\frac{\beta-\varepsilon}{1-\beta}} X \tag{10}$$

II-3 Equilibrium of the economy:

The system of equations (2), (7b) and (10) describes the economy and shows how the firms' aggregated demand for capital goods and labour, and the individuals' human capital investment mutually interact. By solving this system for a giving number of intermediate firms T, equilibrium levels of employment rate, human capital investment and purchased capital goods are determined:

$$\begin{cases} L^* = \dfrac{b}{\varepsilon AT\beta}\left(A\gamma^2\right)^{\frac{-\gamma}{(1-\gamma)}} \\ h^* = \left(A\gamma^2\right)^{\frac{-\gamma}{(1-\gamma)(1-\varepsilon)}} \left(\dfrac{a}{\beta AT}\right)^{\frac{1}{(1-\varepsilon)}} \\ X^* = \left(\dfrac{b}{\varepsilon a}\right)\left(A\gamma^2\right)^{\frac{(1-\gamma)(1-\varepsilon)-\gamma}{(1-\gamma)(1-\varepsilon)}} \left(\dfrac{a}{\beta AT}\right)^{\frac{2-\varepsilon}{(1-\varepsilon)}} \end{cases} \tag{S*}$$

We study below in more details the different forces governing this equilibrium.

III- Analysis of pro-employment public policies:

We examine in this section the consequences of two public policies that should, in principle, enhance firms' labour demand, and thus reduce unemployment rate. The first policy consists in subsidising the wage paid by final firms to workers while the second consists in subsidizing the cost of capital goods purchased by these firms. These policies are particularly adopted in some developing countries.

A priori, both policies seem to be effective in enhancing the level of employment rate L. Indeed, subsidising the cost of labour should enhance firms' labour demand and improve the employment rate as shown by equation (8). Similarly, setting a subsidy on the cost of capital goods purchased by final firms should raise firms' demand of these goods, which in turn enhances the demand of labour as shown by equation (10). However, we show that these intuitive results are not trivial in the equilibrium. Indeed, by taking into consideration the mutual interactions in firms' and workers' decisions and the way these subsidies are financed, we find that wage subsidies have no effect at all on employment rate. In addition, subsidising the cost of capital goods reduces unemployment rate provided that the subsidy rate is not too high.

III-1 The impacts of wage subsidies:

We assume here that the government subsidises the workers' wage paid by firms at a rate of η so that the latter pay a net wage equals to $(1-\eta)w$ instead of w. Workers receive the wage paid by the firm plus the amount of the subsidy, ηw, which is transferred to them by government so that they receive, in definitive, the entire wage of w. Total subsidises, ηwL, are financed through a proportional tax τ levied on the workers' wage (net of the subsidy). Hence, under this policy regime, firms pay a lower wage to workers which increases their chance to be employed but, at a cost of paying a tax on their wage (net of the subsidy).

**** The government's equilibrium:***

Under this policy regime, the government's budget equilibrium implies that total subsidies on wages should be equal to total taxes on labour-income net of the subsidies. That is, the following equality should hold at this equilibrium:

$$\tau(1-\eta)wL = \eta wL \qquad \Leftrightarrow \qquad \tau = \frac{\eta}{1-\eta} \tag{11}$$

****The impacts on the economy's equilibrium:***

In presence of a wage subsidy, Equation (4) describing the representative firm's profit reads now as follows:

$$\Pi_i = Y_i - (1-\eta)\left(a h^{\varepsilon}\right) L_i - \sum_{j=1}^{T} p^{X_j} X_{ij} \tag{12a}$$

The expected gain function of a representative worker (equation 1b) becomes now:

$$G = L\left(a h^{\varepsilon}\right)\left[(1-\tau)(1-\eta)+\eta\right] - b h \tag{12b}$$

By taking into consideration equation (11), one can rewrite the gain function as:

$$G = L\left(a h^{\varepsilon}\right)\left(\frac{1}{1+\tau}\right) - b h \tag{12c}$$

This transformation shows clearly that the individual's expected gain function increases with the chance to be employed (the encouragement effect associated with an increase in L), and decreases in the tax rate τ associated with the subsidy (the distortion effect). Hence, these same forces affect human capital investment decision.

By using these equations, the system (S*) transforms into:

$$\begin{cases} L^* = \left(\dfrac{b}{\varepsilon\beta AT}\right)\left(A\gamma^2\right)^{\frac{-\gamma}{(1-\gamma)}} \\ h^* = \left(A\gamma^2\right)^{\frac{-\gamma}{(1-\gamma)(1-\varepsilon)}}\left(\dfrac{a(1-\eta)}{\beta AT}\right)^{\frac{1}{(1-\varepsilon)}} \\ X^* = \left(\dfrac{\lambda b}{\varepsilon a(1-\eta)}\right)\left(A\gamma^2\right)^{\frac{(1-\gamma)(1-\varepsilon)-\gamma}{(1-\gamma)(1-\varepsilon)}}\left(\dfrac{a(1-\eta)}{\beta AT}\right)^{\frac{2-\varepsilon}{(1-\varepsilon)}} \end{cases} \qquad (S1^*)$$

Implementing a wage subsidy η has both *a direct and indirect effects* on the equilibrium employment rate. These effects can be understood by referring to the firm's profit equation above (equation 12a).

- The *direct effect:* the wage subsidy, η, alleviates the cost of labour, and raises firms' profit, which in turn encourages firms to increase their demand for labour (and capital goods).

- The *indirect effect (via human capital):* the wage subsidy has two opposite effects on *h*: a discouragement effect associated with taxation which reduces the individual's expected gain function *G* ; and an encouragement effect stemming from the increased chance to be employed (i.e, an increased employment rate *L*) which raises *G*.

In order to study the net impact of this subsidy policy on the equilibrium, we compute the terms of $\partial L^*/\partial\eta$, $\partial h^*/\partial\eta$ and $\partial X^*/\partial\eta$ which refer respectively to the partial derivative of the equilibrium employment rate, human capital and purchased capital goods with respect to the subsidy rate, η. By referring to (*S1**), we can show that:

$$\frac{\partial L^*}{\partial\eta} = 0$$

$$\frac{\partial h^*}{\partial\eta} = -h^*(1-\eta)^{-1}(1-\varepsilon)^{\frac{-\varepsilon}{1-\varepsilon}} < 0$$

and

$$\frac{\partial X^*}{\partial\eta} = -X^*(1-\eta)^{-1}(1-\varepsilon)^{\frac{-\varepsilon}{1-\varepsilon}} < 0$$

The increase in the wage subsidy reduces, at the equilibrium, workers' human capital and has no effect on the employment rate. Hence, from human capital side, this result implies that the negative distortion tax effect outweighs the positive encouragement effect, so that human capital investment declines ($\partial h^*/\partial\eta < 0$). In turn, from firms' side, this decline in human capital fully compensates the encouragement effect of the subsidy, so that firms' profit and then employment rate remain unchanged in spite of the wage subsidy increase ($\partial L^*/\partial\eta = 0$).

As human capital decreases and employment rate remains unchanged under this policy regime, the quantity of capital goods purchased at the equilibrium decreases ($\partial X^*/\partial\eta < 0$). This result can be apprehended by referring to equation (7b) of the model which shows clearly how the demand for capital goods is related with both human capital and labour demand.

III-2 The impacts of capital goods subsidies:

We assume now that the government subsidises at a same rate of s the cost of all varieties of capital goods purchased by final firms in order to increase the quantity demanded of these goods. In this case, each capital good variety costs to the firm $(1-s)/\gamma$ instead of $1/\gamma$. Since the demanded quantity of labour increases with capital goods, this subsidy would have a positive effect on the employment rate as it appears from equation (10). As above, we assume here that this subsidy is financed through a proportional tax, τ, levied on labour wages.

** The government's equilibrium:*

The government balances its budget so that total labour-income taxes equal total subsidies of capital goods. That is:

$$\tau\, a\, h^{\varepsilon}\, L = \frac{s}{\gamma} T\, X \tag{13a}$$

By using equations (7b), (8) and (9), one may rewrite this condition as follows:

$$\tau = \frac{s\,\gamma}{\beta} \tag{13b}$$

Notice here that because $\tau < 1$, the equality (13b) implies that: $s < \frac{\beta}{\gamma}$.

** The impacts on the economy's equilibrium:*

Under this policy scheme, the representative firm's profit reads now as:

$$\Pi_i = Y_i - \left(a\, h^{\varepsilon}\right) L_i - \sum_{j=1}^{T} (1-s)\, p^{X_j}\, X_{ij} \tag{14a}$$

The expected gain function of a representative worker (equation 1b) becomes now:

$$G = L\,(1-\tau)\left(a\, h^{\varepsilon}\right) - b\, h \tag{14b}$$

Hence, by using the identity (13b), the system (S*) transforms now into:

$$\begin{cases} L^* = \left(\dfrac{b}{\varepsilon AT(\beta - s\gamma)}\right)\left(\dfrac{A\gamma^2}{1-s}\right)^{\frac{-\gamma}{(1-\gamma)}} \\ h^* = \left(\dfrac{A\gamma^2}{1-s}\right)^{\frac{-\gamma}{(1-\gamma)(1-\varepsilon)}} \left(\dfrac{a}{\beta AT}\right)^{\frac{1}{(1-\varepsilon)}} \\ X^* = \left(\dfrac{b\beta}{\varepsilon a(\beta - s\gamma)}\right)\left(\dfrac{A\gamma^2}{1-s}\right)^{\frac{(1-\gamma)(1-\varepsilon)-\gamma}{(1-\gamma)(1-\varepsilon)}} \left(\dfrac{a}{\beta AT}\right)^{\frac{2-\varepsilon}{(1-\varepsilon)}} \end{cases} \tag{$S2^*$}$$

Unambiguously, the condition of $s < \beta/\gamma$, determined above, ensures that L^* and X^* are positive. Similarly to the first policy regime, it appears from equation (14a) that the capital goods subsidy regime is associated with direct and indirect effects on the firms' profit and then on both employment rate and capital goods demand.

- The *direct effect:* the increase in the subsidy rate, *s*, reduces the cost of capital goods and raises firms' profit, which encourages the latter to increase their demand for capital goods and labour.
- The *indirect effect:* the tax increase associated with the subsidy tends to reduce human capital, which in turn reduces firms' revenues and profit and discourages firms to demand further capital goods and labour. Parting from this new equilibrium system, partial derivatives of employment rate, human capital and the demanded quantity of capital goods with respect to the subsidy rate, *s*, are as follows:

$$\begin{cases} \dfrac{\partial h^*}{\partial s} = \dfrac{-\gamma h^*}{(1-s)(1-\gamma)(1-\varepsilon)} < 0 \\ \dfrac{\partial X^*}{\partial s} = \dfrac{X^*\left[\beta(\beta-\varepsilon) - \gamma s\left(2\beta(1-\varepsilon)-\gamma\right)\right]}{\beta(1-s)(1-\varepsilon)(\beta-s\gamma)} > 0 \quad if \quad s < s^* \quad where \quad s^* = \dfrac{\beta(\beta-\varepsilon)}{\gamma\left[2\beta(1-\varepsilon)-\gamma\right]} \\ \dfrac{\partial L^*}{\partial s} = \dfrac{L^* s\gamma(\gamma-\beta)}{\beta(1-s)(\beta-s\gamma)^2} > 0 \quad if \quad \gamma > \beta \end{cases}$$

The first derivative shows clearly that human capital declines with the capital goods subsidy rate due to the associated distortion tax ($\partial h^*/\partial s < 0$). This decline in human capital influences firms' profit as illustrated in equation (14a) (this is the *indirect effect* of the subsidy). The second derivative indicates that investment in capital goods evolves non-monotonically with respect to the subsidy rate, *s*. It increases provided that this subsidy rate is not too high. Otherwise, it decreases because tax distortion becomes excessive and, in this case, the indirect (negative) effect on firms' profit outweighs the direct (positive) effect.

The third derivative shows that subsidizing capital goods by taxing human capital affects employment rate in a non-monotonic way. The sign of this effect depends on the relative contribution of human capital and capital goods in production (the parameters β and γ, respectively). Because human capital always decreases with the subsidy rate while investment in capital goods may increase or decrease, the effect of the subsidy on firms' profit and then on labour demand, depends on the relative returns of these two inputs. More specifically, employment rate may raise in the capital goods subsidies provided that capital goods return exceeds human capital one ($\gamma > \beta$).

Conclusion:

The aim of this paper is to study theoretically the effectiveness of firm-side wage subsidies by considering a model that shows interactions in the decisions of firms in terms of labour demand and workers in terms of human capital investment. The second purpose of this paper is to compare the consequences of this intervention with those of capital investment subsidies program. We find that compared to the first policy regime where employment rate is unaffected by the wage subsidy, the capital good subsidy seems to be more efficient in spurring labour demand. This is so because investment in capital goods may increase under the capital goods subsidy (if taxation is not too high), while it necessary decreases under the wage subsidy (because human capital decreases and employment rate remains unchanged). In turn, firms' profit and their demand for labour rise as long as the increase in capital goods overweighs the decrease in human capital (if capital goods return exceeds human capital one).

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