

# A quantitative evaluation of payroll tax subsidies for low-wage workers: An equilibrium search approach <sup>☆</sup>

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## Abstract

Phelps [Phelps, E. (1994): “Low-wage employment subsidies versus the welfare state”, *American Economic Review* 84, 54–58.] presented the case for a low-wage subsidy policy. Since the mid-1990s, France has experimented with this strategy. This paper evaluates the effect of this policy on employment and also on output and welfare. We construct an equilibrium search model incorporating wage posting and specific human capital investment, where unemployment and the distribution of both wages and productivity are endogenous. We estimate this model using French data. Numerical simulations show that the prevailing minimum wage allows a high production level to be reached by increasing training investment, even though the optimal minimum wage is lower. We show that payroll tax subsidies enhance welfare more than a reduction in the minimum wage when they are spread over a large range of wages in order to avoid specialization in low productivity jobs.

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## 1. Introduction

High labor costs are typically considered as the primary cause for high unemployment levels in continental European countries (see [Blanchard and Wolfers, 2000](#)) where the welfare state has put in place high payroll taxes and minimum wages. Despite a lack of formal evidence evaluating this claim ([Katz, 1996](#)), [Phelps \(1994\)](#) presented a case for a low-wage employment subsidy policy as a means to reduce the unemployment of such workers. [Phelps \(1994\)](#)

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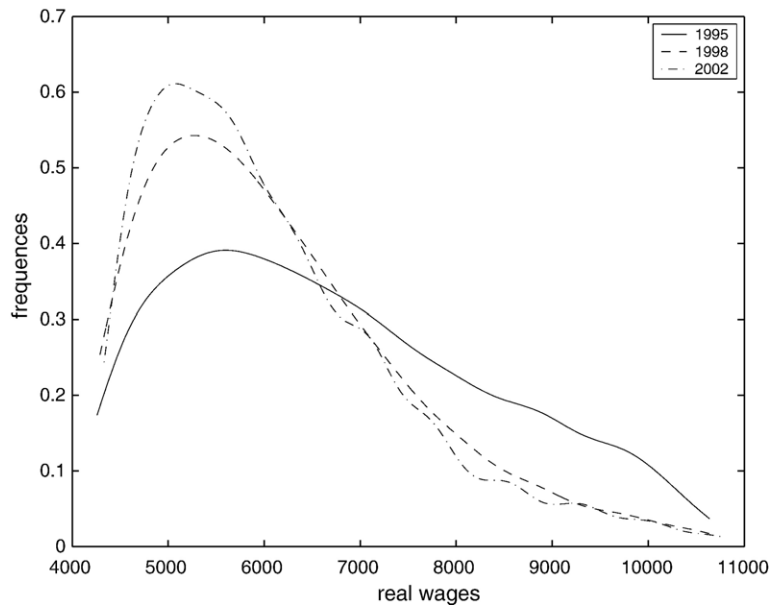


Fig. 1. Observed wage distributions of manual workers (France).

proposed “a system of low-wage employment subsidies be introduced, a subsidy to every qualifying firm based on the stock of low-wage workers on its roll” (p. 56, Phelps, 1994). This policy differs from most of the prevailing subsidy policies<sup>2</sup>: for instance, the Targeted Jobs Tax Credit in effect in the US during all of the 1979 to 1994 period concerned hirings, as in most developed countries. However, France has implemented the original strategy, which consists of a high minimum wage<sup>3</sup> compensated for by large, permanent payroll tax subsidies on low wage employment. It must be noted that the UK, the Netherlands and Belgium, have also experimented with such permanent subsidies for disadvantaged workers, but to a lesser extent than in France.

In this paper, we use the French experience to evaluate the performance of the low-wage subsidy policy suggested by Phelps (1994). Relative to a minimum wage reduction policy, a wage subsidy implies a budgetary cost, but it may preserve the welfare of the low-wage workers. On the other hand, this labor cost-reducing policy may be implemented with two different options for a given budgetary cost: either it concentrates subsidies at the minimum wage or it spreads them over a large range of wages. The former clearly aims at dampening the negative effect on employment of the minimum wage, but risks introducing severe distortions. For instance, Katz (1996) emphasizes the risk of stigmatization against a narrowly targeted population of workers which could explain the low employment impact of subsidy policies. In this paper, as firms are likely to respond to wage subsidies by increasing their utilization of workers in the targeted population, we focus on the risk of distortion in job allocations and its implication in terms of productivity. While several econometric papers have already highlighted the positive impact of this policy on employment in France (for example, Kramarz and Philippon, 2001; Crépon and Desplatz, 2002), Malinvaud (1998), however, stresses a potential negative impact on productivity due to a bias in job creation at the bottom of the wage distribution. When the wage distribution is strongly interrelated with the productivity distribution, payroll tax subsidies could shrink productivity, which in turn could dampen output. Fig. 1 shows a higher concentration at the bottom of the wage distribution of manual workers after the setting up in 1995 of the subsidy policy.<sup>4</sup> Crépon and Desplatz (2002) also provide some empirical evidences on the decrease of productivity.

<sup>2</sup> A wage subsidy can be applied to all employment, to net changes in employment or to new hires.

<sup>3</sup> France has the highest minimum wage/average wage ratio (known as the Kaitz ratio) in Europe: it is equal to 55%, whereas all the other European countries have a ratio lower than 50%. Research on the French labor market has pointed out extensively the negative role played by the minimum wage legislation due to increasing labor costs (for instance Laroque and Salanié, 2000, 2002).

<sup>4</sup> We retain only full-time manual workers from the Labor Force Survey (“Enquête emploi”) provided by the *Institut National de la Statistique et des Etudes Economiques* (INSEE), as in the empirical part of our study. We estimate the wage distribution using a wage set of  $N \in [14, 100; 14, 400]$  individuals: the size of this vector ( $N$ ) varies every year, but the difference is not significant.

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