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The Incidence of Social Security Contributions: An Empirical Analysis

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Abstract. We estimate the effect of social security contributions on wage costs with sectoral panel data from Eurostat. More than half of the burden of these contributions is borne by the employees. Shifting of the burden towards the employees is more pronounced if the reciprocity between contributions and benefits is stronger. These findings are in line with the predictions derived from an efficient bargaining model.

Keywords: Reciprocity, social security, tax incidence

JEL codes: C78, H22, H55, J32

I. Introduction

At least in everyday political discussions there is much concern about the effect of taxes and social security contributions on the cost of labour. It is argued that the high level of social security contributions is one of the main explanations for European unemployment. There seems to be a general feeling that in a situation of growing international competition, this labour cost effect is an important constraint on the redistributive policies of government.

Although the problem holds for social security contributions in general, the problem is perceived to be especially acute for the case of public pensions in a pay-as-you-go system. If one wants to sustain the actual level of public pension benefits in the light of the demographic developments, this will require a strong increase in future contribution rates, which is often considered to be unsustainable (Marchand and Pestieau, 1991). As a result, proposals have been made to change fundamentally the structure of the pension system. The best known is the World Bank scheme with a purely redistributive first pillar, providing a safety net for everyone, a fully funded and privately competitively managed (but mandatory) second pillar and a third pillar of voluntary savings (James, 1999).[1] One explicit argument put forward in favour of this proposal is the idea that the contributions in

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the new second pillar would be regarded as a saving rather than as a tax. Therefore labour market distortions would be lower. Although this is in the first place an empirical hypothesis, the evidence is until now rather limited and mixed. Despite the apparent consensus in policy circles, the academic question is far from settled. This paper presents some additional empirical results concerning this question.

One can say that there are by now three large streams of empirical work on the topic. The first applies the model of compensating wage differentials (Rosen, 1986) to the composition of pay. The idea behind this theory is simple: what matters for the firm is the total labour cost and in competitive markets the equilibrium value of this total labour cost has to be equal for workers of equal productivity. Therefore, a firm that does provide social security (e.g., pension or health) benefits should pay lower net wages than one that does not. While this theoretical reasoning is respectable and generally accepted, the empirical evidence is less convincing (see, inter alia, Schiller and Weiss, 1980; Ehrenberg, 1980; Montgomery et al., 1992; Gunderson et al., 1992; Montgomery and Shaw, 1997). One of the main reasons put forward for this relative lack of success is the difficulty to control for all factors determining individual productivity in the light of the empirically observed positive correlation between wages and social security benefits. While the equalizing differences literature focuses on decisions taken within the firm, the second (related) stream of literature on mandated benefits goes a step further. This literature analyses the situation in which the government mandates employers to provide benefits to workers. Such mandated benefits are like a benefit tax. Summers (1989) argues that they do not give rise to deadweight losses as large as those arising from government tax collections: in his view they only represent a tax at a rate equal to the *difference* between the employer's cost of providing the benefit and the employee's valuation of it. Econometric studies indeed suggest that the cost of mandated benefits in the U.S. is largely shifted onto the employees. Gruber and Krueger (1991) find a shifting rate between 0.56 and 0.86 for workers' compensation insurance, Gruber (1994) even estimates the shifting onto employees to be 100% on average for maternity benefits. Note that these mandated benefits are quite close to the mandatory second pension pillar in the World Bank proposal.

Of course, once we move towards *mandated* benefits, we have already bridged part of the gap towards a full government social security program, financed with payroll taxation. The incidence of payroll taxation has always been a hotly debated topic. To give but two examples: Knoester and van der Windt (1987) find strong support in different countries for the shifting forward of social security contributions into higher wage costs, with the estimated coefficients varying between half and one. Gruber (1997) on the other hand finds evidence in Chile for the full shifting of the burden of social security onto the employees. Some interesting recent work relates the shifting of payroll taxation to the degree of centralisation in the bargaining process. In a country with centralised wage bargaining between employers and trade unions, trade unions might internalize the link between contributions to be paid and benefits to be received. Therefore, taxation might be less