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Labour supply in presence of taxation financing public services. An experimental approach

Guido Ortona [a], Stefania Ottone [a], Ferruccio Ponzano [a], Francesco Scacciati [b,*]

[a] *Dipartimento POLIS, Universitá del Piemonte Orientale, 15100 Alessandria, Italy*
[b] *Dipartimento di Economia, Università di Torino, 10124 Torino, Italy*

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Abstract

This paper shows the results of an experiment aiming to test the effect of taxation on the labour supply. Differently from previous experiments [Lévy-Garboua, L., Masclet, D., & Montmarquette, C. (2005). *Fiscalité et offre de travail: Une étude experimentale*. CIRANO, Montréal, working paper 2005, s-23; Sillamaa, M.A., (1999). Taxpayer behavior in response to taxation: Comment and new experimental evidence. *Journal of Accounting and Public Policy, 18*; Sutter, M., & Weck-Hannemann, H. (2003). Taxation and the veil of ignorance – A real effort experiment of the Laffer curve. *Public Choice, 115*; Swenson, C.W., (1988). Taxpayer behavior in response to taxation. An experimental analysis. *Journal of Accounting and Public Policy, 7*], in our experiment the revenue of taxation is not left unaccounted for but employed – more realistically – to finance public goods and insurance against risk (i.e., a Welfare State). The result is a slight increase in the labour supply. This behaviour is the opposite of what was shown in the experiments quoted above, but is consistent with a theoretical model suggested by Bird in 2001 [Bird, E.J., (2001). Does the welfare state induce risk-taking? *Journal of Public Economics, 80*]. The use of the tax revenue appears to be relevant for subjects' reaction to tax levies.

* Corresponding author. Tel.: +390 11 6702760; fax: +390 11 6702762.
E-mail addresses: guido.ortona@sp.unipmn.it (G. Ortona), stefania.ottone@sp.unipmn.it (S. Ottone), ferruccio.ponzano@sp.unipmn.it (F. Ponzano), francesco.scacciati@unito.it (F. Scacciati).

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1. Introduction

The hypothesis that labour supply decreases in presence of taxation looks plausible on a theoretical ground, and there is some experimental evidence that provides support to it (Lévy-Garboua et al., 2005; Sillamaa, 1999; Sutter & Weck-Hannemann, 2003; Swenson, 1988). As for the theory, we know that the Nash equilibrium for the private provision of public goods is complete free-riding: hence taxation may be supposed to have no other effect but a reduction of the wage, which in turns implies a reduction of the labour supply. Experimental evidence suggests that people may actually produce public goods privately, to the point that this result has been accepted by textbooks (see f.i. Davis & Holt, 1992, p. 365; Pommehrene & Feld, 1994 for a real-world experiment), but it is hard to suppose that the utility provided by the fruition of a public good may be higher than that provided by a private good acquired with the same effort/compensation.

However, the theory as outlined to this point is incomplete, as it excludes the possibility that the tax collection may *by its very nature* move the labour supply curve rightwards. Taxation may be used to reduce the risk connected with any kind of economic activity, thus inducing the workers to supply, *ceteris paribus*, more labour. There is no theoretical reasons why this *expected income effect* (positive) should be lower than the *certain income effect* (negative) produced by taxation. Actually, this is what is argued by a theoretical model due to Bird (2001; but see also Gintis & Bowles, 1982; Sinn, 1995; and for a more general approach Altman, 2001).[1]

A direct result of the mere existence of this theory is that all the experimental evidence quoted above is displaced. In all those experiments the tax revenue was lost or assigned to other non-deserving subjects, while Bird showed that certain uses of the tax revenue may affect positively the labour supply. It follows that the evidence of the reduction of the labour supply, if the tax revenue is not accounted for, is not sufficient to support the conclusion that this is true irrespective of the use of the tax revenue.

Actually, the lack of a social use of the tax revenue implies the acceptance of the Leviathan model of the State. This is a very strong assumption. We think that the textbook definition of the State as a device to resolve market failures is much more reasonable on one side, and of greater theoretical interest on the other. Of course, the State may become a Leviathan, or, more realistically, expand itself beyond efficiency. But we think that it is more appropriate to see what happens "if the State works well", before turning to the analysis of a rotten case. If a well functioning State is efficiency enhancing, it is

[1] Bird also provides sectional evidence (for six European countries and the US) that confirms the relevance of the first effect: "The annual variance of log income is positively correlated with the share of social spending in GDP. This finding (...) is consistent with, but does not prove, the argument that Welfare State, by insuring income, induces risk taking" (2001, p. 381).