Marginal Cost of Public Funds: from the theory to the empirical application for the evaluation of the efficiency of the tax-benefit system

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The Marginal Cost of Public Funds

The marginal cost of public funds (MCPF) quantifies the welfare loss incurred by the society in raising an extra euro of revenue to finance public spending (Kleven and Kreiner, 2006). Welfare costs (or excess burdens) occur because of the distortion that taxes introduce in the allocation of resources. *The MCPF is an indicator of the efficiency loss.*

Theoretical Framework

Following Kleven and Kreiner (2006), we use a simplified version of the MCPF measure which assumes a proportional tax increase:

$$MCPF = \frac{1}{\sum_{i=1}^{l} \left[1 - \frac{m_i}{1 - m_i} \varepsilon_i - \frac{\tau_i}{1 - m_i} \eta_i \right] s_i}$$

m_i is the marginal effective tax rate

τ_i is the participation tax rate

η_i is the participation elasticity

ε_i is the intensive elasticity

s_i are earnings shares

m_i, τ_i and s_i have been simulated by using EUROMOD.

η_i and ε_i have been calculated by using a static structural discrete choice model of labour supply.

Our Research Objective

We aim at quantifying the marginal cost of public funds *based on empirical micro data* representative of the population. Our indicator measures the efficiency of the Italian 2009 tax-benefit system allowing for a wide heterogeneity in the four groups of our sample (single women, single men, women in couple, men in couple).

MCPF for the overall population

The aggregate MCPF calculated using our empirical elasticities is 1.185. This value is in the range of the MCPF values calculated by using the 5 hypothetical elasticities scenarios by Kleven and Kreiner (2006).


Graph 1. MCPF calculated with K&K elasticities scenarios and empirical elasticities
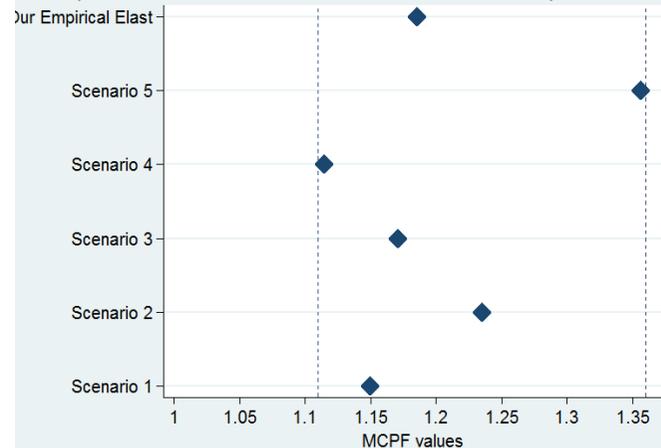
MCPF for different population sub-groups

The heterogeneity of the population drives the results: only for single women the MCPF value calculated by using our empirical data is in the range of the MCPF values obtained by using the 5 hypothetical elasticities scenarios by Kleven and Kreiner (2006)

Graph 2. MCPF calculated by Subsamples with different Elasticities Scenarios
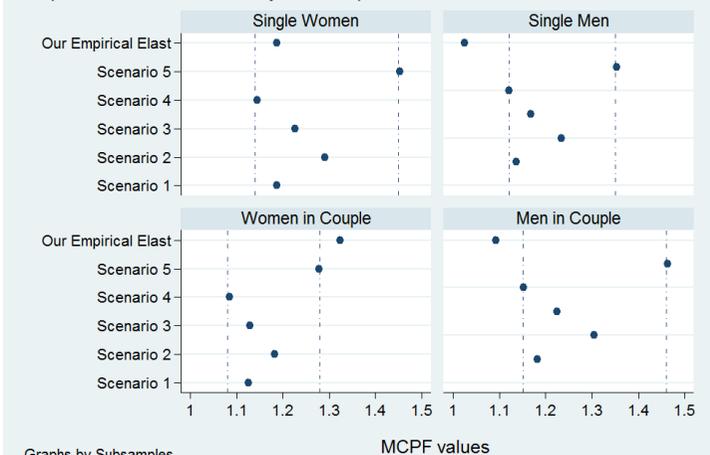
Our results suggest the importance of focusing on micro-data evidence in order to reach robust policy indications.

References

Kleven, H. J., & Kreiner, C. T. (2006). The marginal cost of public funds: Hours of work versus labour force participation. *Journal of Public Economics*, *90*(10), 1955-1973.