Practical Solutions to the Problem of Mirrlees - Optimal Labor Income Taxation in Poland

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Abstract

The optimal labor income taxation problem is cast in the context of the Polish economy. We use the actual Polish data on labor income and the corresponding tax revenue provided by the Polish Tax Authority to calibrate the optimal taxation Problem of Mirrlees to the Polish data. We solve the optimal taxation problem in a variety of contexts using numerical techniques. We provide solutions to the optimal labor income taxation problem, examine the sensitivity to the underlying parameters. In general, our numerical results confirm that the solutions are affected, in particular, by the elasticity of labor supply with respect to the wage, and by the preferences of policy makers. Still, in the qualitative sense the optimal marginal tax rates normally take the form of an inverted U-shaped curve when depicted in terms of income earned. We establish that the quantitative results are sensitive to the underlying parameters. In one extreme, the optimum calls for high optimal marginal tax rates reaching nearly 75% for moderate income levels when the elasticity of labor supply is low and the degree of aversion towards inequality is high. On the other hand the optimal marginal tax rates can be low for moderate income levels when the elasticity of labor supply with respect to the wage is high and when the aversion towards inequality is low. In addition, we show that marginal tax rates at low income levels can be high, which is supposed to encourage higher labor supply by low earners. Finally, our solutions reveal that universal basic income is a part of the optimum regardless of the values of the underlying parameters.