Grant no. RRC15+37

Non-Technical Summary for the

"Productivity, Taxation and Evasion: A Quantitative Exploration of the Determinants of the Informal Economy."

How (and if at all) do taxes influence informality? This paper contributes to this literature by quantifying the relative importance of labor productivity vs. the role of (personal and corporate) income taxes and social contributions for tax compliance in an economy with a large degree of informality. As pointed out in Schneider and Ernste (2003), the growth in the shadow economy is caused by the overall tax burden, since income taxes (and social contributions) are likely to be quantitatively important for labor-intensive activities with low productivity. If taxes are considered to be too high and the tax system is viewed as unfair, then taxes are not paid over the full income level. The perception of unfairness can be rooted in that fact that most of the tax revenue is spent on transfers for the unemployed, or in the quality and coverage of public services.

Given that Bulgaria has the largest shadow economy on the European continent (Packard et al. 2012), it provides an excellent testing ground for the theory. In addition, Bulgaria underwent important tax reforms in the last two decades: Bulgaria lowered substantially the social contributions paid by the employer, cut the corporate income tax in several steps from 32.5% in 2000 to 10% in 2007 to attract investors. Finally, Bulgaria introduced a proportional income taxation system (effective January 1, 2008), which supplanted the previously progressive tax regime in Bulgaria: Instead of facing an increasing marginal tax schedule (0-20-22-24), applied until end-2007, a uniform (flat) tax rate of 10% was used afterwards.

To the best of our knowledge, no micro-founded theoretical/structural analysis of tax policy capturing income and wealth heterogeneity has being done for any other Eastern European country. This research project fills this gap. Furthermore, the modelling philosophy adopted in this paper is that the official and the unofficial production are identical, so all firms in the economy would be potentially "semi-formal." In other words, each firm will be formally registered, but under certain conditions not all activity will be registered. This is where the contribution of the paper lies. We set up a model that consists of a large number of islands, inhabited by heterogeneous firms and workers, which all differ in terms of their productivity. Hiring and the subsequent production follow a search and matching procedure. The main focus of the island model falls on the "report-or-not" choice margin faced by employers and employees: i.e., deciding not to report income arises as an optimal decision from a setup with information frictions.

The quantitative model takes as inputs the income tax structure and the estimated aggregate productivity series before and after the reform. The results from the performed quantitative experiments point out that the progressivity of the income tax matters little for tax evasion. What matters mostly is labor productivity, which is quantitatively more important than taxes. Among the taxes considered in the model, the most important one is the corporate tax, because it is effectively the employer that makes a decision about the surplus and how it will be split. After all, as in Bulgaria, wages in the model are a small part of the total surplus, so the profit (capital) share dominates. Therefore, it comes as no surprise that the tax on the surplus is the major one.

The reason why personal income taxation does not matter is that given the income distribution in Bulgaria, even before the adoption of the flat tax people were on average (effectively) paying 10% of their income in the form of income tax. Thus, the flat rate introduced in 2008 was not set arbitrarily but reflected the economic reality. In terms of social contributions, there is a change in the composition of employee contributions over the period, but little change in the aggregate magnitude. In contrast, there is a substantial decrease in employer's contribution, but the decrease is done mostly in the early 2000s.

On behalf of the team,
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Blagoevgrad, Bulgaria: June 20, 2016.