Measuring the Shadow Economy Under Differing Tax Regimes: Endogenous Switching Regressions with Unobserved Separation

Randall K. Filer[a,b] Jan Hanousek[b, c] and Tomáš Lichard[b]

Abstract

We develop a novel estimator of unreported income, perhaps due to tax evasion, that does not depend on as strict identifying assumptions as previous estimators based on microeconomic data. The standard identifying assumption that the self-employed underreport income whereas wage and salary workers do not is likely to fail in countries where employees are often paid under the table or have a secondary source of self-employed income. Assuming that evading individuals have a higher consumption-income gap than non-evading ones due underreporting both to tax authorities and in surveys, an endogenous switching model with unknown sample separation enables the estimation of consumption-income gaps for both underreporting and truthful households. This avoids the need to identify non-evading and evading groups ex-ante. Using data from household budget surveys in eight post-communist countries (Czech Republic, Slovakia, Georgia, Armenia, Croatia, Serbia, Russian and Ukraine) we find that estimated evasion is substantially higher than found using previous methodologies. We also use difference-in-difference techniques to measure the impact of tax reform reducing marginal rates on the extent of under-reporting, finding some evidence of such an effect in high marginal tax regimes.

[a]Hunter College and the Graduate Center, CUNY; IZA, Bonn and CESifo, Munich.
rfiler@hunter.cuny.edu

[b]CERGE-EI, Charles University and the Academy of Sciences of the Czech Republic, Prague

[c]CEPR, London