Car Prices, Income Inequality, and Shadow Economy

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Abstract

This study suggests an alternative approach to measuring income inequality in a country with a rather large share of informal economy. Taking Latvia as a case study, we infer the underlying population income distribution using a unique data set comprising market prices of registered cars. The data set covers years 2001—2005. Our main finding is that the income inequality measures that are based on a Household Budget Survey substantially underestimate the level of income inequality in Latvia.

Keywords: Income inequality, shadow economy, alternative indicators, Latvia JEL code: O17, P36.

1 Introduction

Since the breakdown of the Soviet Union the countries of the Central and Eastern Europe made substantial efforts in transforming their economies from planned to market-oriented. During this process development of official economy has been accompanied by a non-negligible contribution stemming from shadow economy. Weak insitututional framework, lack of experience in public management and other factors encouraged further development of the underground economy that survived during the Soviet times characterised by much more oppressive state attitude towards it. Unsurprisingly that even two decades later the extent of shadow economy in these former ex-Socialist states is of a considerable size.

Clearly, the presence of the large informal sector, by definition, leaves much of the ongoing economic activity as well as underlying population level of well-being in the shadow. As a consequence, the publically available statistics only partly reflects the actual state of the economy and hence it is likely to deliver an erroneous picture of economic reality in such countries. Moreover, using such incomplete data for policy advice and decisions undermines the effectiveness of economic and social state policies aimed at boosting welfare of its citizens.

Acknowledging the limitations of the official data a number of studies suggested using alternative indicators whose values cannot be easily manipulated or hided. For example, energy consumption is widely used as a proxy for GDP (e.g., see Kaufmann and Kaliberda, 1996, for an example of assessing the size of informal economy in transition countries using total electricity consumption). Other approaches for approximation of the size of shadow economy include the soft model approach and the currency demand approach (see Lackó, 2000, for a brief description). Thiessen (1997) mentions the use of specifically designed surveys by the World Bank in order to assess the scale of unofficial activities of private and state-owned firms and private households in Ukraine.

One of the topics in modern economics steadily attracting a lot of attention is the extent of income inequality and its dynamics. The issue of income inequality is particularly important for the post-Socialist countries, which experienced a rapid transition from relatively egalitarian society to a society characterised by extreme inequality. Facing the level of income inequality that often exceed those observed in other European countries the post-Socialist countries urgently need a policy aimed at levelling such huge discrepancies in income distribution, at preventing creation and/or further existence of poverty pockets within a country, and at warranting decent living standards for all its inhabitants. Failure to do so typically results in social unrest, rise of criminality, of drug and alcohol abuse, and in political extremism, among other things,—factors that typically imply negative consequences for economic growth.

It is a standard practice to infer income inequality using various forms of household budget surveys, where the respondents are asked detailed question on their income and expenditure during a given period. While undoubtedly such surveys provide very valuable information that otherwise would not be available to the policy makers, such method of data collection is not without problematic issues. Its main hurdle is that the participation in such surveys is voluntary and the control and verification of reported answers can not be easily enforced. This implies that in a country where a substantial share of income is derived from unofficial activity the respondents will tend to avoid participating in such surveys at all, or if they chose to do so, they will very likely to undereport their unofficial income, since there is no incentive to reveal it. Moreover, one would expect that well-to-do people will be less likely to participate in such surveys as they have generally larger opportunity costs of time than pensioners, for example, which generally represent the lowest-income group in transition countries. In sum, it is quite conceivable that the share of rich people in such surveys would be underrepresented which, in turn, implies that the extent of income inequality is likely to be understated.

The problematic issues inherent in the budget surveys related to self-selection of respondents as well as to (unofficial) income self-reporting calls for alternative approaches to measuring income inequality in societies with large informal sector. This provides the main motivation for our paper. In particular we suggest a novel approach to assessment of income inequality in a country with a rather large share of informal economy. Similarly to the idea of using total energy consumption—an easily observed indicator that is hard to manipulate—as a proxy for GDP, our approach is based on the publically available information that every participating person is obliged to report to the relevant authorities in its own best interest. For this purpose we use a unique data set matching all the registered individual cars in Latvia with the market prices observed at the second-hand car market for each particular model registered in Latvia, type and volume of engine, and production year. In doing so, we obtain a distribution of wealth across population embodied in the car park of the whole country. Intuitively, since a car represents both a necessity as well as a luxury good, there should be a quite close positive association between income (both officially and unofficiall earned) and the value of a car used in a given household. Naturally, cars of a better quality/image tend to be more expensive and generally are supposed to adequately reflect economic well-being of a particular household.

Our main findings can be summarised as follows. We record a substantial difference in income inequality measures (the Gini coefficient, percentile ratios, and the middle stratum size) calculated by the traditional approach based on the Household Budget Survey and by our alternative approach based on the car market prices. As expected, the income inequality measures derived from the Household Budget Survey indicate a much lower degree of income inequality than those derived from the alternative data set. For example, the calculated value of the Gini coefficient obtained by the latter method is more than twice as large as the corresponding value obtained by the former method. We attribute such subtantial discrepancy between these two outcomes to the fact that in the former method the rich households are underrepresented in the sample population—a drawback that is avoided in our approach.

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