

## SHADOW ECONOMY ESTIMATION: ECONOMICAL AND ECOLOGICAL ASPECTS

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The spread in Ukraine a socio-economic phenomenon of the shadow economy, as well as volumes of production and financial resources that are traded in this area represent a significant obstacle to the sustainable economic development. A major problem is that the vast majority of transactions that can be attributed to the shadow, can be done in the legal regulatory framework, and prove the fact of shadow activities require considerable effort by public authorities.

Operation of the shadow economy, along with legal resulted in a significant reduction in the structure of budget revenues, the share of tax revenues that threatened the implementation of important state programs. Because of that shadow economy can not be fully reflected of the official statistics, development of special methods of accounting and estimates, and the amount of arrears to the budget that allow us to estimate the real scale of operations is the urgent task of the present stage of development.

Among the foreign scientists who were studying the shadow economy, it should be noted E. Feyha, G. Grossman, R. Gutmann, B. Rumer, L. Ronseka, E. Saterlend, K. Hart, S. Golovnina, V. Ispravnikova, T. Koryahinu, Y. Kozlov, O.V. Krylov and others. Significant contribution to the understanding of the formation and development of the shadow economy in Ukraine have such native scholars as A. Bazyliuk, J. Zhalilo, S. Kovalenko, A. Revenko, O. Turchynov.

Shadow economy can be defined as all economic activities which contribute to the officially calculated (or observed) Gross National Product, but currently unregistered.

According to the version of the System of National Accounts, recommended by Eurostat, the shadow economy refers to the economy: «hidden» — allowed by law, but not shown; «informal» — the activities of enterprises operating lawfully owned by households and ensure the activities of these farms; «illegal» — illegal production and distribution services.

Economists are trying to figure out the nature and characteristics of the shadow economy and develop methods of its calculating. There are a significant number of measurement methods that have been used to estimate the size of the shadow economy in various countries. In general, three approaches to measuring the shadow economy are used: micro-, macro methods, and modeling methods. Most of the methods have been criticized because of the serious flaws they have.

Micro, or direct, methods are based on surveys of population or experts, selective surveys, analysis of tax reports, etc. These methods permit to study the structure of the shadow economy and to avoid dealing with aggregate indicators, but they usually yield underestimation due to a number of reasons such as deliberate concealment of information, notably about the criminal part of the shadow economy. Indirect, or macro, methods are based on the analysis of macroeconomic indicators. Monetary macro methods include the cash demand method and the transactions method. Both monetary methods assume that all underground transactions are made in cash. Modeling methods treat the shadow economy as an «unobserved», or not available for direct measurement, variable.

Nowadays firms in an imperfectly competitive formal sector produce a final good using a polluting intermediate good. The firms can either produce the intermediate good or purchase it from a price-taking informal sector. Although often characterized as a collection of street merchants, the shadow sector actually includes many pollution intensive activities such as leather tanning, brick and tile making and metalworking. Given the sheer number of such firms in developing countries, the aggregate environmental impacts can be very significant. But controlling pollution created by informal firms is especially difficult—even by developing country standards—for a number of reasons. By definition, informal firms have few preexisting ties to the state. In addition, they are difficult to monitor since they are small, numerous, and geographically dispersed. Finally, they sustain the poorest of the poor. As a consequence, they may appear to both regulators and the public as less appropriate targets for regulation than larger, wealthier firms.

Today one of the important task of economists is to develop and improve methods of identifying and calculating the level of shadow for pollution control.

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3. E.L.Feigeš R.T. McGee«Sweden's LafferCurve: Taxation and the Unobserved Economy», Scandinavian Journal of Economics, no.85.