
THEORETICAL AND METHODOLOGICAL APPROACHES ON TAX EVASION

Review paper

UDK: 336.228.34

JEL classification: H26, E30, O17

DOI: 10.17818/DIEM/2021/1.19

Accepted for publishing: July 8, 2021

Abstract

Measurement of an economic indicator or phenomenon starts by defining it first and determining its components. Tax evasion as a component of the underground economy is a phenomenon that is hard to be observed and estimated because of its hidden nature. To be able to compare the figures for tax evasion from different countries, there is the need for a definition internationally accepted. This paper aims to make a literature review on the phenomenon and to find a definition that is widely accepted. In this area, not only the literature review is important but also the legislation from different countries. We will look closely at the definition of tax evasion given by the legislation of different countries from the EU and the USA. In the literature, there are several methods to estimate the underground economy. There are direct methods (questionnaire), indirect methods (indicator methods), and statistical methods (MIMIC), but all of them have their shortcomings. In the paper, all the shortcomings of each method used in the present are discussed to estimate the underground economy. As a conclusion, we can state that at the present moment there is not a definition internationally accepted for the underground economy, making it hard to estimate and to compare the results from different countries. In addition, the methods used to estimate the phenomenon have advantages and disadvantages. None of the methods is better than the other. When estimating the underground economy, it is advised to use more than one method. At this moment it is safe to say that the link between theory and empirical estimation is still unsatisfactory.

Keywords: *tax evasion, underground economy*

1. INTRODUCTION

Provisioning good quality public services and infrastructure are key elements for economic growth. Many economies find it difficult to collect the taxes necessary to finance the public sector. In developed countries, the tax revenue to GDP ratio exceeds 40 % (France 46,1%, Denmark 44,9 %) according to OECD data. On the other end, there are countries as Turkey (24,4%) or Mexico (16,1 %).

Tax evasion and tax avoidance are thought to be important factors in limiting the mobilization of revenues from taxes.

There is a distinction between tax avoidance and tax evasion that needs to be made. Usually, tax avoidance refers to ordering one's affairs so as not to fall within the charge to tax or to reduce it, which is lawful. Tax evasion, on the other hand, is used by deception, which is not lawful.

In other words, the avoider attempts to comply with the law and the evader seeks to benefit from not complying.

2. DEFINITIONS OF TAX EVASION AND TAX AVOIDANCE

The UK government makes the following distinction between tax avoidance and tax evasion:

“Tax evasion is always illegal. It is when people or businesses deliberately do not declare and account for the taxes that they owe. It includes the hidden economy, where people conceal their presence or taxable sources of income. Tax avoidance involves bending the rules of the tax system to gain a tax advantage that Parliament never intended. It often involves contrived, artificial transactions that serve little or no purpose other than to produce this advantage. It involves operating within the letter – but not the spirit – of the law. Most tax avoidance schemes simply do not work, and those who engage in it can find they pay more than the tax they attempted to save once HMRC has successfully challenged them.

Tax planning involves using tax reliefs for the purpose for which they were intended. However, tax reliefs can be used excessively or aggressively by other than those intended to benefit from them or in ways that clearly go beyond the intention of Parliament”.

Tax evasion and avoidance are both phenomena that are probably as old as taxation itself. Wherever and whenever authorities decide to levy taxes, individuals and firms try to avoid paying them.

The definitions given by ITC (The International Tax Compact) are the following (Addressing tax evasion and avoidance 2010):

Tax evasion in general refers to illegal practices to escape from taxation. To this end taxable income, profits liable to tax, or other taxable activities are concealed, the amount and/or source of income are misrepresented, or tax - reducing factors such as deductions, exemptions or credits are deliberately overstated. Tax evasion can occur as an isolated incident within activities that are – in other aspects – legal. Or tax evasion occurs in the informal economy where the whole activity takes place in an informal manner- this means the business is not only evading tax payments but is also not registered as a formal enterprise at all.

Tax avoidance, in contrast, takes place within the legal context of the tax system that is individuals or firms take advantage of the tax code and exploit “loopholes”. Usually, tax avoidance encompasses special activities with the sole purpose to reduce tax liabilities.

The taxpayer is not obliged to follow the spirit or the underlying purpose of the tax code but only the letter of the law. Yet in practice, this boundary is often less than clear. This is the reason why tax avoidance often takes place at the margins of the tax code, in areas where the code is ambiguous and in need of interpretation.

In many instances, the distinction between tax avoidance and tax evasion is clear only from the ex - post perspective, ultimately a post - court perspective. Or in other words “If you get away with it, it was tax avoidance. If not, it was tax evasion”. For this reason, tax evasion and tax avoidance are usually treated jointly.

As Slemrod and colleagues put it, ‘although one can assert that legality is the dividing line between evasion and avoidance, in practice the line is blurry; sometimes the law itself is unclear, sometimes it is clear but not known to the taxpayer, sometimes the law is clear but the administration effectively ignores a particular transaction or activity (Slemrod, Blumenthal and Christian, 2001, p. 459).

From the legal perspective the European Parliament’s definitions of tax evasion and avoidance are as it follows (www.europarl.europa.eu):

Tax avoidance is understood as a legal act - unless deemed illegal by the tax authorities or, ultimately, by the courts - of using tax regimes to one's own advantage to reduce one's tax burden.

Tax evasion is defined as an illegal act of evading taxes by concealing income, earned either legally or illegally, from detection and collection by the tax authorities.

Most of the EU countries consider tax evasion a criminal offense. Some of them consider them administrative offenses to some extent (depending on the amount of the taxes evaded) and after exceeding it they consider it a criminal offense. For example, Bulgaria considers it an administrative offense under 3000 BGN (approximately 1500 EUR) and a criminal offense for the ones that exceed this amount.

In the economic researches on tax evasion and avoidance, there is another term that shows up: „shadow economy“. The term has no universally accepted definition. Also, a variety of different terms are used in addition to “shadow economy“. These include “underground economy“, “non-observed economy“, “hidden economy“, “cash economy“, “informal economy“, “grey economy“ and so on. (OECD 2017)

For the context of taxation, tax evasion, and avoidance a definition is provided by Schneider and Enste (2000) which states that „unreported income from the production of legal goods and services, either from monetary or barter transactions, hence all economic activities, that would generally be taxable, were they be reported to the tax authorities.“

In a more recent study, Schneider and Medina (2019) define the shadow or informal economy as“ all economic activities which are hidden from official authorities for monetary, regulatory, and institutional reasons. Monetary reasons include avoiding paying taxes and all social security contributions, regulatory reasons include avoiding governmental bureaucracy or the burden of a regulatory framework, while institutional reasons include corruption law, the quality of political institutions and weak rule of law.“ The shadow economy, in their paper, reflects mostly legal economic, and productive activities that, if recorded, would contribute to national GDP, therefore the definition of the shadow economy in the study tries to avoid illegal or criminal activities, do-it-yourself, or other household activities.

A definition is given by OECD (shining light on the shadow economy: opportunities and threats - OECD 2017) and it states that the shadow economy represents “economic activities, whether legal or illegal, which are required by law to be fully reported to the tax administration but which are not reported and which therefore go untaxed, unlike activities which are so reported.“

In the mentioned research there are some examples of activities included in the shadow economy. These are (OECD 2017):

- Non-registered businesses;
- Underreporting of business income;
- Unreported sources of income;
- Inflation of costs;
- Identity fraud;
- Phoenix companies;
- Moonlighters;
- Ghosts;
- Cross-border fraud;
- Employer fraud;
- Money laundering;
- VAT fraud;
- Distance selling;
- Illicit trafficking.

This illustrates the broad scope of activities and range of behaviours within the shadow economy. We can see that the OECD accepted term of “shadow economy” includes much more than just tax evasion and avoidance.

In his research, when measuring the shadow economy, Friederick Schneider includes all market-based production of legal goods and services that are deliberately concealed from public authorities for the following reasons:

- to avoid payment of income, value - added or other taxes;
- to avoid payment of social security contributions;
- to avoid having to meet certain legal labour market standards, such as minimum wages, maximum working hours, safety standards, etc.;
- to avoid complying with certain administrative obligations. (Schneider, Williams, 2013)

3. MEASURING TAX EVASION AND AVOIDANCE

Estimating tax evasion and avoidance can be difficult due to their hidden nature. Usually, these activities escape normal statistical registration and documentation. In the developing countries, there is another issue that arises, the fact that in these countries the availability of economic data is much more restricted than in the developed countries. This is the reason why in developing countries there is very little empirical data on tax evasion and avoidance.

There are a few studies on estimating tax evasion and avoidance and we will discuss them separately. We will start with the research of Cobham from 2005 (Tax evasion, tax avoidance, and development finance 2005).

Cobham estimates the overall tax gap due to tax evasion and avoidance in developing countries to be US \$ 385 billion per year from which US\$ 285 billion are estimated to be the result of domestic evasion and the difference is assumed to be related to international profit shifting and tax evasion through offshore holdings of financial assets.

He considers the following model of tax evasion:

In the absence of any leakages, the total tax revenue would be

$$T_0 = tY(\Omega) \quad (1)$$

Where the income (Y) generated by the economic activity (Ω) is $Y(\Omega)$, the countries tax system's average tax rate is $t\%$ and T_0 is the total tax revenue.

However, some leakages do occur. In this study, we will focus only on the leakage produced by the shadow economy. Assuming that the share of the shadow economy in overall economic activity is given by a proportional factor s , the tax revenue will be diminished by s :

$$T_1 = tY(\Omega(1-s)) \quad (2)$$

Then the tax revenue lost due to the shadow economy is

$$T_0 - T_1 = tY(\Omega(s)) \quad (3)$$

This difference is estimated as it follows:

$$\text{Est } (T_0 - T_1) = \text{Tax revenue to GDP ratio} \times \text{GDP} \times \text{Share of the shadow economy in GDP} \quad (4)$$

The shares of the shadow economy in GDP used in his calculations are the ones estimated by Schneider (2005). We will discuss below the methodology used by Schneider.

Cobham's approach has some limitations as Fuest and Riedel (2009) argue. Some of them are:

The tax system is summarized as a proportional tax on GDP. This abstracts from the structure of the tax system (direct vs indirect taxes, tariffs vs value - added taxes). This suggests

that shadow economy activities, if they were transmitted to the legal economy, would be taxable at the same average tax rate as activities in the official sector. However, the structure of shadow economy activities may vary from the structure of activities in the official economy as the authors argue.

The approach assumes that economic behaviour is given and will not adjust if tax enforcement changes. However, if individuals are taxed, their incentives to invest and provide effort and investment may decline. Economic activity may therefore be scaled back if it is drawn into the official economy.

Administrative and compliance costs, which have an impact on revenue that can be raised, are neglected. If these costs are high, crowding back the shadow economy may reduce rather than increase revenue available for financing public services.

There are also some issues regarding the consistency of the approach and the relationship between the measurement concept and the data used, which are left open in Cobham (2005). One important question that arises is whether the approach considers that GDP, as reported in the WDI data, includes part of the economic activity which evades taxation. The international standards of the Systems of National Accounts (SNA) stipulate that shadow economy activities are included in GDP calculations (see e.g. OECD (2002)). But estimates as those of Schneider (2005, 2007) refer to that part of the shadow economy which is not considered in GDP statistics (ibid, p. 6). Cobham (2005) does not distinguish between economic activity which evades taxation but enters GDP statistics and economic activity which is neither taxed nor included in GDP statistics.

Cobham's tax gap calculation relies on the validity and precision of the shadow economy estimates derived in Schneider (2005), as well as the relevance of the shadow economy as measured by Schneider for the particular issue of tax evasion, but only part of what is normally considered as belonging to the shadow economy would be taxed if it was reported to the public administration. Some activities, in particular criminal activities, would be stopped.

As for the shadow economy, over the years a variety of methods were used to measure its size. These methods can be grouped into direct and indirect methods.

A. Direct methods:

- a) Surveys based on voluntary replies – although it could reveal valuable information on the structure of the taxes evaded from authorities and on the source of the evaders, the results are sensitive to the respondents' willingness to cooperate;
- b) Tax auditing – although they can deliver useful information regarding the structure of the underground economy, they are unlikely to capture all informal activities.

B. Indirect methods:

- a) The discrepancy between national expenditure and income statistics: this method is based on the idea that if those working in the informal economy were able to hide their incomes for tax purposes but not their expenditure, then the difference between national income and national expenditure estimates could be used to approximate the size of the informal economy. This approach assumes that all the components of the expenditure side are measured without error and constructed so that they are statistically independent of income factors. (Schneider and Medina 2019);
- b) The discrepancy between official and actual labour force is based on the idea that if the total labour force participation is assumed to be constant, a decline in official labour force participation can be interpreted as an increase in the importance of the informal economy. Since fluctuation in the participation rate might have many other explanations, such as the position in the business cycle, difficulty in finding a job, and education and retirement decisions, but these estimates represent weak indicators of the size of the informal economy;

- c) Electricity approach: Kaufmann and Kaliberda (1996) endorse the idea that electricity consumption is the single best physical indicator of overall (official and unofficial) economic activity. Using findings that indicate the electricity-overall GDP elasticity is close to one, these authors suggest using the difference between the growth of electricity consumption and growth of official GDP as a proxy for the growth of the informal economy. This method has many drawbacks, including (i) not all informal economy activities require a considerable amount of electricity (e.g. personal services) or the use of other energy sources (like coal, gas, etc.), hence only part of the informal economy growth is captured; and (ii) the electricity-overall GDP elasticity might significantly vary across countries and over time.
- d) Currency demand approach: Assuming that informal transactions take the form of cash payments, in order not to leave an observable trace for the authorities, an increase in the size of the informal economy will, consequently, increase the demand for currency. there are several problems associated with this method and its assumptions: (i) this procedure may underestimate the size of the informal economy, because not all transactions take place using cash as means of exchange; (ii) increases in currency demand deposits may occur because of a slowdown in demand deposits rather than an increase in currency used in informal activities; (iii) it seems arbitrary to assume equal velocity of money in both types of economies; (iv) the assumption of no informal economy in a base year is arguable;

Multiple Indicators, Multiple Causes (MIMIC) approach: This method explicitly considers several causes, as well as the multiple effects, of the informal economy. The methodology makes use of the associations between the observable causes and the effects of an unobserved variable, in this case, the informal economy, to estimate the variable itself.

We will focus our attention on the MIMIC method used by professor Schneider in many of his recent researches.

The model is based on the following steps, as described by Schneider and Medina (2019):

- 1) Modelling the shadow economy as an unobservable variable
- 2) Description of the relationship between the latent variable and its causes in a structural model:

$$SE = \Gamma X + \xi \quad (5)$$

- 3) The link between the latent variable and its indicators is represented in the measurement model:

$$Y = \Lambda y SE + \varepsilon \quad (6)$$

Where SE is the shadow economy, X is the vector of causes, Y is the vector of indicators, Γ is the coefficient matrix of the causes, Λy the coefficient matrix in the measurement model and ξ , ε are the errors of the two equations.

The estimation, as explained in the paper of Schneider and Medina (2019) relies on the following drivers of the shadow economy:

- a) a measure of the tax burden on the economy;
- b) institutional quality;
- c) openness, proxied by trade openness;
- d) unemployment.

The MIMIC model also uses measurable indicators, such as:

- a) currency as a fraction of broad money;
- b) labour force participation;
- c) a measure of the size of the economy.

The standard MIMIC model has been used quite widely in the literature for many years. It has also been the subject of criticism, mainly on the use of GDP (GDP per capita and growth of GDP per capita) as cause and indicator variables.

To address this issue, instead of using GDP per capita and growth of GDP per capita as cause and indicator variables, the authors use the night lights approach by Henderson, Storeygard, and Weil (2012) to independently capture economic activity. In their paper, they use data on the light intensity from outer space as a proxy for the “true” economic growth achieved by countries. (Schneider, Medina 2019)

The main disadvantage of the model is that a quantification of the shadow economy relies on the validity of the reference value. Since the latent variable is not observed, only an index (as opposed to an absolute value) of the latent variable can be obtained through the estimation model. This index is arbitrary. To relate the index to real variables like GDP one must estimate (or otherwise obtain) the size of the shadow economy for one certain year, a ‘base year’. The size of the shadow economy for all other years can then be extrapolated from the index. Therefore, the level of the shadow economy is not derived from the MIMIC model, but only the change of the time path (Fuest, Riedel 2009; Breusch 2005; OECD, 2002).

As Breusch (2005, p. 35) writes: “An external estimate is used to anchor the series, so that the growth rates from the MIMIC model are converted into a time series of the level of the underground economy as a percentage of recorded GDP. The overall level of the final product of Dell’Anno and Schneider is due entirely to this external estimate, since only the variations up and down from the anchor point come from the MIMIC model. The anchor value of 19.7 percent [...] is obtained as the simple average of five other estimates by various methods (one of which is itself the average of two others). Most of these prior estimates come from an unpublished working paper by Schneider and Enste (2000), where they are documented as ‘own calculations.’”

4. CONCLUSIONS

As a conclusion, we can state that at the present moment there is not a definition internationally accepted for the underground economy, making it hard to estimate and to compare the results from different countries. In addition, the methods used to estimate the phenomenon have advantages and disadvantages. None of the methods is better than the other. When estimating the underground economy, it is advised to use more than one method. At this moment it is safe to say that the link between theory and empirical estimation is still unsatisfactory.

There are areas where researchers still have to elaborate in this field. First of all there is the need for detailed research on tax evasion and avoidance in developing countries. Knowledge that is produced on the basis of common, comparable academic standards with the aim of collecting reliable cross - country data.

The second element that needs further attention is increasing international co-operation. This is important because a great deal of tax evasion and avoidance arises from cross – border activities.

And third there is the need of common practice regarding the estimation of tax evasion and avoidance that would be accepted by all countries. This implies a clear definition of tax evasion that is widely accepted, identifying the factors determining tax evasion and a strong method to estimate its size that can return comparable data for most of the countries.

REFERENCES

- Achim, M.V., Borlea, N.S. (2020) *Economic and Financial Crime: Economic and Financial Crime. Corruption, Shadow Economy, and Money Laundering*. Springer Nature Switzerland AG. <https://doi.org/10.1007/978-3-030-51780-9>
- Breusch, T. (2005). Estimating the underground economy using MIMIC models. *Working Paper, National University of Australia, Canberra, Australia*.
- Cobham, A. (2005). Tax evasion, tax avoidance and development finance. *Queen Elizabeth House, Série documents de travail, 129*, pp 1-20.
- Dell'Anno, R., & Schneider, F. G. (2006). Estimating the underground economy by using MIMIC models: A Response to T. Breusch's critique (No. 0607). *Working paper*. https://doi.org/10.1007/978-88-470-1083-3_7
- Dell'Anno, R., & Schneider, F. (2009). A complex approach to estimate shadow economy: the structural equation modelling. *In Coping with the Complexity of Economics (pp. 111-130)*. Springer, Milano.
- European Parliament, www.europarl.europa.eu [accessed 01.05.2021]
- Fuest, C., & Riedel, N. (2009). Tax evasion, tax avoidance and tax expenditures in developing countries: A review of the literature. *Report prepared for the UK Department for International Development (DFID), 44*.
- Frey, B. S., & Schneider, F. (2000). *Informal and underground economy* (No. 0004). Working Paper.
- Henderson, J. V., Storeygard, A., & Weil, D. N. (2012). Measuring economic growth from outer space. *American economic review, 102(2), 994-1028*. <https://doi.org/10.1257/aer.102.2.994>
- HM Treasury, (2015) Tackling tax evasion & avoidance, Cm 9047, March 2
- Kaliberda, A., & Kaufmann, D. (1996). Integrating the unofficial economy into the dynamics of post-socialist economies: A framework of analysis and evidence. *The World Bank. 015 p5*. <https://doi.org/10.1596/1813-9450-1691>
- Medina, L., & Schneider, F. (2018). Shadow economies around the world: what did we learn over the last 20 years? *IMF Working Paper No. 18/17*
- Medina, L., & Schneider, F. (2019). Shedding light on the shadow economy: A global database and the interaction with the official one. *CESifo Working Paper No. 7981*. <https://doi.org/10.5089/9781484338636.001>
- OECD (2002a), *Measuring the Non-Observed Economy – A Handbook*, OECD, Paris.
- OECD. (2017). *Shining light on the shadow economy: Opportunities and threats*.
- Pragua, C. (2010). Addressing tax evasion and tax avoidance in developing countries. *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*.
- Remeikienė, R., Gasparėnienė, L., Chadyšas, V., & Cepel, M. (2018). Identification of the shadow economy determinants for the Eurozone member states: application of the MIMIC model. *Journal of business economics and management, 19(6), 777-796*. <https://doi.org/10.3846/jbem.2018.6276>
- Sandmo, A. (2005). The theory of tax evasion: A retrospective view. *National tax journal, 643-663*. <https://doi.org/10.17310/ntj.2005.4.02>
- Slemrod, J., Blumenthal, M., & Christian, C. (2001). Taxpayer response to an increased probability of audit: evidence from a controlled experiment in Minnesota. *Journal of public economics, 79(3), 455-483*. [https://doi.org/10.1016/S0047-2727\(99\)00107-3](https://doi.org/10.1016/S0047-2727(99)00107-3)
- Schneider, Friedrich. (2012). The shadow economy and tax evasion: what do we (not) know? *CESifo Forum*. Vol. 13. No. 2. München: ifo Institut-Leibniz-Institut für Wirtschaftsforschung an der Universität München
- Schneider, Friedrich. (2019) The value added of underground activities: Size and measurement of the shadow economies of 110 countries all over the world. *Centre for Tax System Integrity workshop on 'Is There Economic Integrity in the Tax System?'. Canberra, 17 July 2002. Centre for Tax System Integrity (CTSI), Research School of Social Sciences, The Australian National University*.
- Schneider, F., & Enste, D. H. (2000). Shadow economies: Size, causes, and consequences. *Journal of economic literature, 38(1), 77-114*. <https://doi.org/10.1257/jel.38.1.77>
- Schneider, F., & Williams, C. (2013). The Shadow Economy. *The Institute of Economic Affairs*. 96 p. <https://doi.org/10.1017/CBO9781139542289>