

THE CONCEPT OF TAX GAP: ESSENCE, DEFINITION, TYPES, COMPONENTS, METHODS, INTERNATIONAL PRACTICES AND CHALLENGES IN ITS MEASUREMENT

Yonko Yotov

University of National and World Economy, National Revenue Agency of Bulgaria
ORCID 0009-0007-2916-2029

Как да се цитира тази статия / How to cite this article:

Yotov, Y. (2025). The Concept of Tax Gap: Essence, Definition, Types, Components, Methods, International Practices and Challenges in its Measurement. *Economic Thought Journal*, 70 (4), 535-566. <https://doi.org/10.56497/etj2570407>

To link to this article / Връзка към статията:

<https://etj.iki.bas.bg/history-of-economic-thought-methodology-and-heterodox-approaches/2025/12/06/the-concept-of-tax-gap-essence-definition-types-components-methods-international-practices-and-challenges-in-its-measurement>



Published online / Публикувана онлайн: 10 December 2025



Submit your article to this journal / Изпратете статия за публикуване

<https://etj.iki.bas.bg>

Article views / Статията е видяна:

View related articles / Други подобни статии:



View Crossmark data / Вж. информация от Crossmark:

Citing articles / Цитиращи статии:

View citing articles / Вж. цитиращи статии:



THE CONCEPT OF TAX GAP: ESSENCE, DEFINITION, TYPES, COMPONENTS, METHODS, INTERNATIONAL PRACTICES AND CHALLENGES IN ITS MEASUREMENT

Yonko Yotov

University of National and World Economy, National Revenue Agency of Bulgaria

ORCID 0009-0007-2916-2029

Abstract. The tax gap, also referred to as a tax 'difference', 'mismatch', 'emptiness', 'omission', 'hole', 'deficit', 'shortage', 'loss' or 'damage', represents the amount of tax revenue lost or foregone. It is the difference between the potential and actual revenue collected. More specifically, it is the difference between the amount of tax that could theoretically be collected if all taxpayers fulfilled their tax obligations by voluntarily submitting complete and accurate tax returns and paying the taxes due, compared to the current, or hypothetically most extensive, tax legislation, and the amount of actual collected tax over a specific period. This article provides a literary overview of the 'tax gap' concept and issues related to it, as well as theoretical and practical insights related to its nature, components, and methods and practices used for measurement in some advanced countries and in Bulgaria. Statistical data are also presented along with results from a survey conducted in December 2024 and January 2025 among experts in the field of financial control in Bulgaria working at the National Revenue Agency (NRA) and the Customs Agency, as well as university lecturers in finance and accounting. The author's insights are intended for experts from revenue organisations and can also be useful to scientific and business analysts more broadly.

Keywords: tax gap; compliance gap; tax gap analysis; positive tax gap; shadow economy tax gap

JEL codes: H25; H26; E26

DOI: <https://doi.org/10.56497/etj2570407>

Received 12 July 2025

Revised 3 September 2025

Accepted 28 October 2025

Introduction

A strategic objective of risk management in revenue administrations is to increase the level of compliance by taxpayers. To achieve this objective, tax, customs, and other revenue agencies should make a conscious choice of measures to maintain and promote

voluntary tax compliance and limit tax noncompliance. Accordingly, increasing trust in public authorities leads to voluntary compliance, while strengthening authorities' powers leads to forced compliance. This presupposes an assessment and analysis of the level of compliance with tax obligations, respectively non-compliance, and the study of the tax gap helps risk management to better understand the scale of tax compliance and the potential for revenue increase.

Although the functioning of modern revenue administration is based on the assumption of voluntary taxpayer compliance, there are often few tools to comprehensively measure and monitor tax compliance. Knowledge of the value of tax differences can be used as a strategic tool to decide on the allocation of resources to improve compliance and tax policies in general. Knowledge of tax gaps also contributes to transparency in public administration among stakeholders as an indicator of tax administration performance and fiscal potential. The tax gap is an indicator of fiscal risk and areas where revenue can be mobilised if taxpayers' non-compliance is reduced or the legislative framework of the taxation and incentive policy is amended. Tax mismatch is the most common indicator of various problems related to tax collection.

Compliance risk management is crucial for revenue administrations. If taxpayers are the 'soul' and control the 'heart', risk analysis is the 'mind' of the modern tax process. The analysis aims to identify risk levels and differences in taxation. Gap analyses are an important component of risk management, which is the basis for the prioritisation and treatment of tax risks.

Addressing the problem of unpaid taxes is a collective responsibility that starts with understanding the scale and scope of the 'tax gap' (FTGPG, EC, 2016; 2018). Understanding the elements of the tax gap enables tax policymakers and tax authorities to make better decisions on how to allocate the resources used to administer taxes (IRS, 2016). The tax gap is a valuable tool not only to define the tax administration's enforcement strategies, but also to improve its accountability (Durán-Cabré et al., 2019). It is a useful tool for measuring fiscal performance, as it can provide insight into the effectiveness of the government in fulfilling its tax collection task (Mitu, 2023). By assessing the tax gap, the administration can both get a clearer picture of the size of the problem and how and why taxpayers do not comply, as well as analyse certain trends. Moreover, a more insightful understanding of the gap can also help to better target compliance and recovery measures, as well as help ensure a tax system that is fair and responsive to all taxpayers (CRA, 2022).

The subject of research in the publication is the concept of 'tax gap', with a focus on the compliance gap caused by taxpayers' non-compliance and the issues related to its nature, components, methods, international practices and challenges in measuring it in the advanced countries and in Bulgaria.

The main objective of this article is to provide a literary overview of the fundamental and most recent documents published by leading international tax organisations, developed tax and/or customs administrations, and some scientific studies, as well as an overview of the views of experts from Bulgaria in the field of financial control – tax and excise control, analysis, compliance risk management – working at the NRA, the Customs Agency, and teaching at some universities in Bulgaria, collected through a survey. As a result, the aim is to derive comparisons and insights of the author related to the publication.

The tasks to achieve the goal are limited to an analysis and a summary of the main theoretical and practical situations and modern practices in the measurement of the tax gap.

The topicality of addressing the concept of the tax gap as a whole is of increasing interest and a challenge for more and more revenue jurisdictions, and the assessment of the tax gap has become a more popular topic of discussion in recent years (OECD, 2024; FTGPG, EC, 2018). The need for research on the issue is in line with the governmental priorities to reduce noncompliance, counter violations of legislation, combat tax fraud and tax evasion, facilitate legitimate trade, modernise, and improve working methods. These priorities are constantly in discussion among society worldwide, with prospects promising to continue to do so.

The methodology of the submitted study contains the methods of 'documentary research' and 'content analysis', as well as methods of scientific knowledge such as 'comparative analysis', 'expert analysis', as well as 'analogy' and 'observation'. A 'descriptive method' was also applied, using an anonymous email survey related to individual questions about the tax gap implemented through Google Forms (forms). The survey was carried out between December 2024 and January 2025 among 238 people out of a total of 1057 invited experts from Bulgaria in the field of financial control – tax, customs and excise, analysis and management of tax risks, tax fraud, and the shadow economy. Experts from the NRA¹ and the Customs Agency, mainly from the central departments, as well as lecturers from financial and accounting structures of universities, who, according to their professional and functional affiliation, are supposed to have theoretical and practical expertise and vision on the topic, were interviewed. At the end of the publication, only some of the results of the entire study are presented (see Yotov, 2025a; 2025b).

The limitations of this study are related to limited access to information with results of evaluations and analysis of differences in taxation, as well as the research methodologies of most revenue agencies in the EU and beyond. The available knowledge is generally limited to commentary on the background by international tax organisations, such as

¹ The survey was conducted after permission from Executive director of the NRA of Bulgaria.

the OECD, the IMF, the IOTA, the CIAT and the EC, as well as some more advanced administrations, such as those of Australia, the United Kingdom, Sweden and Canada. In this regard, there is limited public data on the understanding of the tax gap, as well as details of methods, methodologies and results of similar surveys of revenue administrations in Bulgaria, in order to better understand them and subject them to critical analysis.

Specific scientific contributions of the publication are:

- *Systematisation of concepts and definitions of the 'tax gap'* – provides an overview and analysis of the different definitions of the 'tax gap' introduced by leading international organisations, national tax administrations and other researchers, structuring them into an overall classification. An author's definition of 'tax gap' and divisions for its components are proposed;
- *Conceptualisation of the term 'positive tax gap'* – the phenomenon is defined and justified, which is a situation in which the revenue actually collected exceeds that which is theoretically due. The main scenarios for the occurrence of such a difference are outlined;
- *Conceptualisation of the term 'shadow economy tax gap'* – a separate component of the tax gap is defined and justified in the sense of the part of the shadow economy that leads to the emergence of a tax gap. For the purpose of deriving the concept from a survey, experts from Bulgaria are asked how they would define the concept of 'tax loss from a shadow economy' after being presented with definitions of the shadow economy and tax gap. The differences and similarities between the concepts of 'shadow economy' and 'tax gap' are drawn, and the author's definition is proposed;
- *Systematisation of the methodological framework for assessing the tax gap* – a comparative analysis of the two leading approaches – top-down and bottom-up, as well as of the logics 'from general to private' (deduction) and 'from private to general' (induction) is presented. A matrix of advantages and limitations has been created, which can be used as a basic practical guide by revenue administrations;
- *Empirical contribution* – for the first time in Bulgaria, a survey of financial control experts in Bulgaria by the NRA, the Customs Agency and academia on tax risk management, including the tax gap, is being conducted and presented. The study reveals the familiarity with the concept of the tax gap, the attitudes towards the publicity of the data and the need for the participation of external experts in the assessments of the tax gap in Bulgaria, in the context of the good practices of the developed administrations.

1. Tax gap: Essence and definitions

The gap in taxation can be determined from the institutional point of view of the revenue authorities (national or local) or of the international organisations which administer or determine the taxation policy, in general, as the difference between the potential and the actually collected revenue of taxes and fees in the respective type of budget (national, local, other).

The term 'tax gap' can be defined broadly as the difference between potential taxes and taxes actually collected of a certain type. This, according to the author, is the difference between the amount of tax that can theoretically be collected, providing that all relevant activity, income and assets were taxed, if all taxpayers have fully fulfilled their tax obligations in taxation by voluntarily submitting complete and accurate tax returns and paying the taxes due compared to the studied structure of tax policy (current, normative or optimal, with or without tax relief) and the amount of tax actually collected for a certain period. The gap arises because the amount of tax collected is always lower than it should have been and lower than it could have been legally if all economic activities had been taxed on equal terms at a flat rate. The less tax collected in the budget is called a 'tax gap'.

The definition shows that the gap may exist for a different type of tax, not only because of taxpayers' non-compliance (the 'compliance gap'), but also because of the tax policy for preferential taxation (the 'policy gap'). *The source of the tax gap* is the discrepancy compared to a hypothetical tax structure in the form of *the broadest possible theoretical tax base*.

There is no common harmonised definition of the concept of 'tax gap' among revenue administrations. In this respect, the overall tax gap is usually defined as the difference between the potential and the actual tax revenue (OECD, 2024). For each tax, the gap is the difference between the potential revenue from the basic economic tax base and the actual revenue (Hutton, 2017). The gap in taxation can be calculated as the difference between the total amount of tax that can theoretically be levied on the basis of the applicable tax law and the total amount of tax actually levied in a given period (FTGPG, EC, 2016). The tax gap is the difference between the revenue potential, which provides for the legal and regulatory differences of the country, and the revenues actually collected; accordingly, two sets of possible revenues are established – economic and legal (Khwaja, Iyer, 2014). The effectiveness of tax collection depends on two crucial factors: taxpayer compliance and government rebates. In this respect, the compliance gap is the difference between the revenue that would be collected if all taxpayers complied with the requirements and the actual revenue collected by the tax authorities, and the policy gap is the revenue foregone due to the application of reduced rates and exemptions compared to a uniform flat statutory tax rate (EC, CASE, 2024).

The tax gap is the difference between the taxes actually collected and the taxes theoretically collected, in full compliance with the tax code and at standard rates of taxation (UNI-WIDER, 2024). A comprehensive interpretation of the tax gap is that it is the difference between what the taxpayer would theoretically have to pay under a broader reference tax model, which involves a loss of revenue due to different policy measures, and what is actually collected (MEF, Italy, 2016). It is the difference between the amount of tax actually paid and the maximum amount of tax that could theoretically be collected if all activities, income and assets were taxed at a standard rate and if all taxpayers had paid their tax debts in full and correctly (Petrova, 2022). The tax gap is the difference between the taxes that theoretically have to be collected (based on the scale of the economic activity and the regulations in force) and the taxes actually collected (EY, 2025).

As one of the main objectives of revenue administrations is to increase the level of compliance and reduce the tax gap, *their focus is on measuring the compliance gap*, as a key indicator for understanding the effectiveness of tax and customs administration in tax collection and the general state of the tax system, rather than measuring the difference in tax policy (OECD, 2024). Given this, *administrations and scientific researchers have defined the term 'tax gap' in a narrower sense as the equivalent of 'budget loss' or 'compliance gap'*.

The compliance gap is the difference between the tax that taxpayers have to pay and what they actually pay on time (IRS, 2016; Durán-Cabré et al., 2019) or, otherwise, the difference between the actual tax liability and the amount of tax that is paid voluntarily and on time (IRS, 2005). It is defined as the difference between the amount of tax imposed by the Tax Code and the amount that is accounted for and paid with timely declarations (Mazur, 2007). The tax gap is the difference between the tax that should theoretically be paid and the tax actually paid (HMRC, 2021). Tax gaps assess the difference between the estimate of what is expected to be collected and the estimate of the amount that would have been collected if each taxpayer had fully complied with the law. They are what is not directly observable by the tax administration – what they have not told us (ATO, 2024).

According to another definition, the tax gap is the difference between the taxes that would have been paid if all obligations had been fully met in all cases and the tax actually paid and collected or, in other words, a measure of the potential loss of tax revenue as a result of non-compliance (CRA, 2016; 2022). It is the difference between the theoretical total taxes payable and the taxes actually collected, showing the extent to which payment obligations are fulfilled (FTA, 2023). This is the difference between the amount of tax imposed by the tax law and the amount that is accounted for and paid together with the timely declaration (Korauš et al., 2021). The gap is defined as the

difference between the tax actually collected and the total tax liability in absolute or relative terms, and the total tax liability is an estimated amount that can theoretically be collected on the basis of legislation and supplementary provisions (EC, CASE, 2024). The tax mismatch is the difference between the potential tax and social security revenue that would have to be paid into the budget if all taxable persons had complied with the legislation and the tax and social security revenue actually received, voluntarily paid (NRA, 2025). The tax compliance gap, also known as the 'tax gap', is the difference between actual and potential collections, given the current structure (TADAT, 2019).

Although international organisations and most tax administrations generally interpret the tax compliance gap relatively uniformly, *some administrations define it differently according to what their assessment involves and aims to achieve.*

The Swedish tax administration defines the compliance gap as the difference between the tax that would have been final if all taxpayers had correctly accounted for their activities and transactions and the final tax following the audits by the administration. If the difference is corrected following controls by the tax authorities, it no longer constitutes a tax difference (STA, 2021). The OECD has a developed revenue ratio (VRR) for VAT purposes, which is an indicator that also measures the tax gap, combining the effect of revenue losses due to exemptions and reduced rates, fraud, tax evasion and tax planning. In theory, it measures the tax gap between the revenues actually collected and what would be increased if a standard rate were applied to the entire potential tax base under a 'clean' regime, if all revenues were collected (OECD, 2022). The Bulgarian NRA defines the tax gap as 'audit gap' and 'potential gap' for risk analysis purposes. The audit gap is the difference that is likely to be identified if control actions are taken, and the potential gap is the difference between the taxes theoretically due that would have been charged to the budget if the risk did not exist, and the taxes actually declared and paid voluntarily.

2. Types and components of tax gap

The tax gap, in accordance with the concept of the IMF as also the EC and many tax administrations that have adopted it, *can be divided into two main types: the tax compliance gap as a result of taxpayers' non-compliance with tax requirements and the tax policy gap as a result of preferential taxation or incentives, as well as the government's exempt activities ('policy tax gap')* (Hutton, 2017; FTGPG, EC, 2016; MEF, Italy, 2016; EC, CASE, 2024). The classification is based on the scale of the scope of taxation (the structure of the tax policy studied) at the relevant level of tax compliance.

The structure of tax policy, for its part, can be divided into three types according to the scope of the taxable base and the applied tax rates – current, normative and optimal (or

often referred to as reference or even maximum) (IMF, 2015). *The compliance gap* covers the current policy structure of a theoretical tax base with normal enforcement tax rates, with preferential treatment and aims to measure how much taxes would potentially be collected under the assumption of full compliance by taxpayers or, in other words, how much taxes are not collected due to various discrepancies. *The policy gap* covers the normative or optimal (maximum) structure when taxed on a theoretical basis up to the level of standard tax rates without preferential treatment and aims to measure how much tax expenditures are for practically taxable economic activities or foregone revenues from non-taxable activities that, if taxed, would potentially be collected taxes under the assumption of full compliance. *In other words*, the compliance gap is the amount of tax that should be paid according to the current tax legislation (the potential tax liability) less the amount collected by the government (the actual revenue), and the policy gap incorporates a reduction in the all-inclusive potential liabilities due to policy choices or nontaxable items.

In general, there is no international consensus among tax organisations on what should be included in the normative and optimal tax policy for individual taxes. For this reason, the policy gap is often not defined as compared to the compliance gap. To some extent, the normative and optimal (reference) policy for VAT (Hutton, 2017; EC, CASE, 2024; FTGPG, EC, 2016) and corporate income tax (Patricio, Hutton, 2023; FTGPG, EC, 2018) is defined (Ueda Junji, 2018), where there is a broader consensus, but it's not defined for personal income taxes (IMF, 2021), excise (Thackray, Alexova, n.d.) and other levies. A policy gap is a legal choice that represents the difference between the potential revenues in the 'standard' tax system and the potential revenues in the current tax system, but may also contain an element of tax avoidance (FRS, 2019). The policy gap is also defined as the difference between the tax calculated on a tax base determined by tax laws, the tax calculated at a standard rate on a theoretical tax base that would include in taxation all the elements (activities, income, funds) that could theoretically be taxed (Petrova, 2022).

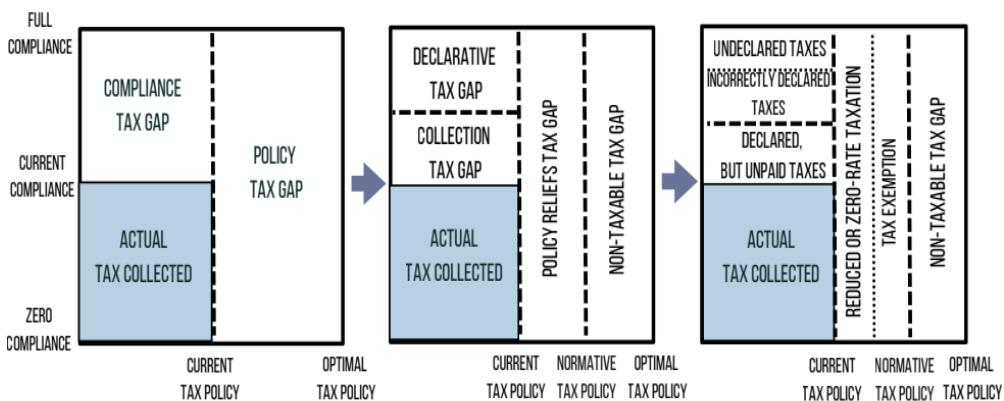
It is more difficult to measure the tax compliance gap than the tax relief policy gap (Ueda Junji, 2018; Hutton, 2017). This is because *the compliance gap is mainly the hidden (the undeclared) tax base, and the policy reliefs gap is usually a clearer (less hidden) tax base* (the declared preferential tax base, but also the undeclared base, in cases where taxpayers are not obliged to declare it).

The author supports the view that the compliance gap can be divided into two components: a declarative tax gap (commonly referred to as the assessment tax gap), which is the sum of the fully and/or correctly undeclared registration tax gap, a reporting tax gap and a filling tax gap and a collection tax gap (also known as payment gap).

The declarative tax gap corresponds to the amount of taxes that are not declared in full or in part but would be due under the current tax system, or, in other words, it is the difference in the hidden economy that is not known or not reached by the tax authorities. It shows the concealed tax base by the revenue authorities due to non-declaration at all (both from taxpayers who are not registered in the tax system and those who are in) and incorrect declaration or improper use of a tax credit (from taxpayers who are registered in the tax system), as a result of which no taxes and other levies were collected. It's a filing and reporting gap.

The collection tax gap is the difference between the amount of taxes charged and declared voluntarily by a taxpayer or additionally established by control but not paid, or, in other words, the debts of which the tax authorities are already aware, but which have not been effectively collected.

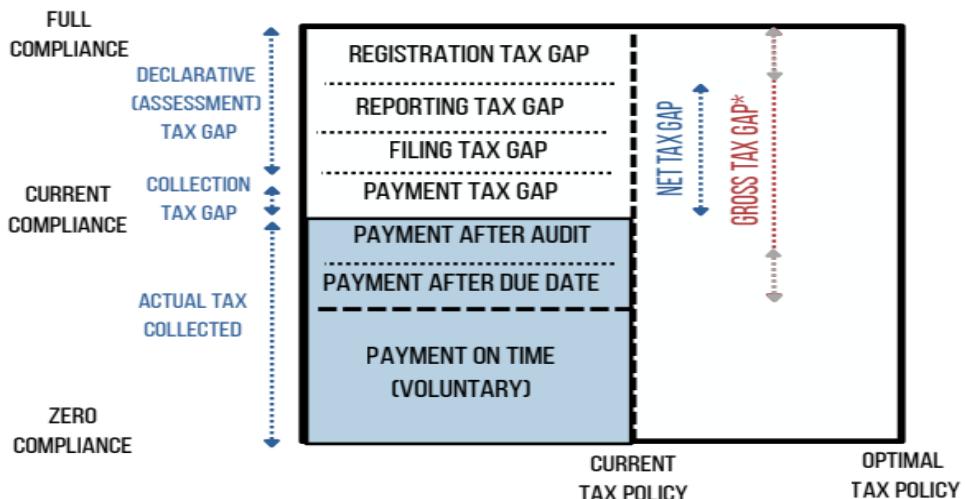
The policy gap is also divided into two sub-types – a gap in the tax reliefs, representing tax expenses for the government (*policy reliefs tax gap* or also expenditure tax gap), as well as a gap in the activities that are not taxable in principle, but could hypothetically be taxed – *non-taxable tax gap* (see Figure 1).



Source: Author's illustration.

Figure 1. Components of the tax gap

*The compliance gap can be divided according to the source of non-compliance with the main tax obligations by taxpayers for correct registration, timely declaration, correct filling in declaring and timely payment as a – *registration tax gap*, *reporting tax gap*, *filing tax gap* and *payment tax gap*. These sources of non-compliance are the forms of manifestation of tax risks that lead to a reduction in the tax base collected and are therefore the source of a gap. The compliance gap can be divided into a 'gross tax gap' and a 'net tax gap' in terms of before and after the audit results are reported and taxes are paid on time (see Figure 2).*



Source: Author's illustration.

Figure 2. Gross and net tax compliance gap components

The gross tax gap is defined as the difference between the actual (theoretical) tax liability for a tax year and the amount actually paid on time by taxpayers voluntarily and in a timely manner, and the net tax difference refers to the remaining amount due from the total tax liability, after taking into account all payments made through enforcement actions and voluntary late payments. The net tax gap is the part of the gross gap that will not be paid (IRS, 2016). According to another definition, the gross tax gap is an estimate of the difference before taking into account compliance and collection actions, and the net is an estimate after subtracting compliance and collection as a result of the gross tax difference. The gross difference is the total projected tax compliance gap, while the net tax gap takes into account the impact of tax administration enforcement activities (CRA, 2016; 2022). The gross gap is the difference between the estimate of the amount we expect to receive (which includes what is voluntarily reported and paid) and the estimate of the amount of tax we would theoretically receive if every taxpayer complied fully with the law. The net gap is the one that reduces the gross difference by the amount of amendments that represent compliance actions by the tax administration, plus any amendments made by the taxpayer (ATO, 2024). The net tax gap is the gross tax liability minus the amount of tax required by the supervisory authorities (Kosova et al., 2018).

The components for determining the gross and net tax gap also differ in different valuation concepts and practices across countries. In the net gap some countries only look at the audit results (STA, 2021), which may be before and after the final determination of the additional tax accrued in cases of legal challenge, while other countries also include

voluntary paid taxes beyond the deadline (late payments) (IRS, 2016; CRA, 2016; ATO, 2024; Patricio, Hutton, 2023). The gross tax gap, as understood by the US Revenue Service (IRS), Indonesia and some other administrations, is divided into three components – the non-filing gap, the underreporting gap and the underpayment gap (IRS, 2016; DGTI, 2024; Mazur, 2007). In the last examples, like the IMF, the registration gap is not covered (Patricio, Hutton, 2023), while OECD and other researchers have defined it (OECD, 2016; UNI-WIDER, 2024).

The compliance gap can also be divided according to the reasons for the occurrence as an “intentional tax gap” and “unintentional tax gap”. In both cases, there is a tax loss, but in one case, it is due to intent (unwillingness to pay taxes) and in the other to lack of intent. The intentional gap may be due to targeted actions of tax avoidance (legal), tax evasion (illegal) and tax fraud (illegal). The unintentional gap is caused by errors due to ignorance of the law or complex and unclear legislation leading to misinterpretation and misapplication of tax rules, technical errors of declaration, negligence, bankruptcy, but also other extraordinary circumstances of occurrence, like a war, non-tariff commercial policy measures such as prohibitions and restrictions (including embargoes).

The tax compliance gap can be divided into different incisions according to the focus of the study. For example, in some studies, it is divided into a gap from the shadow economy, tax fraud, tax evasion and others, such as legal disputes, bankruptcies, mistakes and tax optimisation (see EY, 2025).

Each of the components of a tax gap may contain an ‘undetected tax gap’. It may be separated as an unvalued component or as a valued component under certain assumptions.

It should be made clear that the *terms ‘tax gap’ and ‘shadow economy’*, also referred to as ‘grey economy’, ‘hidden economy’, ‘underground economy’, ‘informal economy’, *are different; they are not equivalent*. The both terms are often used as synonyms in the research space of ‘economic activities’ with goods, assets and services, as they are carried out for profit purposes that are not ‘not reported’ in the official national accounts of statistics and finance, generate income/turnover that ‘violates existing legislation’, including avoiding prohibitions and restrictions or the payment of taxes are generally due. According to the author, *the tax gap reflects* a loss of revenue in the budget from legal economic activities subject in principle to taxation as a result of intentional and unintentional behavior infringing tax legislation, *while the shadow economy reflects* monetary income/turnover from legal and illegal activities that may not be taxed on the fiscal side as a result of intentional behavior infringing tax or criminal legislation, including avoiding prohibitions and restrictions or the payment of taxes if taxes are generally due.

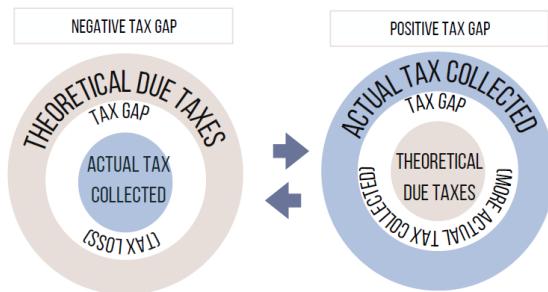
In this context, the term '*shadow economy tax gap*' can also be defined², in the sense of part of the shadow economy that leads to the emergence of the tax gap. The shadow economy, is a source of tax gap only when each of the conditions is met – that the activities are economic, that there is a requirement to declare them in full and correctly to the tax administration, but not to declare them, that they are therefore not taxed and that they are, in principle, permitted by law, that is to say, that there is a legal framework for its carrying out and that they are subject to a tax rate other than zero. It is the deliberately hidden tax base for the tax authorities, which is the source of a tax gap (loss) from non-compliance with fiscal legislation, regardless of whether the perpetrator is a registered or unregistered taxpayer. It follows that *not every shadow economy in the broad sense is a source of the tax gap*. Given the components of the tax gap set out above, it is also valid vice versa – *not every tax gap is a source of a shadow economy, but only the 'declarative compliance gap'*, which is linked to a lack of fully and correctly reporting when required. In this sense, it should also be emphasised that the tax frauds and other forms of tax non-compliance, which are generally declared, should not be a source of the shadow economy in the broad sense, once they are declared and reported, even though they are a source of tax loss.

From a tax perspective, the '*shadow economy*' is seen as a significant part of the tax gap by most international tax organisations and national tax administrations (OECD, 2012; 2017; FTA, 2023; Schneider, Buehn, 2010; Khwaja, Iyer, 2014; CRA, 2023; 2024; EY, EC, 2023; EY, 2025; EC, 2021; HMRC, 2017; MEF, Italy, 2016). There is no common harmonized definition of the concept of '*shadow economy*' even among the revenue administrations and in the scientific literature it is interpreted much more broadly, because the components within the scope of the term differ on the offending entities, the legality and legal nature of the actions, as well as the results differ (see Karpuzuva, Naydenov, 2024; Dimitrova, 2024; Chengelova, 2014; Schneider et al., 2015; Breusch, 2016; Feige, 2016; Koufopoulou, Williams, 2019; Bitzenis, Vlachos, 2016).

The tax gaps, according to the thesis in the paper, can be divided by the result of – "negative tax gap" and "positive tax gap"³. In other words, when the revenue collected is less than the theoretically collectable, the result is a negative gap (or simply said, "a gap"). When the revenue collected is more than theoretically due, the result is a positive gap (see Figure 3). When measuring the overall tax gap, negative and positive tax flows should be assessed, i.e. the minuses and the pros. This is because the symmetry in the measurement and interpretation of the result requires it, but also because when tax policy is changed, each country can be indicated in the opposite situation. Most often, the practice of administrations is not to assess positive flows or to focus on tax losses.

² Some of the author's insights were derived after conducting a survey aimed to define the term (Yotov, 2025b).

³ According to the basis of comparison, the two terms can be named backwards.



Source: Author's illustration.

Figure 3. Types of tax gap by outcome

In general, the tax gaps are negative, i.e. there are losses to the budget, and the revenue agencies use the concept of 'gap' in the sense of 'negative gap'. The positive gaps are rather an exception that can occur both in the case of the compliance gap and the policy gap. They most often occur in international transactions for indirect taxes such as excise duties, VAT, customs duties, but also in transfer pricing and money laundering. The reasons for the emergence of positive gaps can be significant differences in tax rates, tax incentives and reductions, exchange rates, non-tariff commercial policy measures such as prohibitions and restrictions (including embargoes) on imports, exports, production and consumption or avoidance of burdensome administrative procedures in international supplies. Their emergence is facilitated in the international free movement of goods, persons and capital between countries where border controls are not in place and/or where there are no additional controls on operations, such as the Schengen Area and the European Union. Positive tax gap also arises in the case of document tax frauds, where taxes are paid in one country without the transaction being physically carried out in that country in order to avoid paying taxes in the less advantageous country or, conversely, in order to obtain a tax preference. Such differences can also occur when there is no actual tax non-compliance – for example, when taxes are paid in one country, but the goods are deliberately exported within the limits of free movement to another country from companies and individuals, since from a legal point of view the laws in the exporting country are not violated, but certainly this represents a positive gap for the exporting country.

Measuring the tax gap in absolute and relative terms is important to know when comparing the gaps between different types of taxes, tax categories, forms and manifestation scenarios, different parts of the economy and groups of taxpayers in terms of prioritisation of resources and expected treatment effect. However, it is more common to present losses in relative terms as they are not dependent on changes in inflation and are less affected by changes in the size of the economy, tax rates, tax rules and make comparisons at the international level possible to some extent when a

uniform methodology is applied. An advantage of the relative size gap is that it should facilitate comparison between different countries, as tax rates and economic sizes differ from one country to another, and an absolute comparison would not take these factors into account. That is to say, *comparing tax gaps in different countries on the basis of relative expression is, to a certain extent, hypothetically possible if there is a measurement using a single methodology, but under multiple theoretical assumptions*. At present, measurement according to a uniform methodology of tax gap is carried out only in the EU by the Centre for Social and Economic Research (CASE) on behalf of the EC, covering only VAT (EC, CASE, 2024) and a project to VAT gap due to Missing Trader Intra-Community (MTIC) tax fraud (EC, CASE, WIVO, 2024). In this regard, *the focus in the interpretation of the results should be on the trend of the results over time, and not on absolute or relative values*.

Tax gaps are usually presented at a higher level in relative proportion to the theoretical tax base (taxes), but also to the accrual or collected tax base (taxes). It is also possible to be presented as a proportion of the GDP or NDP of the country (Raczkowski, 2015; Harremi, 2014; FTGPG, EC, 2016).

All estimates of the tax gap are rough indicators of tax revenue losses. However, as long as the estimation approach and methodology used are consistent over time, the gap analysis would provide a reliable estimate of the trend over time.

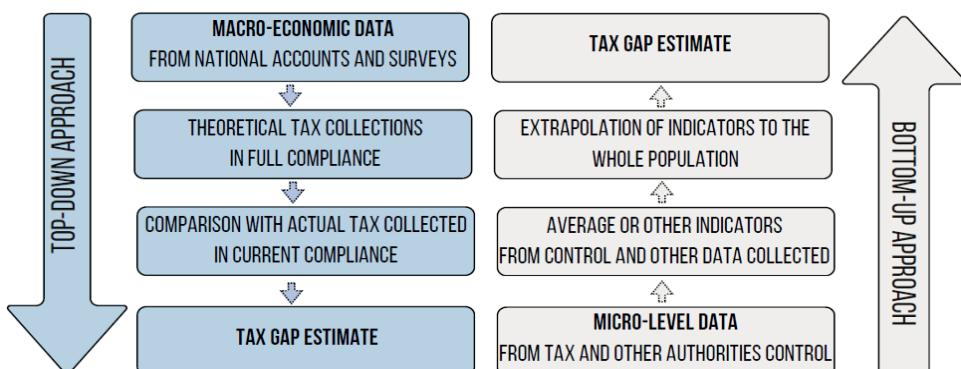
3. Methods for estimating the tax gap: types, advantages and disadvantages

In general, there is no international consensus on which method and even more so, what methodology as a set of logically related approaches, methods, data and techniques to determine tax gaps. There is no approach that can be identified as the best. The choice of method and specific methodology depends on the desired level of understanding of the tax gap, available data, available resources, time to perform the analyses and other factors. Therefore, when *considering evaluations, it is also important to clarify how it has been carried out and what is or is not also covered in the relevant evaluation and, accordingly, what objective is pursued by the evaluation*.

The assessment of the tax gap is carried out using two main methods, also called approaches or techniques – top-down and bottom-up. It should be borne in mind that there are other alternative methods, such as monetary methods, Mimic model, shadow economy models, econometric techniques, surveys and other physical survey techniques, including hybrid methods, which cannot be classified as pure top-down or bottom-up methods and which are less suitable for being applied for the tax administration's purposes. They may also be a potential means of calculating individual parts of a tax gap for certain taxes.

Top-down methodologies (also called indirect) are based on macroeconomic data for national accounts indicators of statistics and finances of a country for the whole economy, including often consumption and production, as well as survey data as an alternative or complement to national accounts information in quantitative or value terms. These data are presented at an aggregated level and are considered to be independent of (external to) the tax authorities, i.e. not contained in the tax returns and other data of the tax authorities. However, in cases where national accounts are based, they are also largely dependent on other government bodies, as some of them are contained in declared or created government data. The approach is based on the calculation of the theoretical tax base in full compliance with the legislation, from which is calculated the theoretical final tax that should have been collected, and the tax gap is the difference between this assessment and the total amount of taxes voluntarily charged by the persons and collected by the administration.

Bottom-up methodologies (also called direct) are based on microdata, which are individual taxpayer data from tax control results (most often from risk-based audit or random audit selection data) carried out by tax authorities and from controls by other government authorities, such as customs, police, economic agencies, but also other (non)-government data. These data are dependent on the tax authorities, and quite often other state authorities (internal ones), as they are declared for them or created by them. Individual data may also be collected through surveys and observations by the tax authorities, to be extrapolated for the respective infraction. These approaches do not first estimate the theoretical tax that can be collected, but first collect data from control results (audit) or other data, often based on samples. Their results are extrapolated, and thus statistical and econometric techniques lead to an assessment of the theoretical tax that can be collected from the entire population of economic units and population.



Source: Author's illustration.

Figure 4. Main approaches to estimating the tax gap

The two methods have different strengths and weaknesses depending on what data they are based on, what scope they have, how long their implementation takes, how much financial and human resources they require, what the results include and how they can be used. *With this in mind, both methods should be combined and applied, as such integration provides better and more detailed information on the tax gap than using only one method. Both approaches complement each other and are necessary to assess the real tax gap.* The advantages and disadvantages of the main methods can be summarised as follows:

	TOP-DOWN METHODS	BOTTOM-UP METHODS
DATA	MACROECONOMIC INDICATORS AND DATA	MICRO DATA INDICATORS FROM TAX CONTROL AND OTHERS DATA
	INDEPENDENT ON TAX AUTHORITIES (EXTERNAL)	DEPENDENT ON TAX AUTHORITIES (INTERNAL)
	DEPENDENT ON OTHER GOVERNMENT AUTHORITIES	DEPENDENT ON OTHER GOVERNMENT AUTHORITIES
	RELATIVELY LESS DATA AND PROCESSING	LARGER VOLUME OF DATA AND PROCESSING
	LOWER QUALITY, LESS SECURITY AND LESS ACCURACY	HIGHER QUALITY, GREATER SECURITY AND HIGHER ACCURACY
TIME AND RESOURCES	LESS TIME TO APPLY	MORE TIME TO APPLY
	SMALLER LAG WITH THE RESEARCH PERIOD	LARGER LAG WITH THE RESEARCH PERIOD
	FEWER FINANCIAL AND HUMAN RESOURCES	MORE FINANCIAL AND HUMAN RESOURCES
SCOPE	COMPLIANCE TAX GAP AND POLICY TAX GAP	COMPLIANCE TAX GAP AND PARTLY POLICY TAX GAP
	COMPREHENSIVE, COVERS THE ENTIRE DIFFERENCE (LOSS)	PARTIAL, DOES NOT COVER THE ENTIRE DIFFERENCE (LOSS)
	THE HIGHEST LEVEL THAT IS DIVIDED INTO SECTIONS	INDIVIDUAL LEVEL THAT IS EXTRAPOLATED AND GENERALIZED
	LOW RISK OF DUPLICATING AN ALREADY ASSESSED DIFFERENCE	HIGH RISK OF DUPLICATION OF AN ALREADY ASSESSED DIFFERENCE
METHODOLOGIES	SIMPLER, STANDARDIZED AND STABLE OVER TIME	MORE COMPLEX, MORE SPECIFIC AND MORE UNSTABLE
DETAILING	SMALL, MOST GENERAL	A LARGE, DETAILED ASSESSMENT OF SPECIFIC DIFFERENCES
	DOES NOT INDICATE THE REASON AND SOURCE OF THE DIFFERENCE	INDICATES THE CAUSE, SOURCE AND FORMS OF DIFFERENCE
RELIABILITY	LOWER RELIABILITY OF THE RESULT	HIGHER RELIABILITY OF THE RESULT

Source: Author's illustration.

Figure 5. Advantages and disadvantages of the main approaches to estimating the tax gap

A choice of an appropriate top-down or bottom-up method does not depend on the type of tax being examined, as both methods are applicable. Usually, a top-down approach is used for indirect taxes, and a bottom-up approach is used for direct taxes.

The top-down approach allows assessment of the compliance and policy tax gap, while the bottom-up approach allows assessment of the compliance gap and only in some cases, a policy gap for a certain type of taxes, components and sources of tax reliefs for which the tax authorities have or could collect data to extrapolate.

The top-down approach aims to provide an overall assessment of all tax revenue foregone as the difference between potential and actual tax bases and tax collections

through macro-level data, while the bottom-up approach aims to provide a partial assessment of tax revenue foregone by assessing a specific source of tax non-compliance, based on individual control results (random or risk-based audit) or other administrative data that are extrapolated and obtain an overall assessment of revenue foregone.

The outcome of a top-down approach should also include an assessment of the non-observed and, in some cases, of the shadow economy, insofar as it is based on national accounts data and should be assessed by the statistical institute of the country concerned. However, it is often possible that the grey economy data are not derived or that there is a consideration in the measurement. The bottom-up approach should not fully cover the assessment of grey economy losses, as it is primarily based on declared data or data from random or risk-based controls (tax audits), the quality and scope of which are usually incomplete.

A top-down approach is cheaper for the administration and less time-consuming than a bottom-up approach (Hutton, 2023; IMF, 2021; STA, 2021; FTGPG, EC, 2016; 2018; CRA, 2016).

A top-down approach requires relatively less data volume and less data processing, as opposed to a bottom-up approach.

Top-down methodologies are relatively simpler, standardised and more stable over time than bottom-up methodologies.

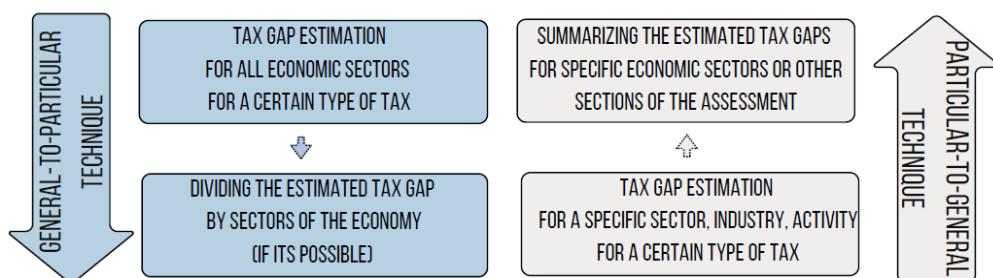
The top-down approach has less certainty and accuracy of the assessment due to lower granularity, and because the result obtained represents an indirect rather than a direct link between the assessments obtained and the taxpayers' behaviour that generates them. For the bottom-up approach, the opposite is true – it provides more certainty and accuracy of estimates due to greater granularity, as the gap is broken down into partial gaps, which are a direct link to the gap and taxpayers' behaviour (FTGPG, EC, 2016). The lower accuracy of the data in the top-down approach is due to the fact that they are most often based on national accounts for statistics, finance and money, which may not fully cover the unexplored economy and fraud, where in fact the biggest loss to the budget should be generated. In this regard, the following discussion logically arises – since national accounts data are mainly based on declared data for various government purposes, can they provide a relatively reliable, accurate and comprehensive result on the size of the total tax gap, given that this is a type of "cross-check" mostly among declared data with multiple assumptions about differences in research methodologies? In this regard, according to the author, when more reliable estimates are needed, i.e. less risk of omissions, the "top-down" approach should be used, but based on data and independent studies (surveys and others), when possible, rather than on data from government accounts or a "bottom-up" approach should be used.

The top-down approach mainly presents information on the total amount of the gap, but does not identify the source (type of non-compliance), the forms, causes and manifestation scenarios of the gap, the specific groups of taxpayers (legal and illegal, large, medium and small), separated taxpayers, does not allow for the distribution of the gap by territorial basis or other more detailed sections, as long as the bottom-up approach normally allows it. This means that the result of the top-down method cannot be used for more precise control interventions against certain sectors and branches of the economy, while the bottom-up method can.

The top-down approach estimates only the total gap, but not the components of this gap, while the bottom-up approach estimates only parts of the components (partial gaps) and the total difference must be calculated by aggregating all gaps (STA, 2008). This means that under a bottom-up approach, there is a risk that by taking into account partial differences for individual cuts, there may be double-counting for some cuts, hence an overestimation of the overall gap.

The top-down approach depends on broad economic indicators and may overlook the subtleties of action by individual sectors of the economy or taxpayers, while the bottom-up approach uses data and performance indicators at the lowest level and can serve to target controls more precisely. At the same time, however, based on some data and results of tax controls, mainly on registered taxpayers, the bottom-up approach means that factors that are not easily observable are difficult to take into account. This, in turn, means that the whole part of the informal economy, tax avoidance and tax fraud, may not be covered, as opposed to a bottom-up approach (FTGPG, EC, 2016). This is because top-down methods only cover loopholes that are known and proven for tax authorities or areas that are suspected to be riskier.

The assessment of the tax gap, under both approaches, can be carried out in two main technical ways, called by the author 'from general to particular' (deductive) or 'from particular to general' (inductive) (see Figure 6).



Source: Author's illustration.

Figure 6. Tax gap assessment techniques

The 'general to particular' technique makes an overall assessment of the tax gap from a certain type of tax for the whole economy (all sectors/industries at a national level) and then breaks it down into individual sectors of the economy, if possible. These are theirs at CASE and, to some extent, at the IMF and the World Bank. In the case of the 'particular to general' technique, a more detailed assessment of the difference by individual sectors, industries, branches or other segments, followed by a summary of the total gap from a particular tax. In some cases, the gap from a certain type of tax may even be used as a basis for calculating another type of tax (e.g. the tax base, its components or the amount of the gap in customs duty and/or excise to be used to calculate the VAT gap or vice versa; the VAT gap to calculating the corporate tax gap; the gambling activity gap for calculating the corporate or personal taxes gap).

The tax gap in both methods and techniques ways can be measured under any assumptions about the size of the tax rates, according to the purpose of the study – standard, effective, unified, modified for the entire economy or sector, but also specific rates for a separate sector, industry, branch and activity.

To the extent that both the 'top-down' and 'bottom-up' approaches and the ways of applying the 'general-to-particular' (deduction) and 'particular-to-general' (induction) techniques lead to an estimate of the amount of the tax gap, the results of their application should be without significant differences when comparing the total gap. In this perspective, it should, wherever possible, be resourced and effectively justified in order to make the best picture of the gap to be applied collectively. What cannot succeed in one approach can be corrected by another.

4. International initiatives and statistics in the tax gap assessment in the world and in Bulgaria, as well as the results of a survey in Bulgaria

Globally, there are three broader initiatives to develop and explore issues related to the concept of the tax gap – the IMF, the OECD and the EC. Technical assistance initiatives directly or indirectly related to tax gap issues are also available from the World Bank and the Addis tax initiative (ATI, 2024). Issues of the tax gap can also be addressed by international associations of tax administrations, such as the CIAT, IOTA, the Tax Administration Diagnostic Assessment Tool (TADAT) and the summit forums of tax administrations in the EU (TADEUS) (TADEUS, 2024).

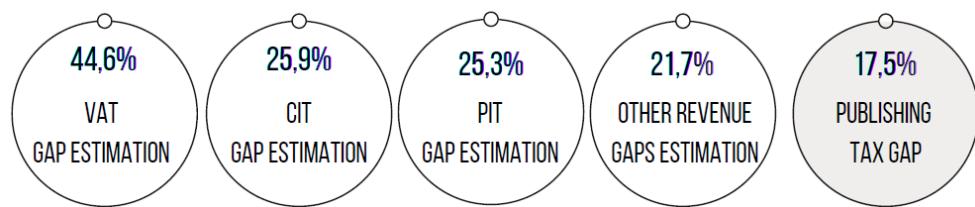
The IMF has established a Revenue Administration Gap Analysis Programme (RA-GAP) as a country capacity development service run by its fiscal departments since 2011. The program offers assistance with the assessment of VAT, CIT, PIT and excise duties. It can be argued that the IMF is the leading driver of the concept of the tax gap in the world.

The OECD has set up a 'Forum on Tax Administration' (FTA) to share knowledge, undertake research and develop new ideas to improve tax issues among members and other countries with "tax gap" and "shadow economy" interest groups.

The EC has set up a "FISCALIS" program under DG TAXUD, which has a 'Tax Gap Project Groups' (TGPG). Within this project group, subgroups on types of taxes and manifestations of gaps are formed – for VAT, including MTIC fraud and e-commerce, CIT and PIT/SSC. The EC, through CASE, has the initiative of a single measurement and comparison of the tax gap within the EU, with only VAT coverage, including the VAT MTIC gap. Some issues of the tax gap were addressed in the framework of the Risk Management Platform of the EC, which is currently suspended.

Practices in measuring tax gaps are summarized in documents produced for a broader (OECD, 2024; IMF, 2021) or closer comparison of tax administrations by international tax organisations and the EC (FTGPG, EC, 2016; 2018a; 2018b; EC, CASE, WIVO, 2024; Hutton, 2017; IMF, 2021; Thackray, Alexova, n.d.; Ueda Junji, 2018).

The study of practices with the widest geographical coverage for collecting data on tax administrations, including the tax gap, is the International Revenue Administration Survey (ISORA). This is a common product of the cooperation of the IMF, OECD, CIAT and IOTA. The most recent study, covering 2022, was published in 2024 and covers as many as 166 jurisdictions (ISORA, 2024).



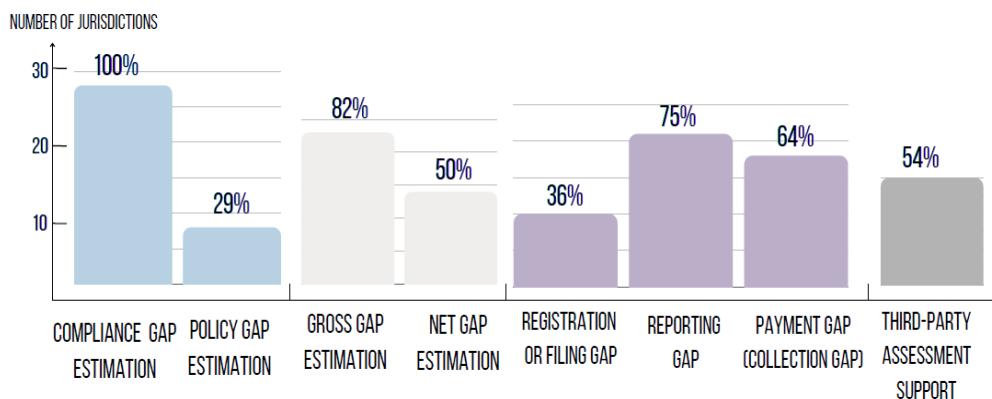
Source: Author's illustration.

Figure 7. Assessment of the tax gap under ISORA 2024 for 2022

The results of the latest ISORA survey show that 44.6%, or 74 countries, measure the tax compliance gap, the most common being the VAT gap measurement. The share of corporate income tax (CIT) measurement (25.9% or 43 units) and personal income tax (PIT) measurement (25.3% or 42 units) is approximately the same, and 21.7% of administrations report that they measure tax gap in other taxes as well. In Bulgaria, all types of gaps from the listed taxes are measured. Information on the tax gap is published by only 17.5% of jurisdictions, as Bulgaria is not among them, but the need for high publicity in the country is identified by over 79.8% of financial control experts,

and over 50% of them even consider that methodologies should be public, according to the results of a survey by the author (Yotov, 2025b).

The most detailed study on the practice of assessing the tax gap, both in terms of issues and geographical scope, was carried out in 2023 for the purposes of OECD. The same covers 58 countries, which are mostly highly developed, the EC and some other countries (OECD, 2024). Of these, only 28 countries have indicated that they assess the tax gap. Bulgaria does not fall under this survey, maybe because it was not yet a member of the FTA of OECD in 2023. The results of the OECD's tax gap survey are as follows:



Source: Author's illustration.

Figure 8. Assessment of the tax gap by type and component according to OECD for 2023

According to the results of the OECD survey, 28 out of 58 jurisdictions or 48% indicated that they produce periodic estimates of the tax gap for one or more major types of tax. Only 8 (30%), including Belgium, Brazil, Greece, Hungary, Indonesia, Romania and Switzerland, as well as the EC, assess the policy tax for some taxes; Bulgaria is not among them.

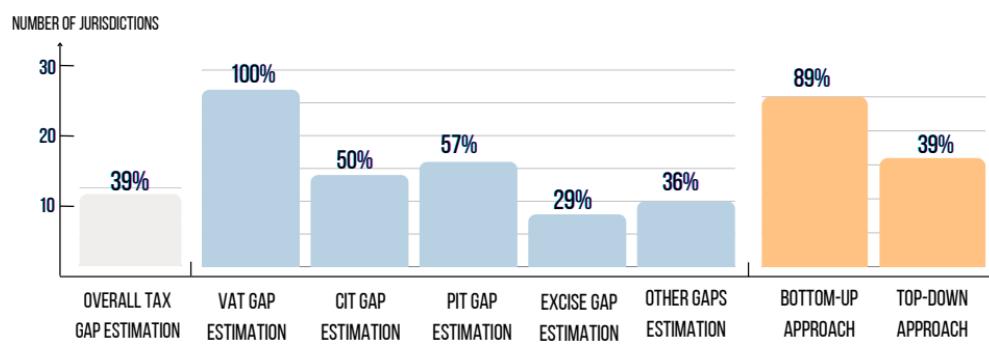
All countries measuring the tax gap focus on the compliance gap (100%) and, in particular, on the assessment of reporting (75%) and payments gap (64%), as they are major sources of the gap. Only 36% estimated a gap in registration or filing, but it should be borne in mind that in some methodologies, the filing gap is likely to be accounted for in the overall gap from declaring, and it is difficult to separate.

Most administrations estimate the gross tax gap (82% or 23 jurisdictions), and 50% measure the net tax gap. Nearly 40% of countries measure both types.

For as many as 15 of the 28, or 54% of countries, the gap assessment is carried out with the third-party support, most often the IMF, but also academia, external consultants and others. Among these countries are Australia, Belgium, Brazil, Canada, Chile, Denmark,

France, Indonesia, the USA and others. Although every second more developed country in the world assesses some types of shortages, this level still cannot be defined as satisfactory against the backdrop of growing popularity on the topic among tax authorities. In this regard, the practice in Bulgaria is limited to analyses of the tax gap, which are carried out independently by the NRA, with the exception of some analyses under technical assistance programs (e.g. by the IMF, the World Bank and an EC project) (see Erard, 2023; EY, EC, 2023). In addition, the results of the survey by the author show that control experts in Bulgaria consider that third parties should be more actively involved in such analyses (Yotov, 2025b).

The results of the OECD survey also show:



Source: Author's illustration.

Figure 9. Assessment of the tax gap by tax type and approaches according to OECD for 2023

The overall tax gap, made up of the main taxes, is estimated by only 39% or 11 of the 28 countries. All organisations evaluate the VAT gap, except for the USA, which does not have this type of tax at the national level, but has another tax on goods and services (GST). This is logical, given that this tax is assumed to bring the most revenue, but also the greatest risk to the budget in most countries. The PIT gap is estimated at 57% and the CIT gap at 50%. Only 8 countries, including Australia, Canada, Denmark, Greece, Italy, Sweden, the United Kingdom and the United States, and, after further research by the author and Bulgaria and Slovakia (Alexová, 2016), periodically assess the excise gap. Compliance gaps in other taxes and levies, such as wage taxes, social security contributions, property tax, inheritance tax and others, that exist in the relevant national system are estimated by 36% of administrations. No differences in the taxation of duties and gambling have been reported to have been investigated. Bulgaria also measures gaps in wages, social security contributions and some other national taxes.

The top-down approach (89% or 25 countries) is most commonly used and is seen as easier to implement by administrations just starting out. Slightly more than half of the countries use a bottom-up approach (57% or 16 countries), which is based on the results of control work by methodologies for random audit or risk-based audit, but also on other data. Some more advanced countries, such as Australia, Denmark, the United Kingdom and the United States, have even more than one type of methodology for the same type of tax. In Bulgaria, a top-down approach is regularly applied, and a bottom-up approach is reported to have been applied only under a World Bank technical assistance project to assess VAT gaps (Erard, 2023). The number of random audit methodologies (44) and risk-based audit methodologies (40) under a bottom-up approach developed and applied by countries, according to the OECD study, is almost the same.

From the information in the documents studied by the OECD, the IMF, the World Bank, the EC and individual countries, it can be concluded that most countries apply the 'general-to-particular' technique, which assesses the tax gap at a high level from a certain type of tax for the whole economy, followed by a sectoral breakdown. This is logical given that the technique is popularised and applied by them. It would also be a good practice to apply the 'private-to-general' technique, if it is possible, where the tax gap is assessed at a lower level – a separate economic sector, branch, activity – and then aggregated and compared to the total gap assessed via another approach.

ISORA, as well as published documents by the OECD, IMF and EC, lack a study on the familiarity with the concept of the tax gap, the significance of its measurement in general, both among the wider public of stakeholders and within the tax administration itself. The survey in Bulgaria, conducted by the author among experts, shows that 49.6% of respondents are theoretically familiar with some techniques for analysing and assessing tax gaps, and 18.5% are well-versed. The size of the tax gap, including the shadow economy, is determined as the most appropriate measure of the level of tax compliance. According to the same study, the most important thing in the compliance risk management process is the tax gap assessment. At the same time, however, almost 70% of them note that they are not familiar with the results of studies on the tax gap, logically because they are not promoted.

Conclusion

The assessment of the tax gap is a tool to study the level of compliance by taxpayers and reveal the potential for increasing revenue in the budget. It is the most comprehensive indicator of various problems related to tax collection. It gives a better idea of where and how non-compliance with tax obligations occurs. The measurement of the tax gap is an indicator of the efficiency of revenue administrations in collecting taxes, social security contributions and other levies. It is the basis for supporting and deciding on

tax policies, enforcement and control strategies, allocating resources in general, and improving transparency and accountability.

This publication attempts to systematise and complement the basic and most recent theory and practice of leading international tax organisations, national revenue administrations and researchers, as well as to provide insights related to the concept of the tax gap. The study provides greater clarity in the formation of a complex picture of the general framework, state and challenges in measuring the difference in taxation. It is claimed that this is one of the most in-depth studies on the subject of 'tax gap'. The same can serve as a good basis for a guide in the world of tax gap research.

As a result of the study, it can be summed up that addressing the issues of the tax gap is becoming an increasingly popular topic of discussion among revenue agencies and other stakeholders globally, with the prospect of continuing to do so. While administrations understand the nature of the tax gap more broadly, they define and include different components in their assessments. There are different methods, methodologies and techniques that do not lead to an international consensus on the most appropriate ones to be used in more countries and to provide a common methodological assessment framework and international comparison, despite diversity in tax systems. Although measuring the tax gap is not a new invention, a limited number of countries still measure the tax compliance gap, and only for certain types of taxes. The policy tax gap is hardly measured. In addition, only a few countries apply more than one method to assess the gap of the same type of tax. Few countries use the "bottom-up" method, and random auditing is used only by the most highly developed ones. The paper claims that the concept of 'positive tax gap' identified by the author as a private case, representing revenue collected in excess of the amount theoretically, is a gap for which there is currently a lack of practice and discussion in its measurement. Challenges are also highlighted in the publication of results data and methodologies to assess differences in taxation among the wider audience, as well as to increase the involvement of third parties outside revenue administrations, such as other government bodies, academic and industry experts, in the process of measuring the tax gap.

Future research on the topic may focus on the definition and study of the theory and practice of measuring the tax gap from a certain type of taxes and other levies that exist in the tax system of most jurisdictions, but for which there is no evidence that a literature overview has been made by international tax organisations, such as the gap in excise and customs duties. According to the article, only a few countries in the world are investigating the excise gap. The excise gap is the least frequent assessment as a type of tax and only for some types of excise goods (mainly cigarettes), even in the most advanced countries. It seems too early to discuss this topic of excise gap – a summary

of the practice, challenges and preparation of a common methodological framework for estimating the excise gap, because it is not yet planned in the OECD and EC tax gap groups. Undoubtedly, however, the evolution of the tax gap concept issue will lead to the topic of excise gap being brought to the table.

Conflicts of Interest

The author has no conflicts of interest to declare.

References

Alexová, M. (2016). *Mineral oil tax gap (update)*. [Alexová, M. (2016). *Daňová medzera na dani z minerálnych olejov (aktualizácia)*]. IMF: Ministry of Finance of the Slovak Republic, Institute of Financial Policy (*in Slovenian*). Retrieved April 23, 2025 from <https://www.mfsr.sk/sk/financie/institut-financnej-politiky/publikacie-ifp/manualy/danova-medzera-dani-z-mineralnych-olejov.html>

ATI. (2024). *About Addis Tax Initiative*. Addis Tax Initiative (ATI). Retrieved December 20, 2024, from <https://www.addistaxinitiative.net/about>

ATO. (2024, December 24). *Australian tax gaps – overview*. Retrieved January 8, 2025, from Australian Taxation Office: <https://www.ato.gov.au/about-ato/research-and-statistics/in-detail/tax-gap/australian-tax-gaps-overview/overview>

Bitzenis, A., Vlachos, V. (2016). The legal framework for the shadow economy in the European Union. *International Journal of Diplomacy and Economy*, 3 (2). Retrieved December 5, 2024, from <https://www.inderscienceonline.com/doi/abs/10.1504/IJDIPE.2016.081215>

Breusch, T. (2016). Estimating the Underground Economy using MIMIC Models. *Journal of Tax Administration (JOTA)*, 2 (1), 41-72. Retrieved January 5, 2025, from <https://journals.docuracy.co.uk/jota/article/view/137>

Chengelova, E. (2014). Shadow Economy in Perception of the Bulgarian Society. *Economic and Social Alternatives*, No. 3. [Ченгелова, Е. (2014). Икономиката в сянка в представите на българското общество. *Икономически и социални алтернативи*, No. 3]. (*in Bulgarian*). Retrieved April 20, 2025, from https://www.unwe.bg/uploads/Alternatives/1_br_3_2014.pdf

CRA. (2016). *Tax Gap in Canada: A Conceptual Study*. Canada Revenue Agency (CRA). Retrieved January 1, 2025, from <https://publications.gc.ca/site/eng/9.838560/publication.html>

CRA. (2022). *Overall federal tax gap report: Estimates and key findings for non-compliance, tax years 2014-2018*. Canada Revenue Agency. Retrieved January 4, 2025, from <https://www.canada.ca/en/revenue-agency/corporate/about-canada-revenue-agency-cra/tax-canada-a-conceptual-study/tax-gap-brief-overview/overall-federal-tax-gap-report.html>

CRA. (2023). *Underground Economy Strategy 2022+*. Canada Revenue Agency (CRA). Retrieved November 5, 2024, from <https://www.canada.ca/en/revenue-agency/programs/about-canada-revenue-agency-cra/corporate-reports-information/underground-economy-strategy-2022.html>

CRA. (2024). *The Underground Economy in Canada, Sources and Methods*. Canada Revenue Agency (CRA). Retrieved November 15, 2025, from The underground economy in Canada, sources and methods

DGTI. (2024, March). *Revealing Gaps in the Tax Gap (Menguak Celaht Dalam Tax Gap)*. Directorate General of Taxes of Indonesia (DGTI) – PAJAK. Retrieved January 28, 2025, from <https://stats.pajak.go.id/id/artikel/menguak-celaht-dalam-tax-gap>

Dimitrova, V. (2024). Hidden Economy in Bulgaria Estimated by the MIMIC Approach *Economic and Social Alternatives*, 30 (4). [Димитрова, В. Скритата икономика в България, отчетена чрез MIMIC подхода. *Икономически и социални алтернативи*, 30 (4)] (in Bulgarian). doi:<https://www.unwe.bg/doi/alternativi/2024.4/ISA.2024.4.03.pdf>

Durán-Cabré, J. M., Moré, A. E.-M., Mas-Montserrat, M., Salvadori, L. (2019). The tax gap as a public management instrument: Application to wealth taxes. *Applied Economic Analysis*, 27 (81). doi:<https://www.emerald.com/insight/content/doi/10.1108/aea-09-2019-0028/full/html>

EC, CASE, WIVO. (2024). *VAT compliance gap due to Missing Trader IntraCommunity (MTIC) Fraud. Final report: phase 1*. European Commission (EC), Center for Social and Economic Research (CASE), Austrian Institute of Economic Research, Vienna (WIVO). Retrieved May 5, 2025, from <https://data.europa.eu/doi/10.2778/25011>

EC, CASE. (2024). *VAT Gap in the EU: 2024 Report*. European Commission (EC), Center for Social and Economic Research (CASE). Retrieved January 12, 2025, from https://taxation-customs.ec.europa.eu/taxation/vat/fight-against-vat-fraud/vat-gap_en#reports-2009---2024

EC. (2021). *European Semester Thematic Factsheet: Undeclared Work (Shadow Economy)*. European Commission. Retrieved December 29, 2024, from https://commission.europa.eu/system/files/2021-01/european-semester_thematic-factsheet_undeclared-work_en.pdf

Erard, B. E. (2023). *Bottom-Up Estimation of the VAT Reporting Gap in Bulgaria (English)*. The World Bank. Retrieved June 22, 2025, from <http://documents.worldbank.org/curated/en/099011224101530531>

EY, EC. (2023). *Report: Strengthening tax compliance by assessing external context and taxpayers' behaviour – Empirical analysis of non-compliance in Bulgaria. Empirical analysis*. European Commission (EC), Ernst & Young (EY). Retrieved January 20, 2025, from https://reform-support.ec.europa.eu/publications-0/strengthening-tax-compliance-assessing-external-context-and-taxpayers-behaviour_en

EY. (2025). *Shadow economy: Estimates for the world and policy paths (Report)*. Ernst & Young (EY). Retrieved August 10, 2025, from <https://www.ey.com/content/dam/ey-unified-site/ey-com/en-gl/insights/tax/documents/ey-gl-shadow-economy-report-02-2025.pdf>

Feige, E. L. (2016). Reflections on the Meaning and Measurement of Unobserved Economies: What do we really know about the "Shadow Economy"? *Journal of Tax Administration (JOTA)*, 2 (1).

FRS. (2019). *Corporate Income Tax Gap 2015 to 2019. Federal Revenue Service of Brasil (FRSB) – Receita Federal*. Retrieved January 15, 2025 from <https://www.gov.br/receitafederal/pt-br/centrais-de-conteudo/publicacoes/estudos/tax-gap>

FTA. (2023). *Estimates on the Shadow economy and Tax gap*. Finland tax administration. Retrieved January 8, 2025, from <https://www.vero.fi/en/grey-economy-crime/scope/estimates-on-the-shadow-economy-and-tax-gap/>

FTGPG, EC. (2016). *The Concept of Tax Gaps, Report on VAT Gap Estimations*. European Commission. Brussels: Fiscalis Tax Gap Project Group, European Commission. Retrieved December 27, 2024, from https://taxation-customs.ec.europa.eu/system/files/2016-09/tgpg_report_en.pdf

FTGPG, EC. (2018a). *The Concept of Tax Gaps Report II: Corporate Income Tax Gap Estimation Methodologies*. European Commission. Brussels: Fiscalis Tax Gap Project Group, European Commission. Retrieved December 27, 2024, from https://www.europarl.europa.eu/cmsdata/161065/Part%20II%20_%20Estimation%20Methodologies.pdf

FTGPG, EC. (2018b). *The concept of Tax Gaps Report III: MTIC Fraud Gap estimation methodologies*. Fiscalis Tax Gap Project Group, European Commission. Retrieved

January 13, 2025, from https://taxation-customs.ec.europa.eu/system/files/2018-12/tax_gaps_report_mtic_fraud_gap_estimation_methodologies.pdf

Harremi, M. (2014). A simple analysis of the tax gap Balkan region. *Mediterranean Journal of Social Sciences*, Vol. 5, No. 19. Retrieved January 28, 2025, from https://d1wqtxts1xzle7.cloudfront.net/34658220/MJSS_August_2014_Vol.5_No.19_Content.pdf?1410144940=&response-content-disposition=inline%3B+filename%3DThe_Freedom_of_Choice_a_snob_or_a_gentle.pdf&Expires=1738019915&Signature=XQwevC7rr39fL-7kZkFrITKR4oYZ5PF

HMRC. (2017). *The Hidden Economy in Great Britain – Final report*. Her Majesty's Revenue and Customs (HMRC). Retrieved November 15, 2025, from https://assets.publishing.service.gov.uk/media/5a74a49ae5274a56317a5f7f/P11533_HE_Final_report_MASTER_draft_v6_0_PC_FINAL.PDF

HMRC. (2021, December). *The tax gap and compliance yield – what they are and how they relate*. Retrieved January 8, 2015, from Her Majesty's Revenue and Customs of the United Kingdom (HMRC): <https://www.gov.uk/government/publications/tax-gap-and-compliance-yield-technical-note/the-tax-gap-and-compliance-yield-what-they-are-and-how-they-relate>

Hutton, E. (2017). *The Revenue Administration – Gap Analysis Program: Model and Methodology for Value-Added Tax Gap Estimation*. IMF. Retrieved January 2, 2025, from <https://www.imf.org/en/Publications/TNM/Issues/2017/04/07/The-Revenue-AdministrationGap-Analysis-Program-Model-and-Methodology-for-Value-Added-Tax-Gap-44715>

Hutton, E. (2023). *E-training: RA-GAP VAT Gap Estimation Model (VGAPx), Module 1: Overview of the VAT Gap Modeling Framework*. IMF. Retrieved April 8, 2024, from <https://www.imf.org/en/Capacity-Development/Training/ICDTC/Courses/VGAPX>

IMF. (2015). *Current Challenges in Revenue Mobilization: Improving Tax Compliance*. Washington, D.C.: International Monetary Fund. Retrieved January 2, 2025, from <https://www.imf.org/en/Publications/TNM/Issues/2017/04/07/The-Revenue-AdministrationGap-Analysis-Program-Model-and-Methodology-for-Value-Added-Tax-Gap-44715>

IMF. (2021). *ISORA 2018: Understanding Revenue Administration*. International Monetary Fund. Retrieved January 5, 2025, from <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/11/03/Understanding-Revenue-Administration-464865>

IMF. (2021). *The Revenue Administration Gap Analysis Program: An Analytical Framework for Personal Income Tax Gap Estimation*. International Monetary Fund.

Retrieved January 22, 2025, from <https://www.imf.org/en/Publications/TNM/Issues/2021/08/27/The-Revenue-Administration-Gap-Analysis-Program-460749>

IRS. (2005). *Report: Your Federal Income Tax. Internal Revenue Service of the United States*. Retrieved January 8, 2025, from <https://www.irs.gov/pub/irs-prior/p17--2005.pdf>

IRS. (2016). *Tax gap estimates for tax years 2014–2016*. The Internal Revenue Service (IRS) of the United States of America. Retrieved January 2, 2025, from <https://www.irs.gov/newsroom/the-tax-gap>

ISORA. (2024). *International Survey on Revenue Administration (ISORA) – Periodic Data tables "Compliance Risk Management": Tax Gap 2021, 2022, 2023*. International Survey on Revenue Administration (ISORA) – Multi-organisation survey of CIAT, IMF, IOTA, OECD and ADB. Retrieved April 23, 2025, from <https://data.rafit.org/regular.aspx?key=74180916>

Karpuzuva, M., Naydenov, A. (2024). The Shadow Sector of Bulgarian Economy: Assessments and Perceptions of Business. *Economic and Social Alternatives*, 4 (30). [Карпузова, М., Найденов, А. (2024). Сенчестият сектор на българската икономика: оценки и възприятия на бизнеса. *Икономически и социални алтернативи*, 4 (30)] (in Bulgarian). doi:<https://www.unwe.bg/doi/alternativi/2024.4/ISA.2024.4.01.pdf>

Khwaja, M. S., Iyer, I. (2014). *Revenue Potential, Tax Space, and Tax Gap – A Comparative Analysis* (Vol. WPS6868). The World Bank. Retrieved May 2, 2025, from <https://documents1.worldbank.org/curated/en/733431468038088702/pdf/WPS6868.pdf>

Korauš, A., Gombár, M., Vagaská, A., Šišulák, S., & Černák, F. (2021). Secondary Energy Sources and Their Optimization in the Context of the Tax Gap on Petrol and Diesel (in Slovakia). *Energy Management: Economic, Social, and Ecological Aspects. Energies*, 14 (14), 4121. doi:<https://doi.org/10.3390/en14144121>.

Kosova, T., Slobodyanyuk, N., Polzikova, H., & Šatanová, A. (2018). Tax Gap Management: Theory and Practice. *Economic Annals-XXI*, 174 (11–12), 22–28. doi:<https://doi.org/10.21003/ea.V174-04>

Koufopoulou, P., Williams, C. (2019). Shadow Economy: Definitions, terms & theoretical considerations. *Advances in Management & Applied Economics*, 9 (5). Retrieved January 3, 2025, from https://www.scienspress.com/Upload/AMAE/Vol%209_5_3.pdf

Mark, J., Mazur, A. H. (2007). Understanding the Tax Gap. *National Tax Journal*, 60 (3). Retrieved January 1, 2025, from <https://www.jstor.org/stable/41790406>

MEF, Italy. (2016). *Report on the unobserved economy and tax and social security evasion. [Relazione Sull'Economia Non Osservata e Sull'evasione Fiscale e contributiva]* (Italian version). Ministero dell'Economia e delle Finanze, Italia (in Italian). Retrieved January 8, 2025, from https://www.mef.gov.it/ministero/commissioni/rel_ev/index.html

Mitu, N. E. (2023, Editura Universitaria Craiova). Can the Tax Gap be a Useful Tool in Terms of Tax Performance? *Revista de Științe Politice* (Revue des Sciences Politiques), 77, 20–28. Retrieved June 7, 2025, from <https://www.ceeol.com/search/article-detail?id=1195044>

NRA. (2025). NRA introduces new tools to measurement the impact of external context on non-compliance. *Posoki*, 75, 18–20. [НАП. (2025). НАП въвежда нови инструменти за измерване влиянието на външния контекст върху неспазването. *Посоки*, 75, 18–20] (in Bulgarian). Retrieved June 9, 2025.

OECD. (2012). *Reducing opportunities for tax non-compliance in the underground economy*. Organisation for Economic Co-operation and Development. Retrieved November 25, 2025, from https://www.oecd.org/en/publications/reducing-opportunities-for-tax-non-compliance-in-the-underground-economy_088ad0b9-en.html

OECD. (2016). *Co-operative Tax Compliance: Building better tax control frameworks*. Organisation for Economic Co-operation and Development. doi:<https://doi.org/10.1787/9789264253384-en>

OECD. (2017). *Shining Light on the Shadow Economy: Opportunities and Threats*. Organisation for Economic Co-operation and Development. Retrieved January 29, 2025, from https://www.oecd.org/content/dam/oecd/en/publications/reports/2017/09/shining-light-on-the-shadow-economy-opportunities-and-threats_a9a92285/e0a5771f-en.pdf

OECD. (2022). *Consumption Tax Trends 2022: VAT/GST and Excise, Core Design Features and Trends*. Organisation for Economic Co-operation and Development. Retrieved January 20, 2025, from https://www.oecd.org/en/publications/consumption-tax-trends-2022_6525a942-en.html

OECD. (2024). *Tax Administration 2024: Comparative information on OECD and other Advanced and Emerging economies*. Organisation for Economic Co-operation and Development. Retrieved December 29, 2024, from https://www.oecd.org/en/publications/tax-administration-2024_2d5fba9c-en.html

Patrício, B., Hutton, E. (2023). *Corporate Income Tax Gap Estimation by using Bottom-Up Techniques in Selected Countries: Revenue Administration Gap Analysis Program*. International Monetary Fund. doi:<https://doi.org/10.5089/9798400246265.005>

Petrova, E. (2022, November). *Thoughts about tag gap, the tax compliance and efficiency of the tax system*. Intra-European Organisation of Tax Administrations (IOTA). Retrieved January 5, 2025, from <https://www.iota-tax.org/publications/iota-papers/thoughts-about-tax-gap-the-tax-compliance-and-efficiency-of-the-tax-system>

Raczkowski, K. (2015). Measuring the tax gap in the European economy. *Journal of Economics and Management*, Vol. 21 (3). Retrieved January 28, 2025, from https://www.researchgate.net/publication/301803819_Measuring_the_Tax_Gap_in_the_European_Economy

Schneider, F., Buehn, A. (2010). *Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007*. The World Bank. Retrieved December 14, 2025, from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/311991468037132740/shadow-economies-all-over-the-world-new-estimates-for-162-countries-from-1999-to-2007>

Schneider, F., Raczkowski, K., Mróz, B. (2015). Shadow economy and tax evasion in the EU. *Journal of Money Laundering Control*, 18 (1), 34–51. doi:<http://dx.doi.org/10.1108/JMLC-09-2014-0027>

STA. (2008). *Tax Gap Map for Sweden – How was it created and how can it be used?* Swedish Tax Agency. Retrieved January 26, 2025, from https://www.skatteverket.se/download/18.361dc8c15312eff6fd2b9a4/1708608556405/Report_2008_1B.pdf#:~:text=During%202007%20the%20National%20Tax%20Agency%20has%20tried,between%20different%20areas%20and%20different%20groups%20of%20taxpayers.

STA. (2021). *Tax gap report 2020: Background report for the annual report: the size and development of the tax gap*. Swedish Tax Agency (Skatteverket). Retrieved January 11, 2025, from <https://www.skatteverket.se/download/18.96cca41179bad4b1aa8c0b/1632316511065/Tax%20gap%20report%202020.pdf>

TADAT. (2019). *Subnational Supplement Field Guide*. The Tax Administration Diagnostic Assessment Tool (TADAT). Retrieved January 25, 2025, from <https://www.tadat.org/content/dam/tadat/en/assessments/TADAT%20Subnational%20Field%20Guide%20-%20November%202019.pdf>

TADEUS. (2024). *Overview 2024*. Tax Administration EU Summit. Retrieved January 5, 2025, from https://taxation-customs.ec.europa.eu/taxation/tax-transparency-cooperation/tadeus_en#priorities

Thackray, M., Alexova, M. (n.d.). *The Revenue Administration Gap Analysis Program: An Analytical Framework for Excise Gap Estimation*. International Monetary Fund. Retrieved January 22, 2025, from <https://www.imf.org/en/Publications/TNM/>

Issues/2017/04/20/An-Analytical-Framework-for-Excise-Duty-Gap-Estimation-Excise-Gaps-in-Tax-Administration-44720

Ueda Junji. (2018). *Estimating the Corporate Income Tax Gap: The RA-GAP Methodology*. International Monetary Fund. Retrieved January 22, 2025, from <https://www.imf.org/en/Publications/TNM/Issues/2018/09/12/Estimating-the-Corporate-Income-Tax-Gap-The-RA-GAP-Methodology-45890>

UNU-WIDER. (2024, December). *Toolkit for the estimation of tax gaps using a bottom-up approach*. doi:<https://doi.org/10.35188/UNU-WIDER/WTN/2024-2>

Yotov, Y. (2025a). Excise Tax Compliance Risk Management in Bulgaria: Limitations and Guidelines for Overcoming them. *Economic Thought Journal*, 70 (1), 97–127. [Йотов, Й. (2025). Управление на риска за спазване на акцизните задължения в България: ограничения и насоки за преодоляването им. *Икономическа мисъл*, 70 (1), 97–127] (in Bulgarian). doi:<https://doi.org/10.56497/etj2570106>

Yotov, Y. (2025b). *Survey "Tax Compliance Risk Management and Some Excise Duty Issues", December 2024 – January 2025*. Yonko Yotov, Google Forms. [Йотов, Й. (2025). *Анкета „Управление на риска за спазване на данъчните задължения и някои въпроси за акциза“, декември 2024 – януари 2025*. Йонко Йотов, Google Forms] (in Bulgarian). Retrieved June 20, 2025 from https://docs.google.com/forms/d/e/1FAIpQLSeTy_a53iWvxZdgZAeXJ3rkV2kE4A6YylhB4x0JEaLTwzHPbg/viewanalytics

Yonko Yotov (also known as Йонко Йотов) is a PhD student at the Financial Control Department of UNWE, Sofia, Chief Revenue Expert at the Risk Management Department at the Headquarters of National Revenue Agency and has worked at the Customs Agency of Bulgaria. ORCID 0009-0007-2916-2029, yonko.yotov@unwe.bg

How to cite this article:

Yotov, Y. (2025). The Concept of Tax Gap: Essence, Definition, Types, Components, Methods, International Practices and Challenges in its Measurement. *Economic Thought Journal*, 70 (4), 535-566. <https://doi.org/10.56497/etj2570407>