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VAT GAP IN THE EU

2023 REPORT

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EXECUTIVE SUMMARY

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Executive Summary

This report examines VAT compliance and policy gaps in the EU and EU Member States. The VAT compliance gap addressed by this report is a measure of overall non-compliance in VAT. It is the difference between the tax revenue that would be collected in the case of full compliance and the actual VAT receipts. The VAT policy gap captures the effects of applying multiple rates and exemptions on the theoretical revenue that could be levied in a given VAT system. The policy gap is an indicator of the additional VAT revenue that could theoretically (i.e., under the assumption of perfect tax compliance) be generated if a uniform VAT rate is applied to the final domestic use of all goods and services by households.

Below, we summarise the economic and policy context and present the main results for the VAT compliance gap. Given the substantial changes in the estimates for the last two years (covering the period of the COVID-19 pandemic), we also include case studies to discuss what is driving these massive changes in compliance. This is followed with a presentation of the results of the VAT policy gap analysis. The executive summary is complemented with background information on the scope and methodology of the study and concludes with a review of data availability and reliability.

I. Economic and policy context

In 2021, GDP increased in all 27 EU Member States, largely due to the gradual economic recovery from the COVID-19 pandemic and the measures introduced to limit its impacts. In total, the EU-27 economy grew by 5.6 percent in real terms compared to 2020, with the largest increases recorded in Ireland (15.1 percent), Croatia (13.1 percent), and Malta (11.7 percent). In general, the recovery was faster in countries more strongly impacted by the COVID-19 pandemic due to their high dependence on the tourism sector. At the same time, the growth of GDP in 2021 was slower in the Member States where the recession in 2020 was milder. The core component of the VAT base – household consumption – increased by 6.6 percent in nominal terms in the EU-27. This unusually high growth rate is the effect of both the low base in 2020 and the consumption patterns that changed considerably between 2020 and 2021. Even higher growth was observed for gross fixed capital formation (GFCF) – which increased on average by 12.2 percent in nominal terms in the EU-27.

In 2021, several EU Member States introduced temporary changes to their VAT systems. Germany reverted to its standard rate in January 2021 after temporarily reducing it in 2020 as a measure to stimulate the economy amidst the pandemic. Similarly, Ireland had a temporary reduction in VAT that lasted until February 2021, after which it reverted back to its normal rate. Sector-specific adjustments were also prevalent across various countries. Several countries implemented measures to mitigate high energy costs. Cyprus, Czechia, and Spain introduced a temporary reduction in VAT rates on electricity consumption. Other countries introduced changes to VAT rates for products and services associated with the COVID-19 pandemic. For example, Bulgaria implemented a 0 percent rate on COVID-19 vaccines and diagnostic devices, a measure matched by Luxembourg and Austria. France extended the reduced VAT rate on masks, protective clothing, and products associated with personal hygiene until the end of 2021.

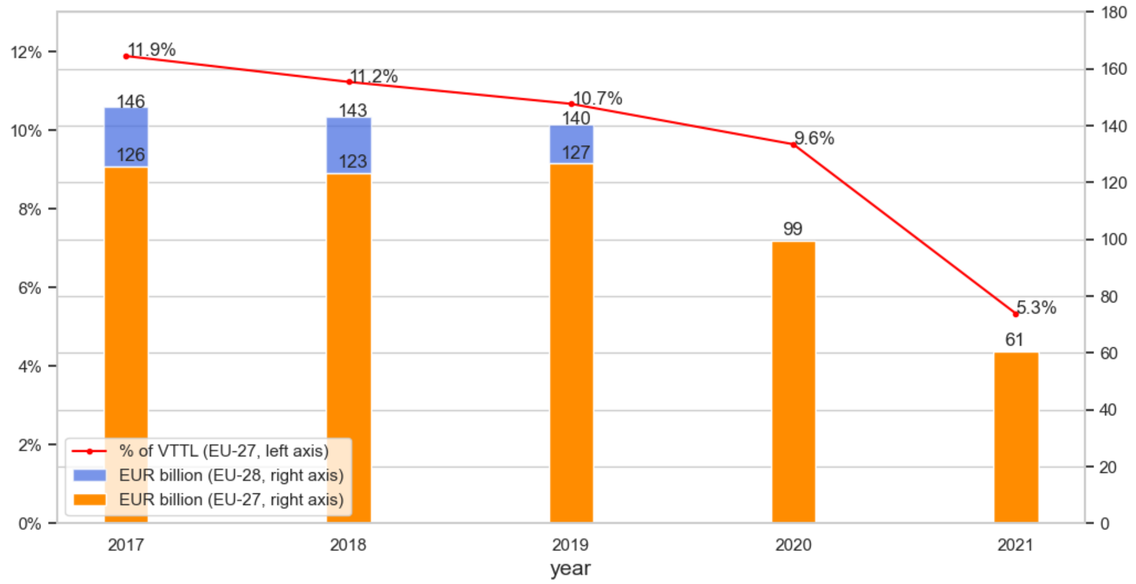
II. VAT compliance and policy gap estimates and their drivers

VAT compliance gap

Total EU-27 VAT revenue and VAT liability increased in all years with the exception of 2020, when both figures fell below 2017 levels. In 2021, both revenue and liability recovered and exceeded pre-pandemic levels. Amid these extraordinary conditions, the VAT compliance gap continued to narrow albeit at a significantly faster pace. In fact, the rate of this narrowing was even faster in the two most recent years: the VAT compliance gap decreased by 1 percentage point (pp) in 2020 and 4.3 pp in 2021 as compared to the 0.6 pp average decrease between 2017 and 2019.

In 2021, the VAT compliance gap amounted to EUR 61 billion or – in relative terms – 5.3 percent of the VAT Total Tax Liability (VTTL), which captures the tax revenue that would be collected in the case of full compliance (see Figure 1). Compared to 2020, the VAT compliance gap went down by EUR 39 billion or 4.3 percent of the VTTL. However, these estimates have some uncertainty due to the (suspected) somewhat inconsistent treatment of deferrals and the lower quality of national statistics owing to the turbulent economic conditions in these years.

Figure 1: Evolution of the VAT compliance gap in the EU-27 and EU-28 (% of the VTTL and EUR billion, 2017-2021)[1]



Source: own calculations.

At the Member State-level, in 2021, the VAT compliance gap showed significant year-over-year changes, larger than in previous years. Compared to 2020, changes ranged from decreases by 10.7 pp to increases by 0.7 pp. Overall, the VAT compliance gap increased in only two EU-27 Member States – Denmark (by 0.7 pp) and Sweden (by 0.2 pp). In 16 Member States, the year-over-year change in the

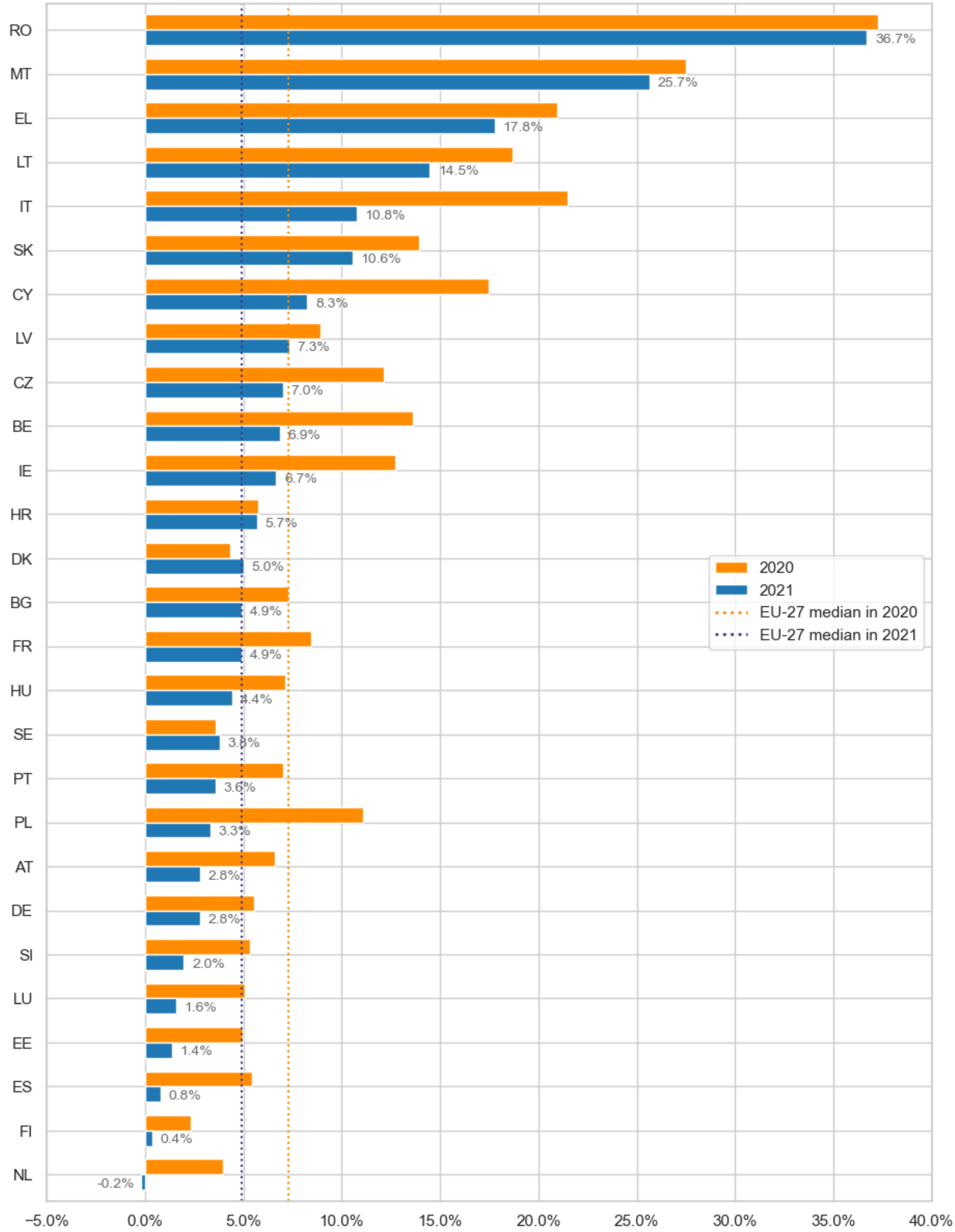
[1] *It is important to note that the 2020 results are presented for the EU-27, accounting for BREXIT in January 2020. As a reference, the EU-28 estimates including the UK are presented in some graphs and tables until the year 2019.*

VAT compliance gap exceeded 3 pp. In comparison, over the last decade, similar changes in the VAT compliance gap were never observed in more than eight Member States.

The largest decreases in the size of the VAT compliance gap were observed in Italy (-10.7 pp), Cyprus (-9.2 pp), Poland (-7.8 pp), Belgium (-6.7 pp), and Ireland (-6.0 pp). At first glance, these large decreases in the VAT compliance gap during an economic recession may seem counterintuitive. For example, one might expect that, in theory, difficult economic conditions should decrease the liquidity of businesses, which would result in a failure to fulfil certain obligations, including VAT liabilities. However, the VAT compliance gap declined, which is likely related to support measures contingent on paying taxes, which furthermore reduced the number of bankruptcies. Another cause of the observed evolution of the VAT compliance gap might be related to changes in consumption patterns towards categories and channels where compliance is generally higher (e.g., online shopping) and the increased share of cashless payments.

The estimates of the VAT compliance gap for the majority of the Member States ranged from 0 to 10 percent of the VTTL (see Figure 2). The smallest VAT compliance gap was observed in the Netherlands (-0.2 percent), Finland (0.4 percent), and Spain (0.8 percent) and Estonia (1.4 percent). Normally, negative estimates are not possible; however, in Member States where non-compliance is already very low, negative values can occur due to statistical and measurement errors. On the opposite side of the ranking are Romania (36.7 percent), Malta (25.7 percent), Greece (17.8 percent), and Lithuania (14.5 percent). In nominal terms, the largest gaps were estimated for Italy (EUR 14.6 billion), France (EUR 9.5 billion), and Romania (EUR 9.0 billion). The median VAT compliance gap for the EU-27 was 4.9 percent of the VTTL, which is now closer to the arithmetic average across the EU-27, indicating a convergence in VAT compliance among Member States.

Figure 2: VAT compliance gap by Member State (as % of VTTL, 2020 vs. 2021)



Source: own calculations.

Note: The dotted lines depict the median VAT compliance gap in the EU-27 in 2010 (orange) and 2021 (blue). Labels indicate the VAT compliance gap in 2021 in the respective Member State.

Determinants of the decline in VAT compliance gaps – case studies

The unprecedented decline of the EU-wide VAT compliance gap of over EUR 65 billion and over 5 pp between 2019 and 2021 calls for an analysis of its determinants and a thorough examination of the underlying data sources and assumptions. This analysis showed the change in the VAT compliance gap between 2019 and 2021 was driven primarily by shifts in VAT revenue; the estimated VTTL in 2021 was nearly identical to its value observed in 2019, before the COVID-19 pandemic. Therefore, the changes in the VAT compliance gap result from shifts in "recorded values" rather than estimated "unobserved" revenue potential. The breakdown of contributions to the decline in the VAT compliance gap shows that two Member States (Germany and Italy) contributed to over 50% of the decline of the EU-wide compliance gap between 2019 and 2021 (and six Member States contributed to over 80% of this change: Germany, Italy, France, Spain, the Netherlands, and Poland). The contribution of Italy, Poland, and Spain to the EU-wide compliance gap was substantially above the relative size of their tax base. Yet, the shifts in the gap in these Member States appear not to be one-off unexplained variations. Consequently, most of the reduction in compliance appears to be robust and can be explained, even though there remains some uncertainty around national statistics and in particular the calculation of accrual VAT revenues for the years of the COVID-19 pandemic.

Since 2013, when the EU-wide VAT compliance gap reached its highest level, VAT compliance gaps have decreased in nearly all Member States. Despite this rather stable and homogeneous trend, four Member States stand out from the observed pattern. Latvia, Hungary, Poland, and Slovakia recorded exceptionally large improvements in VAT compliance, with VAT gaps falling by over 15 pp between 2013 and 2021. Furthermore, before the steep downward trend commenced, the gaps in these four Member States were considerably higher than the EU average; however, they now belong to the best performers in the EU. In addition to the geographical pattern, the increase in taxpayer compliance in Latvia, Hungary, Poland, and Slovakia was in line with the intensity of the tax administration reforms and the variety of measures introduced. The increase in compliance was also correlated with positive economic tailwinds.

In contrast to these EU countries, Romania has seen a persistent and high VAT compliance gap in recent years. Since 2000, the first year covered by the VAT gap in the EU study, its VAT compliance gap consistently amounted to more than 30 percent of the VTTL, while also persistently and substantially higher than in any other Member State. Between 2013 and 2021, the VAT compliance gap ranged from 33.2 percent to 39.7 percent and remained high despite favourable conditions for improving VAT compliance. Overall, between 2013 and 2021, the Romanian economy grew by 34 percent in real terms. Moreover, the government significantly reduced the VAT burden by reducing the standard statutory rate by 4 pp in January 2016 and by a further 1 pp in 2017. However, this large downward shift of the rate did not have a noticeable impact on the development of the VAT compliance gap.

Nevertheless, Romania cannot be fully distinguished from the above-mentioned group of Member States which saw a significant improvement in VAT compliance. Romania introduced similar measures, faced a similar macroeconomic situation, and had other comparable factors (e.g., the popularity of digital payments and a similar corruption index ranking) to the four Member States noted above. A pronounced difference lies in the digital reporting of VAT transactions. In contrast to Latvia, Hungary, Poland, and Slovakia, up until 2022, VAT payers in Romania were not obliged to report their transactional data. This, in turn, likely had a negative impact on the effectiveness of tax enforcement. Moreover, tax audits in

Romania have long been considered inefficient by international standards.[2] However, the National Tax Administration Agency recently changed its modus operandi. As of 2022, large enterprises are now obliged to submit their tax information through the newly introduced Standard Audit File for Tax (SAF-T) system. The system was further extended to medium enterprises (from 2023) and from 2025 will also be introduced for small enterprises. Fast estimates point to a decrease in the VAT compliance gap in 2022 by 1.5 pp. However, the full impact of the introduction will likely not be visible until a later date when the estimates of compliance for the subsequent years are available.

An important factor explaining the development of the EU-wide VAT compliance gap in recent years is the far-reaching shift in the VAT burden in the EU's largest economy. In response to the economic strain caused by the COVID-19 pandemic, Germany implemented tax relief measures known as the *Corona-Steuerhilfegesetz*. The key element of these legislative changes was the reduction of the statutory VAT rates. The standard VAT rate was decreased from 19 percent to 16 percent and the reduced rate was decreased from 7 percent to 5 percent for the period between 1 July 2020 and 31 December 2020. Moreover, for a period of one year from 1 July 2020 to 30 June 2021, VAT on food served and consumed in restaurants as well as company-owned canteens and canteens run by entrepreneurs was temporarily subject to the reduced rate. As a result, Germany was one of the two Member States with the largest decline in the VAT burden in 2020 and 2021 (next to Greece). Compared to 2019, the effective VAT rate fell by 12.6 percent in 2020 and by 4.4 percent in 2021. Although the analysis does not allow to control for other factors that led to changes in VAT compliance in Germany and other countries, it does provide some indications. A reduction of the VAT burden in a period of economic strain is likely to have a positive impact on compliance, which could partially alleviate forgone revenue from the tax incentives introduced.

Undisputedly, the COVID-19 pandemic strongly affected almost all sectors of economic activity, but particularly the hospitality and tourism sectors during 2020 and 2021. These impacts were likely the most pronounced in the six Member States with the largest contribution of the hospitality and tourism sectors to GDP, which then also faced the largest drop in this contribution after the outbreak of the pandemic. In Greece, Spain, Croatia, Cyprus, Malta, and Portugal, the industries in question accounted for over 3 percent of GDP in 2019. During the pandemic, these contributions dropped by more than half, by over 1.5 pp. As a result, the VAT base in these Member States dropped more significantly than elsewhere in the EU. The fall in the VAT base (in nominal terms) ranged from -6.9 percent in Cyprus to -12.4 percent in Malta. It appears that the shifts in the estimated compliance gap in 2020 for tourist destination Member States were relatively large. In other words, the contribution of the tourism industry to GDP appeared to be strongly correlated with the absolute magnitude of the change in the VAT compliance gap in 2020.

Tourist destination Member Stares where the government implemented relatively generous support measures improved liquidity in the hospitality and tourism sectors. In Greece, the government temporarily reduced the VAT rate for a number of goods and services, including hospitality, tourism, and entertainment services, from 24 percent to 13 percent. Similarly, Cyprus cut the rate on accommodation, restaurant, and catering services from 9 percent to 5 percent. Companies affected strongly by the pandemic were allowed to defer their VAT payments in Cyprus, Greece, and Malta. Croatia allowed for import VAT deferrals.

[2] *https://www.elibrary.imf.org/view/journals/002/2016/284/article-A001-en.xml*

The evolution of the VAT compliance gaps in 2021 shows that the improvement of VAT compliance in Greece, Spain, Malta, and Portugal was rather stable. In Cyprus, the shift of the gap had a rather one-off character, whereas in Croatia the gap in the 2019-2021 period was stable. Different time properties of the shifts and the varying direction of these does not allow to draw clear-cut takeaways on the relation between the size of the tourism and hospitality industries and the VAT compliance gap. It may, however, point to some inaccuracies of the estimated shifts in the VAT compliance gap during a period of large-scale deferrals and problems related to the compilation of national accounts (which is further discussed in the report in a dedicated section on data reliability).

VAT policy gap

The VAT policy gap captures the effects of the departure of the tax base from the theoretical one and lower than standard VAT rates applied to certain parts of the tax base. Compared to the VAT compliance gaps, the VAT policy gaps have remained much more stable. For the EU-27 overall, the average VAT policy gap level in 2021 was approximately 44.9 percent of the notional ideal revenue, which is a 0.3 pp decline from the value recorded in 2020. As shown in the analysis, this was driven by the decline in the relative value of imputed rents and by the decrease in the rate gap. The latter is a consequence of the termination of the temporarily reduced VAT rates for services provided by the industries heavily affected by the pandemic. At the same time, the public services gap further increased, which indicates an increase in expenses on public services (mostly in the health sector). In nominal terms, the VAT policy gap in 2021 amounted to EUR 1 125 billion, which was approximately EUR 75 billion higher than in 2021 due to an increase in the overall tax base largely driven by price inflation.

Of the average VAT policy gap value of 44.9 percent, in 2021, approximately 10.4 pp can be attributed to the application of various reduced and super reduced rates. The VAT exemption gap, interpreted as the share of notional ideal revenue lost due to various exemptions or maintaining some components of household final consumption outside the VAT base, was, on average, 34.5 percent in 2021. The largest part of the VAT exemption gap is composed of exemptions on services that cannot be taxed in principle, i.e., the provision of public goods and imputed rents (19.8 percent and 8 percent, respectively). The remaining amount of the VAT exemption gap can be attributed to financial services (1.4 percent) and the actionable VAT exemption gap, which is 5.3 percent on average.

The actionable VAT policy gap – a combination of the rate gap and the actionable exemption gap – was markedly lower than the sum of the non-actionable components. In 2021, it was 15.7 percent on average, which accounted for approximately 35 percent of the overall policy gap. The combined reduction of theoretical revenue due to reduced VAT rates and VAT exemptions which could not possibly be removed was slightly above 28 percent of the VTTL.

The Member States with the highest value of the VAT policy gap in 2021 are Spain (59 percent), Italy (56.2 percent), and Greece (55 percent). The highest VAT policy gaps were recorded in Greece (26.7 percent), Spain (26.7 percent), and Poland (26.1 percent). The relatively large overall and actionable VAT policy gap in Spain is due to the application of indirect taxes other than VAT in the Canary Islands, Ceuta, and Melilla. In practice, forgone tax revenue in VAT is partially compensated by the local consumption taxes applicable in these regimes.

III.Scope and methodology

The VAT compliance gap represents more than just fraud and evasion. The VAT compliance gap also covers VAT lost due to, for example, insolvencies, bankruptcies, administrative errors, and legal tax optimisation.

The headline figures of this report are the yearly VAT compliance gap estimates for the EU and its Member States covering the five-year period of 2017-2021. The report also includes estimates using a simplified methodology – *fast estimates* – for the year immediately preceding the publication date. These estimates are presented for the 20 Member States for which the available data allowed to proxy the change in effective rates. In addition, the report presents in its statistical annex the estimates from 10 preceding vintages of the study rescaled to account for the corrections and improvements in the full calculations covering the 2017-2021 period. VAT policy gaps are also presented for the same five-year period and are decomposed to disentangle the impact that specific rate reductions and exemptions made to the theoretical VAT revenue losses. We also present estimates of the overall collection efficiency (the *C-efficiency* ratio) and investigate changes in yearly VAT revenue due to basic components, which are the tax base, tax rates, and taxpayer compliance.

On top of presenting the VAT gaps, this report also investigates the sources of these gaps. The report scrutinises the sources of the decline in the EU-wide VAT compliance gap between 2019 and 2021. It also includes four case studies devoted to important problem areas and patterns observed in selected Member States. The analysis covers four Central and Eastern European (CEE) Member States that, by implementing similar measures, were able to seal their compliance gaps significantly in relatively short time frames. The report also looks specifically at Romania, where the estimated VAT compliance gap has remained high and largely unchanged over several years. In addition to the analysis of longer time frames, two case studies look at the impact of the COVID-19 pandemic. More specifically, the case studies analyse changes in the VAT compliance gap in Germany, which radically decreased the VAT burden after the outbreak of the pandemic, and the six Members States with the largest contribution of tourism and hospitality to GDP, the sectors most heavily affected by the pandemic.

The calculation of the VAT compliance and policy gaps uses a methodology well-established by earlier VAT gap studies – the *top-down consumption-side* approach. The approach can be characterised by relatively low data requirements, making it one of the most popular methods which can be applied in many countries with the main condition of available, up-to-date, and accurate national accounts figures. The advantages of the method are simplicity, the possibility to standardise the approach across Member States, and accuracy in deriving the overall size of the gap. The top-down consumption-side approach is used to derive the VAT Total Tax Liability (VTTL), i.e., the theoretical VAT revenue in a counterfactual situation of full tax compliance, for the core period covered by the study.

To assess the relative impact of reduced rates and exemptions on revenue losses, the liability according to the tax law is compared with the potential revenue that could be collected in a VAT system with a uniform rate and the broadest possible base. This benchmark, called *notional ideal revenue*, assumes that the VAT is imposed on the entire final consumption and household, government, and NPISH investment given the current standard VAT rate. The difference between the notional ideal revenue and the VTTL is the VAT policy gap. Consequently, the policy gap includes a broad range of exemptions, exclusions from the tax base, and preferential treatment. Many of these can be named as tax expenditures. Others are implemented for goods and services that are difficult to be taxed because, for example, the goods and services are not offered at market prices (public services), it is difficult to define the tax base (financial and insurance services), or it is too cumbersome to define the place of supply (international transport). In contrast to the VAT compliance gap when estimated following the consumption-side approach, the policy gap can be decomposed to examine the impact of different types of preferential treatment or to analyse their impact on certain parts of the tax base.

The main sources of information on the tax base used for the calculation of both the compliance and policy gap are the national accounts' supply and use tables. The data for estimating model parameters for 2021 comes from the dedicated survey for tax administrations and national statistical agencies. For other years, the primary source of information on the tax rules and the structure of the tax base were the recently discontinued Own Resource Submissions.

IV. Data availability and reliability

The major risk factor for the study and its continuation in the future is related to the availability of the data necessary to calculate the VTTL model parameters. As discussed in EC/CASE (2022), it was expected that in total less than 50 percent of the information that was gathered earlier from the Own Resource Submission (ORS) would be available for the calculation of the VTTL for 2021 in this vintage of the study. Moreover, the availability of information was expected to vary substantially across Member States. In addition to the scarcity of granular and timely information necessary to calculate model parameters, some delays and inaccuracies in national accounts data caused by the COVID-19 pandemic were expected. In addition to the inaccuracies related to availability, timeliness, and granularity of information, the accuracy of VAT compliance gap estimates could largely be affected by the content and quality of the information. However, the quality of the aggregate information used in the calculation cannot be fully controlled for.

This study supported the projection from the earlier analysis. Around 60 percent of the overall information used earlier for estimating model parameters was made available for the study team. The information needed to estimate the most important parameters was available, sufficiently granular, and up-to-date for over 80 percent of the Member States. Overall, the number of Member States for which we consider the accuracy of estimates to be low decreased (from two to one thanks to the availability of new use tables for Malta). The number of Member States assigned *moderately decreased reliability* of estimates, increased from four to nine.

This indicates that the accuracy of estimates has not decreased dramatically and that the continuation of the top-down consumption-side approach is still the only method that can be employed for all Member States. The exchanges with Member State administrations signalled that the vast majority of Member States continue to gather relevant data and that they are in a position to share it for the purposes of the *VAT Gap in the EU study*. For these Member States, the accuracy of estimates will be maintained. Yet, there are Member States that have, in this vintage of the study, not shared the information necessary for the estimations and for which this information may continue to remain unavailable. For these Member States, the accuracy of estimates will gradually drop over the years to come. For about five Member States, there are concerns that the reliability of estimates might decline over time, should the availability of data not be improved.

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