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Annual Report on Taxation 2025

Review of taxation policies in EU Member States

European Commission

Taxation and Customs Union

ANNUAL REPORT ON TAXATION

Review of taxation policies in the EU Member States

2025

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Foreword

The European Union is at a crucial juncture, striving to balance economic growth, social cohesion, and environmental transition for long-term sustainability. In a world marked by trade and geopolitical tensions—including two devastating wars in our vicinity— and concerns over growing inequality and the need to increase competitiveness, critical questions arise surrounding the role of taxation policy. Tax policy is not solely about raising revenues; it is a potent tool for shaping the economy, guiding investments, and fostering a fairer society.

This year's *Annual Report on Taxation* provides a thorough analysis of how Member States design and manage their tax systems. It highlights recent trends, reforms, and emerging challenges. One of the report's key takeaways is that, in a context of significant global economic uncertainty, designing resilient and adaptable tax systems remains key.

The report also highlights long-term structural issues, such as demographic shifts and an ageing population, that will affect both tax revenues and public spending on pensions. These changes call for thoughtful strategies to secure sustainable revenue streams without undermining competitiveness.

Currently, the EU is experiencing a decline in its tax-to-GDP ratio, particularly due to lower revenues from environmental and property taxes. Some of this decrease reflects temporary measures aimed at curbing inflation. However, the trend signals a broader need to rethink the tax mix. A more balanced and forward-looking approach could involve the greater use of underutilised sources, like environmental taxes and recurrent taxes on immovable property, to help fund essential public investment.

The European Commission has put forward ambitious political priorities, starting with the Competitiveness Compass and including the Clean Industrial Deal and the Savings and Investment Union. Tax policy must support these goals. This involves broadening tax bases and shifting some of the tax burden away from labour and towards more growth-friendly bases, while ensuring tax systems remain competitive, fair, and efficient.

Member States have been working to make their tax systems more equitable and sustainable, though the diversity of national approaches can complicate policy coordination. The report notes the important role of the Resilience and Recovery Facility, the European Semester and the Technical Support Instrument, in encouraging Member States to implement relevant tax reforms and providing help to modernise tax administrations, implement digital tools, and improve compliance risk management practices.

Despite these efforts, tax gaps and compliance challenges persist, leading to significant revenue losses due to non-compliance and international profit shifting. Addressing these gaps will require advanced analytics, further digitalisation, and stronger EU-wide cooperation on data exchange.

The report also delves into the taxation of wealth and top incomes, emphasising the importance of ensuring that high-net-worth individuals contribute their fair share. The report reviews existing tax policy features that Member States use or may use to ensure a fair contribution and which range from net wealth taxes, inheritance and gift taxes, exit taxes, to stronger measures against tax avoidance and aggressive tax planning.

In sum, the *Annual Report on Taxation 2025* underscores the central role of taxation in meeting today's economic, social, and environmental challenges. As the EU charts its future course, it is crucial to build

a tax system that is balanced, fair, and future-ready—one that fosters growth and cohesion while aligning with the European Commission's broader strategic goals.

Gerassimos Thomas
Director-General for Taxation and Customs Union

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List of abbreviations and acronyms

COUNTRY ABBREVIATIONS

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
SE	Sweden
EA	Euro Area
EU-27	European Union (27 countries as from 2020)
UK	The United Kingdom
US	The United States of America

ACRONYMS

AEOI	Automatic exchange of information
AI	Artificial intelligence
ART	Annual Report on Taxation
ATAD	Anti-Tax Avoidance Directive
ATP	Aggressive tax planning
AW	Average wage
BEFIT	Directive for Business in Europe: Framework for Income Taxation

BEPS	Base erosion and profit shifting
bn	billion
CBAM	Carbon Border Adjustment Mechanism
CESOP	Central Electronic System of Payment information
CIAT	Centre of Tax Administrations
CID	Clean Industrial Deal
CIPs	Compliance improvement plans
CIT	Corporate Income Tax
CO2	Carbon dioxide
CoR	Committee of the Regions
CRM	Compliance Risk Management
CTCP	Cooperative Tax Compliance Programmes
DAC	Directive on Administrative Cooperation
EATR	Effective average tax rate
ECA	European court of auditors
EESC	European Economic and Social Committee
EII	Energy intensive industry
EMTR	Effective marginal tax rate
ESA	European system of national and regional accounts
ESMA	European Securities and Markets Authority
ETD	Energy Tax Directive
ETR	Effective tax rate
eTRC	Electronic (digital) tax residence certificate
ETS	Emissions Trading System
EU	European Union
EUROMOD	European Union-wide tax-benefit model
FASTER	Directive on Faster and Safer Relief of Excess Withholding Taxes
FDS	Financial Directorate of the Slovak Republic
FTE	Full time equivalent
GDP	Gross domestic product
GloBE	Global Anti-Base Erosion Rules
GMT	Global minimum tax
GOS	Gross operating surplus
GVA	Gross value added
G20	Group of Twenty
HBS	Household Budget Survey
HFSS	High in fat, sugar and salt
HICP	Harmonised index of consumer prices
HNWI	High Net Worth Individuals
HOT	Directive establishing a Head Office Tax system for SMEs
IAPR	Independent Authority for Public Revenue (Greece)
ICT	Information and communication technology

IFRS	International financial accounting standards
IMF	International Monetary Fund
IOTA	Intra-European Organisation of Tax Administrations
IPP	Intellectual property protection
ISORA	International Survey on Revenue Administration
ITAS	Integrated Tax Administration System
ITR	Implicit tax rate
LTO	Large taxpayer office
MNE	Multinational enterprise
MTIC	Missing Trader Intra-Community (fraud)
MVL	Members Voluntary Liquidations
NACE	*Nomenclature statistique des Activités economiques dans la Communauté Europeenne*; French for statistical classification of economic activities in the European Community
NRA	National revenue agency (Poland)
OECD	Organisation for Economic Co-operation and Development
OSS	One-Stop Shop
PIT	Personal income tax
pp	Percentage points
PwC	PricewaterhouseCoopers
QDTT	Qualified domestic top-up tax
R&D	Research and development
RE	Redistributive effect
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plan
SMEs	Small and medium-sized enterprises
SC	Social contributions
SSB	Sugar-sweetened beverages
STR	Statutory tax rate
SVR	Single VAT Registration
TADAT	Tax Administration Diagnostic Assessment Tool
TADEAUS	Tax Administration EU Summit
TAIEX	Technical Assistance and Information Exchange
TE	Tax expenditure
TII	Top income index
TP	Transfer Pricing Directive
TSI	Technical Support Instrument
TTIR	Top Up Tax Information Return
VAT	Value added tax
ViDA	VAT in the Digital Age
VIES	VAT information exchange system
VTTL	VAT Total Tax Liability

WHT	Withholding tax

Executive Summary

The 2025 Annual Report on Taxation (ART) describes the state of play of taxation in the European Union (EU) Member States. The report starts with providing the macroeconomic outlook and the challenges posed by an ageing population. Then it assesses recent developments of the tax mix to inform the debate about a future-proof tax mix. The ART 2025 provides a detailed survey of tax revenues across the EU, by tax base and type, and describes recent tax policy initiatives at both EU and national levels. At a time when fiscal needs are high, the ART presents the approaches to measure tax gaps (i.e., the difference between potential and actual tax revenues for different tax types). The 2025 report discusses the instrumental role of tax administrations to facilitate tax compliance and ends with a detailed discussion of progressivity features of EU tax systems.

The abrupt shift in US trade policy has deteriorated the EU growth outlook, following two years of slow growth. The early 2025 announcements by the US administration have exacerbated trade tensions and global uncertainty, leading to a deterioration in the growth outlook in most of the advanced economies. The EU economy is expected to expand by 1.1% in 2025 and 1.5% in 2026. Inflation in the EU is expected to continue easing, from 2.3% in 2025 to 1.9% in 2026, thus leaving behind the sharp inflation crisis of 2022-2023. The fiscal situation of several Member States remains difficult as the EU general government deficit is anticipated to reach 3.4% of GDP in 2026 (with nine Member States projected to exceed a 3% deficit) and the public debt ratio is expected to edge up to about 84.5% of GDP in 2026, with five Member States exceeding a 100% debt ratio.

In the longer term, a growing share of tax revenues will have to be devoted to pension expenditure should the current tax burden remain constant. In some Member States the share of tax revenues (including social contributions) allocated to public pensions is due to increase by more than 10 percentage points between 2022 and 2050. This could reduce the space for spending in other items that may be critical in the coming years (e.g. defence, competitiveness, housing), hence creating difficult adjustment choices for the concerned Member States. In this regard, the report shows that the number of EU Member States that foresee distinct taxation for workers that postpone their retirement beyond the statutory age is limited.

Boosting labour supply will be critical to broaden tax bases and thus alleviate future stress on tax revenues and countries' fiscal sustainability. Population ageing is projected to reduce the working age population: by 2050, employment is expected to decline by more than 20% in five Member States and by more than 10% in five others. This can threaten the stability of tax revenues from labour bases and calls for some of the tax burden on labour taxation to be shifted towards more sustainable and growth-friendly tax bases.

In 2023, the EU's tax-to-GDP ratio fell to 39.0%, the lowest since 2011, due to reduced revenues from environmental and property taxes and high inflation driving nominal GDP growth. Despite a 4.7% rise in tax revenues to EUR 6 712 billion, the faster 6.5% growth of nominal GDP reduced the overall tax burden. France, Denmark, and Austria had the highest tax burdens (above 43% of GDP), whereas Ireland, Romania, and Malta had the lowest (below 27% of GDP). The overall EU developments hide big differences across EU Member States: large economies like France, Germany, and to some extent, Italy saw decreases, whereas nearly half of the Member States recorded increases.

The breakdown of tax revenues by economic function in the EU tend to stay rather stable, with labour taxes consistently representing more than half of total tax revenues. In 2023, EU-27 countries collected 51.2% of their tax revenue from labour taxes (including social contributions), 26.9% from consumption taxes and the remaining 21.9% from capital taxes. Over the past decade (especially from 2021 onwards), revenues from capital taxes have gained some weight in the tax mix of the EU-27, at the expense of consumption tax revenues. Nevertheless, the evolution differs across Member States. In most of the Member States where the tax-to-GDP ratio has increased since 2013, this boost has been mainly driven by relative gains in labour tax revenues, while in other countries (e.g. the Netherlands, Croatia) there has been a significant shift from labour tax revenues to capital tax revenues. The increase in capital tax revenues is mostly due to an increase in the base, and notably a steady and large increase in corporate profits, combined with better tax collection practices in some countries, rather than an increase in tax rates. By contrast, revenues from personal capital income taxation have not increased in general terms.

Tax revenues in the EU have decreased from 40.2% of GDP in 2021 to 39.0% in 2023. Lower revenues from environmental and property taxes explain 60% of this decline. Both tax types may have been particularly affected by the temporary measures adopted by national governments to curb the impact of inflation, including the reduction of tax rates for certain environmental taxes and/or by the non-update of property values in administrative databases in the mentioned context of high inflation. It is to be seen if the recent trend will be reverted in the coming years

Recent EU tax policy focuses on improving the business environment and stimulating competitiveness and economic growth. The adopted FASTER (Faster and Safer Tax Relief of Excess Withholding Taxes) Directive and ViDA (VAT in the Digital Age) Directive aim to improve/modernise tax procedures and facilitate compliance, reducing compliance costs for businesses. Key proposals on the table include the Business in Europe: Framework for Income Taxation (BEFIT), the Head Office Tax System proposal (HOT) and the Transfer Pricing Directive (TP). BEFIT aims to standardise corporate tax bases across the EU by 2028 for large businesses active across the EU. The Head Office Tax System seeks to ease tax compliance for SMEs by allowing SMEs to report to only one tax administration. The Transfer Pricing Directive, in turn, aimed to unify transfer pricing rules, to increase certainty and reduce litigation costs. While BEFIT is still under discussion, the Transfer Pricing Directive may result in a soft law approach. The Commission is also working on various tax elements in support of the Clean Industrial Deal, the Savings and Investment Union and the Start-up and Scale-up Strategies.

Member States have reported a total of 466 tax reforms in 2024. Most tax reforms were geared towards increasing competitiveness and simplifying taxation. Reforms also addressed fairness, for example by adjusting personal income tax brackets to increase household disposable income and reduce inequality. Environmental and health goals also motivated a considerable share of reforms. Many reforms aim to decrease the tax burden (47%), while others are expected to increase it (35%). Several reforms have been implemented with the **support of the Recovery and Resilience Facility.**

The Technical Support Instrument (TSI) supports EU Member States in tackling reform challenges by offering technical assistance for implementing recovery plans, EU priorities, and national reforms. Over 780 projects have been completed across all 27 Member States, covering areas like tax compliance, digital transformation, and green taxation. Key initiatives include improving revenue administration, reducing tax gaps, and simplifying processes for businesses. The TSI also

facilitates multi-country projects to foster knowledge sharing and cooperation. Such technical support has played and continues to play a crucial role in enhancing fiscal resilience, aligning with EU goals like competitiveness, sustainability, and tax fairness. Political support from Member States ensures the long-term impact of these reforms.

Considerable tax revenues may be lost each year due to insufficient compliance and fraud, at a time of high fiscal needs, but estimation and monitoring requires improvement. Tax gaps are the difference between theoretical and actual tax collections. The compliance tax gap arises from evasion and fraud but also errors in filing tax returns and bankruptcy. The policy tax gap reflects revenue foregone due to deliberate policy choices. Their analysis helps guiding policy actions to reduce them. Methods are resource intensive and complex and only a minority of Member States have a full tax gaps estimation and monitoring team and do not necessarily publish their results. Methods to estimate tax gaps can be divided into two categories. Top-down approaches use aggregate data to calculate hypothetical tax revenues that should be collected. Bottom-up approaches use micro data (e.g. tax returns, audits) which are usually available only for a segment of the tax base. The extent of non-compliance in a sample is then extrapolated to the entire population to arrive at an estimate of the overall tax gap. The policy gap is required by EU law, but EU countries use different benchmarks and time periods to estimate it, and comparisons are difficult.

In 2022, the EU-wide VAT compliance gap amounted to EUR 89 billion. The relative size of the VAT gap showed significant variations among Member States. One cause of VAT revenue loss is Missing Trader Intra-Community (MTIC) fraud, which varies widely across Member States. Implied revenue losses ranged from 0.6% to 10% of VAT revenues. Efforts to mitigate these gaps have included targeted policy instruments like electronic reporting obligations and reverse charge mechanisms, emphasizing the importance of digital infrastructure and literacy in tax administrations.

Limited information is available on compliance tax gaps for direct taxes (PIT - personal income tax and CIT - corporate income tax). A limited number of Member States estimate compliance gaps for PIT or CIT, and even fewer publish their estimates. On the PIT side, for example, some estimates suggest underreporting rates between 10% and 40% for self-employed. The European Commission is working towards an EU-wide approach for consistent CIT gap analysis. Estimates suggest significant variation between less than 3% and up to 40%. In addition, profit shifting and aggressive tax planning are estimated to result in substantial revenue losses of up to EUR 36 billion in 2022.

Policy choices are an importance source of revenues foregone, captured by the policy tax gap. Tax expenditures, related to both direct and indirect taxes, such as exemptions and credits, aim to achieve various policy goals (e.g. reduce inequality, increase investment), but can reduce government revenues (estimated at hundreds of billion euro) and complicate the tax code. Evaluating these expenditures is crucial for informed policymaking but the calculation methodology varies per country and so does the intensity to which countries assess their effectiveness.

The EU is undertaking a wide range of policy efforts to mitigate compliance tax gaps. EU coordination ensures data matching among Member States. Eurofisc combats cross-border VAT fraud, while administrative cooperation on direct taxation enhances compliance enforcement. The European Commission supports the effective cross-border recovery of unpaid taxes. FISCALIS programmes

support the implementation of EU tax policies, reducing tax gaps and promoting best practices among Member States and EEA countries.

For the first time the Annual Report on Taxation entails a full chapter that discusses characteristics of national tax administrations. Tax administrations are pivotal in ensuring the effective collection of tax revenues. Empirical evidence allows for a comparative understanding of tax administrations across the EU and might help identify relative weaknesses.

The institutional characteristics of tax administrations vary significantly across the EU. Differences can be observed in overall staffing and resourcing, but also in internal resource and staff allocation. Large countries seem to realise some economies of scale with relatively fewer FTEs compared to smaller countries. For example, the national tax administration in Spain employs 433 FTEs per million of inhabitants while Luxembourg employs 1979 FTEs per million inhabitants. The age structure of staff indicates that forward looking human resource strategies might be warranted in a few jurisdictions. Seven Member States indicated that more than 40% of staff is aged 55 and older which might lead to waves of retirement in the near future and the need for extensive hiring and training activities to assure business continuity.

A commonality observed across all tax administrations is continuous and increasing digitalisation of tax administration processes. While the progress on digitalisation differs, the uptake of innovative technologies, which can be used in the fight against tax evasion and fraud is accelerating in all cases. Pre-filled tax returns can considerably reduce compliance costs for taxpayers and become increasingly more common across Member States. Electronic filing of tax declarations reduces the administrative burden of tax administrations and is part of a simple and reliable tax system. It is by now quite common in the European Union, especially for CIT and VAT.

Audits are a key function of tax administrations to mitigate tax non-compliance. Audits can be cost-effective and have a lasting impact. A comprehensive compliance risk management strategy should guide which actions should be taken by tax administrations. A considerable share of tax administration personnel is engaged in audit procedures, albeit very large country differences in staff allocation for audits. In 2022, a total of 10.7 million audits have been conducted in EU Member states. Audits can comprise brief desk audits but also full on-site audits. Additional revenues of EUR 105 billion have been collected in 2022 with the help of audits. Audits pay for themselves through additional revenue and deterring tax evasion.

As EU tax systems strive to ensure stable and sustainable tax revenues, it is important to ensure that all taxpayers contribute their fair share. Progressivity features of tax systems are used to reduce income inequality and promote fairness, while generating revenues in the process. Still, ensuring progressivity at the top of the wealth and income distribution remains a challenge, as the nature of wealth and income may have changed in recent decades.

Most tax systems in the EU present progressivity features, primarily through progressive personal income taxation and notably labour taxation. Progressivity can be designed in several ways such as higher tax rates applied to higher income brackets. There are significant differences across Member States in this area. Likewise, for the tax wedge on labour. The increase in the tax wedge for employees earning the average wage compared to those earning 50% of the average wage is particularly pronounced in France, Belgium, and Luxembourg. Tax progressivity, together with the level

of taxation and transfers, is an important determinant of the redistributive effect of a tax-benefit system. In addition, the after-taxes income distribution would also affect wealth accumulation. While there are several ways in which tax systems can aim to tax wealth (e.g. personal capital income or property taxation), a significant share of wealth can remain untaxed or under-taxed.

The need to ensure adequate taxation of high net-worth individuals (HNWI) has gained momentum in the global tax policy debate. Wealth has increased in general terms, but it is also more concentrated. Between 1995 and 2023, the average personal wealth of the bottom 50% of the EU population increased by 76%, while that of the middle 40% increased by 98%, and that of the top 10% by 115%. Still, a substantial part of HNWI taxable income may escape the tax net, undermining the fairness of tax systems and reducing the effectiveness of progressive taxation. Strengthening international tax cooperation could help address the challenge of ensuring adequate levels of taxation for this specific group. It was estimated in the G20 context that, if individuals with more than USD 1 billion in wealth would be required to pay a minimum amount of tax annually equal to 2% of their wealth, this would generate between USD 200 and USD 250 billion annually ([1]).

It is argued that net-wealth taxes can be a tool to reduce wealth concentration. Arguments in favour of net-wealth taxes usually focus on their impact on equity, and their potential to efficiently substitute capital income taxes by promoting the use of more productive assets. In turn, the risk of capital flights and potential reduction of entrepreneurship and risk-taking have been highlighted as possible negative effects, together with high administrative and compliance costs. Net wealth taxes have been abolished by most EU Member States over the past decades, with Spain being currently the only one with a tax on net wealth. Outside the EU, Norway and Switzerland have net-wealth taxes. Exit taxation may be used as a policy response to the challenge created by taxpayers' mobility.

One possible form of taxing wealth is by taxing the capital income it generates. Personal capital income tax revenues remain limited. Most EU countries tax capital income, and in particular capital gains, at separate and lower rates than labour income. In the EU, tax revenues from capital income from households amounted to 0.9% of GDP in 2023. The way capital income is taxed varies across the EU. While some countries exempt all or most capital gains from taxation, the evidence on whether the favourable tax treatment of capital gains leads to increased economic growth is mixed.

EU Member States may employ different forms of non-recurrent wealth-related taxes. Those taxes are levied only once on specific events or transactions and include various tax instruments, such as inheritance and gift taxes, exit taxes and other non-recurrent property taxes (whose revenues amount to 0.9% of GDP), among others. Inheritance and gift taxes are currently levied in 17 Member States and were abolished in 6 Member States since 2001. The resulting revenues represent a very limited share of GDP, but inheritance and gift taxes have been shown to have a significant distributional impact and contribute to mitigate inter-generational inequality.

Ensuring fair taxation of all can underpin tax justice and may also contribute to fiscal sustainability. Despite recent progress, the challenge on combatting aggressive tax planning from individuals and notably HNWI remains. HNWI can use a set of tools, such as tax arbitrage, holding

1 Zucman, G. (2024). A blueprint for a coordinated minimum effective taxation standard for ultra-high-net-worth individuals, report commissioned by the Brazilian G20 Presidency.

companies, and similar structures to mitigate their exposure to tax. Through the Directives on Administrative Cooperation (DAC), EU countries can make use of mechanisms like the automatic exchange of information and exchange of information on request, which enable tax administrations' access to sufficient information to make informed judgements on potential tax avoidance and aggressive tax planning. Supporting effective progressive tax systems can be part of the policy mix to underpin public spending and strengthen EU public finances.

The report is structured as follows:

- **Chapter 1** sets the scene setter for the rest of the report. It presents recent macroeconomic developments and outlook and depicts structural challenges for taxation with a special focus on the implications of population ageing.
- **Chapter 2** provides top-down analysis on the structure of tax revenues at EU and country level, starting by overall revenues, followed by the breakdown by economic function, and finalising with a survey on the most important tax types (PIT, CIT and VAT).
- **Chapter 3** focuses on recent tax-related reforms, at EU and national level – also highlighting the role of the Recovery and Resilience Facility and the Tax Support Instrument.
- **Chapter 4** covers the measurement of the different tax gaps, e.g., the difference between potential and actual tax revenues for different tax types, as well as the role of tax expenditures.
- **Chapter 5** discusses the institutional characteristics of tax administrations and some aspects of compliance risk management.
- **Chapter 6** focuses on the progressivity features of EU tax systems and on the challenges to ensure a fair taxation of high net-worth individuals.

1 Scene setter: macroeconomic background and ageing challenges for taxation policy

The first chapter sets the scene of the Report by presenting the developments and challenges that are shaping taxation systems in the EU in the short to the longer term. It starts by providing an overview of the macroeconomic context and the outlook for the next two years. ([2]) The second and final section of the chapter discusses some important long-term structural challenges for taxation, with a special focus on the implications of population ageing.

1.1 Macroeconomic situation and outlook

In spite of high uncertainty about international developments, the EU economy is expected to continue to grow, albeit at a moderate pace. The EU economy ended 2024 on a stronger footing than anticipated, and the stage seemed set for a gradual acceleration in economic activity. Yet, in early 2025 the EU and global economies were hit by the most significant policy-induced trade and economic uncertainty shock in decades, leading to a significant downgrade in projected growth in the European Commission's Spring 2025 forecast (European Commission, 2025a). This follows a succession of other shocks in recent years, starting with the COVID-19 pandemic, which have prompted a series of structural changes in the economies and societies of the EU Member States. These include increased teleworking, shifts in workers' preferences regarding working hours, faster uptake of digital technologies, and severe pressure on energy-intensive industries. It has also left long-lasting marks on the public finances of some Member States. This calls for a need to strengthen national tax systems including by ensuring high tax compliance (see Chapter 4) and making the tax mix responsive to the long-term structural changes that are reshaping our societies and economies, including population ageing (see Section 1.2).

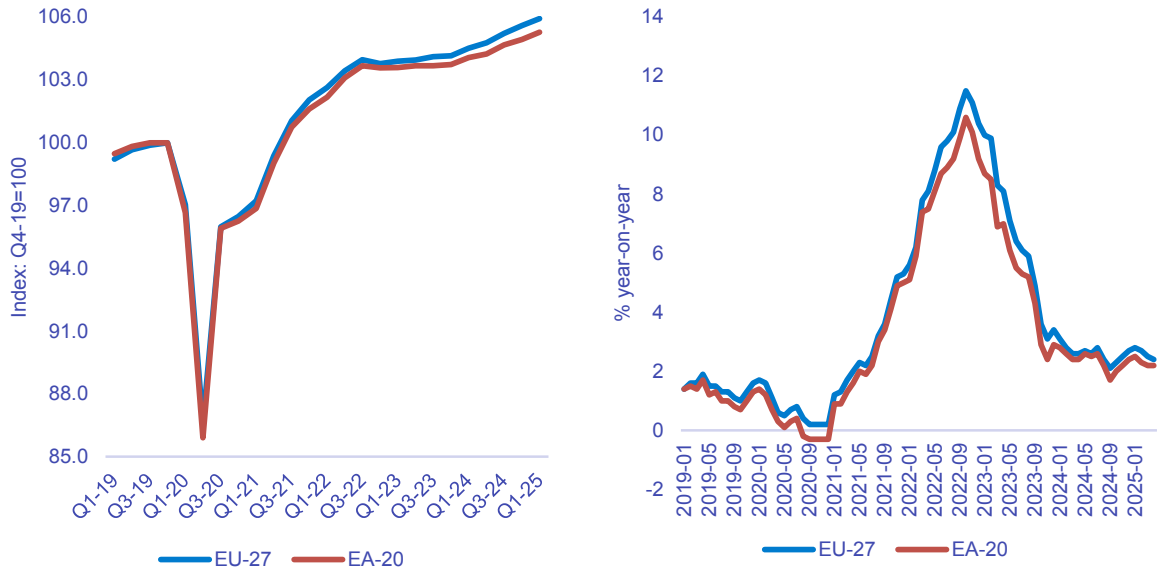
Following a prolonged and broad-based stagnation, the EU economy resumed modest growth in 2024, expanding by 1.0% in a context of lower inflation. As the left-hand side of Figure 1 shows, EU real GDP initially recovered rapidly after the COVID-19 pandemic, but growth then stalled from mid-2022 until the end of 2023. Since the start of 2024 growth has resumed across the EU as a whole, though the rate of economic expansion remained modest. This was aided by a fall in inflation to more normal levels through 2024 (see Figure 1 – right), due to several factors. First, significantly lower energy commodity prices and downward-sloping forward curves are driving consumer energy inflation into negative territory in 2025 and 2026. Second, as the trade relationship between the US and China unwinds, competitive pressures on non-energy industrial goods in the EU are intensifying, leading to a decrease in this component's inflation. Third, the appreciation of the euro and other EU currencies

2 Unless specified differently, cut-off date for macroeconomic data used in this report is 19 May 2025.

amplifies disinflationary pressures on imported commodities and goods. These forces are partially offset by higher inflation in food and services

Growth in 2024 was largely consumption-driven, despite household savings remaining high. In 2024 the volume of government consumption expanded vigorously and provided a larger-than-expected contribution to EU growth, mainly through employment growth in the government sector. Growth in private consumption also exceeded expectations towards the end of the year, driven by solid increases in disposable income as the economy added over 1.7 million jobs, and nominal wages recovered the purchasing power lost to surging inflation. Despite a minor rise in the saving rate (from a still high level), consumption expanded by 1.3%. Net exports also bolstered growth, buoyed by a robust rise in services exports. The EU's economic expansion continued in the first quarter of 2025, with real GDP growth increasing by 0.3%. However, investment fell short of expectations due to high financing costs and already high economic policy uncertainty.

Figure 1: Evolution of real GDP (left-hand) and HICP inflation (right-hand) since 2019



Source: Eurostat. Real GDP, chain linked volumes [namq_10_gdp]. HICP, year-on-year variation [PRC_HICP_MANR].

The European Commission's Spring 2025 Forecast projects real GDP growth in 2025 at 1.1% in the EU (Table 1), broadly the same rate as 2024. This represents a considerable downgrade compared to the Autumn 2024 Forecast, largely due to the impact of increased tariffs and the heightened uncertainty caused by the recent abrupt changes in US trade policy and the unpredictability of the tariffs' final configuration. Despite these challenges, EU growth is expected to rise to 1.5% in 2026, supported by continued consumption growth and a rebound of investment. Disinflation is anticipated to proceed more swiftly than expected in autumn, with new disinflationary factors from ongoing trade tensions outweighing higher food prices and stronger short-term demand pressures. After averaging 2.4% in 2024, headline inflation in the euro area is expected to meet the ECB target by mid-2025—earlier than previously anticipated—and to average 1.7% in 2026. Starting from a higher level in 2024, inflation in the EU is projected to continue easing to 1.9% in 2026.

Employment continued to rise in 2024 despite moderate economic growth, with productivity subdued until recent signs of a pick-up. The job intensity of growth has begun to decline from high levels and is expected to normalise further through 2025 and 2026. As the labour force expands more modestly, the EU unemployment rate is projected to decline to a new historic low of 5.7% in 2026.

Cross country differences remain large but are narrowing as unemployment rates are declining more in countries with high unemployment rates such as Spain or Greece. Tight labour markets and improving productivity are set to drive further wage growth. After increasing by 5.3% in 2024, growth in nominal compensation per employee is expected to slow to 3.9% in 2025 and 3.0% in 2026. On aggregate in the EU, in 2025 real wages should fully recover the purchasing power losses accrued since mid-2021 when a surge in inflation led to significant losses in households' purchasing power, though in a few Member States the recovery in real wages is still lagging. Productivity, measured by real GDP per employed person, posted annual declines each quarter from 2023-Q1 to 2024-Q1. After stagnating in 2024-Q2, productivity grew in the last two quarters of last year, by 0.3% in 2024-Q3 and by 0.8% in 2024-Q4. While remaining below pre-crisis levels, hours worked per worker have started to increase.

Table 1: European Economic Forecast Spring 2025 – Overview

	Real GDP			HICP inflation			Unemployment rate			Current account balance			Budget balance		
Country	2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026
BE	1.0	0.8	0.9	4.3	2.8	1.8	5.7	6.1	5.8	-0.2	-0.7	-1.0	-4.5	-5.4	-5.5
DE	-0.2	0.0	1.1	2.5	2.4	1.9	3.4	3.6	3.3	6.1	5.3	5.3	-2.8	-2.7	-2.9
EE	-0.3	1.1	2.3	3.7	3.8	2.3	7.6	7.6	7.3	-2.0	-2.1	-2.0	-1.5	-1.4	-2.4
IE	1.2	3.4	2.5	1.3	1.6	1.4	4.3	4.3	4.4	17.0	12.6	11.6	4.3	0.7	0.1
EL	2.3	2.3	2.2	3.0	2.8	2.3	10.1	9.3	8.7	-8.3	-8.2	-7.9	1.3	0.7	1.4
ES	3.2	2.6	2.0	2.9	2.3	1.9	11.4	10.4	9.9	3.1	2.7	2.8	-3.2	-2.8	-2.5
FR	1.2	0.6	1.3	2.3	0.9	1.2	7.4	7.9	7.8	-0.9	-0.6	-0.6	-5.8	-5.6	-5.7
HR	3.9	3.2	2.9	4.0	3.4	2.0	5.0	4.6	4.5	-0.7	-1.1	-1.1	-2.4	-2.7	-2.6
IT	0.7	0.7	0.9	1.1	1.8	1.5	6.5	5.9	5.9	0.9	1.3	1.6	-3.4	-3.3	-2.9
CY	3.4	3.0	2.5	2.3	2.0	2.0	4.9	4.7	4.6	-7.0	-6.5	-5.9	4.3	3.5	3.4
LV	-0.4	0.5	2.0	1.3	3.0	1.7	6.9	6.8	6.6	-3.3	-3.9	-3.5	-1.8	-3.1	-3.1
LT	2.8	2.8	3.1	0.9	2.6	1.2	7.1	6.8	6.6	2.6	2.0	1.9	-1.3	-2.3	-2.3
LU	1.0	1.7	2.0	2.3	2.1	1.8	6.4	6.6	6.4	2.3	0.8	0.3	1.0	-0.4	-0.5
MT	6.0	4.1	4.0	2.4	2.2	2.1	3.1	3.1	3.1	3.6	3.7	3.4	-3.7	-3.2	-2.8
NL	1.0	1.3	1.2	3.2	3.0	2.0	3.7	3.9	4.0	10.0	10.2	10.6	-0.9	-2.1	-2.7
AT	-1.2	-0.3	1.0	2.9	2.9	2.1	5.2	5.3	5.2	2.0	2.4	2.3	-4.7	-4.4	-4.2
PT	1.9	1.8	2.2	2.7	2.1	2.0	6.5	6.4	6.3	1.7	1.2	0.9	0.7	0.1	-0.6
SI	2.1	1.5	1.4	3.2	4.0	2.9	5.3	5.3	5.3	-1.6	-2.3	-2.5	-5.3	-4.9	-5.1
SK	1.6	2.0	2.4	2.0	2.1	1.9	3.7	3.7	3.8	4.6	4.7	4.8	-0.9	-1.3	-1.5
FI	-0.1	1.0	1.3	1.0	1.7	1.5	8.4	8.6	8.3	-0.8	-0.7	-0.7	-4.4	-3.7	-3.4
EA-20	0.9	0.9	1.4	2.4	2.1	1.7	6.4	6.3	6.1	2.8	2.5	2.6	-3.1	-3.2	-3.3
BG	2.8	2.0	2.1	2.6	3.6	1.8	4.2	4.0	3.8	-0.8	-1.1	-1.0	-3.0	-2.8	-2.8
CZ	1.1	1.9	2.1	2.7	2.2	2.0	2.6	2.6	2.6	1.2	0.8	0.5	-2.2	-2.3	-2.2
DK	3.7	3.6	2.0	1.3	1.6	1.5	6.2	6.2	6.3	13.0	13.7	13.5	4.5	1.5	0.6
HU	0.5	0.8	2.5	3.7	4.1	3.3	4.5	4.4	4.3	2.4	2.0	1.5	-4.9	-4.6	-4.7
PL	2.9	3.3	3.0	3.7	3.6	2.8	2.9	2.8	2.8	0.2	1.0	0.7	-6.6	-6.4	-6.1
RO	0.8	1.4	2.2	5.8	5.1	3.9	5.4	5.3	5.2	-8.5	-7.9	-7.0	-9.3	-8.6	-8.4
SE	1.0	1.1	1.9	2.0	2.2	1.6	8.4	8.7	8.4	7.0	6.8	7.0	-1.5	-1.5	-0.8
EU-27	1.0	1.1	1.5	2.6	2.3	1.9	5.9	5.9	5.7	2.7	2.6	2.6	-3.2	-3.3	-3.4

Source: European Commission – DG Economic and Financial Affairs, Spring 2025 Forecast.

The EU's current account surplus is forecast to remain relatively stable despite trade tensions, though this is subject to high uncertainty. Since its inception, the US administration has announced a series of tariffs. Given the high uncertainty on how the tariffs will eventually be implemented—i.e.

affecting which countries or products, their duration, possible exemptions, and retaliatory actions—the Commission's Spring 2025 forecasts had to rely on working assumptions. This forecast assumes that the high tariffs announced on 2 April will not be reinstated and that US tariffs on imports from the EU and nearly all other countries will stay at 10% (the level generally applied on 9 April), except for higher tariffs on steel, aluminium, and cars (25%), and exemptions on some products like pharmaceuticals and microprocessors. Under that assumption, EU exports are expected to grow by a modest 0.7% this year and 2.1% in 2026, in line with the lower global demand for goods. Weakness in exports is amplified by competitiveness losses, as well as heightened trade uncertainty. Although EU firms are adapting their trade strategies in response to geopolitical tensions and trade fragmentation, many might hesitate to bear the high fixed costs associated with e.g. product adaptation, regulatory compliance, and finding new distribution networks, necessary to enter new export markets. Growth in imports was also revised down, in line with lower export growth and weaker domestic demand, although the re-routing of some Chinese exports and the euro's appreciation lend some support to import growth. Consequently, in 2025, net external demand is set to subtract nearly 0.5% from growth, but this drag is expected to fade in 2026. Despite adverse trade volume developments, the sharp drop in energy commodity prices, cheaper industrial goods imports, and a stronger currency will enhance the EU's terms of trade further. These movements in terms of trade help maintain a largely unchanged inflow of income from the rest of the world. As a result, the current account surplus is expected to fall only slightly from 4.4% of GDP in 2024 to 4.2% in both succeeding years.

The average debt-to-GDP ratio was stable in 2024, while the average general government deficit declined slightly to just above 3% of GDP. After hitting a historically high level of over 90% at the end of 2020, the EU aggregate gross debt-to-GDP ratio ([3]) fell significantly until 2023, before stabilising at around 82% in 2024. The decline was driven by the post-pandemic economic recovery (real GDP effect) and high inflation (GDP deflator effect). The debt ratio is expected to edge up to about 84.5% of GDP in 2026 (91% in the euro area), with five Member States exceeding a 100% debt ratio. This modest increase is attributed to a less favourable interest-growth-rate differential, alongside significant stock-flow adjustments. The impact of activating the National Escape Clause of the Stability and Growth Pact, providing flexibility for higher defence expenditure over 2025-2028, is not yet fully visible in these forecasts. Following a slightly contractionary fiscal stance in 2024, the forecast suggests that the average EU fiscal stance will turn broadly neutral in 2025. For 2026, the no-policy-change forecast continues to indicate a neutral fiscal stance. After falling to 3.2% of GDP in 2024, the EU general government deficit is anticipated to rise by more than 0.1 percentage points in 2025 and only marginally in 2026, reaching 3.4% of GDP in 2026. Eleven Member States reported a deficit exceeding 3% of GDP in 2024, and this figure is projected to decrease to nine by 2026. In this context, tax policy instruments can play a relevant role to address excessive deficits.

The tax revenue-to-GDP ratio is expected to increase slightly in 2025 and then stabilise in 2026. The estimated 0.6 pp increase of the revenue ratio in 2024 (see Table 2) was driven by significant revenue windfalls, which offset large shortfalls recorded in 2023. This mainly reflects the lagged impact of high inflation on certain tax bases, notably wages. In 2025, despite some shortfalls, the tax revenue-to-GDP ratio is forecast to increase by a further 0.2 pp to 39.8% of GDP, mainly supported by discretionary measures to sustain social contributions and indirect taxes, as well as by higher transfers from the EU budget. The expenditure-to-GDP ratio also rose in 2024, by 0.2 pp, driven by higher interest expenditure. It is set to rise by a further 0.4 pp in 2025, due to further increases in interest

3 Measured through AMECO, [UDGG] series. The gross debt for the EU-27 aggregate is measured as non-consolidated for intergovernmental loans.

expenditure and higher investment financed by both national and EU budgets. Both the revenue and expenditure ratios are projected to be broadly stable in 2026, based on an assumption of unchanged policies.

Table 2: Tax revenue-to-GDP ratio in the EU countries, 2021-2026

Country	2021	2022	2023	2024	2025	2026	Diff 23-26	
Belgium	43.2	42.4	42.5	42.9	42.9	43.0	⇔	0.5
Germany	40.7	40.3	39.0	39.9	40.6	40.6	↑	1.6
Estonia*	33.8	32.8	33.7	35.5	36.5	36.0	↑	2.3
Ireland	20.1	20.3	21.9	22.9	22.1	21.8	⇔	-0.1
Greece	39.4	41.0	38.9	40.0	38.9	39.2	⇔	0.3
Spain	37.5	36.9	36.5	36.9	37.1	37.3	↗	0.8
France	45.1	45.8	43.8	43.4	44.0	44.0	⇔	0.2
Croatia	36.7	37.2	37.2	38.3	38.7	38.8	↑	1.6
Italy	42.2	41.7	41.4	42.5	42.7	42.6	↑	1.2
Cyprus	34.0	34.5	37.4	37.6	37.7	37.9	↗	0.5
Latvia	32.0	32.8	32.7	35.0	34.6	34.8	↑	2.1
Lithuania	32.0	31.7	32.1	33.1	33.7	34.3	↑	2.2
Luxembourg*	38.4	39.3	40.5	41.6	41.1	41.3	↗	0.8
Malta	27.5	27.7	26.6	29.5	27.6	28.0	↑	1.4
Netherlands	39.2	38.1	38.6	38.5	37.8	38.2	↘	-0.4
Austria	43.6	43.1	43.1	44.5	45.1	45.2	↑	2.1
Portugal	35.1	35.9	35.7	35.7	35.5	35.5	⇔	-0.2
Slovenia	38.7	37.8	36.6	38.7	39.4	39.8	↑	3.2
Slovakia*	34.7	35.0	34.9	35.3	36.3	36.3	↑	1.4
Finland	43.5	43.4	42.6	42.3	42.8	42.9	⇔	0.3
EA-20	40.6	40.3	39.5	40.0	40.3	40.3	↗	0.8
Bulgaria	30.7	31.1	29.9	30.9	32.2	31.8	↑	1.9
Czechia	34.8	34.0	34.0	35.0	35.0	34.8	↗	0.8
Denmark*	47.4	42.0	43.4	44.6	43.2	42.9	↘	-0.5
Hungary	33.6	35.0	35.1	35.2	35.5	34.7	↘	-0.4
Poland	36.3	34.1	35.1	36.5	36.5	36.9	↑	1.8
Romania	26.3	27.3	26.5	27.7	28.1	28.2	↑	1.7
Sweden*	42.8	42.5	41.3	41.0	41.5	41.6	⇔	0.3
EU-27	40.2	39.7	39.0	39.6	39.8	39.8	↗	0.8

Source: European Commission – DG Taxation and Customs Union based on Eurostat and AMECO database.

(1) Eurostat data extracted on 20 May 2025, online data code [gov_10a_taxag], Indicator 2 of Eurostat National Accounts Working Group: Total receipts from taxes and compulsory social contributions after deduction of amounts assessed but unlikely to be collected [D2_D5_D91_D61_M_D611V_D612_M_M_D613V_D614_M_D995]. For years 2021-2023.

(2) AMECO data extracted on 20 May 2025, based on DG Economic and Financial Affairs, Spring 2025 Forecast: Total tax burden excluding imputed social security contributions [UTAT] minus Capital transfers from general government to relevant sectors representing taxes and social contributions assessed but unlikely to be collected [UKTG995]. For year 2024-2026.

(*) Data for 2024 are actual values available on Eurostat [gov_10a_taxag]

1.2 Structural challenges for taxation with a focus on population ageing

EU countries are set to confront significant expenditure needs that threaten to put their fiscal systems under strain. Past editions of the Annual Report on Taxation have explained the fiscal challenges posed by medium to long-term structural changes (the so-called "megatrends"), including population ageing, climate change, or digitalisation and artificial intelligence. These ongoing trends have important effects at political, societal, and economic levels, and are expected to prompt important increases in public spending. Ageing population is already increasing pension liabilities and healthcare and long-term care costs, and it is expected to raise spending in flanking policies to counteract the shrinking of the labour force (e.g., active labour market policies and lifelong learning). Climate change have mobilised major investments ([4]) in decarbonisation, renewable energy projects, infrastructure upgrades, and sustainable technology innovations that are expected to remain critical in the next decades. The digital transition ([5]) further heightens the need for investment in skills and in cybersecurity and broad-based digital infrastructure to maintain competitive economies, while the development of generative artificial intelligence ([6]) requires large public support to create scale economies. On top of these long-term structural challenges, EU governments are due to find budgetary resources in the short-term to overall support competitiveness policies ([7]) and strategic autonomy, including in the areas of defence and security ([8]) directly concerned by mounting geopolitical tensions.

Amid so diverse and urgent challenges, this year's report zooms in on those related to population ageing. Although all megatrends and challenges listed above are relevant, the *Annual Report on Taxation 2025* presents a thematic focus on demographic changes with the aim to exploit the updated projections of the *2024 Ageing Report* (European Commission 2024a). In particular, the *Annual Report on Taxation 2025* discusses the potential impact of population ageing on national tax systems and discusses the shrinking space for spending in non-ageing related items under the existing tax and fiscal framework. As all long-term projections, those of the *2024 Ageing Report* are subject to a great level of uncertainty, which means that small variations in the underlying assumption may lead to very different results. In this regard, a recent paper (Romp et al., 2025) computes the changes in economic growth in individual EU countries needed for government debt-to-GDP ratios to stay on their baseline trajectories under low-fertility, high-fertility, low-migration and high-migration scenarios

4 The European Union has committed substantial financial resources to its green transition initiatives through various channels. The 2019 Communication "The European Green Deal" (European Commission, 2019a) estimated that achieving the current 2030 climate and energy targets would require EUR 260 billion of additional annual investment. To support it, the Recovery and Resilience Facility (RRF) stipulated that at least 37% of each national recovery and resilience plan (RRP) must support green transition goals, for a total envelope of EUR 312.5 billion in grants and EUR 360 billion in loans. In the broader Multiannual Financial Framework 2021-2027, at least 30% of the EUR 1 074 billion budget should be allocated to climate objectives. Among other particular instruments, the recently created Social Climate Fund envisages to mobilise at least EUR 86.7 billion of public funding (including a mandatory 25% contribution from the Member States). This fund will support a fair transition towards climate neutrality, helping alleviate the social and economic impacts of the new emissions trading system ETS2.

5 The European Union has also committed important financial resources in support to the digital transition, including the requirement of allocating at least 20% of each national RRP to digital transition initiatives.

6 For a discussion on how fiscal policies can be employed to steer generative AI and its deployment in ways that serve humanity best while cushioning the negative labour market and distributional effects to broaden the gains, see Brollo, F. et al. (2024).

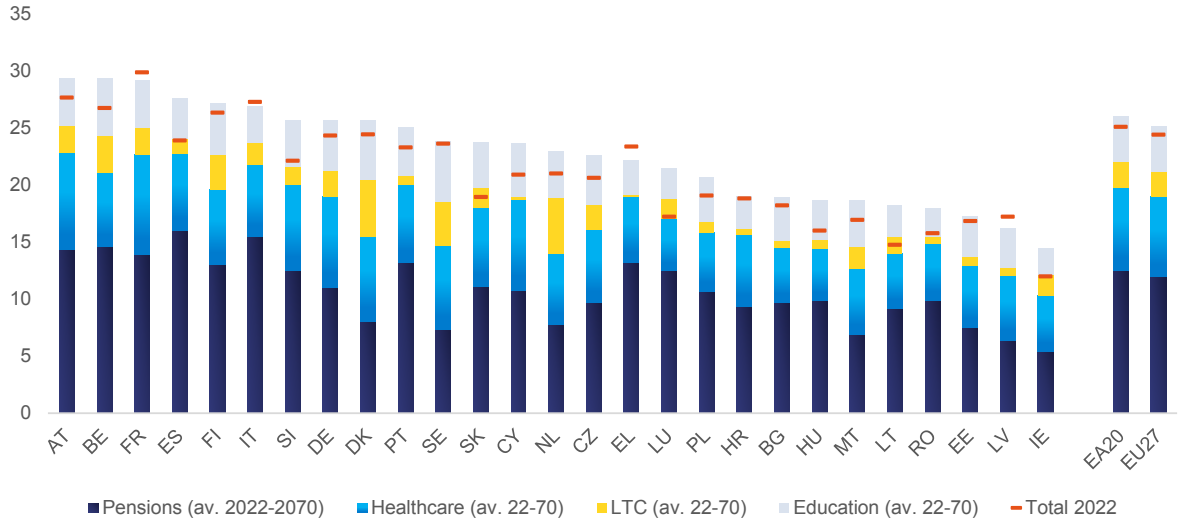
7 Draghi (2024) estimates that to meet the competitiveness objectives laid out in the report, the EU needs a minimum annual additional investment of EUR 750 to 800 billion, equivalent to 4.4 to 4.7% of EU GDP in 2023. This estimate corresponds to both public and private investment.

8 First estimates from Burilkov, A., et al. (2025) point at an annual defence spending hike of at least EUR 250 billion in the short term to deter Russian aggression. The *ReArm Europe Plan / Readiness 2030* (European Commission, 2025b), presented on 19 March 2025, envisages unlocking up to EUR 800 billion for a public expenditure surge on European defence.

(all of them as provided by the *2024 Ageing Report*). It estimates, for instance, that if migration dropped by one third below the central scenario, economies of countries such as Spain or Germany would need to grow on average around 1 percentage point higher every year between mid-2030's and 2070 to stabilise the public debt ratio at the current baseline. ([9]) Another recent paper (Biagi et al., 2025) shows that investing in skills can mitigate the projected decline in the labour force and thus raise GDP.

We focus, in particular, on the interlinkages between national tax systems and pension expenditure. The *Ageing Report* provides long-term projections for public expenditure in four categories of ageing-related expenditure: pensions, healthcare, long-term care and education. Figure 2 illustrates the projected public expenditure by category and EU country in the 2022-2070 period, compared to 2022. Among them, this section is focused on pension expenditure for a number of reasons. First, the interlinkages between pension expenditure and the tax system are much more obvious than for the other areas of ageing cost, as most of EU Member States have pension systems based on the contributory principle and levy income taxes on pension revenues. Second, pension expenditure represents at EU aggregate half of total ageing costs during the projection period, and for some countries even more than 2/3. Third, projections in the areas of long-term care, education and healthcare are sensitive to potential changes in relative prices in the provisions of those specific public services that are not captured in the model, while pension projections are modelled taking into account the forward-looking adjustment rules currently in force.

Figure 2: Ageing-related expenditure, average 2022-2070 vs 2022, by categories (% GDP)



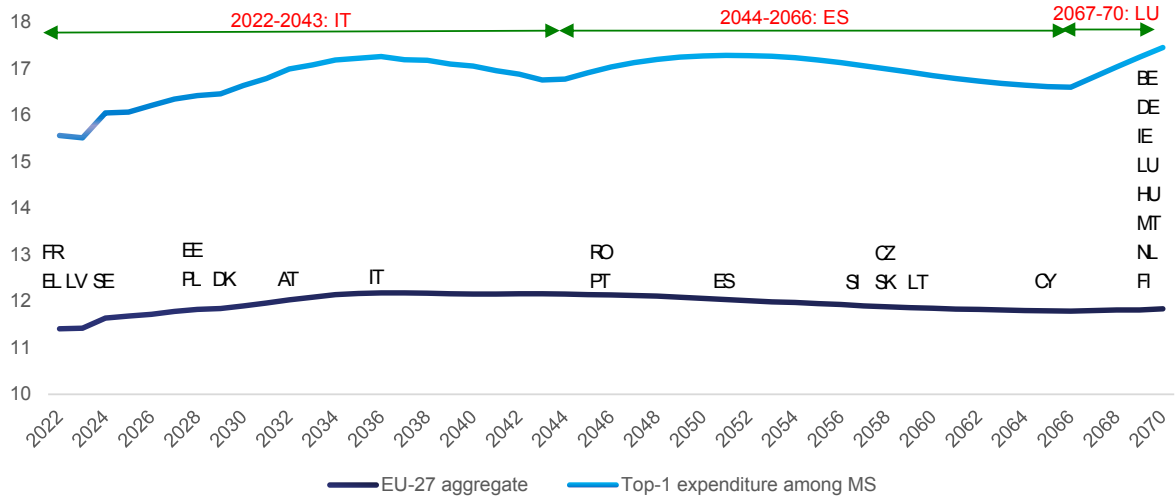
Source: European Commission, DG Taxation and Customs Union, based on *2024 Ageing Report*. Countries ranked by average ageing-related expenditure 2022-2070.

Expenditure in public pensions will stress the public finances of some Member States. The *2024 Ageing Report* projects the expenditure in public pensions for all Member States from 2022 to 2070. The aggregate expenditure in the EU-27 is expected to experience moderate variations throughout the period, increasing from 11.4% of GDP in 2022 to 12.2% in 2036 (peak year of the projection period) and then stabilising around 12% (resulting in 11.9% on average in 2022-2070) (Figure 3). Conversely, expenditure in individual Member States is expected to experience much stronger variations, with peaks at different moments of the projection horizon. 10 Member States will reach its peak between

9 All references to the *2024 Ageing Report* in this section stick to its central scenario projections.

2022 and 2036, while three others (Portugal, Romania and Spain) will do so between 2046 and 2051 due to a later retirement of their baby-boom generations. Finally, expenditure in public pension will reach its peak in the remaining 14 Member States after 2058. Italy will be the EU country with the highest expenditure every year between 2022 and 2043 (peak of 17.3% of GDP in 2036), Spain between 2044 and 2066 (peak of 17.3% of GDP in 2051), and Luxembourg from 2067 to the end of the projection horizon (peak of 17.5% of GDP in 2070). Over the entire projection period 2022-2070, Spain (16.0% of GDP), Italy (15.5%) and Belgium (14.6%) will have the largest average pension expenditure among Member States.

Figure 3: Public pension expenditure 2022-2070 (% GDP) and peak year per Member State



Source: European Commission, DG Taxation and Customs Union, based on *2024 Ageing Report*. Country acronyms are placed according to the peak year of pension expenditure within the projection horizon 2022-2070.

A growing share of tax revenues will have to be devoted to pension expenditure should the current tax burden remain constant. The comparison of the evolution of expenditure in public pensions with the 2022 tax revenues ([10]) suggests that some Member States could have to significantly increase their tax revenues and/or redefine their spending priorities in the coming years. Keeping constant the 2022 tax revenues ([11]), Spain will have to devote an average of 41.0% of its tax revenues to pay public pensions in the period 2022-2050 ([12]), followed by Portugal (39.1%), Italy (38.8%) and Romania (38.3%) (Figure 4). Among these countries, Spain, Portugal and Romania are the very same three countries that are projected to reach their peak of pension expenditure around 2050, which might be an incentive to frontload tax reforms that improve the sustainability of their public finances in

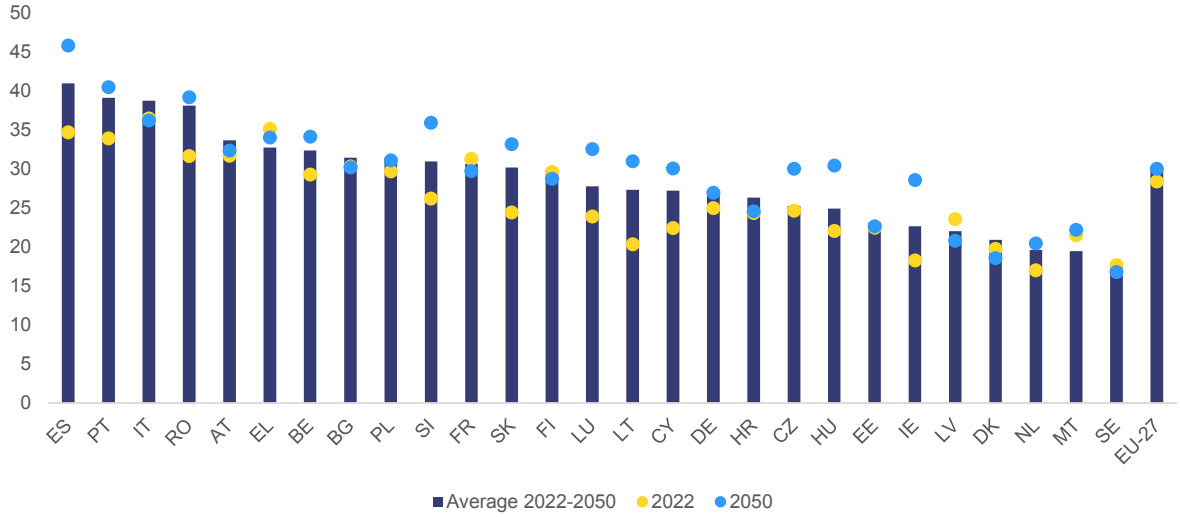
10 For this section, tax data in 2022 are based on the 2024 vintage of *Data on Taxation Trends*, to be consistent with the data vintages (notably, as regards GDP) used for the *Ageing Report 2024*. The choice of 2022 as reference year has also been done for consistency with the *Ageing Report 2024*, to match with its first year of projections. Interestingly, comparing the expenditure projections with tax revenues in a different year or period (e.g., with the 2014-2019 pre-COVID expansionary cycle) would not lead to very different results. The EU-27 tax burden in the 2014-2019 period was 0.3 pp of GDP lower than in 2022. Even if larger disparities can be found at country level, the overall situation of most of the countries would not change dramatically if the 2014-2019 period is used as reference. In fact, using this reference period would amplify the challenges for countries under pressure like Spain (as tax revenues in 2022 were 3.6 pp of GDP higher than in 2014-2019), and would minimise those for countries that appear to be in a more comfortable situation, such as Denmark (tax revenues in 2022 were 4.4 pp of GDP lower than in 2014-2019) and Ireland (-2.8 pp).

11 To obtain these ratios, the projected pension expenditure (% GDP) is divided by the 2022 tax burden (% GDP).

12 Instead of 2070 (last year of projections in the *Ageing Report 2024*), the analysis is limited to the period 2022-2050 in the remaining of the section to better focus on medium-term results and limit uncertainty.

a long-term perspective. ([13]) In relative terms, the largest increases in pension expenditure as percentage of tax revenues by 2050 are expected to take place in Spain (11.1 pp), Lithuania (10.7 pp) and Ireland (10.3 pp).

Figure 4: Public pension expenditure 2022-2050 (as % of 2022 tax revenues)



Source: European Commission, DG Taxation and Customs Union, based on *2024 Ageing Report* and *Data on Taxation Trends 2024*. Countries ranked by average public pension expenditure 2022-2050.

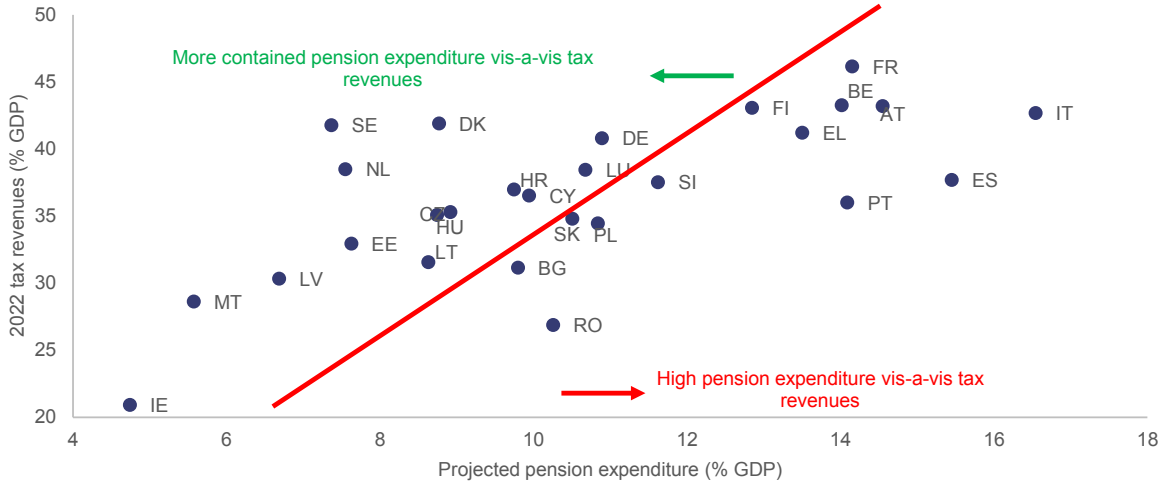
Large increases in pension expenditure sustained for a long time may create difficult adjustment choices for the concerned Member States. Figure 5 shows together 2022 tax revenues (as % of GDP) and projected pension expenditure (as % of GDP). Countries to the right of the red line are in principle in a more difficult situation, as their projected pension expenditure is relatively high in terms of their current tax revenues ([14]). Among those countries, some with a higher pension expenditure (e.g., Spain, Portugal) have a tax burden persistently below the EU average (both at least since 1995). Conversely, other countries (e.g., Belgium, Italy) may have a limited leeway to increase further their tax burden without hurting their competitiveness. Future increases in pension expenditure will reduce the space for spending in other ageing (healthcare, long-term care and education) and non-ageing related areas (such as R&D, defence or housing), other things being equal. ([15])

13 In this regard, the 2024 Council Recommendation on the economic, social, employment, structural and budgetary policies of Spain recommends that Spain take action in 2024 and 2025 to *Ensure fiscal sustainability including by: (i) reviewing and simplifying the tax system to support economic growth and employment, cohesion and the green transition (…).* In the same vein, Romania's Recovery and Resilience Plan envisages a comprehensive review of the tax framework to improve competitiveness, while supporting fiscal sustainability and environmental goals (Reform 4 of Component 12, due by 31 March 2025). Finally, Portugal's Recovery and Resilience Plan envisages a simplification of the tax framework by reducing the number of tax benefits, curtailing their associated tax expenditures, and strengthening the cost-efficiency of those tax benefits that remain (C17-r40, due by 31 March 2026).

14 This binary analysis is in no case conclusive, as other indicators such as the extent and the speed of the hike in pension expenditure, the stability of tax resources or the overall situation of public finances need to be considered.

15 Interestingly, when we look into the countries to the left of the red line we find that some in a more comfortable situation (e.g. Estonia, Latvia, Lithuania, Croatia and Malta) were among the Member States with the highest at-risk-of-poverty rate of elderly people in 2023 (see Eurostat: Survey on Income and Living Conditions SILC). This reveals the kind of challenges that lie ahead.

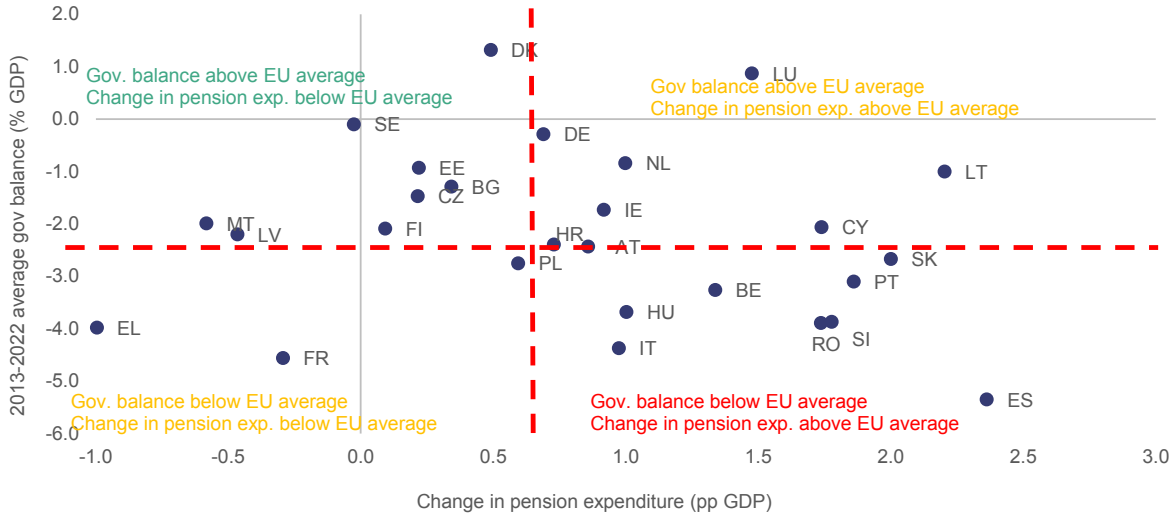
Figure 5: 2022 tax revenues vs 2022-2050 average pension expenditure (% GDP)



Source: European Commission, DG Taxation and Customs Union, based on *2024 Ageing Report* and *Data on Taxation Trends 2024*.

The situation may become particularly risky for countries more prone to run high government deficits. Figure 6 below shows that some of the countries that are projected to increase the most their pension expenditure in the coming decades tend to struggle to keep their public finances in balance (expressed by the average government balance in 2013-2022). Some countries with a tax burden below the EU average such as Spain, Romania, Portugal and Slovenia are included in the low-right quadrant of Figure 6, pointing at additional difficulties that growing pension expenditure can pose for their public finances. Likewise, certain countries with a comparatively high tax burden (e.g. Belgium, Italy) also tend to run high government deficits and are due to significantly increase their pension expenditure by 2050, despite having a limited leeway to increase further their tax burden.

Figure 6: Average government balance (2013-2022, % GDP) vs change in pension expenditure (average 2022-2050 vs 2022, percentage points of GDP)

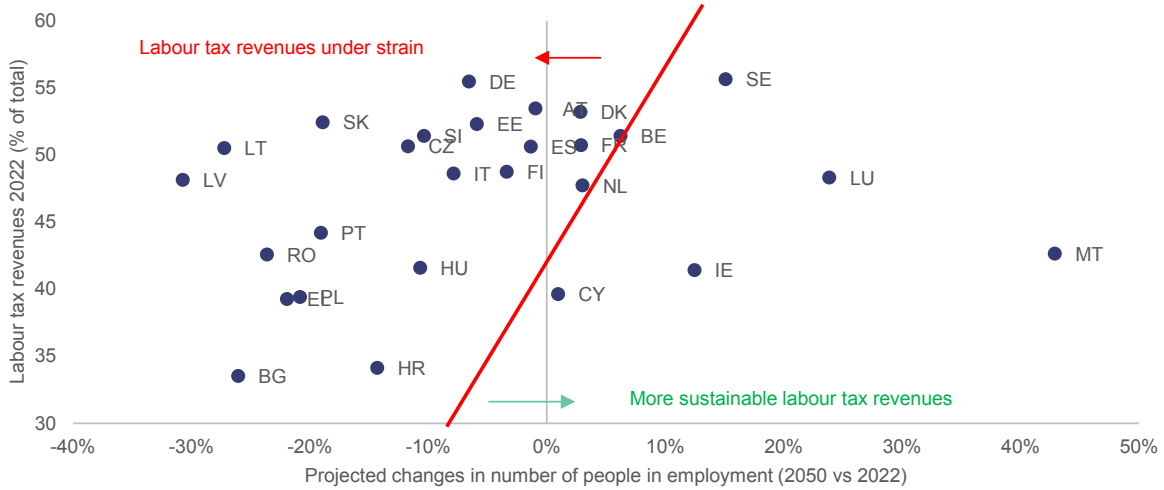


Source: European Commission, DG Taxation and Customs Union, based on *Ageing Report 2024* and Eurostat.

The fall in employment triggered by an ageing population risks the stability of tax revenues from labour bases in many Member States. The *2024 Ageing Report* is built on certain demographic

and macroeconomic assumptions ([16]), which determine projected changes in the size and age profile of the population. Particularly relevant for pension and tax systems is the evolution of employment. From 2022 to 2050, employment is expected to fall the most in Latvia (-31%), Lithuania (-27%), Bulgaria (-26%), Romania (-24%) and Poland (-21%). Employment will shrink between 10% and 20% in five other Member States (Portugal, Slovakia, Czechia, Hungary and Slovenia). The potential –in several cases, dramatic– decline in employment is particularly relevant when considering that EU countries obtain roughly a half of their tax revenues from labour bases. As shown in Figure 7, in 2022 labour taxes (including social contributions) represented more than 50% of total tax revenues for 12 Member States, some of them (Lithuania, Slovakia, Czechia and Slovenia) being among those with strongest employment reductions in the near future. Shifting some of the tax burden from labour taxation towards more sustainable and growth-friendly tax bases could help mitigate the impact of declining employment on tax systems but would implicitly involve to partly subsidise public pension schemes through general tax revenue, as most EU Member States organise their pensions systems under "pay-as-you-go" programmes where retirees are paid from contributions made by today's workers.

Figure 7: Labour taxes in 2022 (% of total tax revenues) and projected changes in employment (2050 vs 2022)



Source: European Commission, DG Taxation and Customs Union, based on *Ageing Report 2024* and *Data on Taxation Trends 2024*.

Boosting labour supply will therefore be critical to alleviate future stress on tax revenues and countries' fiscal sustainability. As seen in Section 1.1, European labour markets are tight, with employment at record levels and the unemployment rate at historic low. Labour shortages are severe for certain professions and are slowing down key investments in strategic sectors, including green, digital, housing and security. In that context, national governments are encountering difficulties to boost labour supply, with measures that include the following: increasing labour market participation of women; keeping older workers in employment for longer; attracting workers from abroad; retaining young workers; activating underrepresented groups; supporting re-skilling and up-skilling of workers;

16 The total fertility rate in the EU is projected to slightly rise from 1.50 live births per woman in 2022 to 1.58 by 2050, staying below the natural replacement rate of 2.10 in all countries. Average life expectancy at birth is expected to increase from 78.4 in 2022 to 83.3 in 2050 for men and from 84.0 in 2022 to 88.0 in 2050 for women, with a continued convergence between sexes. Net migration is projected to be positive in nearly all countries, at an annual average of 0.3% of the EU population in 2022-2050. See European Commission (2023a) for details.

improving working conditions in certain sectors ([17]); and adjusting labour taxation to eliminate disincentives to labour market participation, notably of second and low earners (with a large share being women). ([18]) Boosting labour supply has therefore become critical to support economic growth and ensure the sustainability of public finances in the EU, where most of the Member States have a strong reliance on labour taxes and spend a high share of state budget in pensions. In such context, policymakers also have tools to act on the actual retirement age and incentivise deferred retirement, including tax incentives to encourage the postponement of labour market exit of older workers.

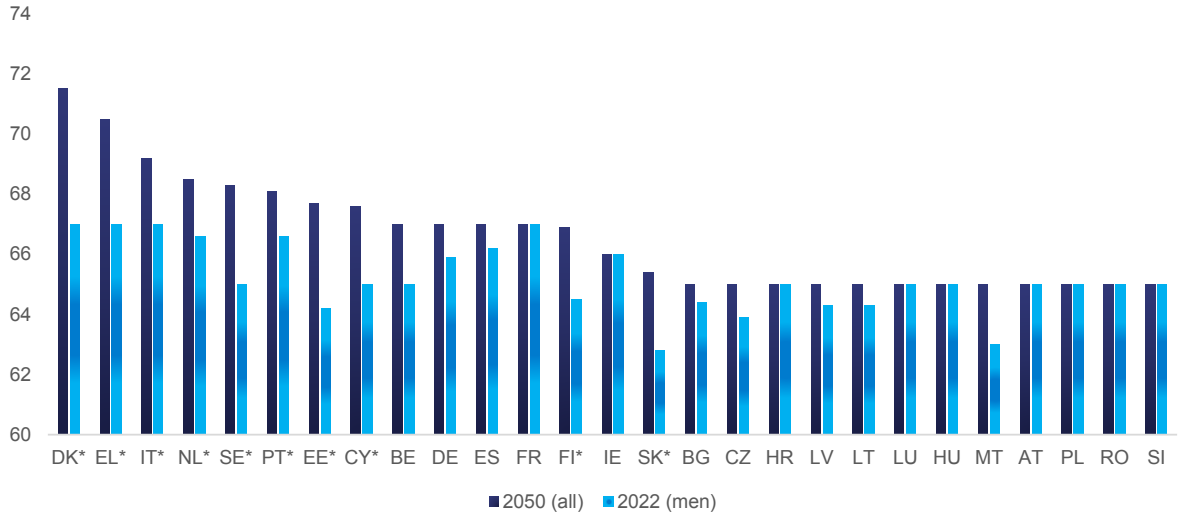
Member States follow different approaches regarding retirement ages and incentives to extend work careers. As shown in Figure 8, current and projected statutory age retirement vary largely across the EU. Countries that have legislated to link the statutory retirement age to the evolution of life expectancy lead the ranking. Denmark, the Netherlands, Sweden and Estonia, which were depicted among the countries with a more favourable position in Figure 4, are also among the countries where legal retirement ages are linked to gains in life expectancy. According to the *Ageing Report 2024*, the average statutory retirement age for men (women) is set to rise from around 65 (64.5) years today to around 67 years in 2070. To ensure that rising statutory retirement ages translate into higher effective retirement ages, governments can extend career requirements, raise early retirement ages, facilitate options to combine pension with work, or increase the use of penalties/bonuses (including changes in accrual rates) that alter the amount of the old-age benefit of those retiring early/late. ([19]) Tax incentives can also be an effective tool to defer retirement, but their use is limited across Member States.

17 For a sectoral mapping of working conditions in the EU, see European Commission (2023b).

18 See some examples on relevant tax initiatives at country level in Section 3.2. For a general discussion on the tax wedge, see Section 6.1.

19 For a wide array of policy options to increase effective retirement ages see, for instance, European Commission (2025c), European Commission (2024a), Eurofound (2024) and European Commission (2021). According to the Communication accompanying the 2025 European Semester - Spring package (European Commission, 2025d), the European Commission is proposing this year Council recommendations on pension systems and active ageing for 14 Member States. Among others, Germany is asked to promote longer working lives and reduce incentives for early retirement; Czechia to improve the incentives for people close to retirement to continue working; Italy to limit the use of early-retirement schemes; and Austria and Poland to take measures to increase the effective retirement age.

Figure 8: Statutory retirement age in the EU Member States (2022 and 2050)



Source: European Commission, DG Taxation and Customs Union, based on *Ageing Report 2024*. In countries with (*) the statutory retirement age is legislated to increase in line with life expectancy. Reported retirement ages are calculated based on life expectancy in the Eurostat population projections. Countries ranked by statutory retirement age in 2050.

Only the following EU Member States foresee distinct taxation for workers that postpone their retirement beyond the statutory age (see Spasova et al., 2025):

- Austria: reduction of 50% in social contributions for pensions.
- Belgium: there is no change in the salary tax regime when retirement is deferred, but the bonus for late-retirement is completely tax-exempted.
- Estonia: salary is tax-exempted.
- Malta: exemption from paying social contributions.
- Poland: higher tax-free amount in personal income tax.
- Slovenia: pensioner's income tax credit of 13.5%.
- Spain: the lump sum received during deferred retirement is eligible for an income tax rebate of 30%. Employers do not pay social contributions for common contingencies.
- Sweden: There is an earned income tax credit that only applies to income from work, doubled for people above 67 years old. Those people receive at the same time a higher basic income tax allowance. Tax incentives for employers.

Revenues of public pension schemes (including taxes and social contributions levied to pensioners) are expected to increase significantly in some EU countries to cushion the rise in pension expenditure. The *Ageing Report 2024* also provides estimates on the evolution of two sources of revenues of the pension system over the projection horizon: (social) contributions ([20]) and (personal income) taxes to pensions ([21]) (see Figure 9). Among the 18 countries that expect to increase

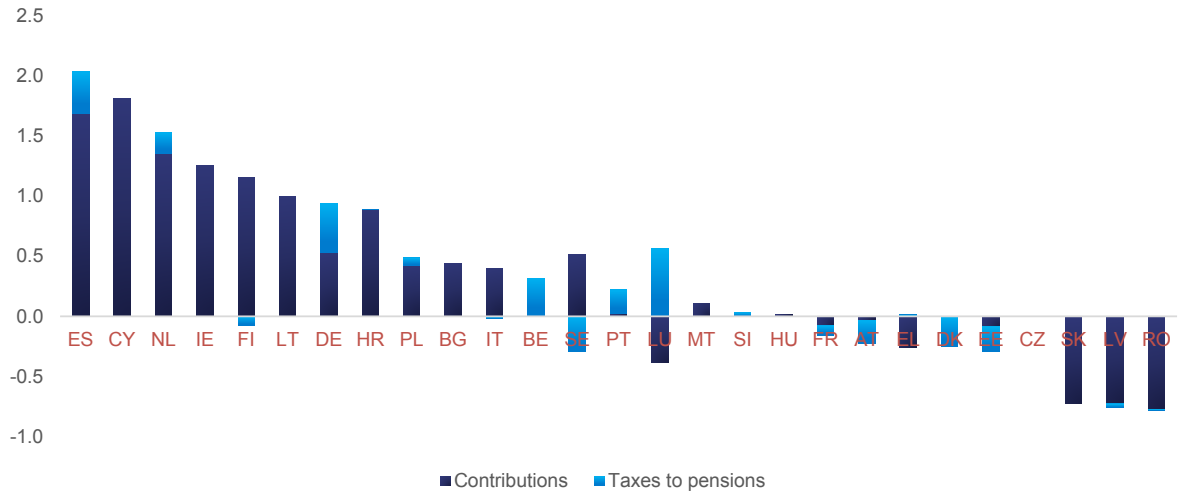
20 Social contributions are an important source of contributions to the pension system but not the only one. Under pay-as-you-go arrangements, changes in revenues from contributions to the pension system reflect changes in the projected number of people in employment and legislated changes in social contribution rates. They may also reflect higher government contributions, the interaction with private pillar contributions or built-in automatic system stabilisers.

21 Public pensions can be taxed at two different moments: either at working age when contributions are made, or at retirement when receiving the pension. Depending on the related treatment of personal income taxes (PIT), Ivaskaite-Tamosiune, V. and Thiemann, A. (2021) group the EU countries in six categories:

1. *EE* (countries where both the pension contributions paid by employees and the pension benefits are exempted from the PIT): Bulgaria, Slovakia.

revenues of the pension system by 2050, Spain, Lithuania Germany, Sweden, and Belgium already have a strong reliance on labour tax sources (i.e., more than 50% of total tax revenues). The expected increases in revenues of the pension system are mostly due to rises in social contributions of workers (pay-as-you-go system), and to a lesser extent to higher personal income taxes. Overall, Spain (2.0% of GDP), Cyprus (1.8% of GDP) and the Netherlands (1.5% of GDP) are expected to have the largest increases in revenues of the pension system by 2050, while Romania (-0.8%), Latvia (-0.8%) and Slovakia (-0.7%) the largest decreases.

Figure 9: Changes in revenues of public pension schemes (% GDP, 2050 vs 2022)

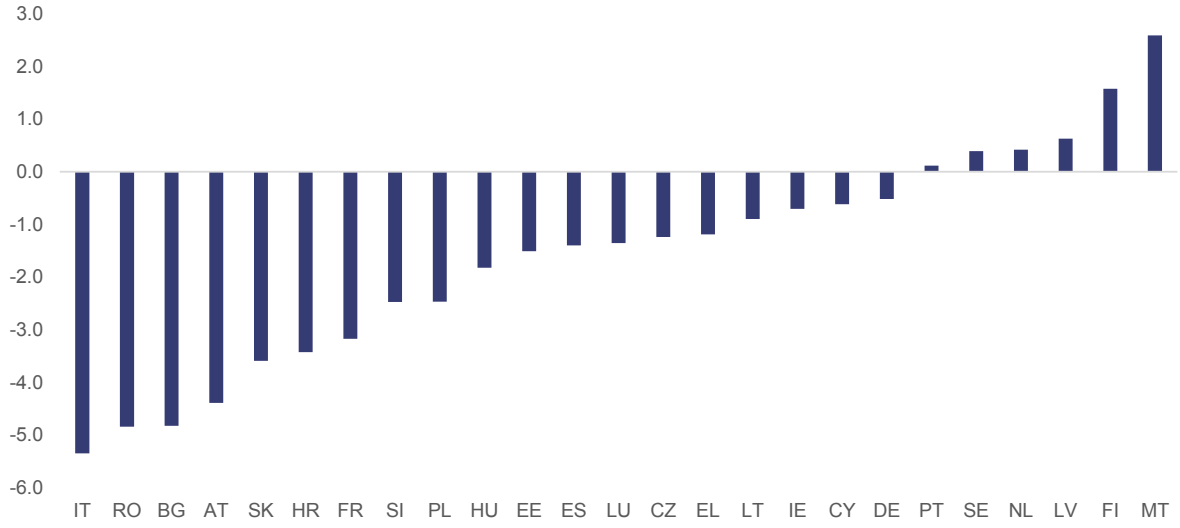


Source: European Commission, DG Taxation and Customs Union, based on Ageing Report 2024. Countries ranked by total changes in revenues of public pension schemes (2022-2050, % of GDP).

Pension systems in Italy, Romania and Bulgaria are expected to run the largest deficits over the projection horizon. The *Ageing Report 2024* measures the balance of pension systems as the difference between contributions and gross expenditure. In this regard, four Member States (Italy, Romania, Bulgaria and Austria) are expected to run deficits above 4% of GDP on average during the period 2022-2050, and 11 Member States deficits higher than 1% of GDP (Figure 10). In the other end, six Member States (Malta, Finland, Latvia, the Netherlands, Sweden and Portugal) are expected to stay on surplus. This indicator points at the ability of public pension systems to generate enough resources to pay pensions, but it is not conclusive on the overall sustainability of public finances because many other aspects must be taken into account, including overall revenues of the tax system and ability to fund potential gaps with debt issuances.

2. *ET* (countries where pension contributions paid by employees are exempted but pension benefits are fully taxed): Croatia, Cyprus, Denmark, Estonia, Greece, Malta, Poland.
3. *Et* (countries where pension contributions paid by employees are exempted and pension benefits have a reduced effective tax rate): Austria, Belgium, Finland, Latvia, Portugal, Romania, Slovenia, Spain, Sweden, Italy.
4. *TE* (countries where pension contributions paid by employees are fully taxed, but pension benefits are exempted): Lithuania, Hungary.
5. *Tt* (countries where pension contributions paid by employees are fully taxed and pension benefits have a reduced effective tax rate): Czechia.
6. *tt* (countries where both pension contributions paid by employees and pension benefits have a reduced effective tax rate): France, Germany, Ireland, Luxembourg, Netherlands.

Figure 10: Balance of public pension systems (% GDP, average 2022-2050)



Source: European Commission, DG Taxation and Customs Union, based on Ageing Report 2024

All else being equal, a changing age mix towards older age cohorts will put EU's public finances under strain in the near future and will challenge traditional social contracts. Throughout this section, we have seen that EU-27 countries will have to devote an increasing share of their tax revenues to public pensions expenditure in the next few decades, thus reducing the space for spending in other ageing and non-ageing related items unless additional resources are generated. Longer life spans and lower fertility rates challenge traditional social contracts, with increasing pressure to balance support for the elderly by investing in younger generations (e.g., family, labour and housing policies) to maintain intergenerational equity and economic sustainability. ([22])([23]) Moreover, recent research and election results suggest that a generational divide may be prompting youth to adopt more radical political views as a response to perceived systemic inequities favouring older cohorts. ([24])

A shrinking labour force in a context of heavy reliance on labour taxation puts into question the sustainability of the existing tax mix. In this regard, an OECD publication (Dougherty, S., et al., 2022) estimated an average revenue loss of 8% in OECD countries by 2040 due to the strong reliance on personal labour income taxes and social security contributions. These challenges call for further reforms that spur labour participation and defer retirement including through the tax design. They also call for a more balanced and future-proof tax mix and some shift away from labour taxation. ([25]) Overall, the ageing-related challenges spur the discussion on how to obtain much needed tax revenues without harming competitiveness. These may come, among others, from: broadening tax

22 See, for instance, Veron, J. et al. (2007) and McKinsey (2025).

23 The European Commission is currently preparing a Strategy on Intergenerational Fairness, as requested by President Von der Leyen in her mission letter to Commissioner Micallef. It has the objective to "*map out how we can strengthen communication between generations and ensure that interests of present and future generations are respected throughout our policy and law making*".

24 See, for instance, Rekker, R. (2024), Ahlfedt, G. et al. (2022) and Milosav, D. et al. (2025).

25 For example, the 2024 Communication of the European Semester Spring Package (European Commission, 2024b) recalls that tapping into "*underused sources of taxation and stepping up taxpayer compliance can help ensure sufficient tax revenues to support public investment as well as help achieve common policy objectives and safeguard fiscal sustainability. (…) This includes shifting some of the tax burden from labour taxation towards environmental and recurrent immovable property taxation in a fair and efficient manner, for instance by strengthening the polluter pays principle*". More generally, shifting the tax burden away from labour taxation to consumption taxation could result in lower real pensions, as higher consumption taxes would erode pensioners' purchasing power.

bases; streamlining the use of tax expenditures by prioritising those more effective from a socio-economic perspective; increasing tax rates on some income sources; strengthening tax collection and tax administrations; and deploying more effective tools to fight aggressive tax planning strategies and ensure tax compliance. The current edition of the Annual Report on Taxation delves into these discussions, with a particular focus on tax compliance and tax gaps (Chapter 4), effectiveness of tax administrations (Chapter 5), and the strategies for a fairer tax system by taxing wealth and top incomes (Chapter 6).

2 The current tax mix and revenue trends

The current chapter provides an overview of tax revenues across the EU, including by economic function (labour – including social contributions, capital and consumption) and typology (mainly, personal income taxes - PIT, corporate income taxes - CIT and value added taxes - VAT). First, it presents the most recent data on overall tax revenues (year 2023), including relevant country developments. Second, it provides the analysis of tax revenue by economic function –a specific disaggregation produced by DG TAXUD from the National Tax Lists data –, by category (direct, indirect and social contributions), and by level of government. A final section 3 undertakes a comprehensive survey of the most important tax types in the EU and their role in Member States.

Tax revenue data used in this section are based on the Taxation Trends data produced by DG TAXUD and available online, with information per country and for the various indicators. The 2024 edition of TAXUD's Taxation Trends data was released on 10 March 2025 and has a cut-off date of 25 January 2025. ([26])

2.1 Recent developments in tax revenue in the EU

The EU tax-to-GDP ratio decreased further in 2023, driven by the shrinking of revenues from environmental and property taxes and high nominal GDP growth due to high inflation. Government tax revenue in nominal terms amounted to EUR 6,712 billion in 2023 (including compulsory actual social contributions – SC) ([27]), 4.7% higher than in 2022 and despite a number of tax measures to reduce the impact of inflation. ([28]) However, the faster growth of nominal GDP (by 6.5%) in an inflationary economic context led to a significant decline in the total tax-to-GDP ratio. This indicator represents the overall macroeconomic tax burden and decreased in 2023 by 0.7 pp to 39.0% of GDP, its lowest value since 2011 (see Figure 11). Coupled with the fall registered in 2022, it represents a cumulative decrease of 1.2 pp of GDP since 2021, which saw the highest ratio (40.2% of GDP) in a decade. Box 1 provides a breakdown of the evolution of the tax-to-GDP ratio between 2021 and 2023, that would be explained to a large extent by the fall in revenues from environmental and

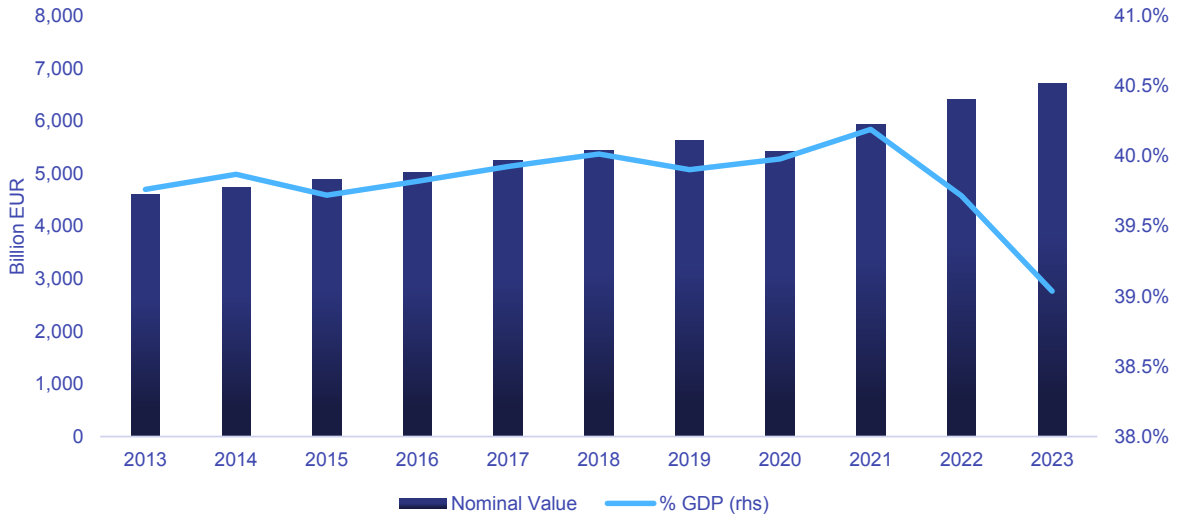
26 https://taxation-customs.ec.europa.eu/taxation-1/economic-analysis-taxation/data-taxation-trends_en

27 Measured by Indicator 2 of Eurostat National Accounts Working Group, as defined in June 2001: Total receipts from taxes and actual compulsory social contributions payable to general government, including those for government as an employer. This indicator is consistently used across this report to measure tax revenues and might slightly differ from other headline indicators used by other institutions.

28 During the inflationary crisis in 2022 and 2023, Member States made use of several policy instruments such as temporary reductions in VAT rates, adjustments to PIT and introduction of allowances and tax credits to counter the effects of inflation (see Annual Report on Taxation 2024 and 2023 for a more detailed analysis). Note too that in a context of high inflation, the real value of the tax revenues will diminish over time.

property taxes (Figure 12). At country level, lower revenues in GDP terms in two countries (Germany and France) would explain most of the variation (Figure 13). Notably, in both countries, meaningful reforms in the area of environmental taxes reduced significantly their revenues from this source.

Figure 11: Tax revenues in the EU since 2013 (nominal terms and percentage of GDP)

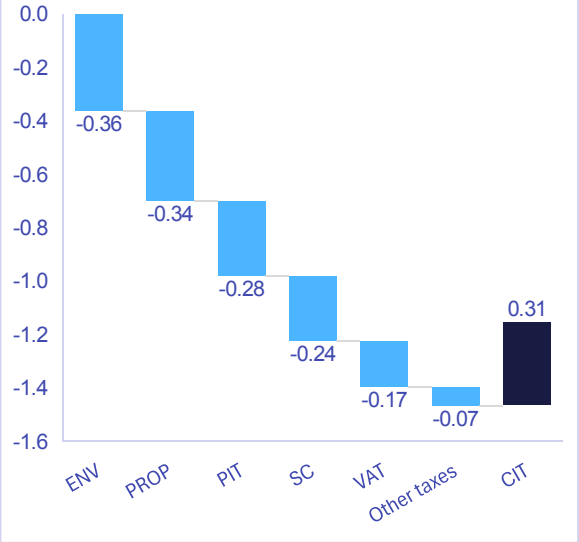


Source: European Commission, DG Taxation and Customs Union, based on Eurostat. Nominal values converted in EUR for non-EA countries.

Box 1: Disaggregating changes in the EU-27 tax-to-GDP ratio between 2021 and 2023

The present Box disaggregates the changes in the EU-27 tax-to-GDP ratio between 2021 and 2023 from two different angles: by type of tax and by country. To this end, it calculates the contribution of each tax type or Member State to the aggregate reduction in the ratio, equivalent to 1.15 pp of GDP. It is a purely arithmetical exercise based on crossing GDP and tax revenue data.

Figure 12: Breakdown of the variation in the EU-27 tax burden (pp of GDP) between 2021 and 2023, by tax type



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

Lower revenues from environmental and property taxes explain 60% of the decline in the tax-to-GDP ratio between 2021 and 2023. As shown in Figure 12, environmental taxes (-0.36 pp) and property taxes (-0.34 pp) were the two tax types that contributed the most to the aggregate reduction of the tax-to-GDP ratio in the EU-27 between 2021 and 2023. This is outstanding considering the limited weight of both tax types in the EU-27 tax mix (a combined share of around 12% during the last decade, but less than 10% in 2023). The tax-to-GDP ratio decline for these two tax types in the 2021-2023 period is the combination of a decline in nominal revenues from both sources with a nominal GDP increase of 16%.

Box **2** analyses in detail the case of environmental taxes, while

Box **3** does so with property taxes. Regarding other tax types, the negative contribution of PIT, SC and VAT was more limited, despite accounting for a combined share of nearly 75% of total tax revenues. Meanwhile, CIT was the only tax type with a positive contribution. The evolution of these tax types is discussed in

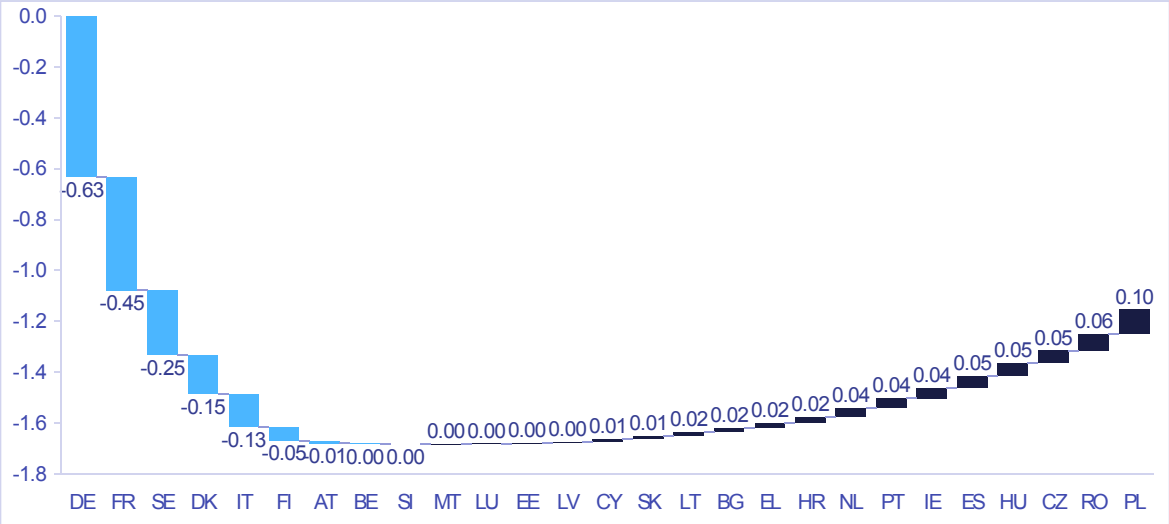
Table 3: Variation of revenues from main tax types 2021-2023

Tax type	Var. EUR (%)	% total 2021	% total 2023	Difference (pp)	% GDP 2021	% GDP 2023	Difference (pp)
CIT	28.8%	7.17	8.18	1.01	2.88	3.19	0.31
VAT	13.5%	18.16	18.26	0.10	7.30	7.13	-0.17
SC	14.0%	32.31	32.64	0.33	12.99	12.74	-0.24
PIT	12.8%	23.92	23.91	-0.01	9.62	9.33	-0.28
ENV	-1.4%	5.95	5.19	-0.75	2.39	2.03	-0.36
PROP	-1.7%	5.45	4.75	-0.70	2.19	1.85	-0.34
Other taxes	13.3%	7.04	7.07	0.03	2.83	2.76	-0.07
Total	*12.9%*	*100.00*	*100.00*	*0.00*	*40.19*	*39.04*	*-1.15*

Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

The decline in the tax burden of Germany and France explains most of the variation of the tax-to-GDP ratio in the EU-27. As depicted in Figure 13, Germany (-0.63 pp) and France (-0.45 pp) were the Member States with the strongest contribution to the 1.15 pp decrease in the EU-27 tax-to-GDP ratio between 2021 and 2023. The effect of the relatively low growth of nominal tax revenues in both countries was amplified by their large weight in the Union's GDP and the slower GDP growth of both countries vis-à-vis the EU-27. Sweden, Denmark and Italy also had significant negative contributions to the variation of the EU-27 tax-to-GDP ratio, while 20 Member States had neutral or positive contributions.

Figure 13: Breakdown of the variation in the EU-27 tax burden (pp GDP) by Member States (2021-2023)

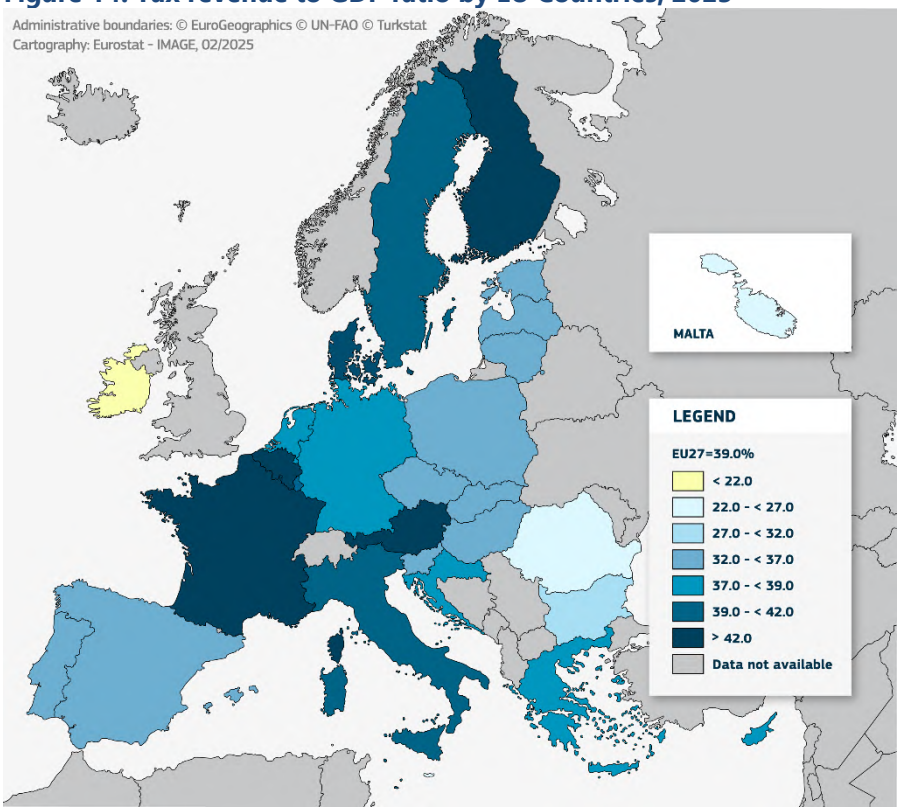


Source: European Commission, DG Taxation and Customs Union, based on Eurostat data.

Putting the geographical and typology dimensions together, it is found that two single reforms in energy taxes performed in Germany and France would explain above a sixth of the aggregate reduction in the EU-27 tax-to-GDP ratio. In a general context of cuts on energy taxes Germany abolished the *EEG Umlage* (a surcharge on electricity consumption used to finance the expansion of renewable energy) for end consumers in mid-2022. This environmental tax collected EUR 22 624 million in 2021, EUR 6 595 million in 2022 and zero in 2023. It has been replaced by state-funded support for renewable energy, using federal budget funds. Meanwhile, France reduced the rate of the CSPE (*Contribution au Service Public de l'Électricité*, a tax on

In 2023, France, Denmark and Austria recorded the highest tax burden (tax revenues as a share of GDP) in the EU-27, while Ireland, Romania and Malta recorded the lowest. Despite a significant decrease from 2022 (ca. 2 pp), France continued to be the Member State with the highest tax-to-GDP ratio (43.8% of GDP), closely followed by Denmark and Austria (with 43.4% and 43.1% of GDP, respectively). In line with observations since 2015, Ireland recorded the lowest ratio in the EU (21.9%), but the distortionary impact on nominal GDP of the significant flows of foreign direct investment cannot be overlooked. As shown in Figure 14, Member States in Eastern Europe tend to present tax-to-GDP ratios below the EU average.

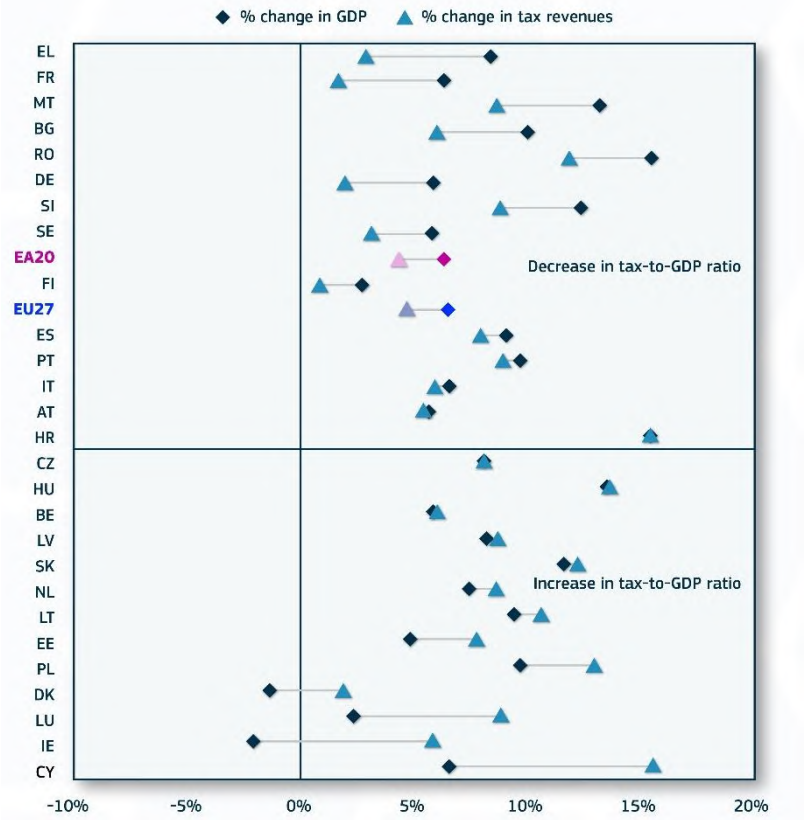
Figure 14: Tax revenue to GDP ratio by EU Countries, 2023



Source: European Commission DG Taxation and Customs Union, based on Eurostat data. *Administrative boundaries: © EuroGeographics © UN–FAO © Turkstat.*

In 2023, the tax-to-GDP ratio evolved differently across the EU Member States, with significant dips in large economies, such as France and Germany. As shown in Figure 15 and Figure 16, some large EU economies (notably Germany and France, see Box 1, but also Italy and Spain) recorded in 2023 an increase of tax revenue below that of nominal GDP, leading to a decrease in their tax-to-GDP ratio. For Italy and France this was their lowest tax-to-GDP ratio in a decade. Given the high weight of these countries in the EU's GDP, the tax burden decreased significantly from 39.7% to 39.0% of GDP in the aggregate EU-27, although it increased in 13 out of 27 Member States. The largest decrease in the tax-to-GDP ratio took place in Greece (-2.1 pp), where the increase in revenues from consumption taxes observed in 2022 was largely reversed. For some Member States, 2023 was characterised by weak economic growth and sizeable revenue shortfalls (see Section 1.1).

Figure 15: Relative changes in nominal tax revenues and nominal GDP, 2022-2023



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data. Nominal values measured in national currencies. Countries are ranked by the difference between % change of nominal GDP and % change of nominal tax revenues.

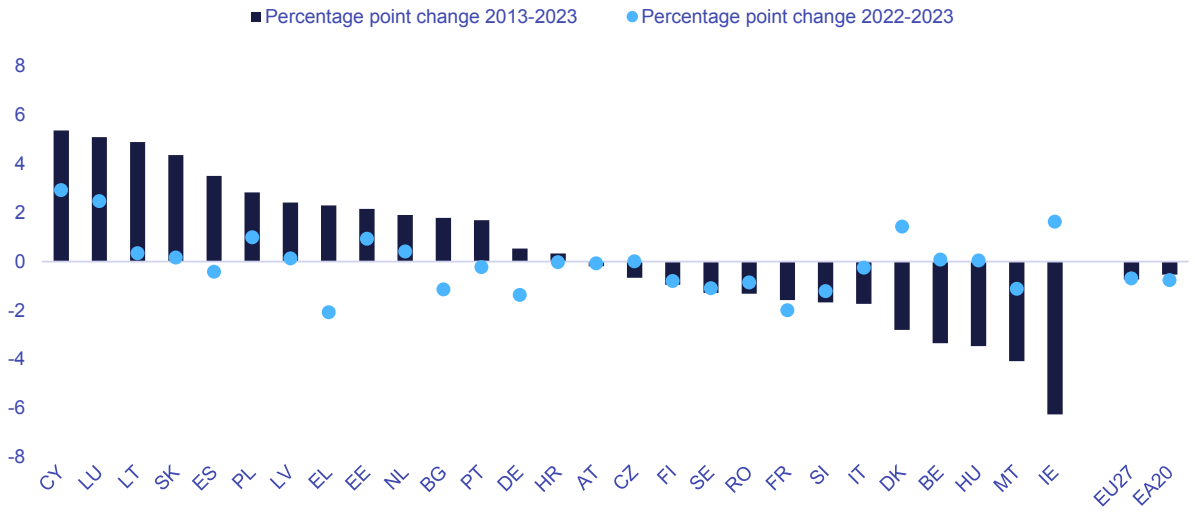
In contrast to the largest economies in the EU, almost half of the Member States recorded an increase in their tax-to-GDP ratio. This is particularly the case for Cyprus (where the nominal tax revenue grew by 15.6%, while nominal GDP increased by 6.5%, resulting in a 2.9 pp increase in the tax-to-GDP ratio), Ireland (where nominal tax revenue increased by 5.8% and nominal GDP contracted by 2.1%, resulting in a 1.6 pp increase in the tax-to-GDP ratio) and Luxembourg (where the 2.3% growth of GDP was surpassed by an increase in tax revenue of 8.8%, resulting in a 2.5 pp increase in the tax-to-GDP ratio). There are many reasons that explain the evolution of government tax revenue and GDP from year to year, which may or not be the result of discretionary tax policy measures and require a country-specific analysis for a better understanding. For instance, in the case of Cyprus, the increase can be largely explained by a substantial increase in social contributions though not necessarily driven by tax policy changes (but rather a strong labour market). Likewise, Luxembourg's rise in tax revenue can be mainly explained by considerable increases in tax revenues from PIT and SC unrelated to tax policy changes (but perhaps related to PIT tax indexation). In other cases, nominal tax revenue growth might have been limited by tax cuts aimed at lowering the tax burden of certain sectors, particularly in the context of high energy prices, while pandemic-related temporary measures were completely phased out. ([29])

Tax revenues as a share of GDP are below their 2013 levels for 15 Member States. As shown before in Figure 11, the EU tax-revenue-to-GDP ratio fluctuated during the past decade, decreasing by 0.8 pp since 2013 (from 39.8% of GDP to 39.0%), although most of this decline was observed in the last

29 See OECD (2024a), European Commission (2023c), and Annual Report on Taxation (2024).

year (-0.7 pp in 2023, as explained). The past decade has been characterised by limited fluctuation of the tax-to-GDP ratio, after a considerable increase was recorded in the period that followed the Global Financial Crisis. Figure 16 compares the variation between 2013 and 2023 across Member States. Ireland had the strongest decrease of the tax-to-GDP ratio between 2013-2023 (6.3 pp, mostly because of strong GDP growth from 2015-2020), followed by Malta (4.0 pp), Hungary (3.4 pp) and Belgium (3.3 pp). The largest increases were observed in Cyprus (5.4 pp) and Luxembourg (5.1 pp), followed by Lithuania and Slovakia with increases above 4 pp.

Figure 16: Comparison of tax-to-GDP ratios in 2023 with 2013 and 2022



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data. Countries are ranked by percentage point change 2023 vs 2013.

2.2 Tax revenues by economic function, category and level of government

2.2.1 Tax revenues by economic function

The current subsection analyses the tax structure of the EU and its Member States according to the economic function of each type of tax. This analysis relies on data provided by the Member States and processed by the Commission (DG TAXUD), building upon a methodology improved over more than two decades within the Expert Group of Structures of Taxation Systems (European Commission, 2024c). The purpose of the exercise is to assign each line of tax revenue in the EU-27 Member States to one of three possible economic functions embodied in the following tax bases: **consumption, labour and capital**. ([30]) Taxes on consumption, labour and capital add up to the total of tax revenues received by general government.

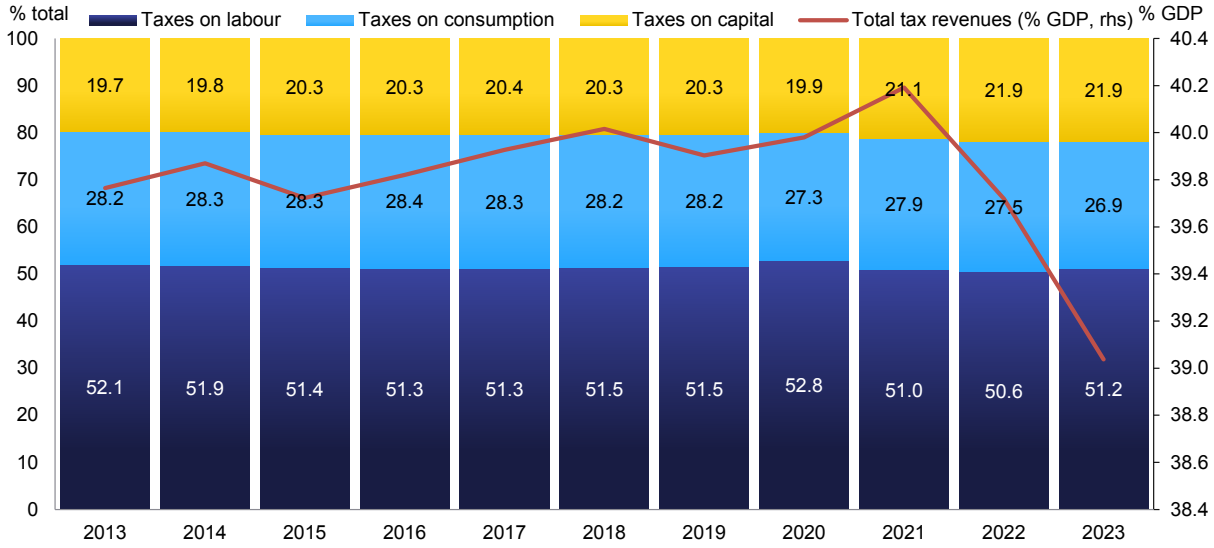
The share of labour tax revenues in the total increased in 2023 at the expense of that of consumption taxes. The breakdown of tax revenues by economic function in the EU-27 tend to stay rather stable over time, with labour taxes (including social contributions, SC) ([31]) consistently

30 A key methodological problem stems from certain tax types related to multiple tax bases. The most notorious case concerns the personal income tax (PIT), where tax revenues are sometimes related to labour bases and on other occasions to capital bases. Hence, in cooperation with national tax administrations a methodology has been developed to split PIT revenues, in most cases using unpublished data supplied by the national tax administrations. Methodological aspects are discussed in detail in European Commission, (2024c).

31 Although the bulk of social contributions in the EU-27 are attributed to labour bases, there is a small portion (nearly 5% of SC revenues) that are attributed to capital bases as part of the social contributions paid by the self-employed.

representing more than half of total tax revenues (Figure 17). ([32]) In 2023, this tax base contributed to 51.2% of total tax revenues in the EU-27, a slight increase compared to 2022 (50.6%) but lower than in 2013 (52.1%). The 2023 upturn was mostly driven by increases in nominal wages and social contributions amid strong inflationary pressures and record-level employment. By contrast, the share of revenues from consumption taxes decreased to 26.9% in 2023, from 27.5% in 2022 (and 28.2% in 2013). Temporary tax reliefs in consumption taxes enacted by national governments to cushion the effects of high inflation on consumers' purchasing power would explain the 2023 downturn, combined with some general restraint in consumption in view of higher interest and mortgage rates. Finally, the share of revenues from capital tax bases in 2023 remained stable at 21.9% when compared to 2022 in a context of mounting business' profits, well above the values read a decade ago (19.7%).

Figure 17: EU-27 tax revenues by economic function (tax base), 2013-2023 (% of total)

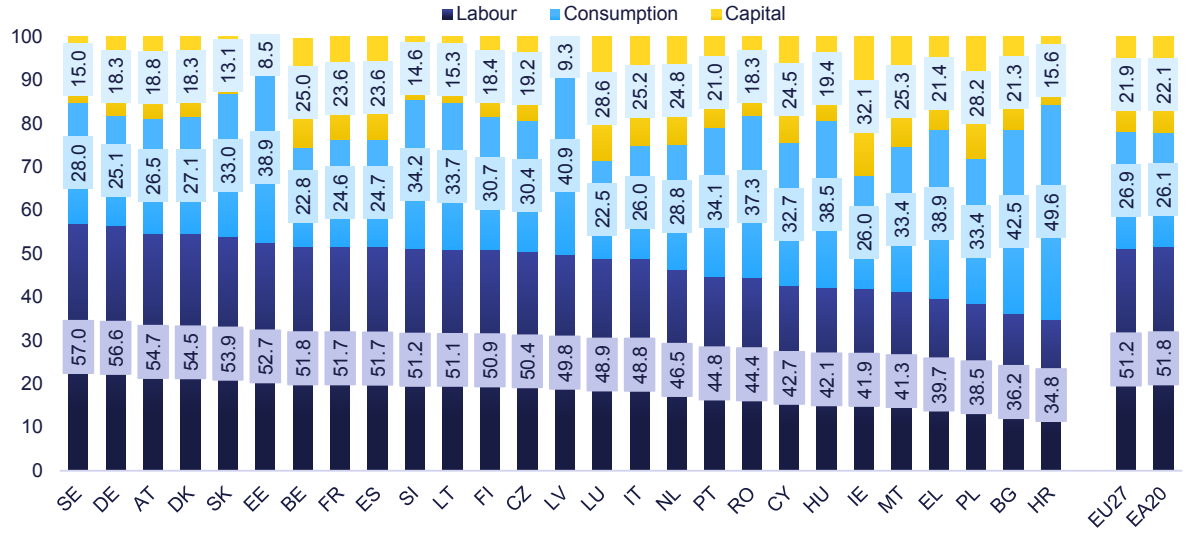


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

Shifts in the composition of the tax mix should not mask declines in revenues from the three tax bases when measured in terms of GDP. In 2023, labour tax revenues represented 20.0% of GDP (lowest share since 2011), consumption tax revenues 10.5% of GDP (historic low, since the beginning of the time series in 1995), and capital tax revenues 8.5% (by contrast, still close to the historic high, 8.7%, recorded in 2022). As a result, total tax revenues decreased from 39.7% of GDP in 2022 to 39.0% in 2023. The following paragraphs elaborate in detail the evolution of tax revenues by each economic function.

32 Labour taxes including social contributions represent more than half of total tax revenues in around half of EU Member States (see below further detail). The prevalence of labour taxation in some of the largest EU economies (Germany: 56.6%; France and Spain: 51.7%) tilt up the EU aggregate.

Figure 18: Tax revenues by economic function in EU-27 Member States, 2023 (% of total)

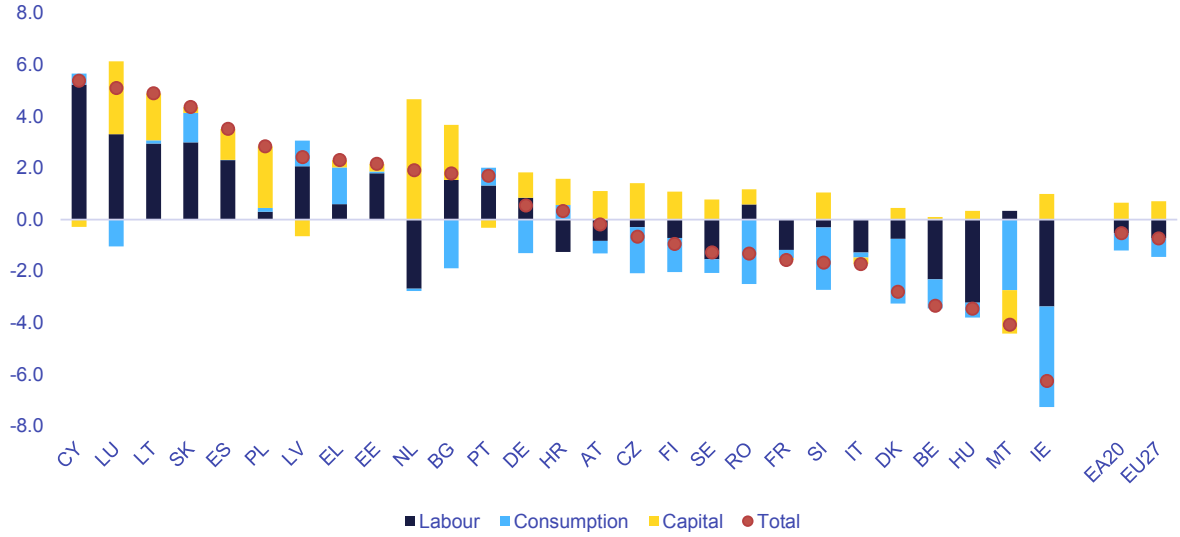


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by the share of labour taxation in the tax mix.

Thirteen Member States obtain more than half of their tax revenues from labour bases, including social contributions. Differences in the design of national tax systems, coupled with different economic structures, are behind disparities in the breakdown of tax revenues by economic function across the EU Member States (Figure 18). In 2023, labour taxes including social contributions were the main source of tax revenues for 25 Member States, and in 13 of them represented more than half of their total tax revenues. Sweden (57.0%), Germany (56.6%) and Austria (54.7%) were at the top, while Croatia (34.8%), Bulgaria (36.2%) and Poland (38.5%) at the bottom. Consumption taxes were the largest source of tax revenues in two Member States (Croatia, 49.6%, and Bulgaria, 42.5%) and represented more than 35% of total tax revenues in five other Member States (Latvia, Greece, Estonia, Hungary and Romania). By contrast, they did not reach 25% of total tax revenues in four Member States (Luxembourg, Belgium, France and Spain). Although capital bases were not the main source of tax revenue in any Member State, they amounted to 32.1% of total tax revenues in Ireland, and to more than 25% in five more Member States (Poland, Luxembourg, Malta, Italy and Belgium). By contrast, Estonia, Latvia, Slovenia and Slovakia obtained less than 15% of their total tax revenues from capital bases.

The evolution of the different tax bases across the EU countries has been heterogenous over the last decade. As depicted in Figure 19, between 2013 and 2023 the tax revenue to GDP ratio increased significantly (by more than 1.5 pp) in 12 Member States. In most of them (notably, Cyprus, Luxembourg, Lithuania, Slovakia, Spain, Latvia, Estonia and Portugal), this boost was mainly driven by labour bases, while in a few cases, capital (Poland, the Netherlands) or consumption (Greece) bases were behind overall increases in tax revenues. Looking into the countries where the overall tax burden decreased during the last decade, in most of the cases it was due to decreases in consumption and/or labour taxes. In aggregate terms, the tax burden in the EU-27 decreased from 39.8% of GDP in 2013 to 39.0% in 2023. Consumption and labour bases detracted 0.7 pp of GDP each, while capital bases added 0.7 pp of GDP. Tax revenues from labour bases (as share of GDP) increased in 14 Member States and decreased in 13. Revenues from consumption taxes increased in 8 Member States and decreased in 19. And revenues from capital taxes increased in 20 Member States and decreased in 7.

Figure 19: Changes in tax revenues by economic function in EU-27 Member States, 2013-2023 (percentage points of GDP)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by total change in tax revenues in 2013-2023 (pp GDP).

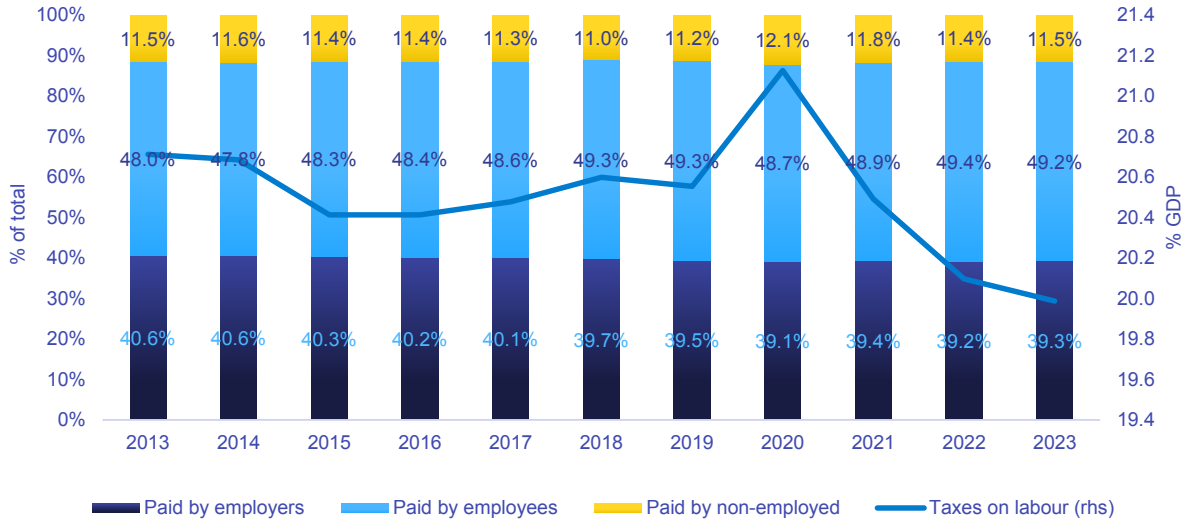
Population ageing may further reinforce the (for the moment, limited) decline in labour tax revenues over the last decade, while the more recent decline in revenues from environmental and property taxes may or not revert its course. In light of population ageing and the resulting shrinking of active population (see Section 1.2) the labour tax base is not likely to increase and may even decline. ([33]) The observed decrease of consumption tax revenues is mainly explained by the downward trend of environmental taxes (see

33 The potential decrease in labour tax bases prompted by population ageing could be at least partly offset by the increase of the weight of higher earners in the labour income distribution, as the older workers tend to earn higher salaries. The final outcome will depend on the age distribution of workers, level of qualifications and productivity.

Box 2), intensified in recent years by the reduced rates enacted to cushion the rise in energy prices. It remains to be seen if such trend will be reverted in the coming years. Several elements could influence the trend one way or the other, including: an increase in pollution related taxes; the introduction of new environmental taxes on natural resources; the need to ensure affordable electricity prices for households and companies in the near future; or the envisaged decrease in carbon emissions that would erode the related tax base. Finally, the positive evolution of revenues from capital taxes has been possible thanks to the strength of corporate income taxes, and this in turn thanks to the increase in the corporate tax base (not rates). However, this has been partly compensated for the recoil of property taxes. Further gains in revenues from capital taxes could be observed in the future if some Member States intensify the use of these sources which seem to be currently underutilised (see

Box 3 and Chapter 6). In overall terms, the composition of the tax mix has not necessarily shifted significantly away from labour taxation, as the role of environmental and certain capital taxes has not evolved in a way that would compensate that shift.

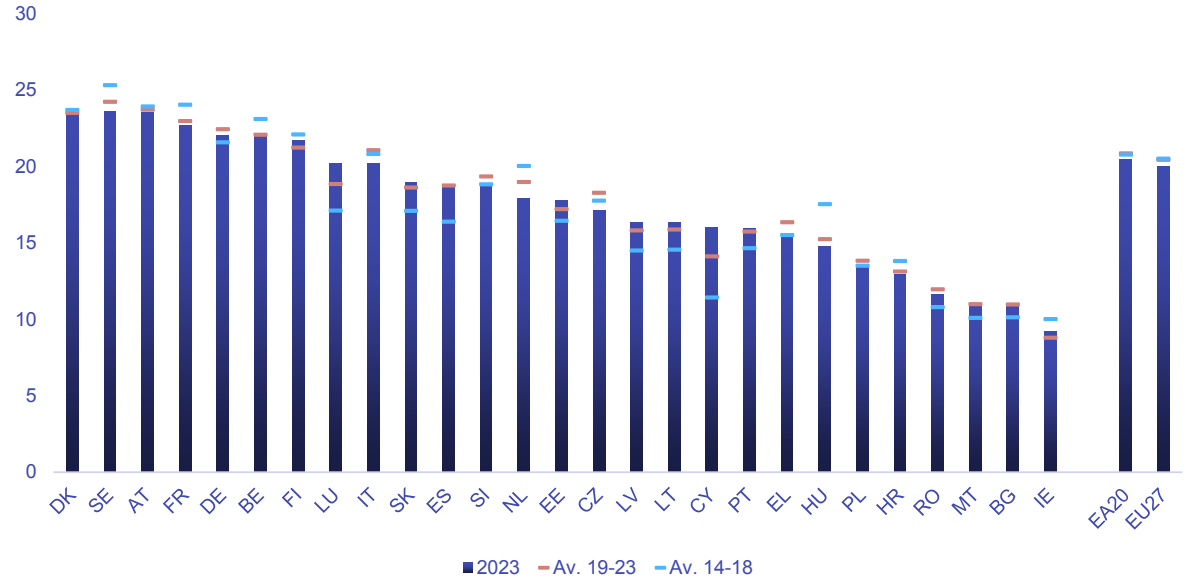
Figure 20: Labour tax revenues by origin, EU-27, 2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

The GDP share of revenues from labour taxes is at its lowest level in more than a decade, mostly because of a decline in labour taxes paid by employers. At 20.0% of GDP, labour tax revenues recorded in 2023 their lowest level since 2011, having followed a downward trend since the peak of 2020 (21.1%) (Figure 20). Looking into the breakdown by origin, we observe that payments from employees have gained weight at the expense of those from employers, although the combined share of both has remained around 89% of total revenue from labour taxes. This means that revenues from personal income taxes (PIT) and social contributions (SC) paid by employees have developed more dynamically than those from SC and payroll taxes paid by employers. A divergence in the evolution of the PIT brackets (in terms of marginal tax rates and thresholds) compared to social contribution rates could be behind this evolution. Meanwhile, the share of labour taxes paid by the non-employed (i.e., recipients of social benefits including pensions) has remained broadly stable.

Figure 21: Labour tax revenues in EU Member States (% of GDP)

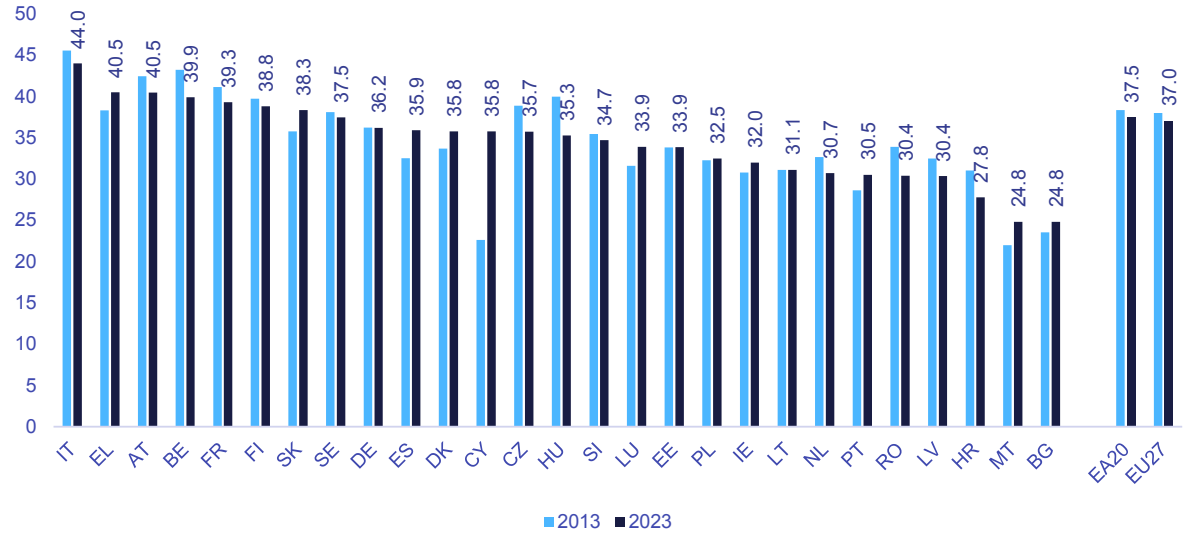


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by labour tax revenues (% of GDP) in 2023.

Despite the EU-wide trend, the GDP share of labour tax revenue is increasing significantly in some EU Member States. Denmark (23.7% of GDP), Sweden and Austria (both 23.6%) were the Member States with the highest revenues from labour taxes in 2023, while Ireland (9.2%), Bulgaria (10.8%) and Malta (11.0%) recorded the lowest. Splitting the last decade in five-year periods, we observe that some Member States have increased significantly their reliance on labour taxes (Figure 21). Notably, labour tax revenues as share of GDP have increased by 2.7 pp in Cyprus, by 2.4 pp in Spain and by 1.7 pp in Luxembourg, when comparing the average of the 2019-2023 period with that of 2014-2018. On the contrary, revenues from labour taxes are decreasing the most in Hungary (-2.3 pp of GDP when comparing both periods), Ireland (-1.2 pp) and France (-1.1 pp). Diverging evolutions can be driven by labour market developments, tax policy decisions or a combination of both. For instance, strong job creation combined with rises in social contributions and the decision of non-indexing the PIT brackets during the inflationary crisis, pushed labour tax revenues up in Spain.

The implicit tax rate on labour (ITR) in the EU-27 reached in 2023 its lowest value since 2010 amid large country dispersion. The ITR on labour measures the overall tax burden on all employed labour incomes. It does so by dividing taxes and social contributions on employed labour income by total compensation of employees and payroll taxes. It dropped to 37.0% in 2023 in the EU-27, which is the lowest value since 2010 and 1.0 pp less than in 2013 (Figure 22). The significant fall in 2023 (0.5 pp lower than in 2022) could have been prompted by PIT reforms adopted by some Member States to mitigate the effect of high inflation in households, including adjustments of the tax brackets and the introduction of new tax credits, deductions, allowances and non-taxable receipts (see ART 2024 for further detail). In 2023, Italy (44.0%) remained as the EU country with the highest ITR on labour, followed by Greece and Austria (both at 40.5%). Malta and Bulgaria (both at 24.8%) recorded the lowest rate. Since 2013, Hungary has recorded the largest drop in the ITR on labour (from 40.0% to 35.3%), while Cyprus the largest increase (from 22.6% to 35.8%).

Figure 22: Implicit Tax Rate on labour in EU Member States (%)

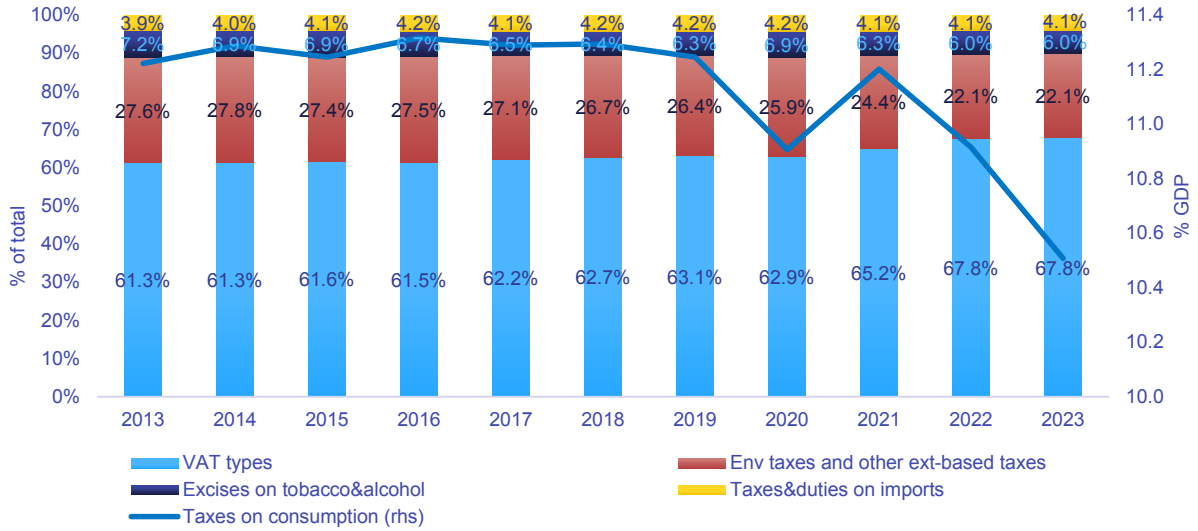


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data. Countries are ranked by ITR on labour in 2023 (%).

Revenue from consumption taxes in terms of GDP reached its historic low in the EU-27 dragged by the decline of externality-based taxes. After the stability shown in the decade 2010's, revenue from consumption taxes is following a downward trend in the 2020's. They decreased to 10.5% of GDP in 2023, 0.4 pp lower than in 2022 and their lowest value at least since 1995. In 2023, consumption taxes were affected by sluggish internal demand and temporary reliefs within energy taxes (including VAT of energy products, see the *Annual Report on Taxation 2024* for details) introduced to contain rising energy prices. VAT is nevertheless gaining more prominence in the basket of consumption taxes (67.8% of total in 2023, 6.5 pp more than in 2013), thus partly compensating for the decline in environmental and other externality-based taxes (Figure 23) –which is at odds with the key role these taxes are expected to play in the coming years in support of the green transition (see

Box 2 for further details). Note that, as seen in Chapter 4, the deliberate use of reduced rates and exemptions in the VAT (i.e., the VAT policy gap) results in a very significant amount of foregone revenue. Changes in these variables can lead to important changes in the share of VAT and consumption in total revenues and as a share of GDP.

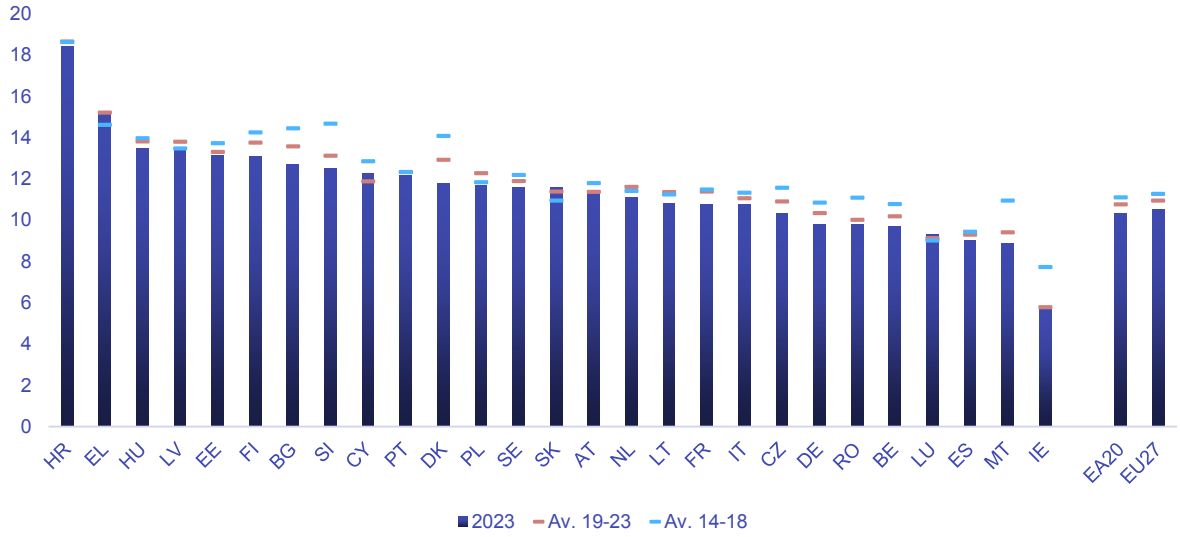
Figure 23: Consumption tax revenues by origin, EU-27, 2023 (% of total)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

As a share of GDP, revenues from consumption taxes have declined in most EU Member States in the last few years. Comparing the averages of the last two five-year periods, we observe that revenues from consumption taxes as a share of GDP are decreasing in most of Member States (Figure 24). The largest drops have been recorded in Ireland (2.0 pp of GDP lower in the 2019-2023 period than in the 2014-2018 period), Slovenia (-1.6 pp of GDP) and Malta (-1.5 pp). Meanwhile, Greece (0.6 pp of GDP), Slovakia (0.5 pp) and Poland (0.4 pp) have seen the largest increases in revenues from consumption taxes on the back of enhanced VAT compliance. In 2023, Croatia was the EU country with the highest revenues from consumption taxes (18.4% of GDP), followed at some distance by Greece (15.2%) and Hungary (13.5%). Ireland (5.7% of GDP), Malta (8.9%) and Spain (9.0%) were at the bottom.

Figure 24: Consumption tax revenues in EU Member States (% of GDP)



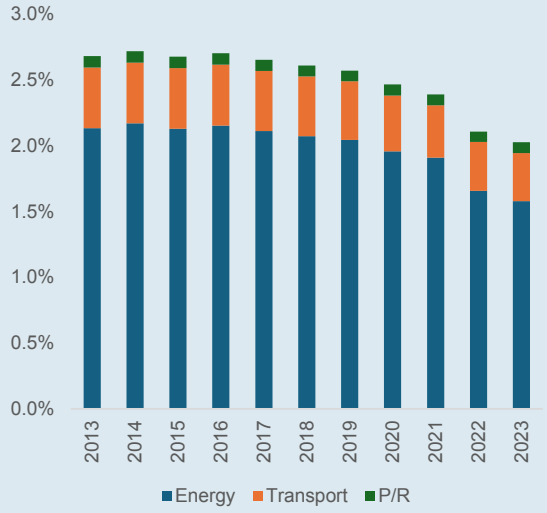
Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by consumption tax revenues in 2023 (% of GDP).

Box 2: Recent evolution of environmental tax revenues and challenges ahead

Taxation is a powerful policy instrument to price negative externalities. Externality-based taxes can induce a change of behaviour, regarding products or activities that generate uncorrected externalities. Such taxes typically include environmental taxes (targeting energy, transport, resources, and pollution), as well as health taxes, -including taxes on alcohol, tobacco and food high in fat, sugar and salt. Externality-based taxes mostly concern consumption tax bases, but in some cases (e.g., registration of company cars) also capital bases.

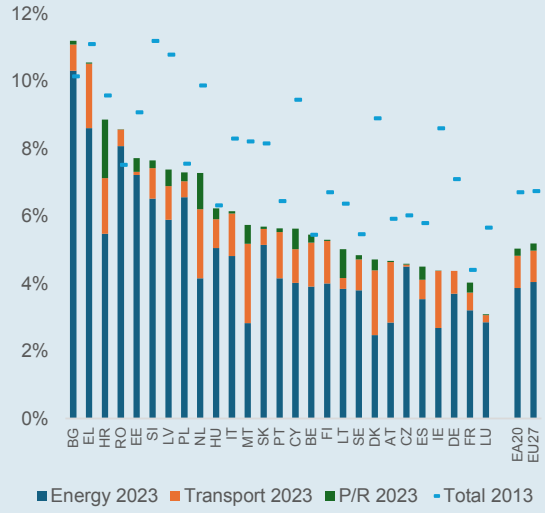
Revenues from environmental taxes (as share of GDP) have declined every year since 2017. Between 2013 and 2016, revenues from this source stabilised at around 2.7% of GDP in the EU-27, their highest level since at least 1995. Afterwards, revenues were receding every year until 2.0% of GDP in 2023, also the lowest value in the time series (Figure 25). The main two categories of environmental taxes, energy taxes (that account for nearly 80% of the total) and transport taxes (excluding fuel taxes, which are included in energy taxes), have followed a declining trend since 2017. Meanwhile, revenues from pollution and resources taxes (P/R) are residual, usually fluctuating between 0.08% and 0.09% of GDP.

Figure 25: Revenue from environmental taxes as share of GDP, EU-27 (2013-2023)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data.

Figure 26: Revenue from environmental taxes as share of total tax revenues, 2023 vs 2013

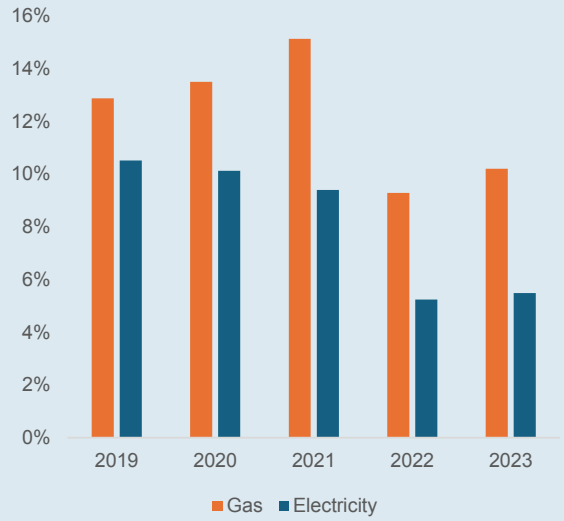


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data. MS ranked by 2023 total environmental tax revenues.

During the last decade, environmental taxes have lost weight in the tax-mix of 25 Member States. In 2023, environmental taxes represented 5.2% of total tax revenue in the EU-27, 1.5 pp lower than in 2013 (Figure 26). The share was above 10% in two Member States (Bulgaria, 11.2%; and Greece, 10.6%), and below 5% in nine (with Luxembourg, 3.1% at the bottom). This share was lower than a decade ago in all Member States but two: Bulgaria and Romania. Regarding the composition of environmental taxes, although energy taxes generate most of the environmental revenues in all Member States, a larger role of transport taxes is noteworthy for Malta, the Netherlands, Denmark and Greece. The largest share of revenues from resources and pollution taxes is found in Croatia (1.7%), almost doubling the second runner.

The reasons behind the decline of revenues from environmental taxes are numerous and heterogeneous across countries. In many cases, the downward trend has been driven by reductions in the tax base, prompted for instance by shifting from fossil fuels to renewables,

Figure 27: Share of environmental taxes in gas and electricity bills for households, EU-27 (2019-2023)



Source: Eurostat [nrg_pc_202_c, nrg_pc_204_c]. Household type: all bands (gas) and band DD (electricity).

2 in ART 2024 for further reference).[1] As a result, the share of environmental taxes in households' electricity bills decreased from 9.4% in 2021 to 5.2% in 2022 and 5.5% in 2023 (Figure 27). In nominal terms, taxes per KWh decreased by 35% in 2022. Meanwhile, the share of environmental taxes in households' gas bills decreased from 15.1% in 2021 to 9.3% in 2022 and 10.2% in 2023. In nominal terms, taxes per GJ decreased by 14% in 2022. Lowering energy taxation was accompanied by other measures, such as reduced VAT rates (up to the minimum 5% rate allowed by the VAT Directive) and income transfers to vulnerable groups. Overall, this ensemble of discretionary measures proved effective in containing energy bills during the energy crisis (but not necessarily efficient due to a lack of targeting and reduced incentives for energy savings). However, it inevitably spurred the fall in energy tax revenues recorded throughout the EU-27 in 2022-2023.

The lessons learnt during the energy crisis and the need to make energy affordable for all Europeans have placed energy taxation in the centre of the debate. The recent *Action Plan for Affordable Energy* (European Commission, 2025e) calls for completing the revision of the Energy Taxation Directive (under discussion since 2021, see Section 3.1 for details) and ensuring across all sectors that electricity is taxed less than other energy sources, while pursuing the long-term decarbonisation objectives. In the same vein, the *Clean Industrial Deal* (European Commission, 2025f) underlines the need to make the tax framework more conducive to electrification and remove subsidies and tax incentives that encourage the use of fossil fuels.

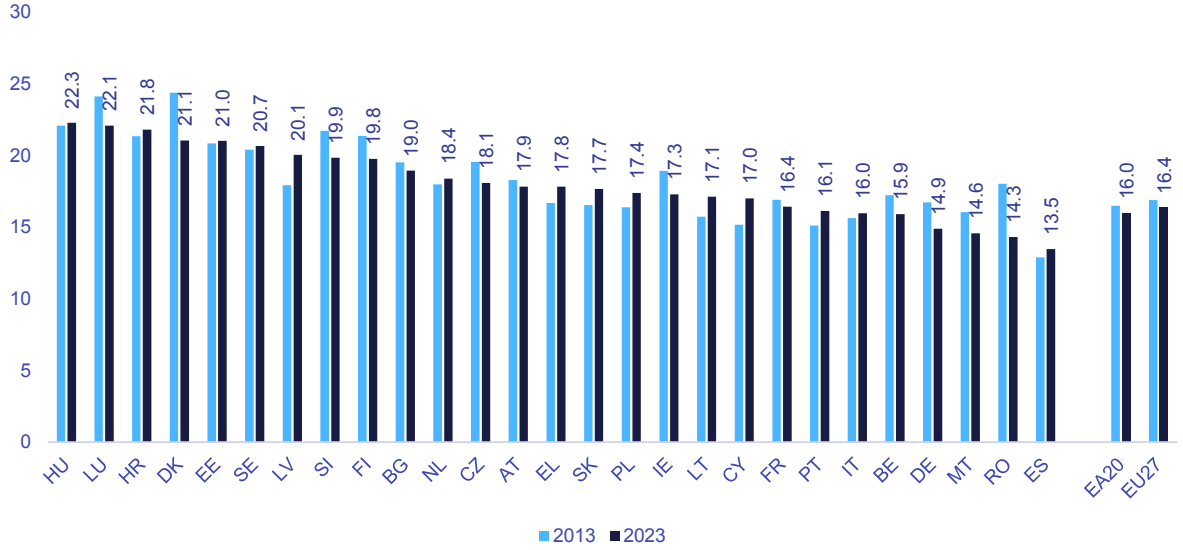
Taxation has also a great potential to encourage positive externalities linked to environmental objectives. Tax incentives (e.g., accelerated depreciation or tax credits) can be used to encourage certain activities or incentives (e.g., invest in decarbonised production processes). In this context, the *Clean Industrial Deal* emphasises that tax policies are important to improve

The implicit tax rate on consumption is following a downward trend in most of Member States. The ITR on consumption is the relationship between the revenue in consumption taxes and its estimated tax base. It dipped to 16.4% in the EU-27 in 2023, the lowest value since 2009. The decline since 2021 is clearly determined for reduced rate in VAT and energy taxes to preserve households' purchasing power during the inflationary crisis of 2022-2023. ([34]) At country level, Hungary (22.3%) was the EU country with the highest ITR on consumption, followed by Luxembourg (22.1%) and Croatia

34 See for further reference Section 3.2 on tax policy reforms at country level, and Section 4.5 on the VAT policy gap.

(21.8%). Spain (13.5%), Romania (14.3%) and Malta (14.6%) had the lowest rate (Figure 28). Since 2013, Romania has recorded the largest decrease in the ITR on consumption (from 18.0% to 14.3%), while Latvia the largest increase (from 17.9% to 20.1%).

Figure 28: Implicit Tax Rate on consumption in EU Member States (%)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data. Countries are ranked by ITR on consumption (%) in 2023.

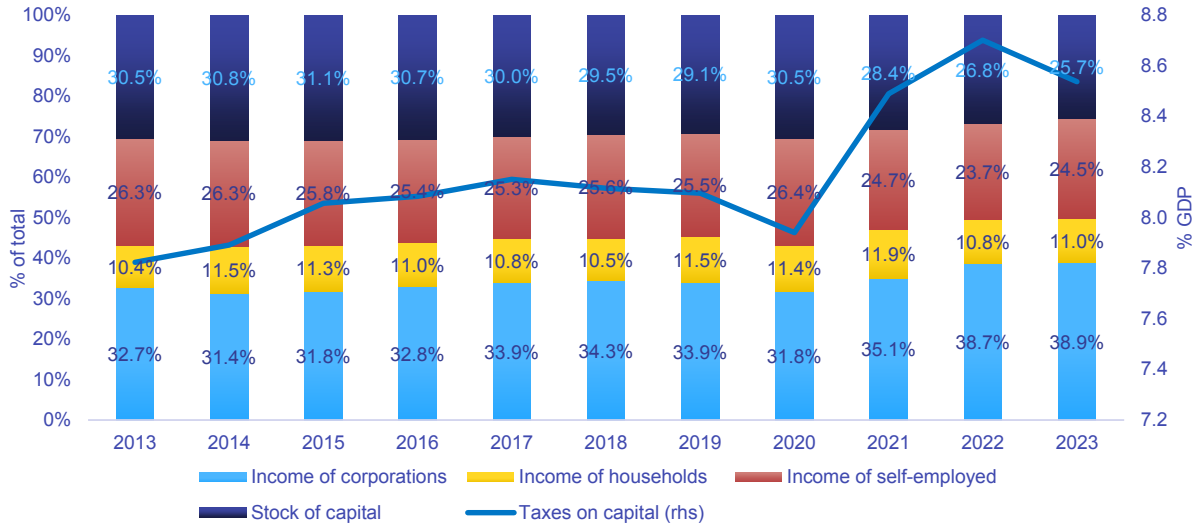
Revenues from capital taxes ([35]) remain strong on the back of corporate profits and more effective mechanisms to fight against aggressive tax planning. In 2023, tax revenue from capital bases reached 8.5% of GDP, still close to the record levels observed the previous year (8.7%). As discussed across the report ([36]), the sustained rise in business profits in the post-COVID-19 pandemic years has significantly broadened the capital tax bases, in a context in which CIT rates seems to have stabilised in recent years and ongoing reforms are contributing to addressing base erosion and profit shifting practices and improving the efficiency of tax administrations. All this has led to significant shifts in the composition of capital tax sources. Taxes on income of corporations (CIT) represented in 2022 and 2023 nearly 39% of total revenue from capital taxes, around 5.5 pp more than the values observed between 2015 and 2019 (Figure 29). Conversely, income of self-employed and, more notably, the stock of capital, have lost weight in the composition of capital tax bases, while revenues derived from taxing capital income of households have remained largely stable. Taxes on capital stock, in particular, represented more than 30% of capital tax revenues until 2020 but decreased to 25.7% in 2023. They have also lost importance in terms of GDP (2.19% in 2023, the lowest value since 2011). This type of capital taxes includes, among others, taxes on property and wealth, as well as others associated to business' activities. It remains to be seen if the recoil of revenues from taxes on stock of capital observed in recent years is temporary, or if it will increase, given the potential that some of these sources of tax revenue provide for filling existing revenue gaps. (See Chapter 6 for further elaboration on wealth and personal capital income taxes, and

35 Capital taxes are defined as a residual category, i.e., any tax base that is not labour nor consumption is considered capital. As a result, it is a mixed bag of taxes on flows and stocks, where corporate income tax is the main tax type, but also include parts of personal income tax (capital income of households and self-employed), property and wealth taxes, as well as some environmental taxes, taxes related to business' activities and a small part of social contributions.

36 See for further detail section 2.3.3 on corporate income tax, and chapter 3 on reforms.

Box 3 on property taxes in general).

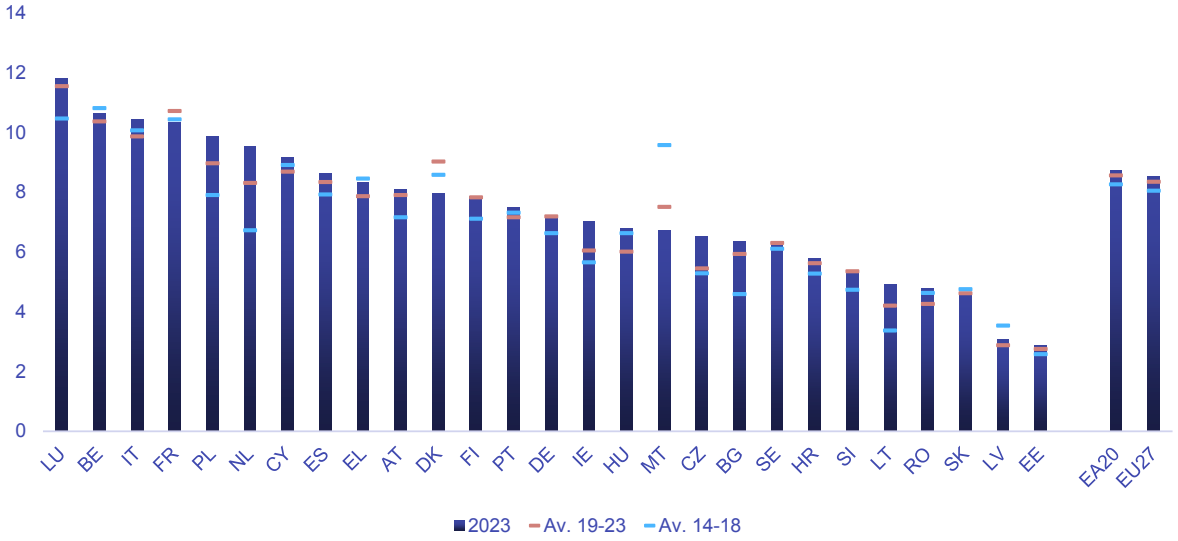
Figure 29: Capital tax revenues by origin, EU-27, 2023 (% of total)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

Revenues from capital taxes are gaining momentum in most of EU Member States mostly due to increased revenues from corporate taxation. The comparison of the averages of the last two five-year periods shows that revenues from capital taxes as a share of GDP are increasing in most of Member States (Figure 30). The largest increases have been recorded in the Netherlands (1.6 pp of GDP more in the 2019-2023 period than in the 2014-2018 period), Bulgaria (1.3 pp of GDP) and Luxembourg (1.1 pp). Meanwhile, Malta (-2.1 pp of GDP), Latvia (-0.7 pp) and Hungary (-0.6 pp) have undergone the largest recoils in revenues from capital taxes. In 2023, Luxembourg was the Member State with highest revenues from capital taxes (11.8% of GDP), followed by Belgium (10.6%) and Italy (10.4%). Estonia (2.9% of GDP), Latvia (3.1%) and Slovakia (4.6%) obtained the lowest revenues.

Figure 30: Capital tax revenues in EU Member States (% of GDP)



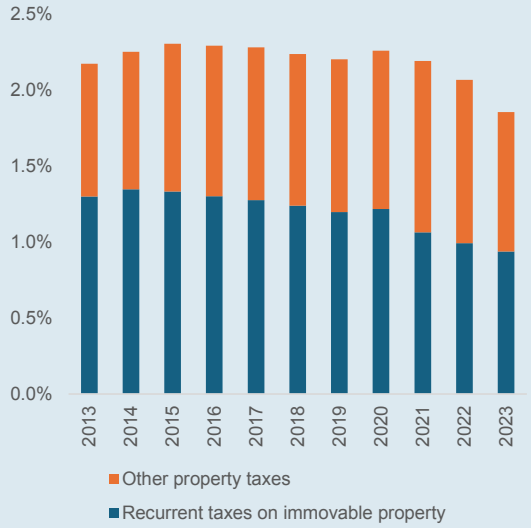
Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by capital tax revenues (% GDP) in 2023.

Box 3: Recent evolution of property taxes and challenges ahead

Property taxes encompass a large variety of taxes. European Commission (2024c) groups property taxes in two main categories. First, recurrent taxes on immovable property (TIP), which can concern residential (usually paid by households) or non-residential (usually paid by the businesses) properties. Second, under the category of other property taxes we can find, among others, taxes on net wealth, on inheritances and gifts, on financial or real estate transactions, and stamp duties.

Revenues from property taxes (in terms of GDP) have declined significantly since 2020. After stabilising at around 2.25% of GDP between 2014 and 2020, revenues from property taxes have followed a downward path and receded to 1.85% of GDP in 2023, its lowest value since 2009 (Figure 31). The decrease in recurrent taxes on immovable property has been more pronounced (from 1.22% of GDP in 2020 to 0.94% in 2023) than in other property taxes (from 1.04% in 2020 to 0.92%) [(1)], leading to a levelling of both categories. Such trend suggests that recurrent taxes on immovable property have been more affected than other property taxes by the episode of high price inflation in 2022-2023, pointing at an incomplete update of property values that would be eroding the tax base.

Figure 31: Revenue from property taxes as share of GDP, EU-27 (2013-2023)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data.

Figure 32: Revenue from property taxes as share of total tax revenues, 2023 vs 2013

Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists and National Accounts data. MS ranked by 2023 total property tax revenues.

The weight of property taxes in the tax mix varies significantly across Member States, having decreased in 21 of them over the last decade. In 2023, property taxes represented 4.7% of total tax revenue in the EU-27, 0.8 pp lower than in 2013. Despite recent decreases, France leads the ranking since 2014 (8.4% of total revenues in 2023), followed by Belgium (7.4%) (Figure 32). Property taxes show a limited development in many Eastern EU countries, with Czechia and Estonia at the bottom (0.8% of total revenues). Compared to 2013, the share has increased in only six Member States (largest rise in Luxembourg) and decreased in the remaining 21 (largest drop in Greece). Regarding the composition of property taxes, Greece (5.1% of total revenues), France (4.6%) and Denmark (3.9%) rely the more on recurrent taxes on immovable property, while other property taxes are particularly important in Luxembourg (5.5% of total), followed by Belgium (4.5%) and Portugal (4.2%).

Recurrent taxes on residential property pose opportunities and challenges for national tax

the role of recurrent taxes on residential property. They are considered as one of the least distortionary forms of taxation (Arnold et al., 2011), as they offer a stable and predictable revenue source and usually have little impact on economic activity and on economic agents' behaviour. They are also seen as a tool to partly correct the homeownership bias in income taxation, as virtually all Member States treat implicit returns on the asset value of the main residence favourably compared to income generated from rental housing (Barrios et al., 2019). Such preferential treatment has the policy rationale to encourage homeownership, which reduces wealth inequality (Kaas et al., 2019) and acts as a form of social insurance over the life course (Conley and Gifford, 2006). However, recurrent housing taxes are often based on cadastral values that are costly to maintain up-to-date and aligned to the evolution of housing prices. They are usually managed by local entities and sometimes the process of update lacks transparency. In this context, outdated cadastral values have likely led to the fall in revenues observed in 2022-2023. Some improvements have been proposed in the design of recurrent housing taxes with the aim to reinforce their fairness and serve the objective of the green transition. For instance, Leodolter, A. et al. (2022)

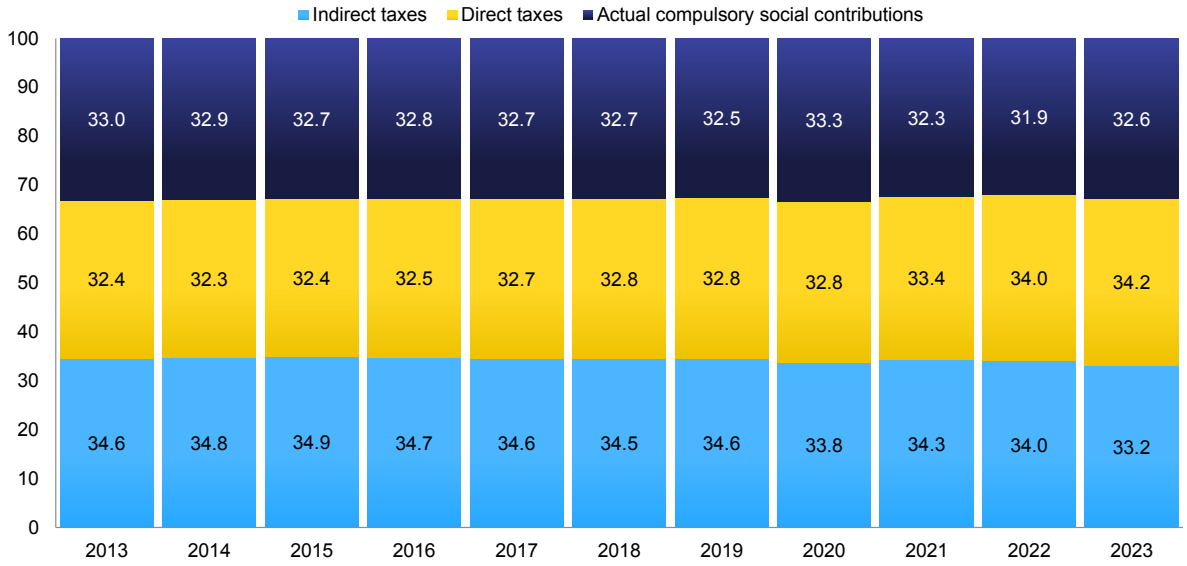
2.2.2 Tax revenues by tax category and level of government

The current subsection analyses the tax structure according to two additional dimensions. The structure of tax revenue can also be analysed according to the three traditional categories of taxes and the level of government that collect the tax. We distinguish three tax categories, namely, direct taxes, indirect taxes, and actual compulsory social contributions. ([37]) Each of them has historically represented around a third of aggregate tax revenue in the EU-27, although there are marked disparities across countries and some recent trends that deserve attention. Regarding the level of government, up to four categories are possible contingent on the administrative organisation of a country (namely, central, state, local governments, and social security funds).

In 2023, revenue from indirect taxes decreased to its lowest share since 1997. Out of the three tax categories described above, indirect taxation was the largest during the 2010's. However, in 2023 its share on total tax revenue in the EU-27 dipped to 33.2%, its lowest level in more than 25 years (Figure 33), being overtaken by direct taxes. The fact that most of indirect taxes stem from consumption bases would explain the decline in recent years, as described in the preceding subsection. Conversely, the share of direct taxes increased gradually during the last decade to become the tax category with the highest share of revenues in 2023 (34.2%, 0.2 pp more than in 2022 and 1.8 pp more than in 2013). The momentum of CIT revenue and the stability of PIT revenue are behind these developments. Finally, revenues from actual compulsory social contributions (SC) picked up in 2023 to 32.6% of the total, broadly in line with the values recorded in pre-COVID-19 pandemic years despite the remarkable increase compared to 2022. The dynamism of the labour market and the increase in nominal wages have propelled this recent recovery.

37 Direct tax is a tax levied on a situation that is durable by nature and directly on a specific (legal or natural) person via a notice of assessment, e.g. personal income tax (PIT), corporate income tax (CIT), and wealth tax. Indirect tax is a tax levied on a material or legal event of an accidental or temporary nature and on a (legal or natural) person that can often be an intermediate and not the person responsible for the event (hence the indirect character of the tax), e.g. VAT, import levies, excise duties. Finally, social contributions are compulsory payments done to the general government that confer entitlement to receive a (contingent) future social benefit; contributions can be levied on employees, self-employed, employers or non-employees. This classification follows the ESA 2010 accounting framework.

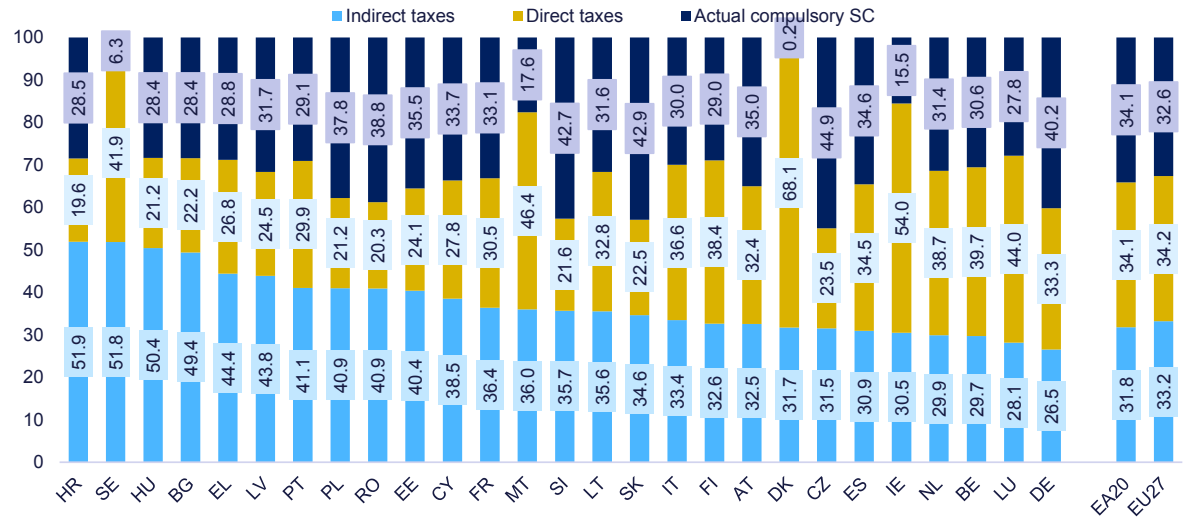
Figure 33: EU-27 tax revenues by category, 2013-2023 (% of total)



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data

Indirect taxes are the main source of tax revenue for 13 Member States, direct taxes for eight, and social contributions for six. As shown in Figure 34, in 2023 indirect taxation was still the main tax category in 13 Member States, led by Croatia (51.9% of total), Sweden (51.8%) and Hungary (50.4%). Indirect taxes had their lowest weight in Germany (26.5%), Luxembourg (28.1%) and Belgium (29.7%). Direct taxation was the main tax category in other eight Member States, led by Denmark (68.1%), Ireland (54.0%) and Malta (46.4%). It had a lowest share in Croatia (19.6%), Romania (20.3%), Hungary and Poland (21.2% each). Finally, social contributions were the main source of tax revenue in the remaining eight Member States, with Czechia (44.9%), Slovakia (42.9%) and Slovenia (42.7%) at the top, and Denmark (0.2%), Sweden (6.3%) and Ireland (15.5%) at the bottom.

Figure 34: Tax revenues by category of tax in EU Member States, 2023 (% of total)

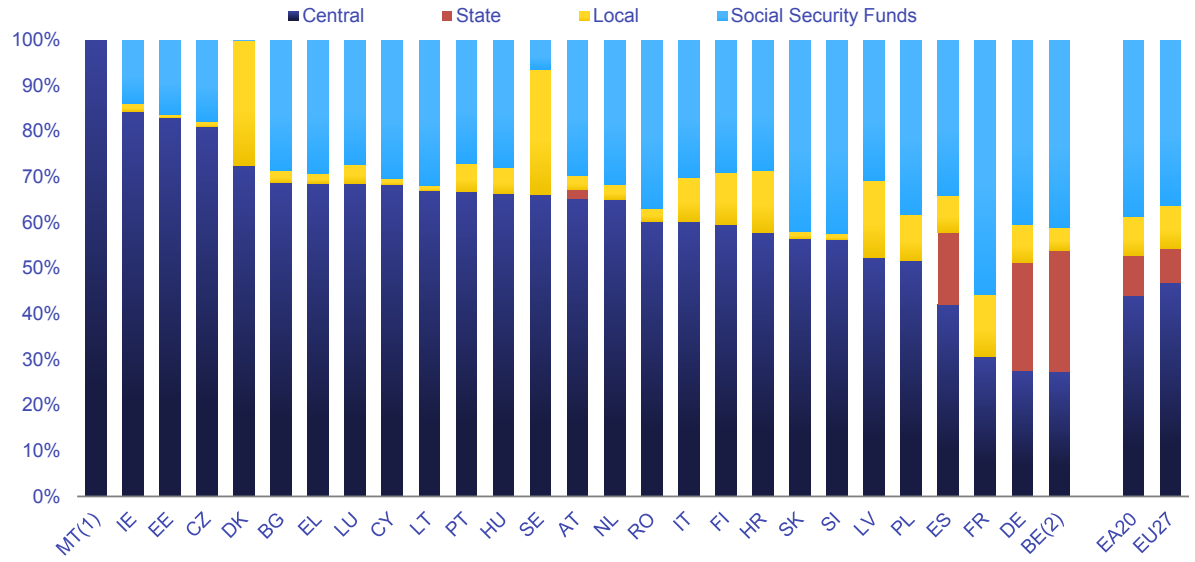


Source: European Commission, DG Taxation and Customs Union, based on Eurostat data. Countries are ranked by the share of indirect taxes in total tax revenues.

The breakdown of tax revenues by level of government is determined by the political and administrative organisation of a country. Central governments (excluding social security

institutions) collected 46.6% of total tax revenue in 2023, 0.2 pp higher than in 2022, confirming an upward trend starting in 2020. Central governments are the administrative entity leading tax collection in all the Member States but three. France, Germany and Belgium have indeed a higher weight of the social security funds subsector. In the EU-27, this subsector accounted for 36.0% of total tax revenue in the EU-27 in 2023 (Figure 35). Local entities collected 9.4% of total tax revenue in the EU-27 in 2023, led by Sweden (27.5%) and Denmark (27.2%). The state or regional subsector had an aggregate share of 7.5% in 2023, although it collects taxes in only four Member States: Belgium (26.3%), Germany (23.6%), Spain (15.9%) and Austria (1.9%). The breakdown by level of government may look different from the perspective of expenditure data, as the fiscal equalisation systems in the Member States allocate tax receipts to subnational entities irrespective of the competences devolved to them in tax collection.

Figure 35: Revenue structure by level of government, 2023 (% of total taxes)



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data. Total tax revenues exclude those claimed by institutions and bodies of the EU. Countries are ranked by the share of tax revenues collected by central governments.

Notes: (1) In the ESA 2010 national accounts, the social security funds subsector is not distinguished for MT.

(2) Alternative allocation of tax revenue by sub-sector according to "ultimately received revenue". Belgium's data are therefore not comparable with other countries' data.

2.3 Tax revenues by tax type

This section provides an overview of the main tax types across the EU, followed by a detailed analysis of the most representative tax types: personal income taxes (PIT), corporate income taxes (CIT) and value added taxes (VAT). The information in this chapter must be complemented with Chapter 4, where Section 1 discusses tax compliance for the main tax types.

2.3.1 Overview

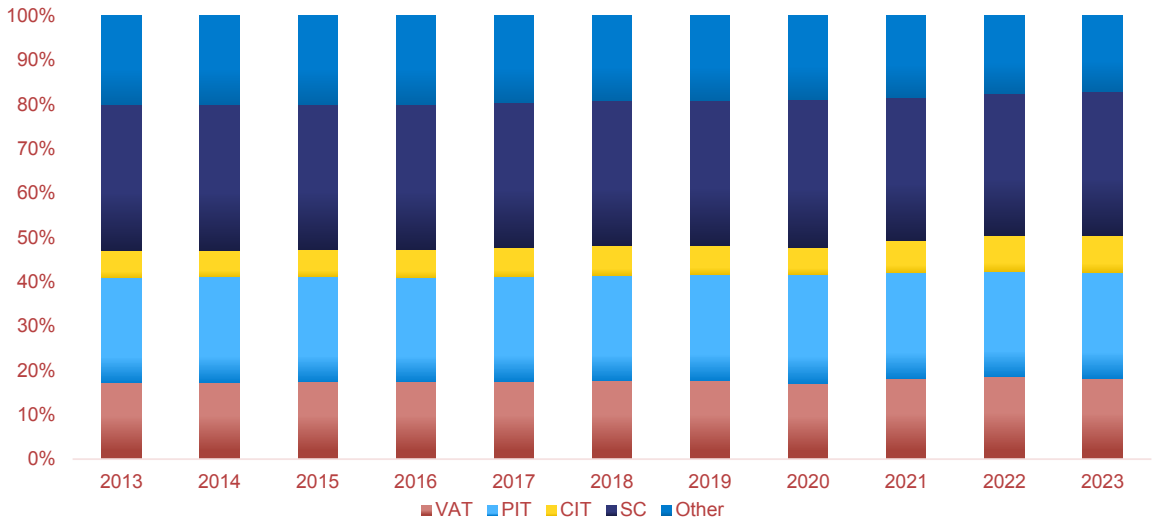
The share of tax revenue across the main tax types that generate revenue for EU Member States, has remained rather stable over the last decade. As shown in Figure 36, the largest share of tax revenue is generated by SC and PIT, at 32.6% and 23.9% respectively. These two revenue types coupled with VAT and CIT have represented at least 80% of EU-27 total tax revenue since 2013, and their combined share rose to 83.0% in 2023. The relative importance of CIT and VAT increased over the last 10 years, and more particularly since 2020. Other than these four main types, environmental taxes

(5.2% in 2023), property taxes (4.7%), excises on alcohol and tobacco (1.6%) and other taxes on products (the remaining 5.4%) complete the tax mix.

Box 2 and

Box 3 in section 2.2 discussed in detail the recent evolution of environmental and property taxes, respectively, while an analysis on SC revenues has been also included in the same section.

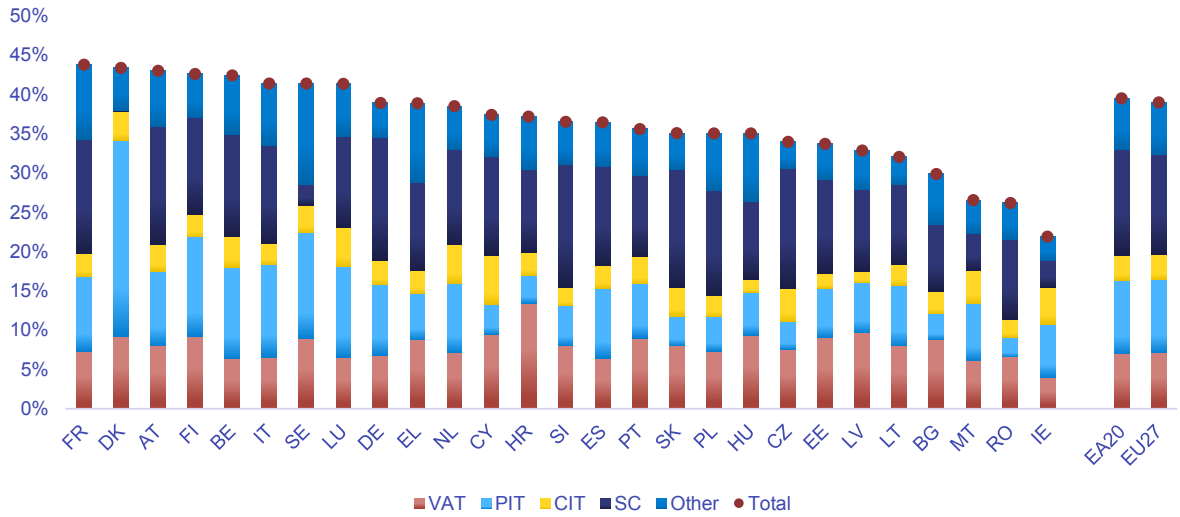
Figure 36: Evolution of EU-27 revenue share by tax type (% of total)



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

The significance of these types of taxes, measured through the tax-to-GDP ratio is heterogenous across Member States. These differences are highlighted in Figure 37 below. Social contributions are the most prominent source of tax revenue for 19 Member States, and most notably Germany, Slovenia and Czechia. PIT is the largest source of tax revenue for 6 Member States, notably Denmark, Sweden and Finland. Interestingly, for Croatia and Bulgaria VAT represents the largest source of tax revenue. While CIT revenues have a lower weight on total revenues for most Member States, Cyprus, Luxembourg and Netherlands have a share above the EU average.

Figure 37: Revenues by type of tax in % of GDP, 2023

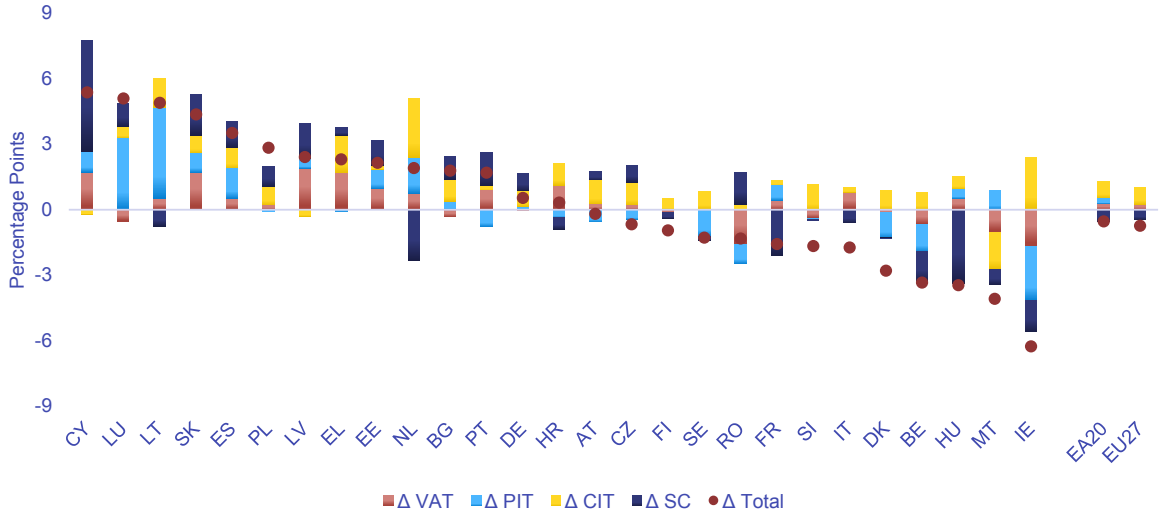


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by total tax revenues (% of GDP, 2023).

When considering the evolution of the main types of taxes in the last decade we find significant variation across EU Member States. Overall, as detailed in Figure 38, tax revenue changes due to different evolutions of the tax mix across Member States. Some of the trends observed over the last

decade include the considerable increase of SC revenue in Cyprus (5.0 pp of GDP) ([38]) and its decrease in Hungary (3.4 pp of GDP) and the Netherlands (2.3 pp of GDP), the increase of PIT revenue in Luxembourg (3.3 pp of GDP) and Lithuania (4.2 pp of GDP) and its decrease in Ireland (2.5 pp of GDP), and the boost of CIT revenue in the Netherlands (2.7 pp of GDP) and Ireland (2.4 pp of GDP).

Figure 38: 10-year changes in percentage points of GDP for main tax types, 2013-2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by change in total tax revenue 2013-2023 (pp of GDP).

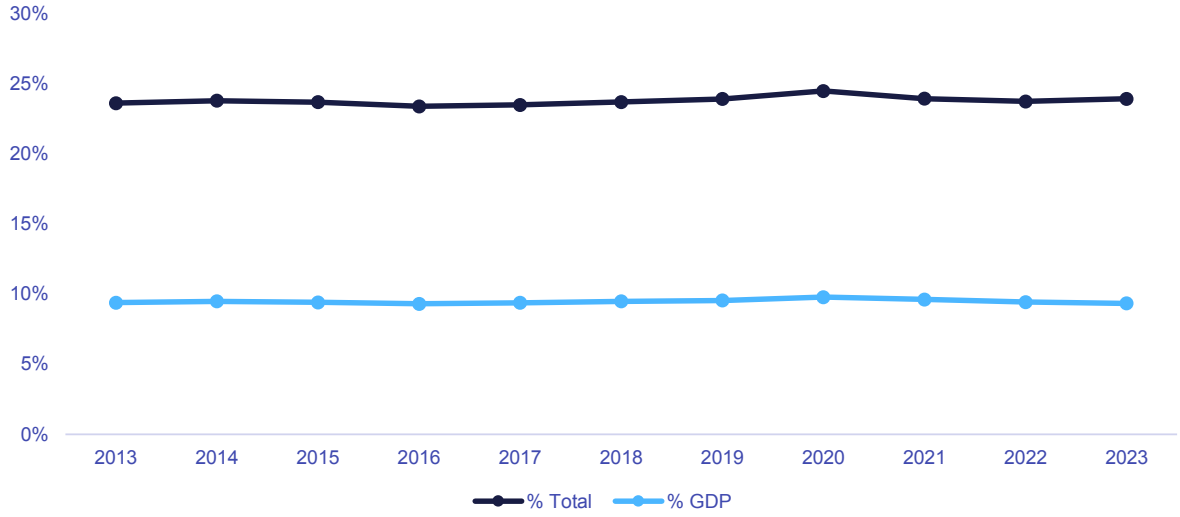
2.3.2 The Personal Income Tax

Tax revenues

PIT revenue remained remarkably stable in the EU-27 aggregate between 2013 and 2023. As shown in Figure 39, the weight of PIT revenue in the EU-27 aggregate decreased slightly after 2020, both in share of GDP and of total tax revenue. In 2023, PIT revenue was very close to 2013 values, representing 9.3% of EU GDP and 23.9% of total tax revenues.

38 The significant increase in social contributions observed in Cyprus may be explained by strong job creation supported by improved labour market conditions.

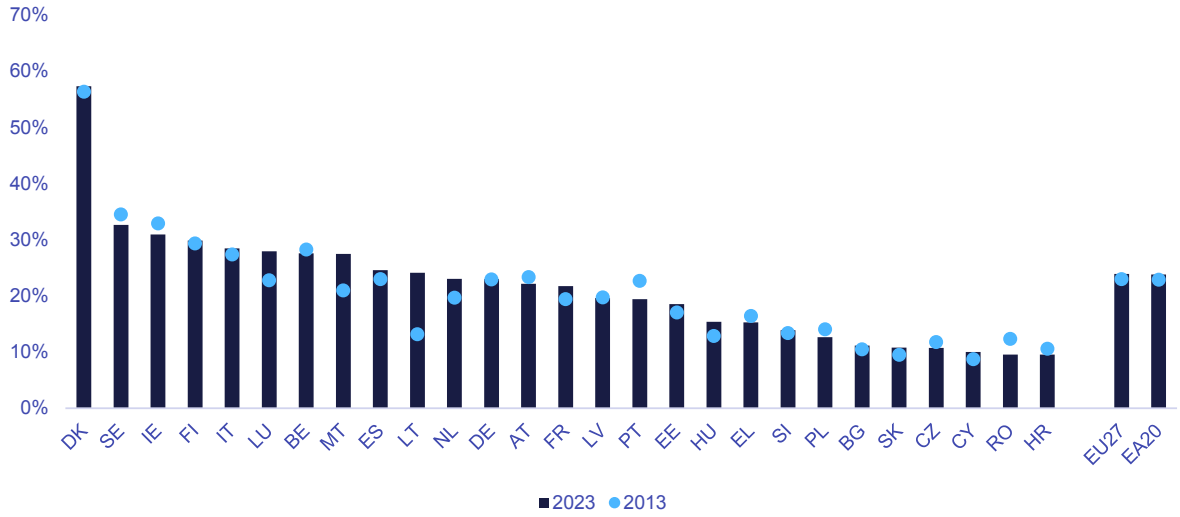
Figure 39: Personal Income Tax (% of GDP and % of total revenues), EU-27, 2013-2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

The relative weight of PIT as a share of total tax revenue varies significantly across Member States. Figure 40 depicts the share of total taxes resulting from PIT. The importance of PIT revenue is most significant in Denmark (57.1%), followed by Sweden (32.7%) and Ireland (30.9%). The prominence of PIT in Denmark, significantly above that of all other EU Member States, can be explained by specificities of the Danish tax system, where most social benefits are financed via taxes on income. At the same time, PIT revenue is more than 10 pp below the EU average for Cyprus (10.0%), Romania (9.5%) and Croatia (9.5%).

Figure 40: PIT revenues as share of total tax revenue (%), 2013 and 2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by PIT revenues as share of total tax revenue in 2023.

There is considerable heterogeneity across Member States on the evolution of PIT tax revenue as a share total tax revenue. While PIT revenue has remained rather stable at EU level, some Member States have observed considerable changes to their tax mix over the past decade. Changes in PIT revenue can be explained by different drivers, such as employment, wages and tax policy changes. Specifically, since 2013 Lithuania and Luxembourg recorded a remarkable increase of 11 and 5 pp respectively. For Lithuania, this increase can be attributed to very strong wage growth on the back of

labour market expansion (Ministry of Finance, 2023). In the case of Luxembourg, a significant part of this increase in PIT revenue occurred in 2023 and is largely explained by the impact of three successive automatic wage indexations (European Commission, 2023c). By contrast, since 2013, Portugal and Romania recorded a decrease of nearly 3 pp in their PIT revenue as a share of total tax revenue. The change in Portugal can be partially attributed to tax policy changes, namely the reversal of PIT rate increases introduced as part of the Economic and Financial Assistance Programme (Riscado, Sazedj and Wemans, 2024). In the case of Romania, this decrease is largely attributed to the 2018 tax reform which lowered the flat PIT rate from 16 to 10 percent (IMF, 2022).

Considerations on PIT design

Long-term trends and evolving policy priorities may reduce the ability of the PIT as currently designed to deliver stable revenues and reduce inequalities. As outlined above, PIT remains an important source of tax revenue for most Member States. However, sociodemographic (ageing), economic, technological and environmental changes may undermine the revenue generation and redistribution functions of labour taxation as a significant part of PIT revenues. For instance, research from the OECD (2018) on Slovenia found that ageing population will lead to a decrease of PIT revenue by more than 9% by 2040 compared to 2016, accompanied by an increase in public spending. This in turn could affect social cohesion and trust in the tax system. In fact, research by Doerrenberg and Peichl (2011) suggests that tax morale, i.e., the individual intrinsic motivation to pay taxes, increases with progressivity and with confidence in the state (see Section 1 in Chapter 6 for a more detailed analysis of progressivity). In this context, the current capacity of the tax-benefit system of Member States to sustain such pressures should not be understated (see Section 2 in Chapter 1 for further reference).

PIT reforms aimed at second and low-earners serve as an important tool to address persistent inequalities. The effect of reforms to PIT can be significant and must be carefully considered. In addition to the redistribution function, the relation between labour taxation and labour market participation is well known. Over the past decade, many Member States have reformed the PIT system (or received Council's country specific recommendations) ([39]) to reduce the burden of labour taxation on second- and low-income-earners with the aim of increasing labour market participation. This was the case of Portugal, Poland and the Netherlands which in 2023 lowered the PIT rate applied to the first or second income tax bracket (OECD, 2023a). Some authors (e.g., Lizarazo Ruiz, S. et al., 2017) argue that the economic response to PIT cuts is often characterised by a positive effect on growth, consumption and investment. However, such effects do not fully compensate for the loss in tax revenue. The design of PIT can also impact the participation of women in the labour market. For example, Asai et al. (2023) argue that higher personal income tax rates for the second earner in a married couple (most often women) helps to explain the labour market participation gap between men and women. Academic literature has also found that labour market reforms aimed at lowering effective tax rates for second earners resulted in increased labour market participation of women (see Kaygusuz, 2010 and Selin, 2014). Furthermore, research finds that these labour market disparities may be driving gender-based disparities in wealth accumulation (see section 1 in Chapter 6).

Policy makers should consider carefully the possible impact of PIT reforms aimed at increasing entrepreneurial activity and innovation. The potential impact of PIT on entrepreneurial activity and

39 In 2024, several Member States including Austria, Belgium, Czechia, Germany, Italy and Slovakia received country-specific recommendations to reform labour taxation. These included recommendations to reduce labour taxes, to lower tax disincentives on labour market participation, and to change the taxation for second earners.

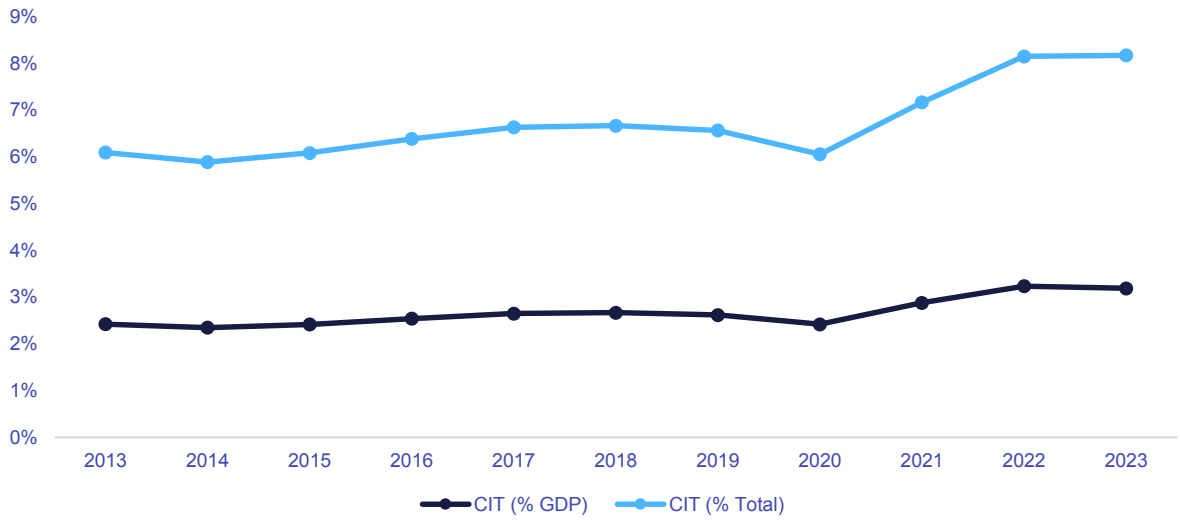
innovation has drawn significant attention from academia, due to their impact on employment and economic growth. However, empirical literature assessing the effectiveness of tax policies aimed at promoting entrepreneurship and innovation have yielded mixed results. For example, when discussing entrepreneurial activity, Cullen and Gordon (2007) argue that a reduction of PIT can significantly reduce entrepreneurial risk-taking, while Hansson (2012) argues the opposite, measuring entrepreneurial activity as the probability of becoming self-employed. A paper by Akcigit et al. (2021) focusing on United States patent data suggests that PIT design can impact the quantity, quality and location of innovation. These conflicting findings suggest that policy makers should carefully consider the design of PIT reforms aimed at encouraging innovation and entrepreneurship.

2.3.3 The corporate income tax

Tax revenues

Growth in corporate income tax (CIT) revenue has accelerated since 2020. The evolution over the past decade shows that CIT revenue is on the rise, approaching the historical highs reached before the Global Financial Crisis, both in relative and GDP terms. As depicted in Figure 41, CIT revenue in the EU-27 is following an upward trend since 2013 and has become more significant particularly in the period that followed the COVID-19 crisis. In 2022 and 2023, the relative importance of CIT stabilised at 8.2% of total tax revenue. CIT revenue as a share of GDP also accelerated in the post-pandemic period, while also stabilising at 3.2% of GDP in 2022 and 2023.

Figure 41: Corporate Income Tax revenue (% of GDP and % of total tax revenues), EU-27, 2013-2023

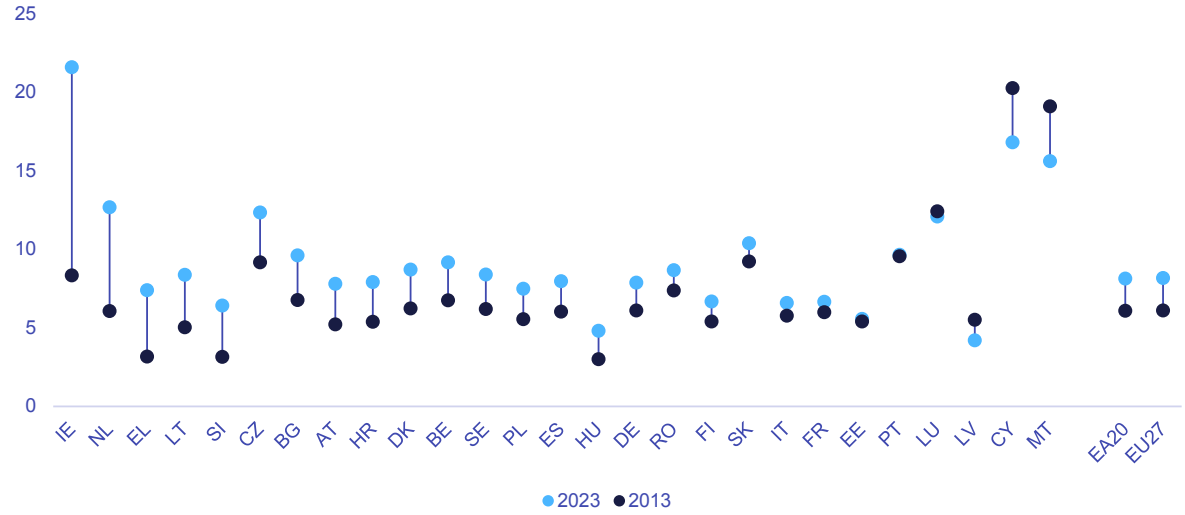


Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

Considering the evolution over the last decade in the individual Member States, CIT revenue as a share of total tax revenue has increased for all but four. These increases, which are displayed in Figure 42, are most significant for the cases of the Ireland (13.3 pp of total tax revenue), Netherlands (6.6 pp of total tax revenue), and Greece (4.2 pp of total tax revenue). While the reasons behind this might vary between Member States, it should be noted that for all these the increase of CIT revenue was significant in the post-COVID-19 period. Over the same period, Malta and Cyprus (3.5 pp both), Latvia (1.3 pp) and Luxembourg (0.3 pp) recorded decreases in the weight of CIT revenue as a share of total tax revenue. Notably, for Cyprus and Latvia this trend was driven by the evolution during the pre-COVID 19 period as CIT revenue increased in the 2019-2023 period. In the particular case of Latvia, the

pre-COVID 19 decrease was a consequence of the switch to a distribution-based regime in 2018, after which CIT revenue increased consistently.

Figure 42: Corporate Income Tax revenue (% of total tax revenue), 2023 vs 2013



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by change of CIT revenues as share of total in 2013-2023.

The corporate tax rate–revenue puzzle

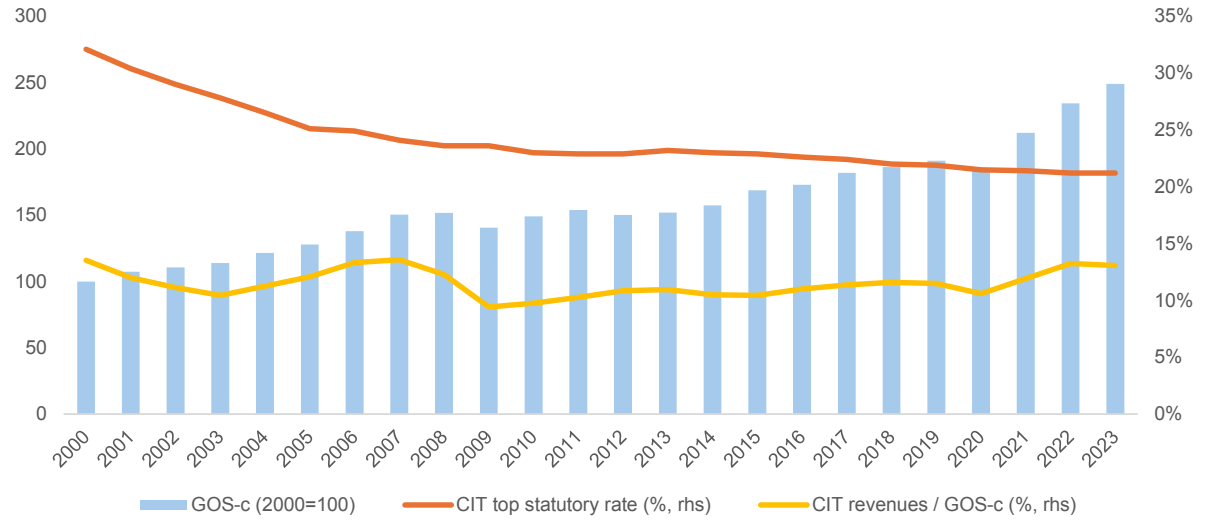
Corporate tax rates across the EU have fallen over the past decade but the CIT revenue to GDP ratio has increased. Specifically, the average EU-27 statutory corporate income tax rate was 21.2% in 2024, decreasing close to 2 pp over the past decade. Such decrease is in any case much more moderate than the registered during the first decade of the century (from 32% in 2000 to 23% in 2010). Tax competition is often referred to as the main explanation behind the decrease in statutory rates, in a context of international mobility of capital. The fact that the decrease in the statutory CIT rates has not resulted in a decrease in CIT revenue has been extensively debated in the academic literature. Multiple factors have been put forward to explain the stability of the ratio of CIT revenue to GDP in EU Member States despite lower statutory rates.

Evidence suggests that the stability and even increase of CIT revenues over GDP can be explained, among other reasons, by the expansion of the tax base and the increase in corporate profits. The decrease in statutory rates has been often accompanied by a broadening of the tax base which compensates for the expected loss of revenue. The expansion of the base has been achieved in part through multiple reforms which aimed at cutting capital allowances, with different papers illustrating this effect. ([40]) However, the economic size of the corporate sector is also relevant to explain the increase in the CIT revenue-to-GDP ratio. For example, Fuest et al. (2020) show, using firm level data, that the decrease of these tax rates was compensated by a significant increase in corporate profits before taxes. In fact, the gross operating surplus from corporations (GOS-c, used as a proxy of corporate profits), has increased by 149% since 2000, well above the growth of nominal GDP (118%), showing the increased importance of corporate profits in GDP. As shown in Figure 43, since 2000, the

[40] Over the past decades, the fall in corporate tax rates was accompanied by broadening the legal definition of the tax base (see, among others, Nicodeme et al. (2018), Auerbach (2007), Brautigam et al. (2017)). For instance, the latter publication shows that interest deduction limitation rules and restrictive loss provisions explain the broadening of the tax base in the EU-15 since 2007.

ratio between CIT revenues and GOS-c (which can be used as an approximation of the implicit tax rate for corporations), has fluctuated between 10% and 14%. During the same period the average CIT top statutory rate in the EU-27 has declined from 32% to 21%. At the beginning of the century the evolution of both variables followed a similar downward trend, but the evolution of CIT top statutory rate and CIT revenue as a share of GOS-c decoupled in 2004. Since 2009, CIT revenues as a share of GOS-c has been increasing gradually while the CIT top statutory rate has continued to fall (though very slightly), which can be explained by a broadening of the tax base and other drivers such as progress in fighting against base erosion and profit shifting, impact of loss carry-forwards or more payable tax expenditures.

Figure 43: Evolution of CIT revenue as a share of gross operating surplus of corporations vs the CIT top statutory rate in the EU-27, 2000-2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

It is therefore important to distinguish the concepts of corporate tax revenue and the individual tax contribution of corporations. The observed increases of CIT revenue share and of the CIT revenue-to-GDP ratio may be explained by some of the reasons explored above, which do not necessarily serve as an indication of the individual tax contribution of corporations. Specifically, the observed macroeconomic effect highlights how in a context of higher economic activity, profits of corporations tend to increase and so CIT revenue. Between 2020 and 2023, gross operating surplus of corporations increased by more than the total increase observed between 2007 and 2020. In this context, the increase in the CIT revenue-to-GDP ratio observed since 2020 should not be directly interpreted as an increase in the individual tax contribution of corporations. This contribution is better assessed through implicit tax rates on corporate income or other microeconomic tax burden indicators. When considering the evolution of the approximation for the ITR on corporate income (outlined above in Figure 43), we observe that the increase in the individual tax contribution of corporations occurs between 2020 and 2022 – while remaining below the peak recorded in 2007 – before decreasing slightly in 2023.

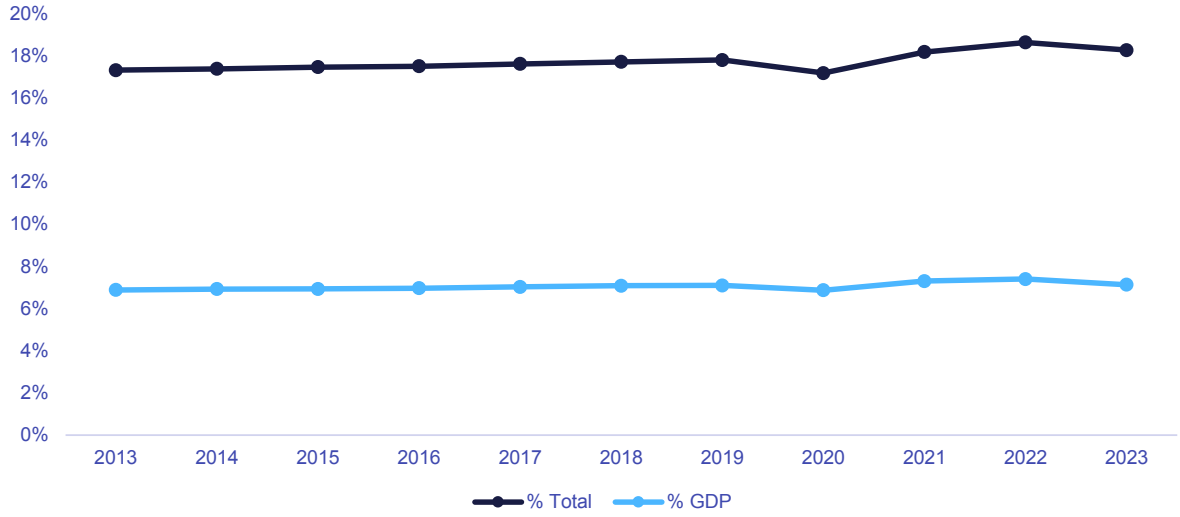
2.3.4 The value added tax

Trends in rates and revenue

Over the past decade, VAT revenue remained relatively stable in the EU-27. In 2023, as shown in Figure 44 the relative importance of EU-27 VAT revenue as a share of GDP decreased slightly, halting

an upward trend started in 2020. Specifically, VAT revenue represented 7.1% of GDP and 18.3% of total tax revenue in 2023, compared to 6.9% of GDP and 17.3% of total tax revenue in 2013.

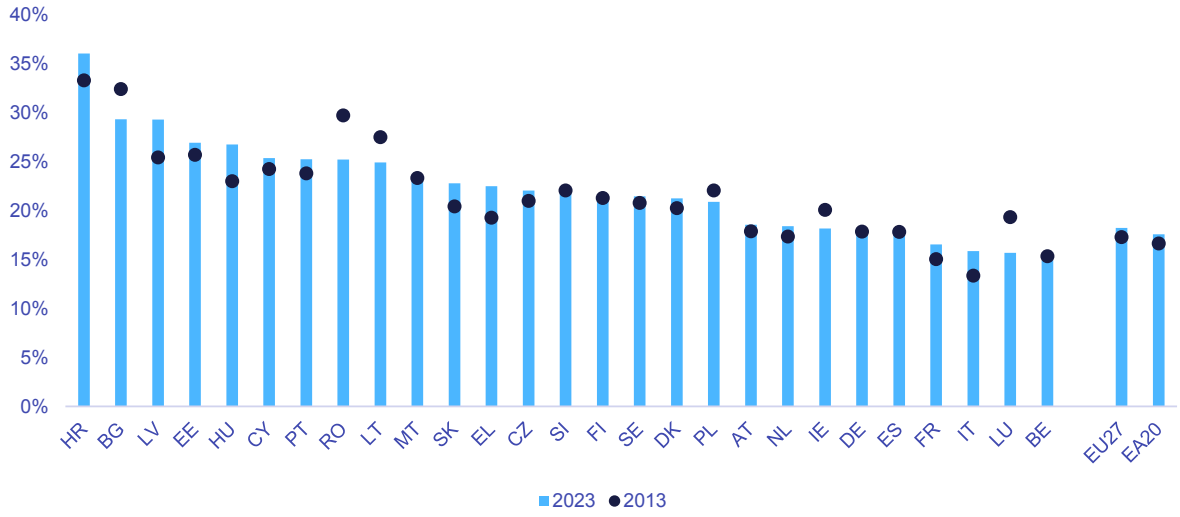
Figure 44: Value Added Tax (% of GDP and % of total tax revenues), EU-27, 2013-2023



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data.

While the evolution of VAT revenue across the EU is heterogenous, over the past decade, the relative share of VAT in total tax revenues has increased for 16 out of 27 Member States. Figure 45 shows that the share of VAT revenue has increased more significantly for Latvia (3.9 pp), Hungary (3.8 pp) and Greece (3.2 pp). The most significant decreases in relative importance over the same period were observed for Romania (4.5 pp), Luxembourg (3.6 pp) and Bulgaria (3.1 pp).

Figure 45: VAT revenues as share of total tax revenues (%), 2013-2023.



Source: European Commission, DG Taxation and Customs Union, based on National Tax Lists data. Countries are ranked by VAT revenues as share of total tax revenues in 2023.

VAT revenue performance

The evolution of VAT revenue relates to economic factors and the performance of the tax system. Economic factors such as household final consumption and investment must be considered when assessing the evolution of VAT revenue in the EU. However, the ability of the tax system to

collect VAT and the breadth of exemptions applied are other key determinants to tax revenue. In the case of the EU, while some heterogeneity exists across Member States, the policy gap has become much larger than the compliance gap (see Chapter 4), due to considerable decreases of the latter while the policy gap has remained more stable (European Commission, 2024d).

VAT collection efficiency has a direct relation to the compliance gap. The VAT compliance gap, which will be discussed at greater length in Chapter 4, relates to the revenue lost from non-compliance of domestic taxpayers. Factors that might affect the VAT compliance gap include the effectiveness of the legal system (Christie & Holzner, 2006), and tax compliance costs (Yesegat, 2009).

Reducing the VAT policy gap could raise revenues, and some argue foster economic growth. The policy gap is the share of revenue that is forgone because of deliberate policy choices, such as exempting or reducing VAT rates for certain goods and services. The introduction of reduced rates, often aimed at supporting lower-income groups, can also introduce a regressive effect due to the different consumption patterns of households of similar incomes (Turrini et al., 2024). Recent research by Acosta-Ormaechea and Morozumi (2021) suggests that reducing the policy gap by broadening the VAT base through fewer exemptions and reduced rates is significantly more growth promoting, in a revenue-neutral scenario, than adjustments to the standard VAT rate. Furthermore, IFS (2011) estimates the efficiency gains associated with closing the policy gap which could increase welfare for Belgium, Germany and the UK.

3 Recent tax-related reforms in the EU and its Member States

This chapter provides an overview of recent tax policy reforms at EU and national levels. Section 3.1 focuses on the latest reform proposals at EU level, grouped in three blocks: improving business taxation, improving tax procedures in support of businesses and taxation in support of the green transition. We then move to Section 3.2 which provides an overview of the recent reforms enacted by the EU Member States, on the basis of the responses received by the OECD and the EU Commission to their annual joint questionnaire. Section 3.3 finally presents the work done under the EU's Technical Support Instrument (TSI), to support EU Member States develop and enact national tax policy reforms.

3.1 Recent EU proposals in the area of taxation

This section provides an overview of ongoing and new EU tax policy initiatives and other relevant initiatives that have a similar objective. Firstly, we provide the state of play on three recent proposals for the corporate sector, known as 'BEFIT', 'HOT' and 'TP'. Due to its importance for the business sector, the Savings and Investment Union Communication and the Start-up and Scale-up Strategy are also discussed. Secondly, we explain the final set up of two adopted initiatives that aim to improve tax procedures, 'FASTER' and the 'ViDA'. Finally, we refer to measures that contribute to the green transition, including the revision of the Energy Taxation Directive and other proposals that relate to taxation including the Clean Industrial Deal.

3.1.1 Legal proposals to improve business taxation

Business in Europe: Framework for Income Taxation proposal (BEFIT)

Business in Europe: Framework for Income Taxation (BEFIT) is a proposal which lays down a common set of rules to determine the corporate tax base of groups of companies in the EU ([41]). Businesses in the EU still face 27 different national corporate tax systems and numerous bilateral tax treaties. This creates complexity, uncertainty and compliance costs for EU businesses as soon as they want to operate in more than one Member State. BEFIT introduces common rules for computing the taxable results of companies which operate in the internal market as part of a larger group. The aim is to simplify tax rules and to ensure a level playing field for businesses in the EU. The framework builds on international developments in the field of corporate taxation, such as the OECD/G20 Inclusive Framework Two-Pillar Approach. ([42])

41 Proposal for a COUNCIL DIRECTIVE on Business in Europe: Framework for Income Taxation (BEFIT), COM/2023/532 final
42 The details of the BEFIT proposal are explained in the Annual Report on Taxation 2024.

The Commission adopted the BEFIT proposal on 12 September 2023. With BEFIT being proposed, the Commission withdrew the proposals on Common (Consolidated) Corporate Tax Base (the CCTB/CCCTB), which were on the table of the Council since 2016. BEFIT is a long-term and comprehensive project. In particular, the experience from applying the EU Pillar Two Directive ([43]) will be necessary for a smooth application of the framework. The Pillar Two rules apply to profits booked as of 2024 and first reporting by companies will only be available in 2026. Accordingly, in its 2023 BEFIT proposal, the Commission set 2028 as the starting year for application. Since the publication of the proposal, the Council initiated a detailed reading and first discussion of the different parts of the proposal, including feedback received from stakeholders on potential further alignment with Pillar Two rules. Further reflection and technical work will be necessary to determine the next steps in these negotiations. In this regard, several Member States suggested the possibility of giving priority to discussions on certain specific parts of the proposal. Some Member States also pointed to the necessity to gather initial experiences with the International Financial Accounting Standards (IFRS) as a starting point for the computation of taxable income as implemented under Pillar Two. Meanwhile, the European Economic and Social Committee (EESC) and the Committee of the Regions (CoR) have adopted generally positive opinions in support of the initiative. ([44]) The European Parliament is in the process of adopting an opinion on the proposal.

Head Office Tax System proposal (HOT)

The Head Office Tax system ([45]) proposed the option for SMEs to interact with only one tax administration when they operate cross-border through permanent establishments. If SMEs wish to operate cross-border, they become taxable in more than one Member State as soon as their activity abroad creates a permanent establishment (PE), and they need to comply with up to 27 different tax systems. Compliance with those obligations comes with fixed costs, which disproportionately affect smaller businesses. SMEs spend around 2.5% of their turnover on tax compliance – significantly higher than that of large enterprises. In practical terms, if the HOT proposal were to be adopted in its original form, the SMEs would calculate their taxable result for their head office and all their branches, using only the tax rules of the Member State where their Head Office is located. They would file one single tax return with the tax administration of that Member State. The head office tax administration would share this return with the other Member States where the SME maintains a presence. Finally, the Member State of the head office would apply the tax rate of the other Member States to the taxable profits accrued by the SMEs permanent establishment there and the head office tax administration transfers any collected tax revenues to the other Member State. The proposal also includes adequate provisions on eligibility, termination and anti-abuse provisions.

During discussions in Council, Member States voiced concerns with the approach proposed. During 2024 discussions and despite a compromised narrowed approach, more than one third of the Member States asked that an orientation debate is held, which took place during the HLWP on 24 October 2024. Although most of the intervening Member States expressed support for the general objectives of the proposed Directive, this was not sufficient to advance the debate, given that previous

43 Council Directive (EU) 2022/2523 of 15 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union.

44 European Economic and Social Committee (2023), Opinion of the– Proposal for a Council directive on Business in Europe: Framework for Income Taxation (BEFIT) (COM(2023) 532 final – 2023/0321 (CNS)) – Proposal for a Council directive on transfer pricing (COM(2023) 529 final – 2023/0322 (CNS)), EESC 2023/04143; European Committee of the Regions (2023), Opinion of the European Committee of the Regions — on the SME Relief Package & BEFIT, COR 2023/04941

45 Proposal for a COUNCIL DIRECTIVE establishing a Head Office Tax system for micro, small and medium sized enterprises, and amending Directive 2011/16/EU, COM/2023/528 final.

concerns such as tax sovereignty, competitiveness, administrative complexity, risk of aggressive tax planning, low number of entities concerned, were not removed. The majority found that the proposal does not offer an appropriate basis for continuing a technical negotiation and the Report to ECOFIN, adopted on 12 December 2024, notes that there are ways of supporting SMEs with measures that differ from those presented by the Commission legislative proposal. A number of Member States also indicated that there is a need for a broader analysis of factors, which could shed more light on actions that could be taken, including support beyond taxation measures, so that SMEs can "scale up and make the most of the market".

Transfer Pricing Directive

The Transfer Pricing proposal ([46]) was tabled with the aim to ensure a common approach to transfer pricing and to simplify tax rules in the EU by increasing tax certainty for businesses, reducing the risk of litigation and double taxation, lowering disputes between tax administrations and lowering compliance costs.

While Member States support the principles of the proposal, limited progress has been made as Member States question the use of a directive as the best tool to deliver on those principles. During 2024, the file was discussed on multiple occasions. While most Member States generally support the objectives of improving legal certainty as regards the application of the arm's length principle in the EU, as well as regards the status of the OECD Transfer Pricing Guidelines and further common interpretation of those OECD Transfer Pricing Guidelines (OECD, 2022a), most of them do not agree that a directive is the right instrument to achieve these objectives. Their main concern is loss of national sovereignty in this area, loss of flexibility in negotiating and applying the OECD Transfer Pricing Guidelines as well as that an EU Directive on transfer pricing could create a double standard in this field.

Member States show a preference for a soft law approach. During the discussions in Council Member States expressed a preference for a soft law approach through the establishment of a new Platform to discuss practical solutions to transfer pricing problems. This possible way forward was also suggested by the European Parliament although emphasising a broader mandate allowing the participation of national experts from EU Member States, together with representatives of the business community, academics and civil society. The Commission has still a preference for a Directive but is open to consider the approach preferred by Member States under the conditions that a new platform on transfer pricing can overcome the shortcomings of the past Joint Transfer Pricing Forum. During the discussions in Council, Member States have expressed divergent views as regards fundamental parameters of the platform, such as its mandate and structure, form of results and endorsement of its work (outcomes), the political commitment to implement these, and the review or monitoring processes thereof. The Polish Presidency put great effort in finding a compromise. So far, some Member States did not support a platform with a broad mandate, political commitment and review or monitoring mechanism, which were all crucial for the Commission to ensure the effectiveness of the new platform for establishing a common approach in the application of the transfer pricing rules.

In addition to these legal proposals the Commission has put forward a number of communications and actions plans since January 2025. As announced in the Clean Industrial Deal Communication on 26 February 2025, the Commission will recommend to Member States in Q2 2025 that their corporate tax systems support a clean business case (European Commission, 2025f). The

46 Proposal for a COUNCIL DIRECTIVE on transfer pricing, COM/2023/529 final

aims are to encourage the use of tax incentives as a supporting tool for clean investment; and set common guiding principles for Member States' tax incentives to support the CID (see more below).

Savings and investment accounts will be used to mobilise retail investment. The Commission Communication on the Savings and Investment Union (European Commission, 2025g) explains how the diversity of the European tax landscape creates frictions in a European saving and investments union (SIU) while at the same time emphasising the importance of tax policy to finalise the savings and investments union. In order to encourage retail participation in capital markets the Commission will create a European blueprint for savings and investment accounts which will be accompanied by a recommendation addressed to the Member States on tax treatment of these accounts.

The Commission together with Member States will work to identify barriers to cross-border investment and ways to address these. Differences in national taxation procedures can create administrative burden and barriers to cross-border investment. Despite progress with the FASTER initiative ([47]), other barriers remain and prevent the achievement of necessary scale in capital markets and restrict opportunities for investment. The Commission Communication on the Savings and Investment Union (European Commission, 2025g) announced that the Commission will take action to remove differences in national taxation procedures which create administrative burden and barriers to cross-border investment. This will happen in collaboration with Member States through the exchange of best practices, enforcement of free movement of capital and other single market freedoms, and by issuing recommendations.

The Commission is also updating its strategic approach towards start-ups and scale-ups. In the context of access to financing for start-ups and scale-ups, the issues of taxation largely overlap with those of the saving and investments union (European Commission, 2025h).

3.1.2 Legal proposals in support of the green transition

Revision of the Energy Taxation Directive (ETD)

The revision of the Energy Taxation Directive (ETD) is an important contribution to encourage a green transition across the EU by comprehensively reviewing the way energy products (including electricity) are taxed. ([48]) As part of the *Fit for 55* package the Commission adopted a proposal in July 2021 for new rules regarding energy taxation to address possible distortions in the internal market and preserve the ability of Member States to generate sufficient tax revenues. The proposal is the only one of the *Fit for 55* package that has not yet been agreed. Negotiations are ongoing at technical level in the Council.

The ETD has remained unchanged since its adoption in 2003 while energy markets, technologies and policy priorities in the EU have experienced significant developments. In the absence of an indexation mechanism, the real value of the minimum rates has eroded over time and the minimum rates no longer have a converging effect on national rates as the vast majority of Member States tax most energy products and, in some cases electricity, considerably above the ETD minima. Highly divergent national rates are applied in combination with a wide range of tax exemptions and reductions to safeguard the competitiveness of EU industries as well as to pursue other national policies. This also increases the fragmentation of the internal market and distorts the level playing field

47 The Faster and Safer Tax Relief of Excess Withholding Taxes (FASTER) Directive makes withholding tax procedures in the EU more efficient and secure for investors, financial intermediaries and national tax administrations.

48 Proposal for a Council Directive restructuring the Union framework for the taxation of energy products and electricity (recast), COM/2021/563

across the affected sectors of the economy. Fiscal treatment of the business sector, in particular energy intensive businesses and the manufacturing sector, varies considerably across Member States. Moreover, the current directive is not consistent with EU environmental legislation and priorities, notably on carbon pricing, and as such impedes regulatory efficiency and coherence.

The revision of the ETD is based on a new hierarchy for minimum rates. Firstly, the proposal includes a new structure for minimum tax rates based on the energy content and environmental performance of fuels and electricity, rather than on volume as it is currently the case. Secondly, the proposal broadens the taxable base by including more products in the scope and by removing some of the current exemptions and reductions. The proposal groups energy products and electricity in general categories per type, which are ranked according to energy content and environmental performance. Thus, the new system would ensure that the most polluting fuels are taxed at the highest rates. Member States must ensure this ranking is replicated domestically. At the same time, several exemptions and rate reductions would be removed, with much less margin for Member States to set rates below the minima for specific sectors.

Taxation in the Clean Industrial Deal (CID)

On 26 February 2025, the Commission put forward the Clean Industrial Deal ([49]) in support of climate action and competitiveness under one overarching growth strategy. It is a commitment to accelerate decarbonisation, reindustrialisation and innovation, to reinforce Europe's resilience. The aim is to support large scale investments in energy intensive industries and clean tech.

Member States are encouraged to conclude the negotiations on the Energy Taxation Directive and to make the tax framework more conducive to electrification and assure that fossil fuels have no advantage over clean energy. As a short-term measure, to support energy intensive industries, Member States could lower taxation levels on electricity and eliminate levies, that make up a large part of the costs of electricity. The Clean Industrial Deal announced that the Commission will issue a recommendation on how to effectively lower taxation levels in a cost-effective way.

Tax incentives can play a crucial role in decarbonisation efforts. Tax incentives can provide financial backing and mobilise clean investment if corporate tax systems appropriately support a clean business case. Tax policies should not give fossil fuels an advantage over clean energy. Tax incentives could include shorter depreciation periods – up to immediate expensing - for clean technology assets, allowing businesses to quickly write off costs and benefit from tax incentives that offset high initial investments. Also, the use of tax credits for businesses in strategic sectors for the clean transition, could make it more financially attractive to invest in decarbonised practices. The Clean Industrial Deal announced that the Commission will issue a recommendation on the use of tax incentives in support of the Clean Industrial Deal.

3.1.3 EU legislation to improve tax procedures in support of businesses

Value Added Tax in the Digital Age (ViDA)

The VAT in the Digital Age (ViDA) initiative introduces the most significant overhaul of VAT rules since the introduction of the single market three decades ago. ([50]) ViDA is designed to

49 European Commission (2025f), Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: 'The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation', COM/2025/85 final

50 The VIDA initiative resulted in three legal acts: Council Directive (EU) 2025/516, Council Regulation (EU) 2025/517 and Council Implementing Regulation (EU) 2025/518.

modernise compliance, ease administrative obligations for businesses, combat tax fraud, and align rules with the demands of the digital economy. With ViDA adopted on 11 March 2025 following the European Parliament's reconsultation, the implementation of this transformative package is set to move forward progressively until January 2035.

ViDA focuses on three key pillars:

- Digital Reporting Requirements (DRR): A unified approach to standardised digital reporting and e-invoicing for intra-community transactions, streamlining VAT compliance across Member States.
- Single VAT Registration (SVR): Simplifying cross-border business operations by expanding the One-Stop Shop (OSS) and extending the reverse charge mechanism for business-to-business (B2B) transactions, reducing the need for multiple VAT registrations.
- Platform economy: Tackling VAT challenges in the platform economy by empowering digital platforms to facilitate VAT collection for short-term accommodation rentals and passenger transport services.

Real-time DRR and e-Invoicing: a game-changer for VAT compliance. The new system introduces real-time, transaction-based digital reporting for cross-border VAT in the EU, leveraging e-invoicing and linked automated reporting to revolutionise compliance. This harmonised framework will also extend to domestic transactions, giving Member States critical tools to monitor all types of activity, and crack down on VAT fraud. By streamlining processes and reducing administrative burdens, businesses will benefit from lower compliance costs, while Member States will gain access to advanced administrative cooperation tools to maximize the use of the valuable data obtained from real-time reporting. The impact is significant: e-invoicing is expected to reduce VAT fraud by up to EUR 11.1 billion annually over the next decade, while businesses will save EUR 4.15 billion per year in compliance costs during the same period. ([51])

Single VAT registration (SVR) is simplifying cross-border trade and cutting costs. ViDA takes the OSS to the next level, eliminating the need for businesses to register for VAT in multiple Member States. Under this reform, cross-border traders can register in just one Member State to manage VAT for sales to consumers across the EU and for transferring goods to storage in other Member States. The SVR is expected to save businesses – especially SMEs – an estimated EUR 8.7 billion ([52]) in registration and administrative costs over the next 10 years, making cross-border trade easier, more efficient, and less burdensome.

Updated VAT rules for the platform economy will increase fairness and simplifying compliance. New VAT rules for passenger transport and short-term accommodation rental platforms will require platform operators to collect and remit VAT when service providers, such as small businesses, are not doing so. This creates a level playing field with traditional providers and ensures a consistent approach across all Member States. It also makes life simpler for SMEs using the platforms as they will no longer need to understand and ensure compliance with VAT rules, often in other Member States. The reform is expected to generate up to EUR 6.6 billion annually in additional VAT revenues and deliver EUR 0.5 billion in business savings from clarification and simplification in the legislation over the next 10 years.

51 See website of the Vida initiative.
52 ViDA Impact Assessment, SWD/2022/393 final, p. 113

Faster and Safer Relief of Excess Withholding Taxes (FASTER)

The Faster and Safer Relief of Excess Withholding Taxes (FASTER) Directive establishes new rules to streamline and secure procedures for obtaining relief from double taxation. It was formally adopted by the Council on 10 December 2024 and published in the Official Journal of the EU on 10 January 2025[53]. The Directive establishes new rules to streamline and secure procedures for obtaining relief from double taxation, thereby encouraging cross-border investment and combating tax fraud. The FASTER Directive aims to enhance the safety and efficiency of withholding tax (WHT) procedures within the EU for cross-border investors, national tax authorities, and financial intermediaries. Currently, in cross-border investments, many Member States impose taxes on dividends (from shares) and interest (from bonds) paid to foreign investors. At the same time, these investors are required to pay taxes on the same income in their country of residence. Although international treaties aim to address the issue of double taxation, Member States normally levy WHT at a higher rate than the one the investor is entitled to according to double tax treaties. To avoid double taxation, the investor needs to claim the excess tax withheld. The processes for claiming relief on the excess WHT vary significantly across Member States and normally rely on paper-based procedures. As a result, these relief procedures often become lengthy, costly, and burdensome (costs related to WHT refund procedures, foregone tax relief and opportunity costs are estimated at EUR 8.4 billion annually ([54]), while also being vulnerable to large-scale tax fraud (estimated losses from Cum/Ex and Cum/Cum schemes are amounting to EUR 150 billion).

Therefore, the FASTER Directive seeks to simplify, accelerate, and secure tax relief procedures by introducing digitalization and transparency. Key measures include:

- A common tax residence certificate
- Fast-track procedures
- Standardised reporting for financial intermediaries

Common tax residence certificate

The Directive introduces a common EU digital tax residence certificate (eTRC) for taxpayers. Member States will implement automated processes for issuing in a short period of time eTRCs to individuals or entities deemed tax residents within their jurisdictions that other Member States will be able to verify. This certificate will have a common content for eligible investors to access fast-track WHT relief procedures.

Fast-track procedures

The Directive provides for two fast-track mechanisms, which complement existing standard WHT refund procedures. These mechanisms aim to harmonise and expedite tax relief and refund processes across the EU. Member States will have to use one or both of the following systems:

1. **relief-at-source**: the appropriate tax rate is applied directly at the time of payment of dividends or interest.

53 Council Directive (EU) 2025/50 of 10 December 2024 on faster and safer relief of excess withholding taxes.

54 Costs of EUR 8.4 billion annually are mentioned in page 7 and explained in page 17 of the Impact Assessment report accompanying the document Proposal for a Council Directive on Faster and Safer Relief of Excess Withholding Taxes (SWD(2023) 216 final). It refers to a JRC study performed in 2009 for the Economic Impact of the Commission Recommendation on Withholding Tax Relief Procedures.

2. **quick refund**: overpaid WHT is refunded within a set timeframe of 60 days from the end of the refund request period.

In order to verify eligibility for the fast-track procedures outlined in the directive, financial intermediaries must conduct a due diligence when requesting relief on behalf of registered owners. EU countries must apply the fast-track procedures if they provide relief from excess WHT on dividends paid for publicly traded shares. However, Member States will have an option to maintain their current procedures in the following cases: (i) when granting relief for excess WHT on interest from publicly traded bonds, and (ii) when offering a comprehensive relief-at-source system for dividends on publicly traded shares, provided their market capitalisation ratio is below 1.5% (as reported by the European Securities and Markets Authority, ESMA). Member States will also be allowed to exclude certain WHT relief requests from fast-track procedures for fraud prevention purposes. Additionally, the Directive includes provisions for indirect investments, ensuring that collective investment undertakings or their investors can access fast-track procedures.

Standardised reporting for financial intermediaries

The Directive introduces a uniform reporting obligation for financial intermediaries, such as banks and investment platforms. Certified intermediaries must report transaction details to tax authorities, ensuring traceability of the dividend or interest payment from the securities issuer to the final investor. Therefore, this measure aims to assist national tax authorities in detecting tax fraud and abuse. Reporting can be direct—where intermediaries report directly to the competent authority of the source Member State—or indirect, with information passing through each intermediary in the securities payment chain. Member States will establish national registers for the reliable credit institutions, central securities depositaries and investment firms to become certified financial intermediaries. A European Certified Financial Intermediary Portal will also be created to simplify registration and provide centralized access to national registers. Member States retain discretion in registering or removing intermediaries and implementing related measures as well as imposing penalties for non-compliance with the Directive's obligations.

Member States must transpose the Directive into national law by 31 December 2028, with the rules taking effect from 1 January 2030. It is expected that the FASTER Directive attracts investment towards the EU and retain savings from EU investors, reinforcing the capital market union and increasing EU GDP by 0.025% annually.

Directive on administrative cooperation (DAC9)

The EU has implemented the global agreement on a minimum effective corporate tax. Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large sale domestic groups in the Union ([55]) (the Pillar Two Directive) implemented within the EU the agreement reached by the OECD/G20 Inclusive Framework (OECD/G20 IF) on Base Erosion and Profit Shifting (BEPS) on 8 December 2021. The Directive also follows closely the Global Anti-Base Erosion Rules (GloBE) Model Rules agreed by the OECD/G20 IF and published on 20 December 2021.

The Pillar Two Directive is designed to ensure that large multinational enterprises groups (MNEs) pay a minimum level of tax on the income arising in each jurisdiction where they

55 Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union.

operate. Entities within the scope of the rules must calculate their effective tax rate for each jurisdiction where they operate and pay a top-up tax for the difference between their effective tax rate per jurisdiction and the 15% minimum tax rate. Any resulting top-up tax is generally charged in the jurisdiction of the ultimate parent entity (UPE) of the MNE. The rules also take into account the possibility that jurisdictions introduce their own qualified domestic top-up tax (QDTT), thereby preserving a jurisdiction's primary right of taxation over their own income. This qualified domestic top-up tax eliminates any top-up tax liability when it is treated as a QDTT Safe Harbour.

Appropriate risk assesment and evaluation of the minimum tax requires additional information from taxpayers. Article 44 of the Pillar Two Directive sets out the requirements on filing that entities within scope of the Directive must meet. It refers to a Top-up tax information return which must be filed using a standard template and includes certain specified data points. The Top-up tax information return is a risk-assessment tool: it contains the information a tax administration needs to perform an appropriate risk assessment and evaluate the entity's tax liability correctly.

Central filing requires exchange of information. The baseline scenario for filing is that each constituent entity must file its Top-up tax information return in the Member State where it is located. This means that each constituent entity of the MNE would need to file with its tax administration very extensive reports that would also include high-level information from the MNE to which it belongs. However, there is a derogation from this local filing requirement possible to the extent that the UPE (or a designated filing entity) files this Top-up tax information return on behalf of the entire MNE (central filing). The only condition attached is that arrangements to exchange information between tax administrations must be in place between the jurisdictions involved. This allows that the reporting is only done once for the whole MNE, and the constituent entities are then exempted from filing reports themselves locally. It is expected that general reporting by the entity designated for the entire group will be the main approach taken by MNEs to report the information required by the Pillar Two Directive.

DAC9 enables exchange of information among tax authorities and thus simplifies tax compliance. DAC9 lays down a framework that facilitates the exchange of Top-up tax information return between Member States and enable MNEs to switch from local to central filing. This framework includes a "dissemination approach" to ensure that all relevant jurisdictions receive the information they need, based on their role in the MNE, in line with the OECD framework.

The OECD standard template is incorporated into EU law. The OECD has also developed a standard template (GloBE Information Return or GIR) ([56]) to be used by the entities to fulfil their filing obligations. It contains the data points to be exchanged and explanatory guidance on its use and strikes a balance between providing tax administrations with the data they need to undertake adequate compliance checks, while limiting the cost of compliance for MNEs. DAC9 incorporates the GIR into EU law by making it the Top-up tax information return envisaged in Article 44 of the Pillar Two Directive. For the exchange of information with third country jurisdictions, Member States will have to sign appropriate international agreements with those jurisdictions. To ensure a smooth functioning of the information exchange, and in order to minimise administrative burden, the proposed rules applicable within the EU are fully compatible with the rules governing information exchange with third

56 OECD (2023), Tax Challenges Arising from the Digitalisation of the Economy – GloBE Information Return (Pillar Two), OECD Publishing, Paris, https://doi.org/10.1787/91a49ec3-en.

country jurisdictions. The directive ([57]) was adopted by the Council in April 2025. Member States need to implement the directive into national legislation by the end of 2025. First exchanges are foreseen from 1 December 2026.

3.2 Recent reforms in the EU Member States

This section focuses on the most recent tax measures adopted by EU Member States. The information is based on the tax measures reported by national administrations in the *Joint OECD-European Commission Annual Tax Policy Reform Questionnaire*, by aggregating and processing the responses received to the 2025 questionnaire. ([58]) While comprehensive, the list of tax measures is non-exhaustive. This section first provides an overview of the tax measures by type of tax. This is followed by an analysis of the area of impact of the reforms with specific national examples. ([59])

3.2.1 Recent reforms by type of tax

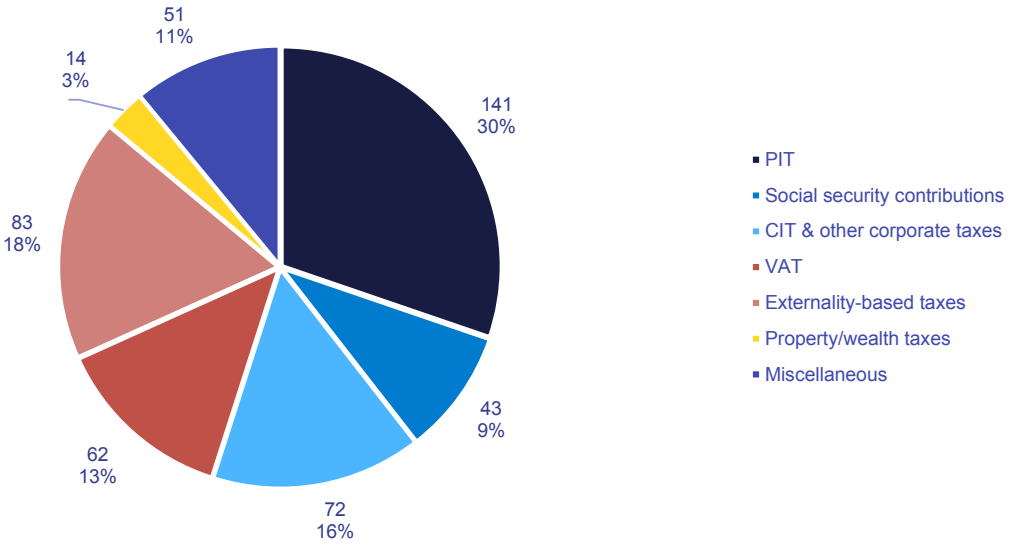
Most Member States have introduced reforms on PIT, CIT and VAT over the last year, while slightly less than a half have introduced reforms on externality-based taxes. Table 4 shows the tax measures by tax type reported by Member States in the *2025 OECD-European Commission Annual Tax Policy Reform Questionnaire* (reference year 2024). Replies are summarised in Figure 46**Error! Reference source not found.**. Out of 466 tax measures reported by Member States, 141 (30%) are related to personal income taxes and 83 (18%) to externality-based taxes. Regarding corporate income taxes and other corporate taxes, 20 Member States reported 72 measures (16%). 10 Member States reported reforms concerning social security contributions (43 measures). Four Member States have implemented tax reforms related to property/wealth taxes (14 measures). Overall, Member States reported 219 (47%) measures that are expected to result in lower overall revenues, 165 (35%) measures that are expected to result in higher overall revenues, and 36 (8%) measures are due to have neutral fiscal impact. For 46 measures (10%), the fiscal impact is unknown.

Figure 46: Reforms reported in 2025 by type of tax

57 Council Directive (EU) 2025/872 of 14 April 2025 amending Directive 2011/16/EU on administrative cooperation in the field of taxation, OJ L, 2025/872, 6.5.2025.

58 Responses to the 2025 questionnaire are made up of tax policy measures self-reported by the Member States that were implemented, legislated, or announced in each country between 01 January 2024 and 31 December 2024. Some tax measures are temporary, while others are permanent. Two Member States, France and Romania, had not reported any tax measure in the 2025 OECD-European Commission Annual Tax Policy Reform Questionnaire by 19 March 2025, so no input from these countries is included in the analysis across this section. Detailed country information can be found in the online country fiches accompanying this report.

59 The categorisation by type of tax is self-reported by the Member States in their responses. The categorisation by area of impact is done by DG TAXUD on the grounds of the self-reported main objective of the reform. Further details can be found in subsection 3.2.2.



Source: European Commission based on responses to the 2025 joint OECD-European Commission Annual Tax Policy Reform Questionnaires. France and Romania did not provide input.

Table 4: *Latest tax and related reforms by type of tax as reported by Member States in the 2025 joint Tax Policy Reform Questionnaires*

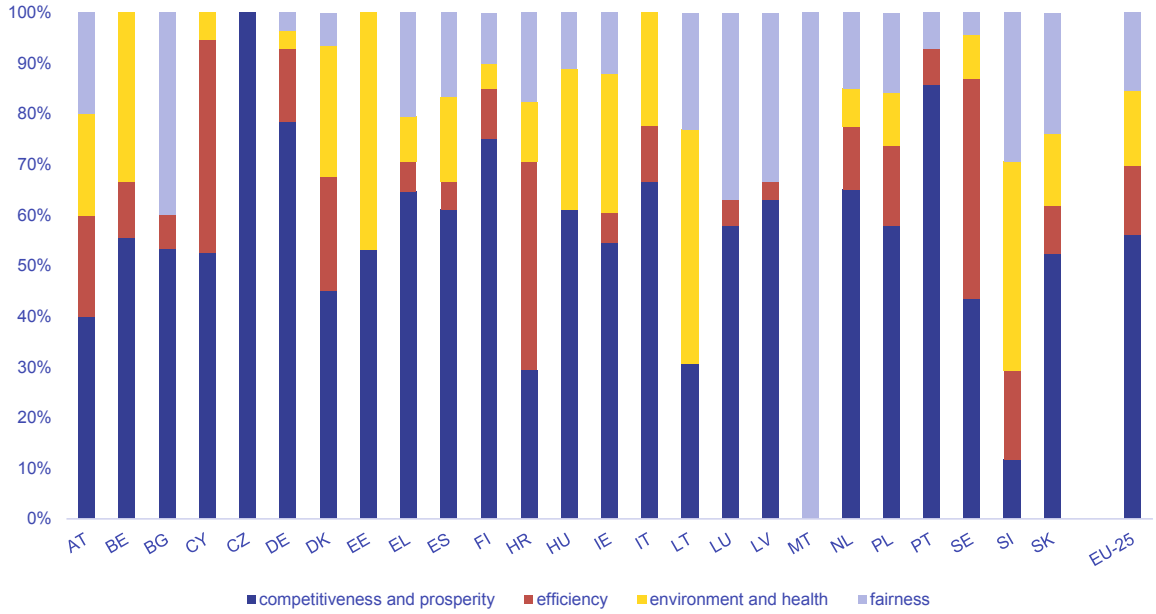
Type of tax	Countries
Personal Income Tax: Earned income	AT, BE, DE, DK, EE, EL, FI, HR, HU, IE, IT, LT, LU, LV, MT, NL, PT, SE, SI, SK
Personal Income Tax: Savings	AT, DE, DK, ES, LT, NL, SE
Personal Income Tax: Unincorporated businesses/Self-employment income	CZ, EL, ES, HR, LV, NL, PL, SE, SI, SK
Personal Income Tax	BE
Social security contributions: Employee	BE, BG, CY, DE, EL, ES, HU, LV, NL, SK
Social security contributions: Self-employed	BG, CY, EL, ES, PL
Social security contributions: Employer	BG, CY, DE, EL, ES, HU, LT, NL, PT, SE
Corporate income tax	BE, CY, DK, EE, EL, ES, FI, IE, IT, LT, LU, NL, PL, PT, SI, SK
Other corporate taxes	ES, HR, HU, IE, LT, LU, LV, NL, PL, SE, SK
Value-added tax	AT, BE, BG, CY, DE, DK, EE, EL, ES, FI, HR, IE, IT, LV, NL, PL, PT, SI, SK
Environmentally related taxes	AT, DE, DK, EE, EL, FI, HU, IE, IT, LT, LV, NL, SE, SI
Health-related taxes	BG, EE, ES, FI, IE, LT, SE, SI
Other excise duties	DK, HU, NL, PL, SK
Estate duties/inheritances/gift taxes	DE, DK, LU, PT
Transaction taxes (movable and immovable property)	DK, HU, IT, NL
Recurrent taxes on (net) wealth	DK
Recurrent taxes on immovable property (business and residential)	EL, IE, PL, SE
Multiple taxes	CY, IT, LV, NL, PL
Other taxes	EL, FI, HR, HU, IT, LT, LV, NL, SE, SK

Source: European Commission based on responses to the 2025 joint OECD-European Commission Annual Tax Policy Reform Questionnaires. France and Romania did not provide input.

3.2.2 Recent reforms by area of impact

More than half of the measures reported by Member States in 2025 aim at improving competitiveness and prosperity. The 466 tax measures reported by the Member States in 2025 have been grouped by their area of impact and results by country and EU aggregate are shown in Figure 47 ([60]). 56% of the reported measures mostly impact competitiveness and prosperity, being associated with self-reported objectives such as raising revenues, boosting economic growth and supporting investment in general. In some countries (e.g., Czechia, Portugal), this share surpasses 80%. 15% of the reported measures mainly impact fairness, as their self-reported main objective is to increase equity and fairness. Another 15% of the reported measures mostly impact environmental and health, having associated main objectives such as promoting environmental sustainability and improving health. The rest of 14% of the reported measures mostly influence efficiency, with the self-reported main objective of simplifying tax system/increasing tax compliance and increasing tax certainty. An overview of impact areas, main policy objective and their frequency is provided in Table 5.

Figure 47: Reforms reported in 2025 by area of impact



Source: European Commission based on responses to the 2025 joint OECD-European Commission Annual Tax Policy Reform Questionnaires. France and Romania did not provide input.

Table 5: Reforms reported in 2025 by dimension and main objective of the reform (EU-27)

Dimension	Main objective of the reform	Total
Competitiveness and prosperity	Raise revenues	100

60 The categorisation by area of impact is done by DG TAXUD on the grounds of the self-reported main objective of the reform. Measures assigned to the area of competitiveness and prosperity have one of the following self-reported main objectives: support R&D /innovation, encourage savings, support employment or enhance skills, raise revenues, boost economic growth, and encourage consumption. Measures assigned to the area of fairness have the self-reported main objective of increasing equity/fairness. Measures assigned to the area of environment and health have one of the following self-reported main objectives: support clean investment (climate-change mitigation), improve health and promote environmental sustainability. Measures assigned to the area of efficiency of tax collection, including ATP, tax avoidance, evasion and fraud, have one of the following self-reported main objectives: increase tax certainty, simplify the tax system/increase tax compliance, in response to Pillar Two. Measures without a self-reported main objective have been assigned manually to one or another area of impact.

Competitiveness and prosperity	Support investment	32
Competitiveness and prosperity	Boost economic growth	31
Competitiveness and prosperity	Support employment or enhance skills	24
Competitiveness and prosperity	Support R&D/innovation	6
Competitiveness and prosperity	Encourage consumption	1
Competitiveness and prosperity	Encourage savings	1
Efficiency	Simplify the tax system/ increase tax compliance	33
Efficiency	Increase tax certainty	8
Efficiency	In response to Pillar Two	4
Efficiency	Adjustment made in line with requirements of VAT Directive	1
Environment and health	Promote environmental sustainability	38
Environment and health	Improve health	20
Environment and health	Support clean investment (climate-change mitigation)	8
Fairness	Increase equity/fairness	72
	Not applicable/blank	87
		466

Source: European Commission based on responses to the 2025 joint OECD-European Commission Annual Tax Policy Reform Questionnaires. France and Romania did not provide input.

Reforms impacting competitiveness and prosperity

Some Member States have increased specific taxes with the aim to strengthen public finances and obtain resources to cover new policy priorities. Croatia has adjusted the personal income tax brackets and tax rates, where the latter are determined by local government units (see Box 4, Case 1). Estonia has increased the VAT standard rate by 2 percentage points (with entry into force in July 2025) and introduced a 2% surtax on PIT and CIT (entry into force in January 2026) as a part of a security tax to increase defense expenditure. These measures are planned to be extended until end-2028, to the same duration as the 5% increase in excise duties on petrol. Bulgaria has implemented a 5-year plan (2025-2029) for the gradual increase of excise rates on tobacco products to reduce the gap with average EU levels of excise taxation. Hungary has extended the windfall tax on the banking and energy sector until the end of 2025 and expanded the retail tax to include web shops and platform providers. Latvia has replaced three personal income tax rates of 20%, 23% and 31% with two rates of 25.5% and 33% (see Box 4, Case 2). Slovakia has implemented major changes to the tax code: an increase in the statutory corporate income tax rate to 24% (21% before) for companies with taxable income over EUR5 million, an upgrade of the VAT brackets (23%, 19% and 5% now, compared to 20%, 10% and 5% until end-2024) or a new tax on sugar-sweetened beverages. Finally, Germany has increased the aviation tax.

Several Member States have reduced parts of the tax burden in an attempt to stimulate economic growth. Portugal has reduced the corporate income tax rate from 21% to 20% (general

rate) and from 17% to 16% (applicable for SMEs and Small Mid-Caps companies for the first EUR 50 000) and has expanded its support to younger generations by modifying the personal income tax credit, which now applies to workers under the age of 36 (see Box 4, Case 3). Croatia has temporarily decreased the VAT rate for natural gas and heating from 13% to 5%, fuel wood, pellets, briquettes and wood chips. Hungary increased the threshold for the VAT registration to HUF 18 million (ca. EUR 60 000). The Netherlands has reintroduced a reduced tax on diesel for agriculture. To attract workers from abroad, Slovenia has implemented a 7% tax credit of the salary for employees under 40 years old that have not resided in the country for the last two consecutive years, provided that they earn at least 200% of the average wage. Spain has introduced reduced CIT rates (17-20%) for SMEs and micro-SMEs with turnover below EUR 10 million.

Reforms impacting fairness

Some Member States have adjusted personal income and social security contributions brackets, tax credits and allowances to increase household disposable income and reduce inequality. For personal income taxes, Latvia has increased a non-taxable minimum up to EUR 510 per month (EUR 6 120 per year) and for pensioners up to EUR 1 000 per month (EUR 12 000 per year), increased deductions for education, medical expenses, and donations and added a 3% rate on income (dividends, capital) over EUR 200 000 per year, when declaring annual income. Finland has increased the basic allowance, while Ireland has increased the personal tax credit, income credit, employee tax credit and rent tax credit for single persons and joint assessed couples. To counter inflation and improve tax fairness, Luxembourg and the Netherlands have adjusted personal income tax brackets. Hungary has doubled the family taxbase allowances (by 50% from July 2025 and by additional 50% from January 2026). Finally, Bulgaria has decided to increase the lower income threshold for social security contributions (employees, employers, self-employed) from BGN 933 - 1077 (ca. EUR 477-551). Other measures are elaborated in detail in Box 4.

To tackle the increase in food prices, Member States have also approved changes to VAT. Spain temporarily reduced VAT rates from 4% to 0% on basic foodstuffs (bread, flour, milk, cheese, eggs, fruit, vegetables, legumes, tubers and cereals) from July to September 2024 and to 2% until December 2024; from 10% to 5% on oils (different from olive oil) and pasta from July to September 2024 and to 7.5% until December 2024; and on olive oil from 10% to 0% from July to September 2024 and to 2% until December 2024. Finland has shifted female sanitary protection and incontinence care articles and napkins for children from the standard VAT rate of 25.5% to the 14% reduced rate, while Ireland has extended the reduced VAT rate of 9% on the supply of gas and electricity until April 2025. Last, but not least, Latvia decided to extend the reduced 12% VAT rate on vegetables, fruits and berries typical for this country.

Box 4: Case studies of recent PIT reforms in the area of fairness

This box presents the estimated impact by the Joint Research Centre (JRC) of three of the above-mentioned PIT reforms. Specifically, the adjustment of the tax brackets and the maximum tax rates in Croatia, the personal income tax reform in Latvia and the reform of the "IRS Jovem" in Portugal have been analysed. Estimates have been compiled with the EUROMOD microsimulation tool by the European Commission Joint Research Centre in the context of the European Semester exercise.

Case 1: Croatia

Effective 1 January 2025, Croatia introduced a wide-ranging tax reform that included the adjustment of

the personal income tax brackets and tax rates, where the latter are determined by local government units. In particular, the monthly thresholds for the non-taxable and the highest brackets were increased from EUR 540 to EUR 600 and EUR 4 200 to EUR 5 000, respectively. Moreover, the categories of income that are not taxed were broadened. The maximum allowed PIT tax rates that municipalities of different sizes may levy have also been reduced ([1]) As an example, the City of Zagreb (the capital) applied the maximum rates of 23.6% and 35.4% for the medium- and high-income brackets, which have now been reduced to 23% and 33%. Model estimations by the JRC that looked at the adjustments to the thresholds and the decrease in the surtax rate for densely populated areas from 14% to 12% show that fiscal revenues from personal income taxation may decline by as much as 8% and that the bulk of the benefits of the tax reduction accrue to the upper part of the income distribution. At the same time, the measures provide significant tax relief for lower income households, for instance, the income tax burden of the second lowest income decile could decrease by 30%, whereas this reduction is around 5% for the highest income group (see Figure 48 below).

Case 2: Latvia

A major personal income tax reform is being introduced in Latvia that intends to flatten the tax schedule for the majority of the households, while increasing the tax rate for high- and very high-income earners. Another important feature of the reform is equalising the non-taxable income allowance across all income groups, which effectively eliminated some kinks in the marginal tax rate that characterized the previous tax system. Specifically, the three PIT tax rates of 20% for incomes up to EUR 20 004, 23% for incomes up to EUR 78 100 and 31% for higher incomes is replaced with two PIT rates: 25.5% for annual earnings up to EUR 105 300 and 33% above this threshold. ([2]). An additional 3% tax will apply to the highest overall incomes exceeding EUR 200 000 per year, including salaries, dividends and capital gains. A tax-benefit simulation with JRC's microsimulation tool EUROMOD shows that the tax reform reduces the average effective tax rate for most households and particularly for middle-income earners. The reform also decreases the marginal tax rate for households with lower gross annual earnings (up to around EUR 20 000), potentially increasing incentives to work. At the same time, the tax reform's impact on income inequality is ambiguous as the Gini coefficient declines slightly from 33.04 to 32.86 whereas the 80/20 ratio increase from 5.68 to 5.73. The reform is expected to lower the AROP rate by 0.52 pp, from 21.04% to 20.52%. The reduction in the risk of poverty is larger for single elderly households (-1.87pp) and single-parent households (-0.57pp).

Case 3: Portugal

In 2025, Portugal significantly expanded its support to younger generations through the modification of its income tax credit, IRS Jovem, which was specifically targeted to young workers. In particular, the 2025 State Budget has increased eligibility for the tax credit to include people up to 35 years old, whereas previously the allowance was granted to workers of 18-26 years old and, for those with a PhD, up to 30 years of age. The differentiation of the benefit according to the level of education has been abolished, increasing inclusivity, and its duration was extended from five to ten years. In accordance with the extended duration, the level of the tax allowance is phased out more gradually, while its maximum benefit level was also increased from 40 to 55 times the Social Support Index. Since this tax measure exempts part or whole of the income from personal income taxation, its benefits accrue approximately in proportion to the income level. Moreover, the impact of the IRS Jovem on disposable income is amplified somewhat by its interaction with other government benefits, such as the Rent Support. With regard to the distributional impact, the above suggests the measure to be regressive, which is confirmed by the results from the JRC's microsimulation tool. Indeed, medium- and high-income earners benefit the most, as the measure boosts their disposable income by around 0.6%. The impact on the lowest four income deciles is much lower, generally below 0.2% (Figure 49).

Figure 48: Percentage change in PIT tax burden and contribution to PIT revenues due to 2025 tax reform in Croatia (2024 values)

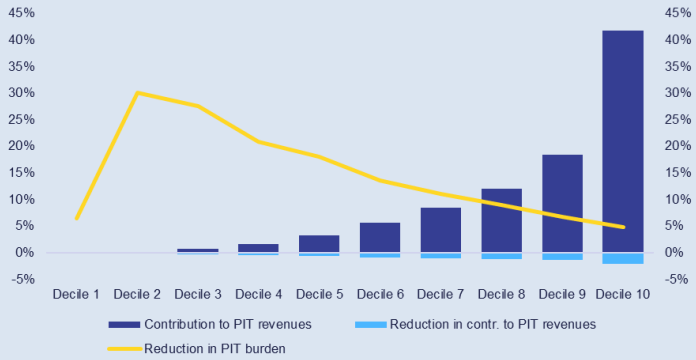
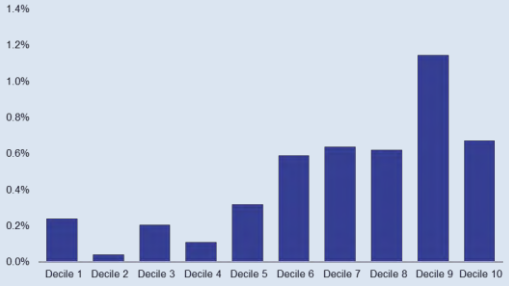


Figure 49: Change in equivalised disposable incomes due to 2025 IRS Jovem reform in Portugal (2024 values)



Source: European Commission, Joint Research Centre, based on the EUROMOD model.

Conclusions

The first two tax reforms analysed in this box both included a reduction in the average personal income tax burden; however, they differ significantly in their focus and size. Whereas the PIT reform in Croatia is a significant tax reduction that lowered and steepened the tax schedule by increasing the tax brackets and decreasing the tax rates; the adjustments to the income tax system in Latvia were much smaller in size that flattened further the marginal the rates. Since most of the benefits of the reform in Croatia were felt by people in the higher income deciles, the measure increased inequality somewhat, whereas the PIT reform in Portugal did not have significant impact on inequality. Finally, based on model simulations, the changes to the tax allowance for young people in Portugal benefited mostly the middle- and high-income earners, as the tax credit is roughly proportional to income.

(1) The law sets the minimum and maximum allowed PIT rates for local government units, based on their population size. Larger towns and Zagreb tend to apply the upper limit and thus lowering this limit from 1 January 2025 implies a reduction in the tax rate. Given that EU-SILC does not contain data on the postal codes of the respondents, the simulated surtax rates in EUROMOD are based on the degree of urbanisation (i.e. different rates for people reporting living in densely populated areas, intermediate populated areas and thinly populated areas).

(2) It is worth noting that the upper tax rate is not effective due to a special rule that allows the solidarity tax of 10.5% to be applied towards the upper tax bracket.

Reforms impacting environment and health

In 2024, the majority of Member States focused their environmental tax reforms on facilitating the green transition by incentivising clean transport and renewable energy sources. Belgium, Cyprus, Germany, Spain, Finland, Ireland, Italy and Netherlands all increased or introduced tax reliefs, such as exemptions, deductions and accelerated depreciation to incentivise the use of clean transport, mainly relating to electric vehicles. Latvia, Lithuania, the Netherlands (see Box 5) and Ireland have implemented reforms to increase taxes and duties on fossil fuels and C02 emissions, with the goal of reducing emissions. Many Member States have also introduced measures to encourage environmentally friendly energy sources and energy efficient buildings. For instance, Austria has introduced an increased deduction in PIT for the replacement of fossil fuel heating systems, while Cyprus is providing increased capital deductions for expenditures on increasing the energy efficiency of buildings. Ireland has decreased the VAT rate for the installation of heat pumps, while the Netherlands has agreed to apply a reduced energy tax rate on hydrogen to distinguish it from gas.

Denmark has also implemented duties on greenhouse gas emissions from livestock as a part of the Green Tax Reform (see Box 5). Furthermore, the Netherlands has proposed to abolish the exemption for dual and non-energy coal consumption by 2027 and Germany has introduced measures to gradually reduce their tax subsidy for diesel used in agriculture and forestry until expiry of the subsidy in 2026.

As in previous years, the main trend in health-related tax reforms in the EU was to increase taxes on alcohol and tobacco, as well as on electronic cigarettes and non-tobacco nicotine products. Several Member States have implemented similar health-related tax reforms in 2024, increasing excise duties and taxes on such products (alcohol, tobacco, electronic cigarettes and non-tobacco nicotine products) which can have damaging effects on health to discourage their consumption. Ireland, Estonia, Lithuania, Latvia, Slovenia, Bulgaria, Finland, Hungary, Poland, Slovakia and Spain all implemented reforms in this area. Interestingly, Sweden implemented a reform to reduce taxes on alcohol in the case of small independent breweries. Regarding health and long-term care insurance, Germany increased again the standard contribution rate for long-term care insurance. Slovakia has introduced a compulsory child sports activity allowance, which obliges companies with 50 employees or more to provide an allowance for sports activities for the children of their employees.

Reforms impacting efficiency

Many Member States have implemented different policy reforms with the common objective of simplification. Finland, Portugal and Slovenia have increased their respective thresholds for VAT reporting, to reduce the compliance burden for smaller companies. Ireland has implemented a participation exemption for qualifying foreign dividends, meaning that dividend payments from foreign subsidiaries to Irish companies are exempted from corporate income taxation if certain conditions are met. Poland implemented a reform to reduce the base for calculating health insurance contributions for self-employed individuals; by excluding sales of fixed assets such as cars and real estate from their income base for the calculations The reform also reduced the minimum level of health insurance contribution base for self-employed from 100% to 75% of minimum wage. Denmark has reduced the number of depreciation schemes for investments by abolishing their immediate depreciation schemes for expenses related to patents and computer software, simplifying tax administration. In Sweden, reforms were introduced to simplify the tax reduction for green technology installation and to simplify the rules for loss carry forward. Greece has also introduced tax deductions to incentivise timely income tax payments, offering a 4%, 3% or 2% deduction depending on how early the tax return is submitted.

In 2024, reforms in Member States aimed at tackling ATP, tax avoidance, evasion and fraud were scarce. Belgium, Poland, Spain and Hungary all reported tax reforms in line with Pillar Two as part of the EU directive on ensuring a global minimum level of taxation for multinational and large-scale domestic groups. The Netherlands has applied a limit on tax deductions for donations for income tax, corporate tax and donations from companies. The Netherlands has also reformed gift and inheritance taxation for businesses that were repeatedly transferred or started by very senior citizens to mitigate tax avoidance concerns. Cyprus has also adapted their legislation in line with European Council directive (EU 2020/284) for detecting VAT fraud, particularly in the e-commerce sector.

Box 5: Tax reforms in the Recovery and Resilience Facility implemented in 2024

With the support of the Recovery and Resilience Facility (RRF), Members States have made significant progress in reforming their tax systems. The concrete reforms in national Recovery and resilience plans (RRPs) support progress in the area of taxation, in line with the country specific recommendations issued under the European Semester. In some Member States, RRF reforms aim to support the green transition, for instance by expanding or improving environmental and energy taxation as well incentivising low CO_2 emissions vehicles.

As part of its RRP, the **Netherlands** has introduced a reform of energy taxation in order to reduce carbon emissions by limiting energy consumption and incentivising businesses and households to switch to more climate-friendly sources of energy. As part of the wider reform effort to combat aggressive tax planning, the Dutch RRP includes a law on withholding tax on dividends paid to low-tax jurisdictions, which entered into force on 1 January 2024. This reform aims to reduce the funds flowing from the Netherlands to low-tax jurisdictions and contributes to making the Dutch taxation system more transparent internationally.

The **Danish** RRP contains tax reforms that aim to boost climate ambition through stimulating private investment in green and climate solutions coupled with higher emission taxation. Notably, Denmark has reduced CO_2 emissions through the introduction of a more uniform CO_2 tax across sectors. The legislation entered in force on 1 January 2025. In addition, the Danish RRP contains a reform which has paved the way for a CO_2 tax on emissions from livestock. This reform will reduce emissions from the agricultural industry and modernise the sector, setting aside more land for forests and wetlands. The political agreement was concluded in November 2024 by a bipartisan

3.3 Taxation reforms supported by the Technical Support Instrument (TSI)

In the face of ongoing fiscal and economic challenges, the European Union and Member States are working together to prepare national administrations to implement policy that fosters competitiveness and growth. The Technical Support Instrument (TSI) is the EU programme delivered by the European Commission that provides tailor-made technical expertise to Member States to design and implement reforms. The TSI mobilises the best available technical expertise from the private and public sector, including the European Commission and international organisations. It provides a range of services including strategic and legal advice, studies, training, and expert visits.

3.3.1 Background

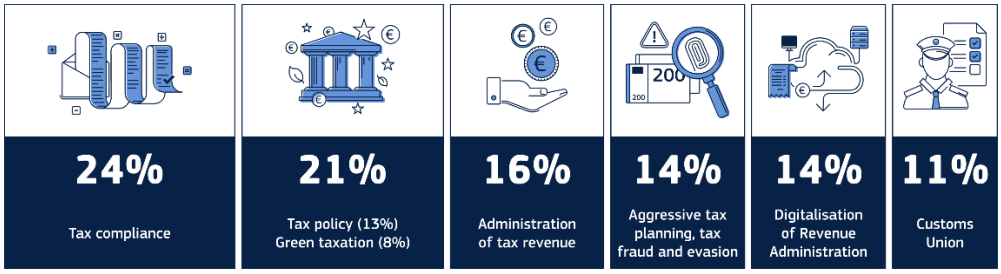
The TSI offers Member States a unique service to help them tackle reform challenges. The TSI supports Member States to implement (i) national recovery and resilience plans under the Recovery and Resilience Facility; (ii) EU priorities and legislation; and (iii) individual Member State reform goals. It is demand-driven and can support Member States to implement resilience-enhancing reforms. To date, through four TSI annual cycles (2021-2024), close to 780 projects support around 1,200 reforms in all the 27 Member States in a vast array of public policy areas (see Figure 50). Whilst preserving the demand-driven nature of the TSI, reform priorities remain closely aligned to EU priorities.

Figure 50: Relative provision of support by policy area

Note: The size of squares indicates the share of reforms in the respective policy field.
Source: SG REFORM database

Smart, sustainable and socially responsible reforms help to strengthen the resilience of our economies and societies. Fair and effective taxation is at the heart of a competitive social market economy. With support for over 190 reforms across all Member States, TSI facilitates revenue administrations' efforts to strengthen administrative capacity, improve tax and customs compliance, refine tax systems, combat aggressive tax planning, fraud, and evasion. TSI also supports policy development to broaden the tax base, reduce tax gaps and expand green and environmental taxation. A continuing focus area is digitalisation which presents enormous challenges for tax and customs authorities (Figure 51).

Figure 51: Areas of TSI support to revenue administration 2019-2024



Note: Percentages indicate the policy area of reforms supported.
Source: European Commission, SG REFORM

TSI facilitates the design of technical support projects by offering flagship projects, these projects (developed in consultation with Member States and relevant Commission services) propose reform areas that simultaneously address Member States' needs and EU priorities. Requests for technical support under Flagship projects represented more than 50% of all submitted requests and almost 40% of all the selected requests in the 2022-2024 TSI rounds. Recent revenue administration flagships include 'Greening taxes – applying polluter pays principle in practice', 'Enhancing the quality and use of tax information exchanged between Member States in the context of the Directive on Administrative Cooperation (DAC)' ([61]), 'Digital Transformation of Tax and Customs Administrations' ([62]), and most recently 'Simplification of revenue administration for business' ([63]).

61 Website of the 2023 Flagship Technical Support Project.
62 Supporting the Digital Transformation of Tax and Customs Administrations.
63 Simplifying Revenue Administration for Businesses.

Support for tax administrations to implement ViDA ([64]) and FASTER ([65]) is anticipated under the TSI 2026 flagship 'Simplification and implementation of EU law'.

The TSI also facilitates multi-country projects, addressing common issues among Member States while fostering knowledge sharing and building expert networks across policy areas. Standalone projects continue to be an important feature of TSI, providing tailored support where needed. All these efforts are complemented by workshops and study visits funded through the TAIEX instrument. ([66]) The willingness of Member States to share their experiences and to engage in TAIEX peer-to-peer support is greatly appreciated by the European Commission.

One important element of success for TSI reforms is political support within the Member States. This ensures engagement and long-term impact. While TSI is a relevant, efficient and flexible instrument, the ultimate responsibility in the use of the TSI results lies with the Member States authorities. In the future there will be an increased focus on tracking long term results.

3.3.2 Concrete support measures

TSI work in the area of revenue administration has supported the achievement of the objectives of the 2020-2024 Action Plan for fair, simple and modern taxation supporting the recovery. ([67]) Aligned with this work, TSI reforms reflect country specific recommendations and national Recovery and Resilience Plans, including to tackle administrative burden and enhance competitiveness; broaden the tax base; greening revenues; foster digitalisation; tackle aggressive tax planning and evasion; and reduce the tax compliance gap.

An important EU objective is to reduce tax obstacles and simplify administrative processes for businesses in the Single Market. TSI has supported revenue administrations across the EU to reduce their administrative burden. TSI provided strategic planning, guidance, communications materials, and capacity building assistance for 7 reforms to introduce and expand Cooperative Tax Compliance Programmes (CTCP) for large taxpayers in Poland, Belgium, Bulgaria and Romania ([68]). This continues with a TSI 2024 project supporting Poland to implement an IT solution for CTCP, improve the efficiency of officials involved in CTCP and shorten the time it takes for new taxpayers to join CTCP. In 2022, TSI supported the Croatian Ministry of Finance and tax administration to reduce the tax compliance burden.

The 2025 revenue administration flagship project 'Simplification of Revenue Administration for Business' focussed on tax simplification. Tax simplification is key to improving the business environment, enhancing business competitiveness and contributing to the economic growth. This flagship offered support to Member States for reforms such as business process improvement, digitalisation, and policy evaluation. With considerable interest in this project, support for 24 simplification reforms starts in 2025, including support for the implementation of the Pillar Two

64 VAT in the digital age website
65 FASTER initative website.
66 TAIEX is the Technical Assistance and Information Exchange instrument of the European Commission. TAIEX supports public administrations with regard to the approximation, application and enforcement of EU legislation as well as facilitating the sharing of EU best practices. https://neighbourhood-enlargement.ec.europa.eu/funding-and-technical-assistance/taiex_en

67 Action Plan for fair and simple taxation supporting the recovery Package for fair and simple taxation - European Commission
68 Annual Report on Taxation 2024.

Directive. ([69]) The support for Pillar Two implementation has a particular focus on preparing Member States to collect and exchange the Top Up Tax Information Return (TTIR) ([70]), building technical capacity of tax officials to administer the Pillar Two rules, and developing a coherent approach to risk assessment to ensure compliance while simplifying the administrative burden on tax administrations and large enterprises in scope.

Another important priority is the revision of the Directive on Administrative Cooperation in the field of taxation (DAC). ([71]) The DAC is a critical pillar in the fight against cross-border tax fraud, evasion and avoidance, another key objective of the Action Plan on taxation. The opportunities presented by the significant levels of data exchanged under the DAC are clear with estimates of the annual tax benefits generated by DAC 1, 2 and 4 in the range of EUR 5-10 billion in additional tax revenue. ([72]) Ensuring useful application of the data exchanged under DAC can be challenging for Member States. The huge volume of data, as well as the timeliness, accuracy and completeness of data, are common challenges across EU Member States, which can lead to substandard data quality and underused tax information. In its Special Report 03/2021 ([73]) the European Court of Auditors (ECA) identified similar weaknesses across the EU. Since the effective implementation of DAC is a critical pillar in the fight against cross-border tax fraud, evasion and avoidance, the TSI 2023 flagship project on 'Enhancing the quality and use of tax information exchanged between Member States in the context of DAC' was created. Reflecting the ongoing relevance of support for DAC implementation and the success of these projects this flagship remained available to Member States under the TSI 2024 and TSI 2025 rounds, with twelve Member States benefiting from TSI support for DAC implementation. Details of TSI support to improve DAC implementation are expanded in Box 6 below.

Additionally, TSI support to Member States has responded to the emphasis on the need to design a tax system fit for our increased digitalised economy. The TSI continues to support Member States to address the challenges that the digital economy presents for both taxation and state revenues, and tax administration. In Finland, TSI enhanced the administrative capacity of the Finnish Tax Administration to understand the impact of the digital economy on taxation. Under the 2024 '*Digital Transformation of Tax and Customs Administrations*' flagship the support provided to 7 Member States assists them to modernise their processes, improving tax compliance while reducing administrative burden on taxpayers; aligned with EU digital goals and the OECD initiative Tax Administration 3.0. TSI support for digital transformation includes ongoing support to Hungary in adapting its VAT digital requirements to the proposal on VAT in the Digital Age (ViDA), support to Malta to introduce real time payroll reporting; and to Estonia to redesign the Estonian Tax Administration´s register of taxpayers. ([74])

The use of taxation as a policy instrument will help the EU reach climate neutrality by 2050, and TSI plays a role by providing support under the flagship *'Greening taxes – applying polluter pays principle in practice'* for environmental taxation reforms and for greening the tax base. The TSI has supported green taxation reforms in Slovakia, Greece, the region of Andalusia (in Spain),

69 Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union. In force in Member States as of 1 January 2024, setting a minimum effective tax rate of 15% for large MNE and large domestic companies.

70 The international term is the Global Information Return (GIR).

71 Directive on Administrative Cooperation website.

72 Study prepared for DG TAXUD (2024), 'Evaluation of the Directive 2011/16 and its amendments'.

73 European Court of Auditors (2021), Special report 03/2021 'Exchanging tax information in the EU: solid foundation, cracks in the implementation'.

74 https://reform-support.ec.europa.eu/publications-0/redesigning-estonian-tax-administrations-register-taxpayers_en

Cyprus, Portugal, and Italy, focusing on enabling legislators to introduce revenue neutral measures that will achieve environmental goals while avoiding undesirable social impacts. Under TSI 2024, Romania and Greece are receiving support to ensure effective implementation of the Carbon Border Adjustment Mechanism (CBAM) Regulation. ([75]) Support for the implementation of the CBAM Regulation will continue in 2025 with the implementation of a multi-country project in Belgium, Ireland, Italy, Latvia, Luxembourg, Malta, Slovakia, Spain, aiming to support national competent authorities to adapt and establish different working methods, procedures and methodologies regarding the integration of different CBAM processes into the national workflow of public institutions. This multi-country project will foster inter-institutional cooperation between different national authorities, enhanced cooperation with the declarants and better dialogue with the European Commission.

While much work has been done, increasing revenue collection through tackling the compliance gap continues to be a policy priority. Better collection can improve fiscal stability and support expenditure public programmes and investment. Maximising revenue collection is an important objective that continues to be supported under the TSI. Past support to improve tax compliance includes capacity building in Latvia to design and achieve the objectives of the revenue service's operational strategy; improving the administration of corporate income tax in Slovenia; and ensuring high net worth individuals are appropriately taxed in Lithuania.

Technical support on tax gaps under the TSI has been particularly valuable for revenue authorities as specialised skills and resources are required for the data-intensive work of assessing tax gaps. ([76]) TSI provided support through 21 projects to nine Member States to assess tax gaps and the size of the informal economy. Progress in addressing tax gaps is an important reform component of the Recovery and Resilience Facility. Five recent TSI projects have direct or indirect links to the national Recovery and Resilience Plans (RRPs) of Italy, Poland, Bulgaria, Greece, and Romania. Poland, Sweden and Slovenia managed under the TSI to gain enhanced capacity to estimate the CIT gap. The ongoing projects in Sweden and Poland will provide a dedicated model to better estimate, analyse, and counteract the informal (grey/shadow) economy. The instrument also contributed to the further reduction of the VAT gap in Italy and Finland, and, as a result, Italy obtained clear policy optimisation options, while Finland reduced its administrative effort through a reformed reporting model for the collection of VAT. More details on specific support to measure and tackle CIT and VAT gaps are discussed in Chapter 4.

Across all areas of intervention, TSI support to all 27 EU revenue administrations has, in various ways, strengthened their administrative capacity to ensure consolidated fiscal reforms. TSI work since 2020 includes support to Slovenia to develop an IT system for dealing with tax complaints, support to Cyprus for strengthening the capacity of the Cyprus Tax Department to analyse and implement court decisions on tax matters, and support to Bulgaria for increasing the network and information security in the Bulgarian Revenue Agency. The TSI has supported property valuation and taxation reforms in Portugal, Greece and Cyprus. More details about the support provided under the TSI in Greece can be found in Box 7. The ongoing multi-country project to support strategic reform using the tax administration diagnostic assessment tool (TADAT) is increasing capacity in six Member States to ensure future reforms are aligned with international good practice. Further details on these reforms are included in Box 9 in Chapter 5.

75 Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism.

76 Tax gaps will be discussed in detail in Chapter 4.

In the context of the new European Commission 2024-2029, the Technical Support Instrument will continue to support Member States to implement smart, sustainable and socially responsible reforms that respond to current challenges. In line with the Competitiveness Compass, the TSI will contribute to the European Commission priority to enhance EU competitiveness and strengthen the Single Market. Creating a better business environment for MNEs by removing barriers to investment, enhancing EU competitiveness and strengthening the Single Market will ensure continued investment and growth in the EU economy.

Box 6: TSI supporting the Member States to implement DAC

Background

The Directive on Administrative Cooperation (DAC) ([77]) is an important tool in the fight against aggressive tax avoidance and evasion. Since 2020, TSI is supporting twelve Member States through seven projects related to exchange of information on tax matters. Four of these were multi-country projects involving: Slovakia and Poland; Finland and Hungary; Ireland and Croatia; and Lithuania, Romania and Bulgaria. Three standalone projects were implemented in Belgium, Czechia, and Malta. A key aim of the technical support is to improve Member States' capacity and preparedness to implement the Directive on Administrative Cooperation (DAC). All seven projects target the analysis of internationally exchanged data. The four recent projects under the DAC Flagship (2023-2025) are broader, cover more DACs, and are more ambitious, comprising three objectives: (i) better use of the received automatically exchanged tax data; (ii) higher quality of the data sent to other EU Member States; and (iii) improved monitoring of the quality, use, and outcome of the automatically exchanged data. These objectives respond to the weaknesses highlighted by the ECA Special Report. ([78])

Outcomes

In Czechia, technical support in 2020 focused on improving the processing and use of tax data that Czechia automatically receives from other Member States. The support specifically focused on a new IT solution to link the incoming tax data with the identity of the taxpayer. The recommendations from the project are reported as broadly implemented, with the IT tool currently under procurement. The IT tool with its various modules will be built in a phased manner. Once in use, the new IT tool is expected to significantly help the tax administration enforce tax compliance rules for certain types of income covered by both personal income tax and corporate income tax.

In Belgium, the TSI in 2021 supported the design of a data-driven decision engine and risk management platform with internationally exchanged information as one major data source. Once the data-driven decision engine and risk management platform is implemented, the Belgian tax administration can use it (i) to automatise risk assessment, (ii) to automatically generate a list of entities who are more likely to be in breach with domestic tax legislation and who should therefore be audited, and (iii) to visualise the data in an interactive and flexible tool that helps tax auditors in their analysis. As such, this is expected to contribute to a more efficient use of the taxpayer data received, and to more data-driven tax audits. The improved risk analysis and selection of case files is currently being utilised. The Belgian tax administration organised an e-learning course for auditors based on the analytical work carried out in the project. Improving data quality remains a significant challenge.

77 https://taxation-customs.ec.europa.eu/taxation/tax-transparency-cooperation/administrative-co-operation-and-mutual-assistance/directive-administrative-cooperation-dac_en

78 European Court of Auditors (2021), Special report 03/2021 'Exchanging tax information in the EU: solid foundation, cracks in the implementation'.

Under TSI 2022 support was provided to Poland (Polish National Revenue Administration, NRA) and Slovakia (Financial Directorate of the Slovak Republic, FDS) through a multi-country project. This project addressed weaknesses in processing and use of internationally exchanged tax data. These included fragmented use of this data across tax offices; underdeveloped (automatic) risk management mechanisms; and lack of expertise and practical experience amongst tax officials. As a result of the technical support, the NRA are now implementing procedural and technological (IT) changes, resulting in improved internal processes, streamlined working methods, better data analytics, and better management of the significant data volume. The FDS reported a boost in the internal dialogue and cooperation between three different units involved in the processing and use of DAC data. Currently, the FDS implements the risk assessment strategy and risk criteria into the overall compliance risk management system and utilises the internal guidelines and training material.

Technical support is ongoing to Finland and Hungary (2023, multi-country), to Malta (2023, standalone), to Croatia and Ireland (2024, multi-country), and to Lithuania, Romania and Bulgaria (2025, multi-country). These projects are expected to result in increased capacity and improved preparedness to implement the DAC, better use of the received automatically exchanged data, higher quality of the data sent to other EU Member States (including though a focus on compliance of reporting entities), and improved monitoring of the quality, use, and outcome of the automatically exchanged data.

Many of the projects detailed above utilise the TAIEX ([79]) instrument to share best practices and engage in peer-to-peer learning.

Conclusions

The TSI portfolio of DAC support demonstrates that technical support reinforces tax authorities' institutional and operational capabilities in curbing cross-border tax fraud, evasion and avoidance. All projects help address, to different extents, the recommendations of the ECA. Utilising TAIEX for peer-to-peer learning has enhanced cooperation between the different tax administrations.

Tailored support is a recipe to successfully address varying levels of maturity of DAC implementation across Member States. While Member States encounter broadly the same wide range of problems and challenges in their implementation of DAC ([80]), TSI support is always tailored to Member States' diverse needs. For example, tax authorities prioritise different DACs and/or have a different focus (e.g. risk management, operational procedures, IT solution). Given the cross-border nature and high complexity of DAC, there is a clear benefit of engaging in multi-country projects that provide both tailored support and peer-to-peer knowledge sharing.

Working closely with DG TAXUD in this area of international taxation has been key to the success of this portfolio of projects. The TAXUD-led action to have a team of experts visit all Member States (so called VISDAC ([81]) to evaluate the quality and use of the automatically exchanged data under DAC (DAC 1-4) was closely linked to identifying opportunities for technical support ([82]). In addition to the ongoing DAC work the specific multi-country project **improved capacity in Member**

79 https://neighbourhood-enlargement.ec.europa.eu/funding-and-technical-assistance/taiex_en

80 Broadly speaking, SG REFORM sees Member States of various maturity levels face challenges in terms of data analysis and risk assessment, IT, process harmonisation, operational methods and guidelines, and training.

81 These visits took place in the period March 2023 - October 2024, resulting in a confidential summary for each country after the visit and in a general report (incl. best practices) once all visits are conducted.

82 See Tax Administration European Union Summit, TADEUS 2024 Outcomes Statement and European Commission (2024e), Fiscalis Programme Annual Progress Report 2023, SWD(2024) 119 final.

States to effectively implement the Pillar Two Directive with one component directly related to supporting the Member States ([83]) to prepare for DAC 9 implementation.

Box 7: TSI support for upgrading the Property Valuation System in rural areas in Greece

Background

Broadening the tax base can improve the stability of fiscal receipts. Under TSI 2022, support was provided to the Ministry of Economy and Finance (MoEF) in Greece and the Independent Department of Valuation & Determination of Property Values (ATEPAA) to broaden the national tax base and enhance the collectability of property taxes. The primary objective was the design of a modern valuation system for rural areas to align objective and market property value. The methodology of value estimation for rural areas had not changed for almost 20 years. An update was needed so that taxable values would align with actual market values and valuation methods would comply with international best practices.

Outcomes

The project delivered several practical outputs to the Greek administration including (i) an analysis of the current property valuation situation; (ii) recommendations for improving rural property valuation; (iii) digitisation of rural property value zones across Greece using a Geographic Information System (GIS) platform for automated property value calculation; (iv) testing and capacity-building on the upgraded methodology on a sample of rural properties to verify effective valuation for tax purposes; and (v) an implementation roadmap and action plan detailing the reform's rationale, implementation means, stakeholder engagement, and timeline. The project significantly facilitated the transformation of non-digitized zonal information into a digital format on a GIS platform. This laid the foundation for designing and implementing a modern valuation system for rural areas by providing reliable data for a fully digitized valuation system.

Conclusion

The technical support provided a transitional framework for integration with the Greek appraisal system for the real estate market. All rural areas across Greece have been digitally mapped on a GIS platform, and the existing valuation approach for rural areas has been revisited based on a standardized methodology compliant with international valuation standards. The Ministry of Economy and Finance now has improved capacity for the effective implementation of property tax reform in Greece.

83 Fourteen Member States are directly involved in this project: Austria, Belgium, Cyprus, Croatia, Czechia, Finland, France, Germany, Greece, Ireland, Poland, Romania, Slovenia, Sweden.

4 Measuring tax gaps – reducing compliance risks

Every year, billions of euros of tax revenues are lost in the EU due to insufficient tax compliance and fraud. Tax policy debates often discuss the impact of taxes on the economy, such as how to promote growth and employment, how to increase the tax base either through legislative actions or through expanded activity, and where new sources of revenues could be generated. However, considerable revenues could be generated by ensuring that taxpayers comply with their actual tax obligations**.** Ensuring the effective collection of tax (and customs) revenues is therefore crucial to ensuring that all Member States can fund quality public services and is also a precondition for a fair sharing of the tax burden between all taxpayers. Importantly, effective revenue collection is crucial for Member States to fund a range of urgent needs, such as the twin – digital and green - transition or domestic reforms and investments. A challenging fiscal situation and various geopolitical and security risks calling for a quick and significantly increase of expenditure in defence and security capabilities add pressure to the need for resources which are scarce. The need for adequate resources also applies to the EU budget, as customs duties and VAT are part of its own resources. Relatedly, understanding whether tax support policies are effective, and efficient, is also useful so as to ensure that we minimise cost burden and allocate revenues to where they are needed and work to support a social market economy.

The term "**Tax Gaps**" refers to the difference between the amount of taxes that should theoretically be collected and the amount actually collected. Understanding and measuring these gaps allows policymakers to identify revenue losses and develop targeted measures to improve the functioning of the overall tax system.

Estimating the so-called tax gaps is therefore essential for assessing how well EU tax systems ensure compliance and promote fairness. Tax gap estimation serves two main purposes:

- **Understand the size and causes of the challenge with a view to effectively reduce it**: to effectively reduce tax gaps, we first need to understand their size and causes. Tax gaps constitute indicators of revenue losses, and as such their estimation can help policy makers understand the nature and magnitude of the problems related to tax collection and tax policy design. Such estimates, especially if based on sound methodological and working approaches can support policymaking by identifying the sources of the gaps. Advanced tax gap analysis can also guide the improvement of compliance risk management approaches (D'Agosto et al., 2025).
- **Assess effectiveness of policy actions**: measuring and monitoring tax gaps over time and across Member States can provide important specific information that can help the EU, its Member States and researchers assess the impact of policy interventions and their potential

cost-effectiveness and, consequently, allow policy makers at various levels adjust/develop good and effective policy proposals.

Tax gap analysis is slowly but surely spreading across jurisdictions. An increasing number of jurisdictions across the world are estimating their tax gap to address tax non-compliance and improve fiscal transparency. Chile and the United States established their tax gap teams as early as 1980. In Europe, tax gap teams in national administrations were set up from the mid-2000s onwards. Italy initiated tax gap work in 2000, the United Kingdom and Denmark in 2005, and the Netherlands and Switzerland in 2006. The European Commission's involvement in 2012 resulted in an EU-wide common methodology for VAT gap estimation and strengthened cooperation on tax gap analysis. ([84]) In subsequent years, a growing number of EU Member States, including Portugal (2007), Sweden (2017), Greece and Slovakia (2018), and Spain (2021), established their own tax gap teams. The recent inclusion of Finland (2022) and France (2024) in the group of countries with a dedicated team underscores the continued and increasing importance of tax gap measurement. This trend reflects broader EU efforts to enhance tax compliance, combat evasion, and create a more transparent and fairer fiscal framework (OECD, 2024b). ([85])

The EU supports Member States in the development of tax gap programs. The Tax Administration EU Summit (TADEUS) is a forum for the heads and deputy heads of EU countries' tax administrations. Together with the Commission, they meet regularly to improve administrative cooperation within the EU and to meet common challenges. TADEUS had its first working group on CIT tax gaps in 2018. In Spring 2021 a working group on tax gap estimation, supported by the FISCALIS program, was initiated. ([86]) The working group has four subgroups, working on the development of a common approach to estimate the tax gaps for PIT and CIT in direct taxation and tax gaps related to e-commerce and arising from missing trader intra-community (MTIC) fraud for indirect taxation.

Data availability and data analysis capabilities are the cornerstone of any tax gap analysis. Successful tax gap estimation relies on a combination of high-quality data, robust data management, sound methodology, skilled human resources, and institutional support. High-quality data is essential, requiring investment in data cleaning, comprehensive coverage, and the accumulation of longitudinal datasets to refine accuracy over time. Regular revisions are essential to improve the reliability of estimates. The choice of appropriate methods suitable to the available data is crucial. Equally important is skilled staff in tax administrations, as expertise in data analytics, statistics, econometrics, audit, and tax policy enhances the quality of estimations. Strong management support, particularly from senior leadership, fosters long-term development, as tax gap estimation requires patience and sustained effort over many years. A public mandate can reinforce credibility and encourage compliance. Together, these factors create a framework for reliable and effective tax gap measurement, supporting evidence-based policy decisions.

Currently, fifteen Member States estimate tax gaps, at least for some tax types. As shown in Table 6, fifteen Member States report that they perform some kind of tax gap estimation, with some looking only at the VAT gap, others only at the CIT gap and still others considering multiple tax gaps. The European Commission also provides VAT gap estimates for all Member States and work is ongoing to extend the analysis to further types of taxes. Only Italy, the Netherlands and Sweden are

84 The European Commission started 2012 to develop the VAT gap report, which is now published annually and discussed in some detail in Section 4.3 below.

85 OECD (2024), *Tax Administration 2024: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing, Paris, https://doi.org/10.1787/2d5fba9c-en.

86 For details please refer to the TADEUS website and the FISCALIS programme website.

publishing an overall tax gap, based on a national legal requirement to do so. Seven Member States and the European Commission employ third party support in their tax gap analysis while the others conduct the work in-house.

Table 6: Tax gap work in the EU – all tax gaps

	Estimating tax gap	Publishing overall tax gap	Legal requirement to publish	Publication frequency	Third-party support
European Commission	Yes	No	No	Yearly for VAT	Yes
Belgium	Yes	No	No		Yes
Denmark	Yes	No	No		Yes
Finland	Yes	No	No		No
France	Yes	No	No		Yes
Greece	Yes	No	No		No
Hungary	Yes	No	No		Yes
Italy	Yes	Yes	Yes	Annually	No
Latvia	Yes	No	No		No
Lithuania	Yes	No	No		Yes
Netherlands	Yes	Yes	Yes	Every two years	No
Portugal	Yes	No	No		No
Romania	Yes	No	No		Yes
Slovakia	Yes	No	No		No
Spain	Yes	No	No		No
Sweden	Yes	Yes	Yes	Every four years	Yes
Total Yes	**16**	**3**	**3**		**8**

Source: Table adapted from OECD (2024b)

Although a tax gap may have a relatively simple definition, its estimation is complex and includes many nuances. This chapter discusses some background around tax gap estimation, the methodological approaches, and available evidence.

4.1 Methods for tax gap estimations

Measuring the tax gap is essential to understand the challenge (size, type of tax, type of gap, drivers) and adjust policy accordingly. This section provides some definitions and review the methods that can be used to measure the gap.

The tax gap can be decomposed into two main components: the compliance gap and the policy gap. The compliance gap arises from non-compliance with tax laws, including tax evasion, avoidance and errors in reporting or payment. It reflects the revenue lost due to taxpayers not fulfilling their obligations under the current tax rules. The policy gap reflects revenue foregone due to deliberate policy choices, including tax expenditures such as exemptions, reduced tax rates or thresholds that narrow the tax base. While both gaps contribute to overall revenue shortfalls, the compliance gap has typically received more attention as it results from undesirable factors, such as taxpayer non-compliance and administrative inefficiencies, rather than intentional policy decisions. For this reason, the concept of the 'tax gap' is often limited to the compliance gap. In this chapter both aspects will be considered, especially since the policy gap is often quantitatively larger than the compliance gap.

While the compliance gap and policy gap are conceptually distinct, they are not entirely separate in practice. For example, tax policy choices can directly affect the size of the compliance gap as multiple exemptions and reduced rates can increase opportunities for evasion and error. In this sense, a larger policy gap can indirectly contribute to a larger compliance gap. Conversely, non-compliance can obscure the real cost of tax policy decisions. For example, if companies falsely claim tax credits (e.g. for research and development) for activities that do not qualify (e.g. regular IT upgrades), this inflates the policy gap because more revenue is foregone than policymakers anticipated when designing the initiative. Hence, tax policy shapes compliance outcomes, while compliance realities influence the apparent size of the policy gap. ([87])

Approaches to estimate tax gaps can broadly be divided into two categories: top-down (or macro) and bottom-up (or micro) approaches.

- **Top-down methodologies** use aggregate data on consumption or production to calculate the theoretical value of tax that could be collected. The difference between this estimated potential amount of revenue and the actual amount collected is then used to produce an estimate of the gap.
- **Bottom-up approaches**, on the other hand, are based on micro-level data, such as tax returns or audits, which are usually available only for a segment of the tax base. The extent of non-compliance in a sample is then extrapolated to the entire population to arrive at an estimate of the overall tax gap.

Top-down methods provide a system-wide estimate of the tax gap using macroeconomic data. Methodologies based on the top-down approach calculate the tax gap by estimating the total tax liability that should theoretically be collected based on macroeconomic data, then comparing it with the actual reported tax revenues. The difference between these two figures represents the tax gap. The success of top-down methodologies is largely dependent on the quality of the macroeconomic data used to account for the economic activity subject to taxation. Usually, national account data in combination with some corrections are used for this purpose. A key advantage of top-down methodologies is that they provide a comprehensive, system-wide view of the tax gap, capturing both declared and undeclared activities. They are also relatively cost-effective to implement as they rely on existing, standardised data sets, making them well-suited for cross-country comparisons within the EU. While the top-down approach is useful for obtaining a high-level estimate of a tax gap, it has the key limitation that it offers little granularity, making it impossible to identify the underlying causes of the gap, such as tax evasion, avoidance or administrative inefficiencies.

Bottom-up methodologies provide detailed insights into taxpayer non-compliance using microeconomic data. For tax administrations seeking detailed insights into the types and causes of non-compliance, the bottom-up approach is often preferred. These microeconomic estimation methods rely on detailed, taxpayer-level data, such as individual tax returns, audit results and compliance rates. Estimating the tax gap with the bottom-up approach involves first identifying non-compliance at the granular level for a sample group, before extrapolating the findings to the broader population. The approach is most commonly used in tax gap estimations where detailed taxpayer data is more likely to be available, such as for personal income tax or corporate income tax. By providing rich, granular information on the drivers of a tax gap, the bottom-up approach can support the design of targeted and effective policy interventions to address the causes of non-compliance. However, even

87 The compliance gap and policy gap can also stand in a substitutive relationship. Tax policies which lower the effective tax burden of taxpayers can increase the policy gap. A lower tax burden reduces the incentive to evade taxation, increases compliance and thus reduces the compliance gap.

the best-designed bottom-up methods can underestimate the true extent of non-compliance as not all evasion is observable or detectable even through audits. Furthermore, getting there can be a burdensome exercise for administrations as the collection and analysis of detailed microlevel data is a costly, resource-intensive activity. This is especially true for the use of random audits which assure a representative sample. A more cost-effective approach is the use of operational audit data. Audits are driven by a risk assessment and not all taxpayers are equally likely to be audited. There is a risk-based bias in the sample of operational audits. Estimation of the tax gap from operational audits would overestimate the tax gap. Advanced econometric methods are required to correct for this bias. The quality of estimates based on bottom-up methodologies strongly depends on the availability and quality of the underlying microeconomic data.

The top-down and bottom-up approaches are complementary and should ideally be used together for robust tax gap estimates. Given their respective strengths and limitations, top-down and bottom-up methodologies should not be seen as competing methods but as complementary tools for tax gap analysis. The broad coverage of top-down tax gap estimates can reinforce the robustness of bottom-up findings, while the detailed insights from bottom-up analyses can help explain patterns observed in top-down estimates. By combing both approaches, tax administrations can achieve a more accurate, comprehensive and actionable understanding of tax gaps. Box 8 discusses the support provided to Member States for tax gap estimation through the Technical Support Instrument (TSI).

Box 8: The Technical Support Instrument provides support to Member States in developing their tax gap analysis

Under the Technical Support Instrument ([88]) the Polish and Swedish tax administrations are receiving assistance to (i) estimate the size of the informal (grey) economy, (ii) measure tax gaps in their economies, and (iii) refine measures to address the informal economy and close the tax gaps. Technical support first targeted the institutional frameworks, taking a whole of government approach to go beyond the Ministries of Finance and tax administrations, and included agencies responsible for labour inspections, statistics, tax and tax debt collection, etc., as each institution currently sees only a piece of the puzzle. This encompassed collaborative access to data and tools, processes, practices and an adequate allocation of human resources to measure and tackle in an integrated manner what is by definition deliberately hidden economic activity. Through TSI support for these standalone projects, experts from Poland and Sweden have the opportunity to learn, develop, test and apply models to assess the CIT gap, including at sector level, using anonymised data and previous tax audit outcomes.

Sweden is using household income and expenditure/consumption data to cross-check with tax returns and better calibrate their findings, notably for the income tax gaps. Poland has recently gained insight into the tax policy factors influencing the informal economy, good practices in estimating and tackling the informal economy from other Member States (Finland, Ireland and France), and the use of behavioural tools to drive tax compliance (with a focus on corporate income tax and VAT). Exchange of practices and communication activities about the projects' findings and planned reforms are foreseen towards the end of 2025. The expected benefits are more efficient tax administrations, and increased voluntary compliance, notably for corporate income tax and VAT purposes.

Since 2020 the European Commission has also supported the Lithuanian tax administration to

88 See Section 3.4 above and also https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/technical-support-instrument/technical-support-instrument-tsi_en

improve the compliance of high-net-worth individuals (HNWI) and close the respective tax gap. The project comprised of two phases. Phase I assisted the Lithuanian tax administration with the development of a HNWI strategy and an action plan, national criteria for HNWI selection, and capacity building around various aggressive tax planning (ATP) schemes, including based on good practices from other countries. This work was supported with knowledge sharing by experts from Denmark and France. Phase II supported the Lithuanian tax administration with the practical implementation of the HNWI strategy, with communication actions, discussion of anonymized cases, support for tax audit selection, and further training covering notably insurance policies and the use of trusts. As part of this reform, the Lithuanian tax administration implemented an improved risk assessment and audit programme for this taxpayer segment, based on the revised selection criteria, various sources of information (regarding financial accounts, dividends received, sale of financial instruments, etc.) and knowledge of ATP schemes. A dedicated HNWI unit, comprising seven experienced members, was put in place in 2022 and is expected to further expand. This will contribute to increased tax compliance and revenue collection in the medium term.

4.2 VAT compliance gap and MTIC gap

The annual study "VAT gap in the EU" provides estimates for the VAT compliance and policy gaps in each EU Member State and the EU overall since 2013. The study uses a standardised, top-down consumption-side approach, relying on national accounts figures, to estimate the VAT Total Tax Liability (VTTL). The VTTL is the total amount of VAT that should be collected if all taxable transactions were fully reported and taxed correctly under the current VAT system. In economic terms, the VTTL reflects the potential VAT revenue that would be raised in an ideal compliance scenario. This is then used in the calculation of both the VAT compliance and policy gaps. Results of the estimation of the VAT compliance gap are presented below in section 4.2.1. The report also covers estimates of various indicators of the VAT policy gap. These are summarised in section 4.5.2. ([89])

A distinct study assessed the loss of VAT revenues due to Missing Trader Intra-Community fraud (MTIC fraud). MTIC fraud is a prominent type of VAT fraud where fraudsters exploit VAT-free trade between EU Member States: they acquire goods VAT-free, sell them with VAT, and then disappear without remitting the VAT to the authorities, resulting in a loss of VAT revenue, referred to as the MTIC gap. ([90])

4.2.1 VAT compliance gap estimates

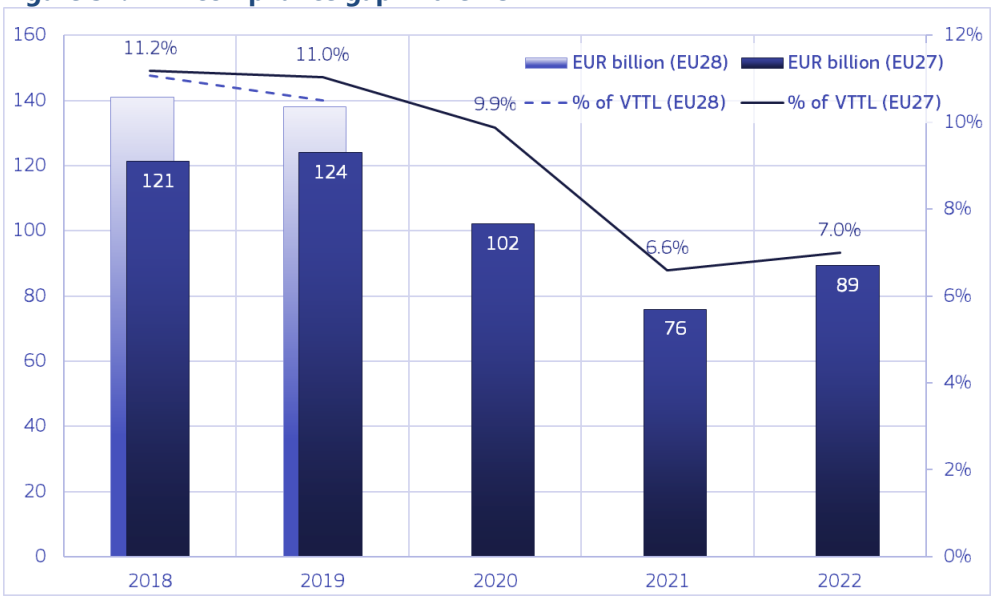
The VAT compliance gap is the difference between theoretically possible and actually collected VAT revenue. More specifically, the VAT compliance gap estimates the difference between the theoretical VAT revenue that could be achieved under full compliance with current VAT obligations (VAT Total Tax Liability, or VTTL), and the actual VAT revenue collected. It is worth noting that in our estimates, the loss in VAT revenue is not only due to fraud, but also due to evasion, miscalculations, or bankruptcies.

89 All results have been published and can be accessed in the *VAT gap in the EU – 2024 report*.

90 In November 2018, the European Commission published a report from a Tax Gap Project Group under FISCALIS 2020 on the methodologies applied by Member States to compute this gap. https://taxation-customs.ec.europa.eu/system/files/2018-12/tax_gaps_report_mtic_fraud_gap_estimation_methodologies.pdf

In 2022, the VAT compliance gap amounted to EUR 89 billion, or 7% of the VTTL. A significant decline of almost EUR 50 billion between 2019 and 2021 was followed by a moderate increase of EUR 13 billion in 2022, partially offsetting the previous improvements in compliance (Figure 52). Several factors likely contributed to the improved compliance during the COVID-19 pandemic, including changes in consumption patterns towards more durable goods, a shift towards digital payments, and temporary national relief measures such as reduced VAT rates, subsidies, and tax deferrals. However, the pandemic's turbulent conditions may have affected the accuracy of national statistics (which underly the estimates of the VAT compliance gap), and the treatment of tax deferrals varied across Member States potentially leading to an underestimation of the VAT compliance gap in 2021. Despite these short-term fluctuations, a more nuanced analysis over the medium term reveals an overall improvement in compliance. Between 2018 and 2022, the VAT compliance gap decreased by approximately EUR 32 billion, or by 4.2 pp. This longer-term perspective suggests that the underlying trends in VAT compliance are more positive than the year-to-year changes might suggest.

Figure 52: VAT compliance gap in the EU



Source: VAT gap in the EU – 2024 report

The VAT gap study shows considerable differences between Member States as regards the size of the VAT compliance gaps and their development over time. Table 7 shows that for most EU Member States (18 out of 27), the estimates of the VAT compliance gap ranged from 0 to 10% of the VTTL. Among the countries with robust estimates ([91]), the smallest VAT compliance gaps were estimated for Portugal (1.3%), Hungary (2.3%), and Austria (3.0%). On the opposite side of the ranking are Romania (30.6%), Malta (25.9%), Slovakia (14.6%), and Lithuania (14.6%). Among countries with robust estimates, the largest decreases in the size of the VAT compliance gap were observed in Latvia (-5.2 pp), Romania (-4.2 pp.), and Greece (-3.8 pp.). The largest increases in the size of the VAT compliance gap were estimated for Slovakia (+6.8 pp), Denmark (+4.1 pp), Belgium (+4.0 pp) and Bulgaria (+3.9 pp). Section 4.2.3 below presents some factors that appear to contribute to improved VAT compliance in selected Member States.

91 The VAT gap report undertakes a comprehensive review and assessment of the national data underlying the VAT compliance gap estimates, and subsequently assigns a reliability rating indicated by a colour-coded system. In this context, estimates for Bulgaria, Ireland and Cyprus were classified as less reliable due to outdated national accounts and perceived inaccuracies in the underlying data.

Table 7: VAT compliance gap in the EU

	2018	2019	2020	2021	2022
Belgium	12.2%	13.1%	13.5%	7.0%	11.0%
Bulgaria	8.9%	9.4%	6.0%	3.7%	7.7%
Czechia	13.4%	13.5%	11.8%	6.7%	4.2%
Denmark	8.8%	8.3%	4.3%	4.5%	8.6%
Germany	9.0%	8.5%	6.1%	4.4%	4.3%
Estonia	5.6%	5.5%	4.9%	1.5%	4.4%
Ireland	6.7%	6.3%	9.0%	-1.1%	1.6%
Greece	25.4%	24.0%	21.5%	17.5%	13.7%
Spain	6.5%	7.9%	6.1%	4.1%	4.6%
France	7.8%	8.2%	8.0%	6.0%	6.0%
Croatia	7.4%	1.2%	10.1%	10.9%	12.0%
Italy	21.6%	20.8%	20.7%	10.9%	10.6%
Cyprus	12.5%	12.1%	16.2%	6.2%	-0.7%
Latvia	13.3%	10.6%	12.4%	10.2%	5.1%
Lithuania	24.0%	20.9%	20.3%	15.7%	14.6%
Luxembourg	8.1%	5.2%	8.5%	7.4%	3.7%
Hungary	10.2%	11.1%	8.1%	4.7%	2.3%
Malta	23.4%	27.5%	26.8%	25.5%	25.9%
Netherlands	10.8%	11.1%	8.9%	5.3%	7.9%
Austria	8.2%	6.7%	5.8%	2.6%	3.0%
Poland	14.2%	13.9%	11.6%	5.6%	8.4%
Portugal	9.5%	8.6%	7.2%	4.1%	1.3%
Romania	32.8%	34.7%	36.4%	34.8%	30.6%
Slovenia	4.5%	5.6%	5.3%	3.6%	9.2%
Slovakia	16.3%	16.4%	15.6%	13.8%	14.6%
Finland	3.8%	4.7%	3.2%	3.0%	5.2%
Sweden	2.5%	3.1%	3.3%	5.4%	5.5%
EU-27	**11.2%**	**11.0%**	**9.9%**	**6.6%**	**7.0%**
United Kingdom	10.5%	7.3%	-	-	-
EU-28	**11.1%**	**10.5%**			

Source: VAT gap in the EU – 2024 report

4.2.2 Missing Trader Intra-Community fraud (MTIC fraud)

DG TAXUD concluded in 2024 a study on the "VAT compliance gap due to Missing Trader Intra-Community fraud (MTIC fraud)". The first phase of the project ([92]) identified two methodologies for further testing: an approach based on Intrastat data and classification data mining techniques, and an approach leveraging VIES (VAT information exchange systems) data on intra-Community supplies and similar reporting obligations on intra-Community acquisitions. The second phase of the project implemented the approach based on discrepancies in Intrastat mirror-trade statistics and estimated the MTIC gap at EU and Member State level. ([93]) The second approach based on VIES data has not yet been tested.

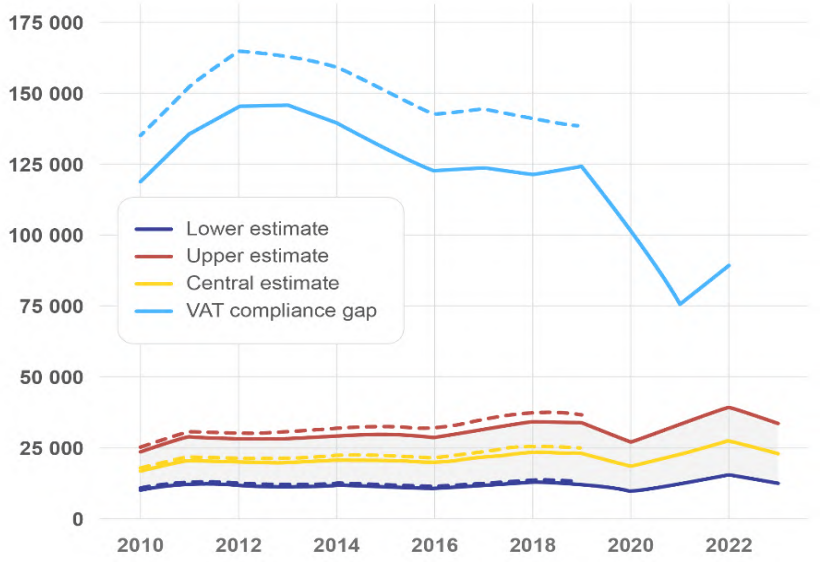
The Intrastat methodology to estimate the MTIC gap utilizes discrepancies in mirror-trade statistics to detect fraudulent transactions, using complex classification techniques such as random forests. The approach incorporates bootstrapping and random subspace methods to handle non-linear relationships in high-dimensional data and reduce overfitting, ensuring the model's robustness in fraud detection. To ensure reliability, sensitivity analyses are conducted to test different classification thresholds and assumptions, assessing the stability of estimates across multiple scenarios. However, the methodology and its application to Intrastat data has inherent limitations. The methodology could be applied to any product category, but data is available only for goods, not services. Therefore, the analysis has been performed only for goods, despite evidence of large-scale MTIC fraud schemes in services, potentially leading to an underestimation of the overall MTIC gap. Additionally, the method cannot identify fraud in cases where missing traders have submitted Intrastat declarations on time, limiting its detection scope. The accuracy of estimates also depends on correct labelling of observations in the training set and the suitability of the classification model for distinguishing fraudulent transactions. Internal consistency checks and alignment with known risk indicators of MTIC fraud validate the classification approach and sensitivity analyses demonstrate consistent findings with known fraud cases in Member States. But, data-driven methods inherently carry uncertainty, and further validation through alternative methodologies, such as incorporating VIES data (should this prove viable), is warranted to refine these estimates, and provide additional validation.

The study "VAT compliance gap due to MTIC fraud" presents two sets of estimates: "lower" estimates and "upper" estimates. The lower estimates represent a more conservative proxy, as they only include goods that have been used at least once in schemes of MTIC fraud during the period analysed. In contrast, upper estimates encompass a broader range of goods that likely have been targeted by fraudsters.

92 The comparison and assessment of the methodologies has been published and can be found following this link to the final report for phase 1.

93 The estimates of the MTIC gap at EU and Member State level are freely accessible following this link to the final report for phase 2 of the project.

Figure 53: Estimated losses in VAT revenue due to Missing Trader Intra-Community fraud (MTIC fraud) (in EUR million)



Note: Solid lines represent the EU-27, while dashed lines illustrate the EU28.
The VAT compliance gap figures include Croatia and Cyprus starting from 2016.
The estimates of forgone revenue from MTIC for Croatia cover 2012-2023 period.

Source: European Commission (2024g), VAT compliance gap due to Missing Trader Intra-Community (MTIC) fraud – Final report. Phase II.

The study provides estimates of the MTIC gap, both in terms of the size and its development over time (Figure 53). Between the years 2010 and 2023, the MTIC gap at EU level was estimated to be between EUR 13 billion and EUR 33 billion per year, accounting for 1.2-3.1% of VAT revenues per year on average (lower and upper estimate, respectively). In nominal terms, the MTIC gap has increased over the studied period, but this appears to be mainly due to the nominal growth in the tax base and trade volumes. The MTIC gap appears relatively stable over 2010-2023, fluctuating between 1% and 1.5% of VAT revenues for the lower estimates, and between 2.8% and 3.4% of VAT revenues for the upper estimates. The apparent overall stability of the MTIC gap estimates suggests that other factors contribute to the fluctuations in the VAT compliance gap, which has declined substantially over the same period. Policy measures such as mandatory reporting requirements (e.g., e-invoicing, online cash registers) have proven effective in improving overall VAT compliance ([94]), but they do not impact the structural patterns of MTIC fraud, as these schemes exploit different mechanisms. Conversely, measures specifically targeting MTIC fraud, such as the domestic reverse charge mechanism, act more as quick fixes that constrain its growth rather than addressing its root causes, resulting in a stable but persistent MTIC gap over time. When putting the MTIC gap in relation to the VAT compliance gap, the analysis shows that between 2010 and 2022, the MTIC gap contributed between 9% and 24% to the VAT compliance gap (lower and upper bound estimate for the average of the period).

As with the overall VAT gap, there are large differences across Member States. For individual Member States, the MTIC gap as a percentage of VAT revenue varied from 0.6% to 5.5% for lower estimates and from 1.5% to 10% for upper estimates. Considering the broader range of goods that likely have been targeted by fraudsters, the lowest shares of the MTIC gap were estimated for Italy, Croatia, Greece, and France, while the highest were observed in Hungary, Slovakia, and Malta.

94 See the case studies in the study "VAT gap in the EU – report 2024"

The tested methodology allows us to analyse the MTIC gap by product categories. Schemes involving articles of stone and base metals were the biggest contributors to the MTIC gap (approximately 35%), followed by machinery and equipment (15%), chemical products, plastics, and rubber (14%) and vehicles (11%). By origin of goods (place where the conduit company operates), fraud schemes involving goods acquired from Germany (16%), the Netherlands (12%), Belgium (9%), Italy (7%), France (7%), and Poland (6%) contributed most to the overall MTIC gap in the EU.

In parallel to the study commissioned by TAXUD, a TADEUS subgroup consisting of delegates from 13 Member States tax administrations has explored three different estimation approaches for estimating MTIC fraud. The first one entails analysing mismatches between data from VIES and the respective intra-community transactions declared in VAT returns. A second approach follows a bottom-up methodology using data from various sources accessible to tax administrations to identify missing traders, including tax registry, VIES, invoices, and VAT declarations. The MTIC fraud gap is then estimated econometrically. The third approach, called Stochastic Frontier, estimates tax efficiency and inefficiency, based on the difference in tax gap estimates. The TADEUS subgroup intends to publish a report with initial results of the tests of the three estimation approaches in 2025.

4.2.3 Mitigating the VAT compliance gap in general and MTIC fraud specifically

The study on "VAT gap in the EU – 2024 report" shows that several EU Member States have successfully reduced their VAT compliance gap over time through the introduction of targeted policy instruments. Case studies in the "*VAT gap in the EU: 2024 report*" reveal that a combination of electronic reporting obligations, online cash registers, and reverse charge mechanisms have been effective in decreasing the VAT compliance gap.

- **Electronic reporting obligations**, such as the Standard Audit File for Tax Purpose SAF-T, have been implemented in various forms across the Member States, including Hungary, Latvia, Poland, and Slovakia, and appear to be a key factor in reducing the VAT compliance gap. Recognising this potential, the recently adopted ViDA (VAT in the Digital Age) initiative will introduce obligatory electronic invoicing for cross-border transactions as of July 2030 combined with automated reporting of data contained in the invoice to enhance VAT compliance across the EU. By providing tax authorities with real-time access to transactional data, these systems enable more effective monitoring and enforcement of VAT obligations.
- **Online cash registers**, introduced in Hungary, Poland, and Slovakia, have been shown to improve the accuracy of VAT returns and reduce the risk of non-compliance, thereby contributing to the reduction of the VAT compliance gap.
- **Reverse charge mechanisms** have been introduced across several Member States, including Hungary, Latvia, Poland, and Slovakia. Under this mechanism, the obligation to report and pay VAT is shifted from the seller to the buyer, making it harder for fraudulent actors to exploit the VAT system. Although this approach merely provides for a quick fix and does not address the underlying problem, which is the inability of the Member State concerned to check these transactions/traders using the normal control tools at their disposal. ([95]) The reverse charge serves as a targeted measure to mitigate non-compliance, in sectors particularly vulnerable to MTIC fraud.

95 Being a temporary measure limited in scope that does not address the root cause of VAT fraud, the reverse charge brings additional administrative burden (especially for SMEs), cash flow issues, fragmentation and inconsistencies. The reverse charge disrupts VAT principles and its self-policing mechanism, and it does not stop all forms of VAT fraud, such as underreporting sales, MTIC fraud in other jurisdictions (spillovers effects), or fraudulent refund claims.

The research shows that the design and implementation of these measures are critical factors in determining their effectiveness. Hence, a well-developed digital public infrastructure, and digital literacy of public servants, are key to ensuring the positive impact of these measures. In this sense, digitalising tax administrations and increasing their efficiency is important in improving VAT compliance and reducing the VAT compliance gap. According to insights from experts interviewed in the study, effective tax authority operations, enabled by IT tools and digital infrastructure, increase compliance through direct and indirect effects.

4.3 The corporate income tax (CIT) gap

4.3.1 Background on CIT gap measurement in the EU

The computation of CIT Gaps is a topic of intense research. The European Commission published early as 2018 a report from the FISCALIS Tax Gap Project Group on the top-down and bottom-up methodologies available to compute this tax gap (European Commission, 2018).

In 2023, seven Member States have estimated their own CIT gap. Italy, Romania and Slovakia have used top-down approaches based on national account data, while Denmark, France and Sweden have used bottom-up approaches employing operational audit data (risk-based data). Denmark and Sweden also collect random audit data for the estimation of the CIT gap (see Table 8).

Table 8: Approaches used for CIT gap estimation

Jurisdiction	No. of bottom-up approaches	No. of top-down approaches	No. of methods on risk-based data	No. of methods on random audit data
Denmark	3	0	1	2
France	1	0	1	0
Italy	0	1	0	0
Romania	0	1	0	0
Slovakia	0	1	0	0
Slovenia*	n.a.	1	n.a.	n.a.
Sweden	2	0	1	1

Source: Table adapted from OECD (2024b).
Notes: Slovenia is added to the table following IMF (2023).

Member States estimate different types of tax gaps and use them for different purposes. Non-compliance in CIT can result in the process of registration, filing of taxes, reporting and/or payment. Contingent on the method used, authorities can distinguish different forms of non-compliance. Table 9 indicates that all six Member States calculate the reporting gap, but none explicitly reports the registration gap. The payment gap is established by Denmark, France, Italy and Romania. The filing gap is calculated by Denmark and Italy. Beyond different forms of non-compliance, the table also indicates two different measures of the tax gap. The gross tax gap is the tax gap before accounting for compliance and collection efforts while the net tax gap is the tax gap remaining after subtracting revenues from compliance and collection actions. Computing the net tax gap is usually challenging as there could be a time lag in completing compliance and collections activities. France and Sweden calculate both the gross and net tax gap; Denmark, Italy and Romania calculate only the gross tax gap, and Slovakia only calculates the net tax gap.

Table 9: Types of tax gaps reported

Jurisdiction	Registration gap	Filing gap	Reporting gap	Payment gap	Gross tax gap	Net tax gap

Denmark	No	Yes	Yes	Yes	Yes	No
France	No	No	Yes	Yes	Yes	Yes
Italy	No	Yes	Yes	Yes	Yes	No
Romania	No	No	Yes	Yes	Yes	No
Slovakia	No	No	Yes	No	No	Yes
Sweden	No	No	Yes	No	Yes	Yes

Source: Table adapted from OECD (2024b).

Several Member States are collaboratively developing processes and methods for a CIT gap analysis. The TADEUS subgroup on the CIT Gap comprised 11 Member States. ([96]) After mapping available methods and current approaches taken by national authorities, the delegates agreed to exploratively implement a common method to estimate the CIT gap for all participating Member States. As a first step, a top-down approach mostly based on national accounts (i.e. a variant of the RA-GAP Model developed by the IMF) has been chosen. During the implementation of the method several challenges have been identified (e.g. slight differences in national accounting, the use of loss-carry forward etc.). However, the first estimates for Spain, Italy and Slovakia seem plausible, judging from comparisons with countries' own CIT gap estimates, which are based on bottom-up and top-down approaches.

Top-down methods are closely related to national account data. Top-down methods for estimating tax gaps centre on a comparison of potential tax liabilities - based on economic activities as reported in national accounts - with actual tax collections reported by tax administrations. The premise is that national accounts, which encompass broader economic activities including undeclared ones, provide a more comprehensive data set than tax declarations. Thus, to effectively apply the top-down approach, national accounts data must be independently compiled and extensive, covering both observed and non-observed economic activities. However, the use of national accounts data has its limitations, particularly when undeclared profits are not accurately accounted for, and when tax-motivated profit shifting occurs. Consequently, the top-down method primarily detects tax evasion within the realm of activities recorded in national accounts but has problems to properly address tax avoidance strategies involving profit shifting to low-tax jurisdictions, for example. The core objective of the top-down approach is to estimate the potential corporate income tax (CIT) liability assuming all economic activities in the national accounts are accurately declared and taxed. The process involves several steps as outlined by the IMF's RA-GAP methodology (IMF, 2018). The idea is to derive a measure of the potential tax base from observed measures of aggregate profits, since profits are not the tax base for the corporate tax (as opposed to the VAT gap, where observed consumption is literally the tax base). This involves replicating firms' tax return calculations using aggregate data. In a first step, taxable income is derived by adjusting the Gross Operating Surplus from the national accounts, followed by defining the tax base after applying relevant tax code provisions. The third step handles losses by adjusting the tax base to account for negative profits and carried-over losses. Finally, after calculating the tax base, statutory tax rates and tax credits are applied to determine the potential CIT liability. These computations require detailed data on taxable income, exemptions, and various tax base details, highlighting the top-down method's extensive data requirements.

The European Commission is exploring EU wide approaches for estimating the CIT gap. A recent report by the Commission's Joint Research Centre (JRC) provides a novel approach to CIT gap estimation (European Commission, 2025i). After initially assessing available methodologies, the report

96 Czechia, France, Germany, Greece, Hungary, Italy, Luxemburg, Poland, Slovakia, Spain, Sweden

goes on to propose and implement a novel approach to the estimation of the CIT gaps for most EU-27 Member States. The proposed method follows a top-down approach but centres on the innovative idea to disentangle the part of the Gross Operating Surplus (GOS) that corresponds to the undeclared economy. This is achieved utilising Eurostat's "Tabular Approach on Exhaustiveness" ([97]) for capturing all productive activities, including underground and informal activities. Cross-country comparability of this data is high given Eurostat imposed standards based on recommendations from the GNI Committee and Eurostat's aim for comparable approaches to exhaustiveness.

A simple estimate of the CIT gap can be derived from a comparison of the size of the undeclared economy in relation to the size of the declared economy. To the extent that the undeclared economy evaded CIT, it can be considered a reasonable estimate of the tax gap base. Illegal activities should be excluded from the calculation of the CIT gap. The proposed method allows to exclude the exhaustive adjustment for illegal activities from the CIT gap estimate ([98]) In principle, the approach requires to use an implicit tax rate (ITR) for the undeclared economy to derive the actual tax liability derived from this tax base (Equation 4.1). ([99])

Equation 4.1: $CIT\ gap = \frac{ITR_{undecl} \times GOS_{undecl}}{ITR_{decl} \times GOS_{decl}}$

However, the implicit tax rate for the undeclared economy cannot be empirically estimated as corporate tax revenues in this sector are not observed. One option is to assume that the implicit tax rate is the same for both declared and undeclared economies ($ITR_{undecl} = ITR_{decl}$). Therefore, the CIT gap is simply the ratio of exhaustiveness adjustments over the declared GOS, as reported in the "GNI Process Tables." **This simplified approach provides estimates of the CIT gap comparable to alternative and sometimes more complex approaches**. The adjustment-to-declared income ratio, i.e. the basis of the JRC top-down approach, closely resembles CIT gap estimates from more sophisticated top-down and bottom-up methods, provided by the respective countries. This provides some assurance that the JRC approach to measure the CIT gap yields plausible estimates. The fact that the JRC top-down approach and other existing top-down approaches yield similar estimates is perhaps not surprising. Both approaches crucially rely on the difference between national accounts and tax data. If national accounts are largely based on tax data "plus some adjustments" for the undeclared economy then the CIT estimates obtained from other top-down approaches are similar to the adjustments themselves. A downside of the new approach is that CIT gap estimates rely on national exhaustive adjustments, which are only updated irregularly. This might for some countries result in lagged estimates. The resulting estimates are discussed in the next subsection. ([100])

97 Exhaustiveness tables contain estimates on the extent of underreporting in national accounts and are used to correct national accounts.

98 The report shows that the CIT gap estimates obtained from the exhaustive adjustments most likely associated with legitimate but undeclared economic activity are very close to the ones obtained using all exhaustive adjustments, suggesting that illegal activities are not much of an issue here.

99 The CIT gap linked to the undeclared economy is closely related to tax evasion and might comprise especially the registration- and reporting gaps (see Table 4.4). Neither the IMF's RA-GAP top-down approach for CIT gap estimation nor the simplified JRC approach capture CIT gaps associated with tax avoidance and (international) profit shifting. Other methods are required to estimate these. Both sources of the CIT gap (evasion and avoidance) should in principle be considered jointly for an overall measure of the CIT gap, as elaborated in the JRC report.

100 The similarity with Swedish estimates is not accidental since Sweden uses tax audit data to inform the exhaustive adjustments in national accounts, the basis for the JRC estimate. The similarity with Italian and Slovakian estimates is explained in detail in the report.

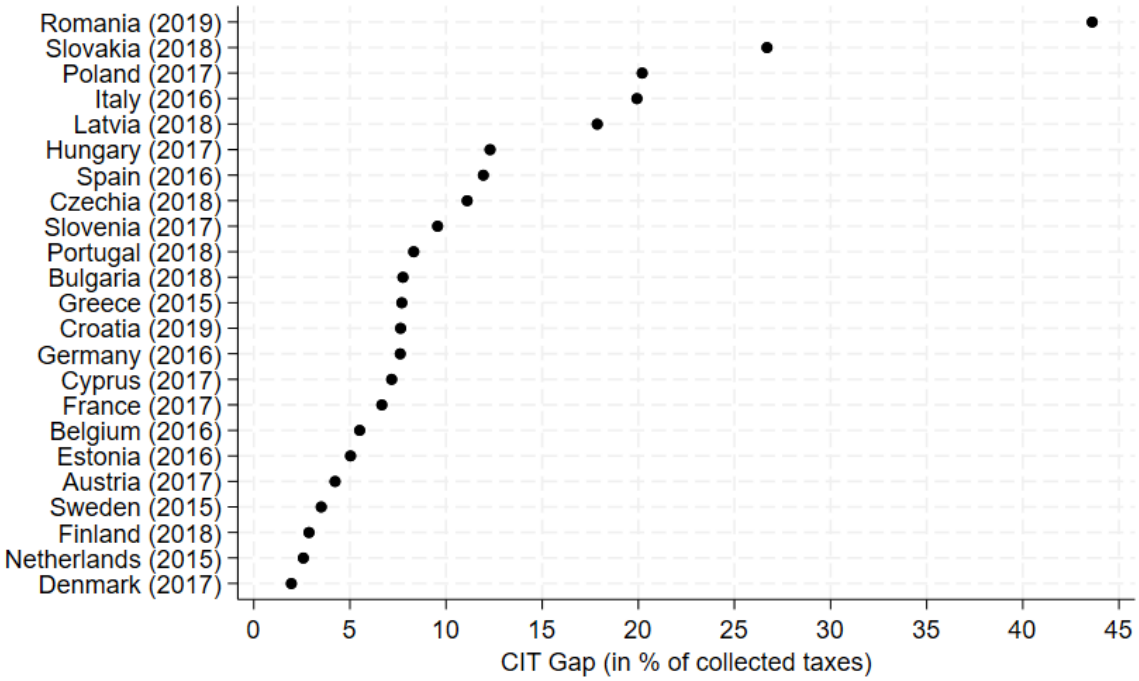
4.3.2 Evidence on the size of the CIT gaps

Currently only few estimates of CIT gaps from Member States that are publicly available. Only a limited number of Member States engage in estimating CIT gap on a regular basis. Those EU Member States that carry out CIT gap estimates oftentimes have decided not to publish their estimates. ([101]) This mirrors the communication policy on tax gaps adopted by third country jurisdictions who also oftentimes do not publish results. ([102]) This subsection presents available CIT gap estimates from the novel approach proposed by the JRC. In addition, the consequences of profit shifting and aggressive tax planning and their relation to the tax compliance gap are discussed.

EU wide tax gap estimates based on a simplified approach

CIT gap estimates based on existing data on the undeclared economy make it possible to provide approximations of the CIT gap for a wide set of Member States. Figure 54 shows the estimate of the CIT gap for 23 EU Member States. For each country, estimates of the CIT gap are based on the extent of exhaustiveness adjustments to gross value added (GVA). There is considerable variation in tax gaps estimates across countries. Denmark, Netherlands and Finland show CIT gaps of less than 3%. For Romania a CIT gap of around 41% is estimated. The (unweighted) average for the CIT is 10.9% based on the 23 Member States, i.e. the tax gap amounts on average to about 10.9% of collected CIT revenues. This amounts to a CIT compliance gap for the EU of about EUR 40 billion in 2018 values.

Figure 54: CIT-gap estimates based on the JRC top-down method



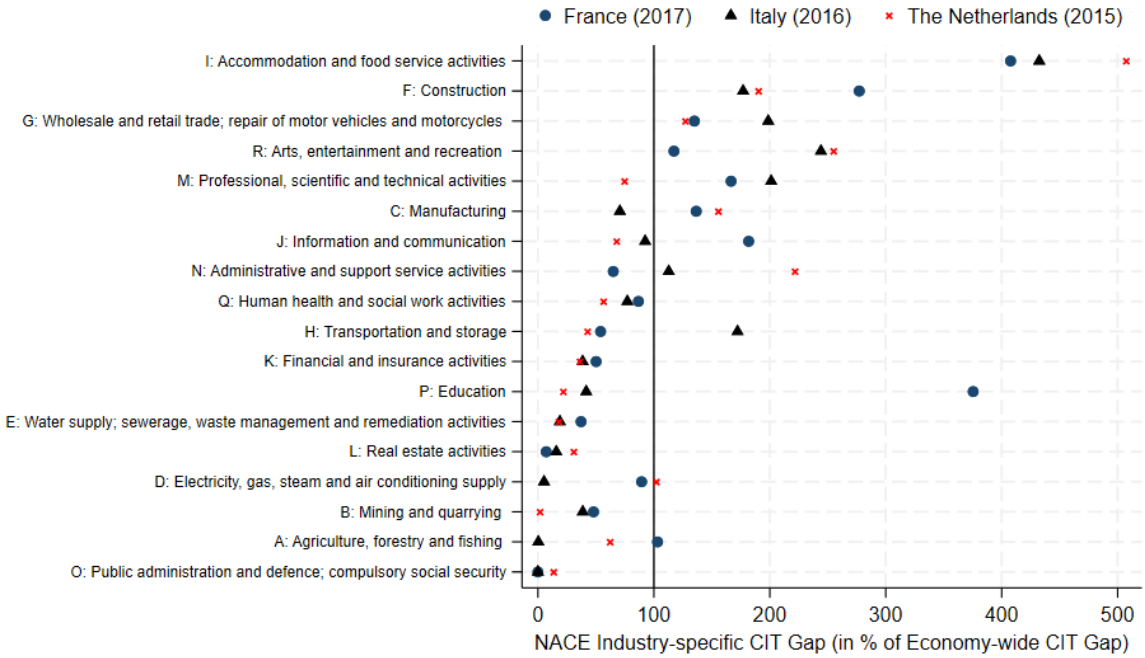
Source: European Commission (2025i), The Corporate Income Tax Gap, Final Report

Notes: Based on gross value added. Missing Member States have not published their exhaustiveness adjustments.

101 An exception is Italy which publish their results. See for example Ministero di Economia e Finanzia (2024). Sweden publishes information on tax gaps but we could not identify the latest CIT gap report. A comprehensive tax gap report in English language is available for 2020 (Skatteverket, 2021).

102 OECD (2024b) indicates that most countries that estimate tax gaps do not publish them.

Figure 55: CIT gap estimates by industry based on the JRC approach



Source: European Commission (2025i), The Corporate Income Tax Gap, Final Report
Notes: The figure shows the relative CIT compliance gap across industries. Note that overall compliance risk differs widely across the three countries considered.

Industry level analysis provides guidance for further compliance enforcement analysis. The JRC approach allows to disentangle the CIT gap by industry. ([103]) Industry level analysis indicates that the compliance tax gap is especially large in the hospitality and construction sector, sectors with a lot of undeclared activity. Figure 55 above depicts the size of the CIT gap estimate for each industry in relation to the overall estimate for France, Italy and the Netherlands. The CIT gap is considered small in the public sector, in agriculture, forestry and fishing and in mining and quarrying. By contrast, industries especially at risk of compliance failure are the hospitality sector, and construction. There are considerable differences across countries and the educational sector is certainly noteworthy since it is low risk in Italy and the Netherlands but exhibits considerable compliance risk in France. ([104]) Such findings can be used to shape the compliance risk management of tax administrations.

Tax avoidance strategies

Large amounts of tax revenues are lost through profit shifting and other forms of aggressive tax planning (ATP). While tax avoidance strategies are not necessarily illegal, they tend to violate the spirit of the law. ([105]) This grey zone makes it difficult to clearly categorise ATP as compliance or policy gap. In the field of CITA, estimates of ATP are thus a useful complement to national compliance tax gap estimates. The JRC study, along these lines, evaluates available research on tax avoidance. The

103 Industries and sectors are used here interchangeably. Note that in the context of national accounts, sectors refer to non-financial corporations, financial corporation, the public sector and the household sector while different forms are non-financial corporations are considered industries.

104 One could speculate that the high compliance risk of the education sector in France is related to a large private sector catering to the demand for preparation for entry level exams for tertiary education. Something that does not exist in a similar way in the other two countries.

105 Note that some forms of tax avoidance have been explicitly banned under EU law, e.g. in the Anti-Tax-avoidance directive, Council Directive (EU) 2016/1164.

cross-border nature of profit-shifting and aggressive tax planning complicates estimation, as most tax gap estimations focus on the national level. There are however already several estimates available that quantify tax revenue losses due to tax avoidance, especially profit shifting. While there might be doubt whether to categorise lost revenues due to international tax avoidance as part of the compliance or policy gap, it is nevertheless important to consider estimates of such revenue foregone to complement the CIT gap analysis.

Research by the European Tax Observatory ([106]) and by the Joint Research Centre ([107]) have provided various estimates of tax revenue losses due to profit shifting. Estimates point to a persistently large amount of profits shifted to tax havens: USD 1 trillion globally in 2022. This is the equivalent of 35% of all the profits booked by multinational companies outside of their headquarter country. Related corporate tax revenue losses make up 20% of the total corporate tax revenue collected for the European Union and 10% globally (Alstadsæter et al., 2023). This would amount to about. EUR 100 billion in CIT revenues lost in the EU in 2022. Estimations by the JRC based on the computable general equilibrium model CORTAX, suggest that the EU (including the UK at the time of these estimates were produced), lost approximately EUR 36 billion in corporate tax revenues due to profit shifting annually, with a range of potential losses between EUR 9.7 billion and EUR 71.7 billion, depending on the profit shifting elasticities used. The analysis also considers welfare losses and the impact of eliminating profit shifting, indicating that while profit shifting may initially reduce capital costs and boost investment and GDP, it ultimately results in a significant negative effect on welfare—for the EU, approximately 0.2% of GDP (Álvarez-Martínez et al., 2021).

Despite ambitious policy initiatives, profit shifting shows little sign of abating. In 2015, the OECD launched the Base Erosion and Profit Shifting (BEPS) and in 2017, the United States introduced measures to reduce profit shifting by US multinational companies (while cutting its corporate tax rate from 35 to 21 percent). Yet, as shown in Figure 56, global profit shifting appears to have changed little. However, absent these policies, profit shifting may have been even higher. Starting in 2025, the Pillar Two directive comes into force. The implied global minimum effective tax rate of 15% should reduce corporate incentives for profit shifting and thus also mitigate revenue losses due to profit shifting.

106 Alstadsæter et al., (2023), Global Tax Evasion Report 2024, EU Tax Observatory.

107 Álvarez-Martínez et al., (2021). How large is the corporate tax base erosion and profit shifting? A general equilibrium approach. Economic Systems Research. https://doi.org/10.1080/09535314.2020.1865882; Delis et al. (2024), Global Evidence on Profit Shifting Within Firms and Across Time.

Figure 56: Profit shifting by multinational companies over time

Notes: The figure shows global tax revenues loss due to corporate profit shifting expressed as a fraction of global corporate tax revenue collected. For reference the start of the Base Erosion and Profit Shifting process in 2015 and the Tax Cuts and Jobs Act in 2018 are indicated.
Source: Global Tax Evasion Report 2024, Alstadsæter et al. (2023) in reference to Wier and Zucman (2023).

4.4 The personal income tax (PIT) Gap

4.4.1 Main PIT gaps estimation approaches

There is no broad consensus at international level on the definition of the standard tax base for the PIT gap. It is particularly difficult to establish a baseline (i.e., a single, standard rate or theoretically 'ideal' regime) for estimating the policy gap for PIT, as there are varying levels of progressivity in PIT regimes and different types of rule-based deductions. ([108]) The current debate on the PIT gap estimation has therefore focused on the compliance gap. There are three main sources of compliance tax gap: underreporting, non-filing and non-payment (Durán-Cabré et al., 2019). Underreporting refers to incomplete or incorrect information (amount of revenues, costs, tax credits etc.) provided in tax return resulting in lower tax owed. Non-filing refers to avoiding tax duties and hiding taxable revenues from tax administrations by omitting to fill and submit tax returns. In case of non-payment, tax liabilities are reported but not paid in the given period.

The perimeter of PIT taxation typically includes various sources of income, which differ by country. In contrast to VAT, EU Member States present a vast heterogeneity in the design of their PIT system and in the definition of personal income. The most common types of taxable income under PIT, which may contribute to the PIT gap, include: (i) salary and wages; (ii) self-employment income; (iii) investment income (such as dividends, interest income, capital gains); (iv) rental income; (v) pension income; (iv) business income of unincorporated businesses (such as sole proprietorship or partnership); (vi) other income sources (e.g. gambling winnings, prizes, awards). Some income types may be partially

108 IMF (2021), The Revenue Administration Gap Analysis Program: An Analytical Framework for Personal Income Tax Gap Estimation.

or fully exempt from taxation depending on national tax laws. The estimation of the PIT gap may also include the social security contributions (SSCs) gap.

PIT gap estimation comprises different methodologies, depending also on data availability. Empirical studies and methodological guidelines have explored several bottom-up and top-down approaches to estimate PIT and SSC compliance gaps in the EU and abroad (European Commission, 2024d). ([109]) Bottom-up approaches use random and risk-based audits, and household surveys with income and expenditure questions. Top-down approaches are based on national accounts, or global portfolio assets and liabilities data to determine international tax evasion. In addition, other top-down PIT and SSC gap estimates have also used macro variables to estimate the scale of the underground economy as a non-filing and underreporting proxy. Developing PIT/SSC gap estimation methodologies is an ongoing process. International institutions' PIT and SSC compliance gap estimation experience suggests that the methodology choice is highly dependent on available data and resources, as well as policy priorities.

Each methodology comes with advantages and disadvantages. Estimations from random audits, i.e. using a bottom-up approach, are generally considered the ones delivering the most robust results for calculating the PIT gap. The main disadvantage of random audits is their high costs, both to tax administrations and taxpayers, especially the compliant ones (Feinstein, 1999). Top-down approaches for PIT gap estimation can reflect full tax revenues losses and are timelier (Rubin, 2011), but they are less effective in identifying the reasons of non-compliant behaviour. The main variable needed for PIT gap estimation through a top-down approach is the personal income tax base, i.e. the potential PIT revenue. As the personal income tax base includes several types of income, the estimation of potential tax revenue may be divided into smaller parts, with the different gaps being estimated separately for each type of income. The final PIT gap would be the sum of these partial results.

4.4.2 Available evidence on the size of the PIT gaps

Some EU tax administrations estimate and publish PIT gap estimations. PIT and SSC gap estimations are performed by a number of EU national tax administrations and Finance ministries. However, the results may be kept for internal use and not disseminated to the general public. Estimates on the size of the Italian PIT gap are regularly computed and published, based on a top-down approach. The results for 2021 point out to a PIT gap as a percentage of the potential revenue of 2.3% for irregular employees, 5.8% for employees subject to a regional PIT surcharge and 66.8% for self-employed. ([110]) In the Tax gap report 2020 (covering the 2014-2018 period) of the Swedish tax agency (Skatteverket, 2021) ([111]), the estimated PIT gap for individuals' earned income amounted to 1.3% and the SSC (including self-employed contributions) gap to 1.9%, based on random audits. Looking specifically at self-employed, the PIT gap constituted 21% of the final tax, while the equivalent figure for self-employed contributions stood at 24.9%.

Academic research has estimated the PIT compliance gaps with different methods. Some bottom-up methods compared household budget survey data with tax returns data. For example, Fiorio and D'Amuri (2005) examined Italian workers tax evasion determinants with a dataset that combined administrative tax records with survey data on disposable income, consumption, the labour

109 European Commission (2024 d): Directorate-General for Taxation and Customs Union, *Estimation methods for the personal oncome tax gap (including social security contributions) in the EU. Part 1, Evaluation of methods*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2778/098144

110 https://www.mef.gov.it/export/sites/MEF/documenti-allegati/2024/Relazione-2024.pdf

111 https://skatteverket.se/download/18.96cca41179bad4b1aa8c0b/1632316511065/Tax%20gap%20report%202020.pdf

market, and monetary and financial variables. They found that tax evasion was consistently higher for self-employment income than for employment income, with the difference ranging from about 7% to 27% across the income distribution. Benedek and Lelkes (2011) used survey data and administrative tax records to estimate income underreporting in Hungary. Underreporting was estimated to be between 9 and 13% with a reduction of households' personal income tax payments by about 16 to 20%.

Indirect bottom-up methods are generally based on consumption surveys and focused on self-employed. The well-known Pissarides and Weber (1989) approach compared the ratio between food expenditures and reported incomes for employees and self-employed individuals, under the assumption that the self-employed show a higher tendency to underreport their income. They then inferred and compared on the self-employed a relative true income "trace" to relative reported income to better understand discrepancies. They concluded that on average true self-employment income was 1.55 times as much as reported self-employment income. Various self-employed income tax gap studies used the same method. For example, a study by Johannson (2000), estimated that self-employment income in Finland was underreported by some 16-40%, depending on how a self-employed household is defined. An article from Paulus (2015) studied income underreporting in Estonia comparing survey and tax records, inferring income underreporting from consumption propensities. He found large self-employed (56%) and private sector employees (23%) underreporting. Using survey incomes however, non-compliance was much smaller for self-employed (25%) and none was detected for private employees.

Survey-based approaches to estimate personal income underreporting have been widely explored. Albarea et al. (2020) estimated income underreporting and tax evasion in Italy using household survey data, estimating an overall tax evasion rate for PIT close to 13.5%; without taking into account survey misreporting the estimate was about 7.2%. Bazzoli et al. (2020) studied heterogeneity size, and distributional effects of self-employment income tax evasion in Italy using a microsimulation model with household survey data. They concluded that self-employed workers underreported about 40% of their income to tax authorities and found proportionately higher tax evasion in high-income households. An experimental survey-based method (European Commission, 2024i), based on the Pissarides and Weber (1989) approach reinforced by other secondary methods, was recently tested to estimate the PIT/SSC gap in Austria and Poland. In the Polish case, estimates set the aggregated PIT and SSC compliance gap in a range between 20.6 and 25% for 2018, depending on model specifications. In Austria, the scope was narrower, focusing only on underreporting by the self-employed. This underreporting was estimated to result in a PIT gap of 4.9% of PIT liability in 2019, and a SSC gap of 2.1% of theoretical liabilities in the same year.

The range of the results of the estimated underreporting of personal income is relatively large. Kukk et al. (2020) compared underreporting of self-employment income across 14 EU countries, using the 2010 wave of the Household Budget Survey (HBS) survey. They found underreporting to range from under 10% to more than 40% of self-employed household income on average, with the shares of underreporting not being related to the development level of the countries. Turgut et al. (2020) estimated unregistered income size and PIT gap in Poland from 2005–2017, using the Pissarides and Weber (1989) method with HBS data. Their main findings indicate that roughly one-fourth of the total income of self-employed households was not reported in Poland. Dominguez-Barrero et al. (2017) analysed income tax evasion in Spain (2005 to 2008 data) and found that labour incomes exhibited the highest compliance (approx. 80% in 2008), while movable capital income had the lowest compliance (approx. 50% in 2008); estimated compliance was greater for the top 50% of taxpayers with the exception of income from movable capital.

Estimating the size of the shadow economy may support top-down measurements of the PIT gap. Studies with top-down approaches are broader in scope and centred on the estimation of the shadow economy size. For example, a paper by Raczkowski (2015) features the GDP size across countries so as to demonstrate the overall level of the shadow economy compared to the aggregate tax burden. In relation to personal income tax liabilities, non-observed economy consists of envelope wages and undeclared business income by unincorporated businesses. While the scope of the non-observed economy partially overlaps with forgone tax revenue, it does so only to a certain extent and the estimates cannot be used interchangeably. Several studies attempted at estimating the size of the non-observed economy for EU Member States. ([112]) A top-down methodology for PIT gap estimation, based on National Accounts data, is also presented in Gallucci et al. (2020).

4.5 Reviewing policy tax gaps: the role of tax expenditure reviews

Tax expenditures are a common policy tool to achieve specific policy goals. Tax expenditures are reductions in tax liabilities that result from special exemptions, deductions, credits, or preferential tax rates in the tax code. They are designed to achieve specific policy objectives, by encouraging certain behaviours (e.g., home ownership, education, or charitable giving) or supporting particular economic sectors. Unlike direct government spending, tax expenditures function as indirect subsidies by forgoing tax revenue that would otherwise have been collected. These foregone revenues have earlier been referred to as the policy tax gap. The term tax expenditure has come to be used to emphasise that these tax policy instruments have similar objectives and effects as spending programmes like benefits or subsidies, even though they are instruments on the revenue side of the budget (Surrey and McDaniel, 1975, p. 679). In some countries they are known as tax reliefs, tax subsidies, or tax aids.

Tax expenditures reduce government revenues and might reduce transparency and simplicity of the tax code. Tax incentives are often used to stimulate innovation, investment or support social policies, for example. While they can serve allocative or redistributive purposes, they might also introduce complexity and reduce transparency, and they reduce government revenues. Complexity increases because the tax code has additional provisions applying for specific taxpayers only. Transparency decreases because unlike spending programmes, tax expenditures are not necessarily part of the budget and is therefore less clear how much is being foregone via such provisions. Tax provisions establishing tax expenditures are discussed and scrutinised by parliament for adoption. After their implementation however, they often do not show up in the annual budget as direct expenditure programmes do, thus creating a level of opacity.

Tax expenditure reporting is important, but measurement is not straightforward. Increasingly, Member States include tax expenditure reports in their budgetary process. Also, the EU requires them to publish detailed reports on tax expenditures' fiscal impact as part of budgetary oversight. ([113]) Tax expenditure reforms play a significant role in the Recovery and Resilience Plans of some countries, for example in areas such as housing, fuel taxation, and green investment incentives. Defining and quantifying tax expenditures can only be done as compared to a "benchmark tax system" compared to

112 See for example: Tafenau, E., Herwartz, H., & Schneider, F. (2010). Regional estimates of the shadow economy in Europe. *International Economic Journal*, *24*(4), 629-636; Schneider, F., Buehn, A., & Montenegro, C. E. (2011). Shadow economies all over the world: New estimates for 162 countries from 1999 to 2007. In *Handbook on the shadow economy*. Edward Elgar Publishing; Schneider, F., Raczkowski, K., & Mróz, B. (2015). Shadow economy and tax evasion in the EU. *Journal of Money Laundering Control*; Dybka, P., Kowalczuk, M., Olesinski, B., Rozkrut, M., & Toroj, A. (2017). *Currency demand and MIMIC models: towards a structured hybrid model-based estimation of the shadow economy size* (No. 2017-030).

113 Article 14 of the Council Directive (EU) 2024/1265 of 29 April 2024 amending Directive 2011/85/EU on requirements for budgetary frameworks of the Member States.

which tax expenditures provide relief. There is no single accepted method to define a benchmark tax system. The variability and ad hoc nature of benchmark definition makes comparisons among tax gap estimates problematic. ([114]) Given different benchmarks for different tax types, some experts even argue that foregone revenues of tax expenditures cannot be aggregated across different tax types. Methodological problems aside, given the considerable fiscal implications of tax expenditures it is crucial to evaluate their effectiveness to ensure that their benefits justify related revenue losses.

4.5.1 Evaluating tax expenditures

The evaluation of tax expenditures (TEs) provides an important input for evidence based and informed policymaking. Decisions on specific tax incentives and related expenditures are generally driven by a careful calibration of conflicting interests, i.e. by politics. Evaluations provide understanding of the efficiency, effectiveness and distributional implications of tax expenditures, which allow the political trade-offs to be carried out or reviewed on an informed basis. Given the increasing use of tax incentives to attract investment and pursue policy goals like boosting R&D and exports, it is important to assess whether these incentives are effective and cost-effective. By systematically analysing the costs, such as foregone revenue, against the benefits, like increased investment and job creation, policymakers can determine the efficacy and efficiency of these incentives. This evaluation helps in identifying any redundancy, where incentives might be granted to investments that would occur regardless, leading to inefficient allocation of scarce resources. Evaluations can be performed ex-ante (before implementation) or ex-post (after implementation). Ex-ante evaluations use static cost estimates and other questions to assess potential effectiveness, while ex-post evaluations compare predicted benefits and costs against actual outcomes (Beer et al., 2022). ([115])

A wide variety of tools are available for evaluating tax expenditures but access to appropriate data is the key constraint. Tools for evaluation include both qualitative methods, such as surveys and case studies, and quantitative methods, such as structural models, tax-benefit microsimulations and cost-benefit analysis. It is essential to ensure the availability of data, which can be facilitated by digitalization and setting up data protocols. Evaluations should consider the effectiveness, equity, and efficiency of TEs and explore if direct expenditure programs might be more effective. Under resource constraints, it is useful to focus on more important tax expenditures, i.e. TEs with higher revenues foregone, first. Overall, the scope and depth of evaluation should align with government priorities, available data, and analytical capacity to ensure meaningful insights that can guide policy decisions (Beer et al., 2022).

The objective of a given tax expenditure is the central point of reference for an evaluation. Tax expenditure evaluation assesses the effectiveness of a given provision against its stated or implied objectives and at what direct and indirect costs these objectives are met. It is also important to consider net effects against a counterfactual outcome (what would have been the situation without the tax expenditure provision) to capture displacement effects and potential redundancy. Practical steps involve a clear delineation of the intended purpose and functioning of the TE, ideally done ex-ante, and mapping expected effects through a theory of change or logic modelling to illustrate causal

114 Delegates from Member States have mostly rejected the approach taken by the Global Tax Expenditure database and the related presentation of foregone revenues on the website. Foregone tax revenue estimates are aggregated even in instances where such aggregation is not undertaken by reporting authorities. More importantly, the side-by-side presentation of revenues foregone as a share of GDP seem to imply a comparability of the data which is methodologically not supported and rejected by experts. Similar reservations exist towards the related transparency index where Member State delegates have pointed out misinformation on part of the index.

115 Ex-ante evaluations should aim to also consider general-equilibrium effects of the policy in question.

relationships and potential unwanted effects. Gathering evidence on likely outcomes through literature reviews, taxpayer surveys, and analysis of administrative data is also essential. Such structured evaluations ensure a comprehensive understanding of TEs' effectiveness, helping to inform and guide policy decisions It is important to acknowledge that there is no single best-practice approach to evaluation, and efforts should be made to continuously expand and refine the evaluation mandate (Kronfol and Steenbergen, 2020).

Evaluation findings should be communicated to stakeholders to support transparency and inform public discourse. Evaluation efforts and results should be communicated appropriately for different stakeholder groups, considering their expertise and focus of interest. The transparent reporting of tax expenditures and communication on their evaluation can increase trust and support legitimacy of government.

Tax expenditures in personal income tax

Tax expenditures in personal income taxation (PIT) pursue a wide set of objectives and have heterogeneous distributional implications. In personal income taxation (PIT), TEs are commonly related to employment, family, and housing policies. For instance, employment-related expenditures often aim to support low-income earners, while housing-related expenditures like mortgage tax relief aim to increase homeownership but also risk contributing to inequality. A recent study by the European Commission analyses TEs related to PIT (Turrini et al. 2024). While Member States are free to define what constitutes a tax expenditure, the paper defined six policy measures which were defined as TEs for analytical reasons. These provisions where then compared against a hypothetical scenario where these TEs where equal to zero. The EUROMOD microsimulation model was used to estimate the revenue and distributional implications of these six TE categories. Estimates indicate total revenues foregone from these six TEs of around 16% of PIT revenue, equivalent to 1.2% of GDP, on average. While family-related expenditures tend to reduce inequality, those related to housing often have the opposite effect (Turrini et al. 2024). ([116])

Tax expenditures in corporate income tax

The World Bank has evaluated corporate tax incentives for investment in Hungary, Latvia, and Poland ([117]). Poland had introduced an accelerated depreciation allowance in 2007 to stimulate investment in manufacturing sectors. Using a quasi-experimental design, the study compares firms that could benefit from the tax incentive (treatment group) to those that could not (control group). The tax incentive was found to be associated with a rise in average investment of around 6% and an increase in the probability of investment by around 4 percentage points. During periods of high economic uncertainty, the impact on investment was even stronger (14%), but there was no significant effect on the probability of undertaking new investments (Clark and Skrok, 2019).

Similar to Poland, Latvia had implemented an accelerated depreciation scheme, and the study examined its impact on various industries using firm-level administrative data. The accelerated depreciation policy in Latvia had a positive effect on the investment rate from 2011 to 2014, particularly in firms with fewer than six employees. Both profitable and loss-making firms increased their investments due to the tax incentive, with the investment rate correlating to the previous year's

116 While distributional implications are an important aspect of an evaluation, the central question is of course to what extent a given TE achieves its original policy objective. The analysis cannot account for this aspect, also because policy objectives of TEs are often not well recorded.

117 Clark, W. S., & Skrok, E. (2019). The Use of Corporate Tax Incentives: A Guidance Note and Experience from Poland, Hungary and Latvia. *World Bank Group*.

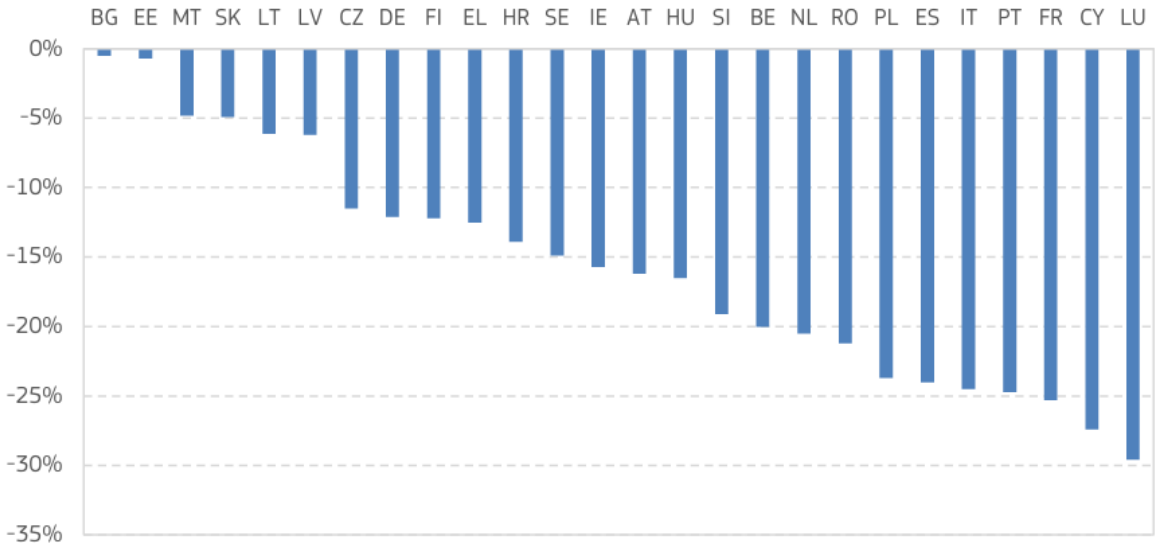
profits or losses. The impact was notably stronger in volatile business environments, where turnover was less stable.

In Hungary location specific characteristics were found to be more important than tax incentives. The analysis focused on changes in EU policy that affected the distribution of EU and state aid across regions, with specific emphasis on regional aid intensity. The impact of corporate tax incentives varied significantly across regions. While there was an initial rise in investment among firms benefiting from the incentives, the relationship between tax incentives and investment weakened two years after the reform. These results suggest that, in Hungary, location advantages, like being situated in a dense urban environment such as Budapest, sometimes outweighed the benefits of tax incentives. Overall, the analysis demonstrated that tax incentives could stimulate investment under certain conditions but also highlighted the need for continuous monitoring and careful design of such policies to prevent inefficiencies and maximise their economic benefits.

Tax expenditures in value added tax

Reduced rates in value-added taxation (VAT) have considerable revenue implications. In the context of value-added taxation (VAT), TEs can occur through reduced rates and policy-driven exemptions, contributing to a so-called "VAT policy gap". ([118]) Simulations focusing on reduced rates only, suggest that this rate gap lowered VAT revenues from households in 2019 by about 16% in the EU on average, equal to 1.1% of GDP. ([119]) As shown in Figure 57, there is significant variation across countries, with revenues losses above 25% in Cyprus, France, Italy, Luxembourg and Portugal to about 5% or below in Bulgaria, Estonia, Malta and Slovakia.

Figure 57: Simulated revenue reductions due to reduced VAT rates paid by households, 2019 (% of VAT revenues paid by households)



Note: The household rate gap is calculated with respect to a counterfactual scenario where all commodities and services are subject to the standard rate of VAT. Denmark has no reduced VAT rates and thus is not shown in this figure.

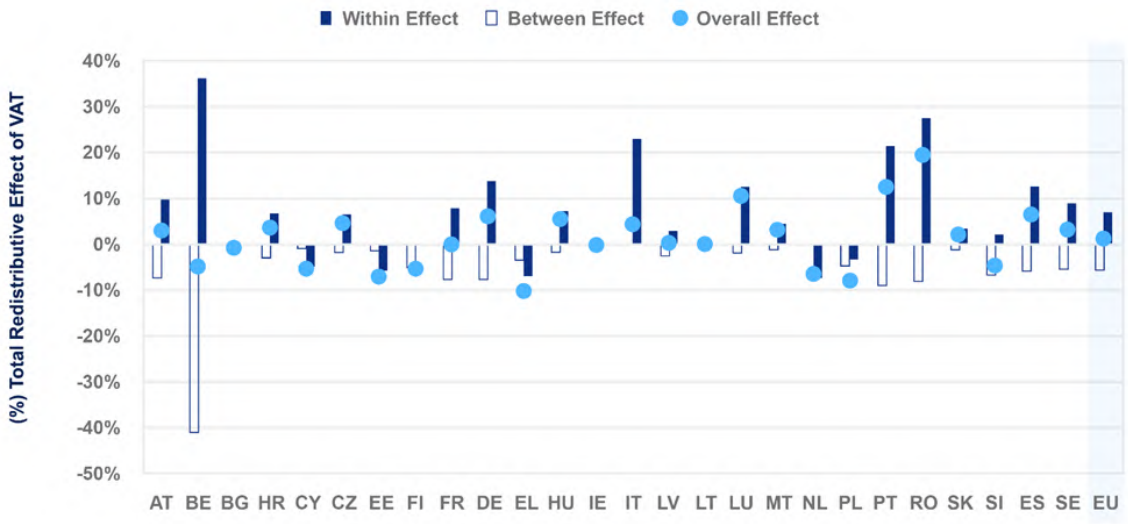
118 Note that reduced rates are not universally seen as tax expenditures. Since the original VAT proposal foresaw reduced and super-reduced rates, it is argued that reduced rates are an element of VAT and thus do not constitute a tax expenditure. This position is for example taken by Italy. Several other Member States analyse and report the revenue foregone due to reduced VAT rates in their tax expenditure reports.

119 Since this analysis focuses only on the consumption of households in the country, consumption by tourists and cross-border shopping are disregarded, albeit these could drive up the VAT policy gap.

Source: Turrini et al. (2024), simulations by European Commission Joint Research Centre, based on EUROMOD version I6.30.

Reduced VAT rates have heterogeneous distributional effects across Member States. VAT, like all consumption taxes, is regarded as regressive in income since poorer households spend a larger share of their income on consumption than richer households, implying that a larger share of income is taxed. Reduced VAT rates are often introduced with the objective to mitigate this regressivity. Reduced rates are accordingly mostly applied to necessities (food) but also to merit goods which are deemed desirable or to promote some activities (e.g. cultural events or hospitality). Since households have different tastes and consume different bundles of goods, reduced rates do not only redistribute between people with different income levels (this can be called a "between effect") but also within income levels, i.e. among households with similar income but different consumption bundles (within effect). The analysis with EUROMOD showed that the within and between effect often have opposing distributional implications so that the overall distributional effect is often limited. As shown in Figure 58, the effect of reduced rates was progressive (i.e. with a positive total redistributive effect) in 16 Member States, regressive in eight Member States, and close to zero in the remaining Member States. For the EU as a whole reduced VAT rates have been estimated to reduce this regressivity to a small degree (1%). ([120])

Figure 58: The redistributive effect of reduced VAT rates in the EU, 2019



Notes: The figure shows the redistributive effect (i.e. the variation of the Gini index of post-VAT income) of reduced VAT rates in each EU country, as well as the breakdown in the within and between effect. Values are reported as a percentage of the total redistributive effect of VAT.
Source: Turrini et al. (2024), simulations by European Commission Joint Research Centre, based on EUROMOD version I6.30.

4.5.2 The VAT policy gap

Our annual study of the VAT gap in the EU covers not only estimates of the VAT compliance gap, but also analyses the VAT policy gap, offering several indictors for the analysis of the VAT

120 It is sometimes argued that it is important to analyse reduced rates by product groups since the distributional impact strongly varies across product types. For example, restaurants and hotels are in many countries taxed at a reduced rate, albeit such goods and services are mostly consumed by higher income households. See for example OECD (2014), The Distributional Effects of Consumption Taxes in OECD Countries. http://dx.doi.org/10.1787/9789264224520-en

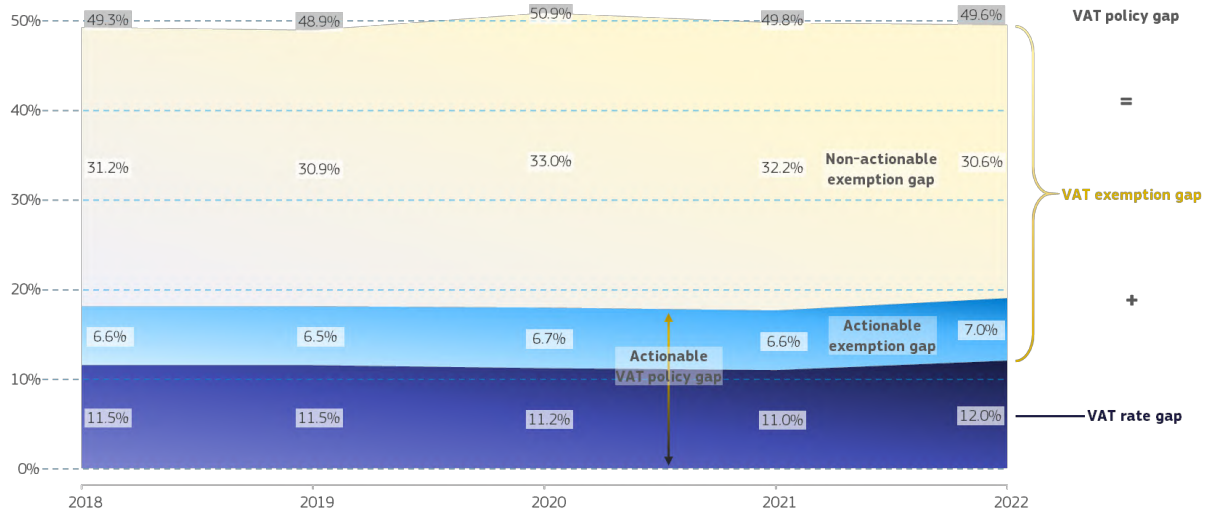
policy gap. The VAT policy gap estimates the VAT revenue losses resulting from policy decisions to apply reduced VAT rates, exemptions, and zero rates, rather than a single standard VAT rate. It reflects the difference between the potential VAT revenue under a uniform VAT rate ('notional ideal VAT revenue'), and the VAT total tax liability under the current policy framework (the VTTL), assuming full compliance in both scenarios.

In 2022, the VAT policy gap in 2022 accounted for almost 50% of the notional ideal VAT revenue, approximately EUR 1 250 billion in absolute terms. The highest VAT policy gaps were estimated in Spain (57%), Italy (55%) and Greece (54%), while the lowest policy gaps were found in Malta (23%) and Bulgaria (32%).

The VAT policy gap can be broken down into two sub-components, the VAT rate gap and the VAT exemption gap. This is depicted in Figure 59.

- The VAT rate gap results from reduced, super-reduced, or zero VAT rates on goods and services, mainly to agricultural products, foodstuffs, beverages, accommodation and restaurant services. In 2022, the VAT rate gap at EU level amounted to approximately 12% of the notional ideal VAT revenue – in absolute terms estimated at EUR 305 billion.
- The VAT exemption gap, estimated for 2022 in the EU at 37.5% of the notional ideal VAT revenue (EUR 950 billion) is largely composed of exemptions on the provision of public services and imputed rents (20.1% and 7.6% of the notional ideal VAT revenue, respectively). The public services gap can be further decomposed into education (5%), healthcare (6.5%) and other public services (8.6%). Financial services exemptions from VAT account for 2.8% of the notional ideal VAT revenue.

Figure 59: VAT policy gap and its components as share of notional ideal VAT revenue (stacked)



Source: *VAT gap in the EU – 2024 report*

The VAT gap study provides estimates of the part of the VAT policy gap that can be addressed by tax policy. The **actionable VAT policy gap** refers to the portion of the VAT gap that could be addressed through policy decisions, such as lifting VAT rates or exemptions. This includes the entire VAT rate gap and a portion of the VAT exemption gap but excludes non-actionable areas like imputed rents or public services. The actionable VAT policy gap therefore represents the foregone VAT revenues due to reduced rates and exemptions that could potentially be lifted. For 2022, this actionable VAT policy gap was estimated approximately at EUR 480 billion, around 19% of the notional ideal VAT revenue. At Member State level, Spain, Greece (each at 27% of notional ideal VAT revenue),

Poland and Italy (each 25%) had the highest actionable VAT policy gaps, while Denmark (3.1%) and Malta (0.7%) had the lowest.

Changes in the actionable VAT policy gap reflect Member State policy measures to mitigate the COVID-19 impacts. Over time, the actionable VAT policy gap increased by 1.4 percentage points in 2022 compared to 2021 and remained approximately 1 percentage point above the pre-COVID-19 period (before 2020). This increase was primarily caused by the growing use of services, such as hospitality, that were still been constrained in 2021 due to the COVID-19 pandemic and related restrictions. In contrast, the non-actionable VAT policy gap dropped by 1.6 pp in 2022, mainly due to reduced expenditure on public services, in particular healthcare. Changes in product-related effective rates, namely anti-inflation relief measures, contributed to increases in the VAT policy gap in a number of Member States.

By how much could the statutory VAT rate be reduced, if VAT exemptions and reduced VAT rates were repealed? The study of the VAT gap in the EU considered a scenario where all actionable exemptions and reduced rates were repealed in favour of a single statutory VAT rate in each Member State. In such a hypothetical scenario, on average, a single VAT rate of 16.7% would suffice to generate the same VAT revenue as was collected in 2022 with the current system in place. This means that completely "flat" systems could have standard VAT rates almost 5 percentage points lower and still remain revenue neutral.

The impact of the VAT rate gap is estimated with some confidence. The preceding paragraphs made clear that the VAT rate gap causes considerable revenue losses in the EU of more than EUR 300 billion in 2022. This estimate derives from the methodology underlying the VAT gap report. EUROMOD ([121]) is a microsimulation model of the tax and benefit systems in EU Member States. It has recently been extended to also accommodate consumption taxation. The model estimates for different types of households and income classes, according to their consumption patterns, how much their consumption tax burden is affected by reduced VAT rates. ([122]) Table 10 presents country-specific estimates of the VAT rate gap using EUROMOD and compares these with the VAT Gap Report's methodology for the year 2019, chosen due to data availability constraints. The estimates are based on two very different approaches. While for a few countries the resulting estimates vary considerably, for most Member States, discrepancies remain within a factor of two. For the EU overall, estimates only differ by a factor of 1.4. There are multiple reasons why EUROMOD estimate would be lower than those from the VAT gap study. Several factors explain why EUROMOD's estimates typically yield lower values than those of the VAT Gap Report. Primarily, EUROMOD only accounts for VAT paid directly by households for their consumption, whereas the VAT Gap Report encompasses the entire economy, including the public sector, tourism and business investments. For countries where estimates differ considerably, such comparisons are guiding researchers to improve their models and methods. A reliable conclusion from this analysis is that reduced VAT rates resulted in revenues foregone for the EU between EUR 173-255 billion in 2019. ([123])

121 European Commission, JRC. What is EUROMOD? https://euromod-web.jrc.ec.europa.eu/overview/what-is-euromod.

122 Distributional implications of reduced rates based on these simulations have been discussed in the preceding paragraph 4.5.1.

123 This does not imply that revoking all reduced rates would increase VAT revenues by this same number. Higher VAT would increase prices, leading consumers to consider their consumption and probably consume less. Neither of these methods can account for the behavioural changes induced by increasing VAT rates.

Table 10: VAT rate gap estimates based on different estimation approaches, 2019 (in million EUR)

	EUROMOD	Study VAT Gap in the EU	Ratio Study/EUROMOD
AT	4 339	9 490	2.2
BE	5 574	8 825	1.6
BG	24	309	13.0
CY	527	730	1.4
CZ	1 661	2 011	1.2
DE	22 668	32 406	1.4
DK	0	429	-
EE	14	110	7.7
EL	2 623	5 779	2.2
ES	22 645	30 669	1.4
FI	1 968	4 435	2.3
FR	35 965	52 921	1.5
HR	896	1 465	1.6
HU	1 833	2 253	1.2
IE	1 649	4 749	2.9
IT	35 568	51 997	1.5
LT	268	234	0.9
LU	643	1 188	1.8
LV	151	189	1.2
MT	38	287	7.5
NL	8 268	11 897	1.4
PL	11 992	13 404	1.1
PT	5 230	6 207	1.2
RO	3 877	3 995	1.0
SE	4 324	6 766	1.6
SI	695	917	1.3
SK	317	775	2.4
EU-27	**173 757**	**254 438**	**1.4**

Source: Own elaboration. Estimates derived from Turrini et al. (2024) and *VAT gap in the EU – 2024 report*.

4.6 Mitigating the compliance gap

Reducing tax gaps requires better measurement, improved fraud detection, easier compliance, and thorough policy assessment. The compliance gap for taxation, is related with the registration, filing, reporting or payment gap depending on at which stage of the tax cycle the taxpayer, voluntarily or involuntarily, fails to comply with tax obligations. Addressing non-compliance means identifying the non-compliers, the forms of non-compliance and the effects of non-compliance. The identified effects of non-compliance need to be repaired or prevented by deterring further non-compliance and by improving collection. The policy gap, by contrast, involves the regular assessment and evaluation of

existing tax policies, notably tax support policies, as they represent foregone revenues. In broad terms, we can say that reducing tax gaps requires action along the following dimensions:

- Better measurement /estimation of gaps including through access to existing data/information and collection of new information;
- Making compliance easier including by a more efficient revenue collection and error reduction, use of digital tools, and clearer and simpler rules;
- Improved detection and deterrence of fraud, evasion and avoidance;
- Better assessment of tax policies.

A comprehensive set of tools is already available to mitigate the tax gaps. To effectively tackle tax gaps, a variety and combination of actions and tools are needed that mutually reinforce each other. For some of these tools, the Commission is in the lead, while others are mainly in the hands of Member States. Intervention mechanisms at EU level address measurement and data collection, detection and deterrence, and policy assessment. The Commission works toward mitigating fraud, tax avoidance and evasion. To this end the Commission fosters exchange of information and the use of a harmonised IT system among tax administrations. Where Member States put measures in place to fight non-compliance, fraud and evasion, the Commission stands ready to support them in doing so.

The following subsections provide a non-exhaustive description of actions and tools available at EU and national level that contribute to reducing the tax gaps. While there is a focus on the main actions and legislative files that help to reduce the compliance gaps, it should be mentioned that there are other legal initiatives such as Pillar Two or ATAD 2 that also mitigate the problem of tax avoidance and non-compliance. In the same vein, in the indirect tax area, legal initiatives aiming at fundamentally optimising the related tax systems – such as the proposal on the definitive VAT regime, the VAT rates – aim at eliminating fraud opportunities and widening the tax base, thus reducing the compliance and policy gaps.

4.6.1 Digitalisation of tax administrations: IT and AI solutions for detection, prevention and collection

Tax administrations use behavioural insights, digitalisation, and support initiatives to facilitate self-compliance. Most taxpayers comply voluntarily with tax obligations, but compliance relies on taxpayers doing full and accurate self-reporting and making tax payments. Tax administrations take measures – based on behavioural insights and nudges - to support this self-compliance by reminding of deadlines, integrating automatically third-party data in pre-filled returns and declarations and in setting up targeted campaigns, taxpayer programmes and support initiatives. Further developments in simplification in this area supported by digitalisation are key to support this self-compliance. Ultimately, the goal is to evolve from e-administration to "tax compliance by design" whereby taxation processes would be integrated in the different systems that taxpayers use to run their businesses or daily lives, thus eliminating for taxpayers the need to act to be compliant.

Digital tools support tax compliance. Most Member States have rolled out digital tools to improve tax compliance such as e-filing, or pre-filled tax returns. A lot of progress has been made on reporting and e-reporting and the recently adopted directive on VAT in the Digital Aga (ViDA) will strengthen the existing framework by providing for a new real time digital reporting system based on e-invoicing.

Introducing digital reporting is projected to boost VAT collection by 1.9 percentage points, narrowing the VAT Gap by 1 percentage point. ([124])

Tax administrations can optimise their processes through digitalisation to generate and utilise data for detecting and addressing gaps and improving revenue collection. In addition to digitalising the interaction between taxpayers and tax administrations, the latter can also digitalise and thus optimise their internal business processes. A variety of digital solutions are currently available and will be available to tax administrations not only to generate quantitative and qualitative data but also to use such data for the detection, prevention and assessment of gaps and improve revenue collection. We need to continue to explore solutions and notably common solutions to enhance the use of data, including by advancing the use of digital tools to address compliance gaps. Further to this, common risk assessment, a more coordinated approach to risk assessment with all relevant stakeholders and real-time sharing of data should exponentially reinforce the enforcement capacity and capabilities of competent authorities.

The use of artificial intelligence (AI) in tax administrations can further facilitate compliance enforcement. Several Member States have started to employ AI to gather more in-depth knowledge and data and identify patterns of possible fraud and evasion. This can lead to further assessment of tax returns and customs transactions possibly leading to audits and as such enhance the fight against fraud, evasion and avoidance. This can increase revenue collection thus decreasing the compliance gap.

4.6.2 Administrative Cooperation on Indirect Taxation

The current VAT system is vulnerable to fraud in the context of cross-border transactions. Value Added Tax is applied across the EU in a harmonised way, including on transactions between taxpayers in different Member States. The current VAT system for cross-border transactions represents a weakness because of the break in the VAT 'audit trail' that occurs at the border, and the zero rating of these transactions at export. Since this can be abused through fraud schemes, tax administrations cooperate to verify the correct application of VAT on cross-border transactions and counter this type of tax fraud. This cooperation includes:

- Exchanging data on cross-border transactions through VIES;
- Spontaneously sending additional information that could be relevant for the receiving MS or requesting more information to confirm fraud schemes for example.
- International audits can be formed to control multinational companies.
- Special schemes covered by the One Stop Shop.

Eurofisc is a network of liaison officials from the 27 Member States and Norway launched to combat cross-border VAT fraud. In 2010, Eurofisc was added to the VAT administrative cooperation legal framework to allow an even closer cooperation and counter VAT fraud more efficiently. Today, Eurofisc counts more than 400 tax officials that exchange fraud signals across different working fields specialised in countering known cross-border VAT fraud schemes. These are working field one (WF 1) on Missing Trader in Intra-Community transactions (MTIC) or carousel fraud; WF 2 on Fraud related to cars, boats and planes and WF 5 on eCommerce fraud. In 2023, Eurofisc enabled the identification of fraudulent or suspicious transactions for a total amount of EUR 14.6 billion (with a 20% VAT rate that

124 The impact of the introduction of digital reporting on VAT revenue and VAT compliance gap is estimated based on the results of the econometric model in the Impact Assessment of the VAT in the Digital Age, European Commission (2022), SWD/2022/393 final, p. 56).

represents EUR 2.92 billion of revenue saved). In 2023, the supplies of goods between Member States amounted to EUR 337 billion ([125]) while the amount of suspicious or fraudulent transactions detected by Eurofisc represents 4.3% of the intra-EU trade of goods.

The fraud in eCommerce is even more difficult to detect as the customers do not report their purchases to tax administrations contrary to business-to-business transactions. To counter this information gap, since January 1st 2024, payment service providers report to a central database, the Central Electronic System of Payment information (CESOP) data about the beneficiaries of cross-border payments. The information is analysed within Eurofisc and compared with other relevant data to produce signals about unreported transactions. The first results are expected in 2025.

VAT administrative cooperation addresses only VAT fraud schemes with cross-border aspects. There are many national VAT fraud schemes that are not covered by the EU legal framework and thus contribute to the VAT gap. The most common example of a domestic VAT fraud scheme are fake purchase invoices that allow to deduct VAT and reduce the taxable base.

4.6.3 Administrative Cooperation on Direct Taxation to Exchange Information and Cooperation to fight fraud and evasion

The directive on administrative cooperation (DAC) assures collaboration to enforce tax compliance. Tax authorities in EU Member States have agreed to cooperate closely to combat tax fraud, tax evasion and tax avoidance and narrow the tax gap. Such cooperation helps to ensure that all taxpayers pay their taxes due irrespective of where they are "active". To make sure that Member State get the information they need to enforce tax rules, Council Directive 2011/16/EU on administrative cooperation establishes harmonised procedures and rules for the exchange of information and cooperation for tax purposes, to support the needs of the Member States in the fields of mutual assistance in taxation, and secure administrative cooperation between national tax authorities. These procedures and rules ensure that Member States automatically receive information they would not have received otherwise on their tax residents. Some of the received DAC information may lead to a change in the initial tax assessment or lead to tax audits (DAC1 - on different categories of income or capital, DAC2 - information on financial accounts, DAC3 – information on rulings, DAC6 – potentially aggressive arrangements, DAC7 - income generated through digital platform seller and DAC8 - information on transactions in crypto-assets). Other DAC information can be used for risk assessment and various statistics and possibly result in further assessments (DAC4 information for risk assessment and statistical purposes).

The DACs are regularly reviewed, and work is ongoing to improve and simplify them. Every five years, the DAC is subject to an evaluation process. Until now, there has been one evaluation completed ([126]) and one ongoing. ([127])([128]) The evaluation of administrative cooperation so far indicates that tax relevant information received through the exchange of information on tax resident taxpayers helps Member States to reduce the tax gap (Boas et al., 2024). Building on the results of the ongoing

125 Eurostat: https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/ddn-20240604-2

126 This first evaluation led to amendments of the DAC through DAC7 that included provisions amending different provisions as a result of the first evaluation done in 2019.

127 TAXUD website Evaluation of administrative cooperation in the field of direct taxation: open public consultation and call for evidence.

128 The information exchanged is used by the Member States' tax authorities to enrich their risk analysis and to carry out tax investigations and audits, thus generating additional resources. These information exchanges can deliver substantial revenue for Member States: the forthcoming report on the evaluation of the DAC indicates that the annual net benefits of the DAC are between EUR 500 million and EUR 6.1 billion.

evaluation, the next steps would be to see how to further strengthen the Directive while reducing unnecessary burden. Finally, conclusive reports by other European institutions like the European Court of Auditors (ECA) and the European Parliament contain recommendations which may serve as a basis for future amendments to the DAC through new proposals. ([129])

4.6.4 Mutual assistance in the field of recovery

Effective recovery of unpaid taxes is a cornerstone of effective tax systems and is one activity to limit tax gaps. The fight against tax evasion and tax fraud does not only require identifying tax fraudsters through compliance risk management and carrying out audits, but also effectively collecting and recovering tax due. Within the internal market, mutual assistance between tax administrations for the recovery of taxes is indispensable: in 2023, recovery assistance was requested for a total of EUR 2.5 billion. This assistance is regulated by Council Directive 2010/24/EU covering both direct and indirect taxation. ([130]) The Commission has already published two reports on the operation of this recovery assistance framework. The next report is planned for 2025. ([131])

The annual statistics currently collected only give a limited view of this recovery assistance, as they only present the numbers of assistance requests, the amounts involved, and the amounts effectively recovered. In practice, the recovery rate is influenced by many other factors, e.g. claims may be reduced or annulled afterwards; requests concerning the same claim may be sent to different Member States; and the effective recovery in the requested State depends on the availability of assets in the territory of that State. As from 2025, a new phase in the automation of the statistics collection should allow the collection of more insights on various factors that influence the success of the recovery assistance between the Member States.

Problems at the level of individual Member States may hamper the smooth functioning of mutual recovery assistance. In situation where the national legislation or practice are not sufficiently developed and adapted to the needs of international recovery assistance, the recovery assistance cannot work properly. In 2022-2024, based on the conclusions and recommendations of the latest Commission report on the operation of this assistance framework, the Commission has supported several Member States to adopt specific reforms relating to the tax recovery authorities' access to information or other recovery competences.

The efficiency and effectiveness of the recovery and recovery assistance actions also depends on a broader cooperation with other law enforcement agencies. ([132]) In 2024, a Fiscalis workshop was organised to bring together tax recovery authorities and asset recovery authorities and anti-money laundering authorities. The intention is to have another joint workshop in 2025, to analyse possibilities for improving the cooperation between tax recovery authorities and authorities or officers dealing with – in particular fraudulent – insolvency situations.

Finally, the fight against tax fraud also requires more cooperation between EU Member States and third countries. Given the reservations of many third countries to accept such assistance within

129 This was the case for DAC8 which included the recommendations of the reports published by the ECA and the European Parliament.

130 Council Directive 2010/24/EU of 16 March 2010 concerning mutual assistance for the recovery of taxes, duties and other measures, *OJ* L 84/1 of 31 March 2010.

131 Reports COM(2017)0778 and COM(2020)813 from the Commission to the European Parliament and the Council on the operation of the arrangements established by Council Directive 2010/24/EU of 16 March 2010 concerning mutual assistance for the recovery of claims relating to taxes, duties and other measures.

132 This initiative is also to be seen in the context of the recent adoption of Directive (EU) 2024/1260 on asset recovery and confiscation (OJ L 02.05.2024).

the context of bilateral or multilateral agreements, the Commission undertakes the necessary efforts to conclude EU-wide agreements fostering such assistance with third countries and it explores opportunities for further international agreements in this field.

4.6.5 Exchange of best practices and implementation of EU policies via FISCALIS programmes to reduce tax gaps

Tax administrations remain the strategic actors for implementing various EU tax policy initiatives which reduce the tax gap and fight fraud and evasion. Sharing of experience and expertise among Member States is key for enhancing the detection, prevention and collection capacities of Member States. The TADEUS forum – just like the Customs Policy Group for customs policy implementation - provides a platform for Member States to address the implementation of EU tax policies - e.g. in the area of administrative cooperation measures -where relevant issues can be tackled at the highest level with the TADEUS Heads when required.

The FISCALIS programmes are key instrument in support of tax and customs administrations to implement policies that can help reduce the various gaps. For example, FISCALIS has and can continue to support various dedicated expert groups and working parties in terms of developing further the common methodology to measure the gaps and its implementation across Member States as is already happening. Going further, they can support the exchange of good practices and dos and don'ts regarding detection and collection. On the exchange of information on direct taxation, regular workshops or working groups on different DAC topics are being held by Member States under the FISCALIS program, complemented by on-site visits to all Member States, to support the harmonised and efficient implementation in the Member States. Fiscalis has also supported on-site visits. The outcome of this work includes recommendations for improvements of the DAC. These programmes have also been crucial in the development of EU IT systems to support data collection and exchange of information in taxation and customs area.

In addition, in the context of the TAXUD expert group on Structures of Taxation, we work with Member States plus EEA to learn different approaches to tax expenditure measurement, reporting and evaluation. The identification of best practices for the definition of the benchmark, reporting standards and evaluation practices are foreseen.

European integrated solutions support national compliance risk management. The discussion of Section 4.6 highlights how European integrated solutions can support better enforcement and reduction in admin burdens. Further policy coordination on the EU-level will allow Member States to further reduce transaction costs, increase government revenues and decrease the administrative and compliance burden.

5 Tax administrations: institutional characteristics and aspects of compliance risk management

Tax administrations are pivotal in ensuring the effective collection of tax revenues. Besides the basic administrative process, tax administrations play a crucial role in preventing and addressing tax evasion and fraud, ensuring a fair tax system and fostering trust among citizens. The efficiency and effectiveness of tax administrations are influenced, amongst other elements, by their institutional characteristics, their level of digitalisation, and their approaches to risk management. Modern tax administrations increasingly rely on digital solutions to enhance their operations, including e-filing, e-payment, and the use of artificial intelligence and virtual assistants, which streamline taxpayer interactions and improve accuracy. This digital transformation also supports data analytics to identify compliance risks and enhance decision-making. Auditing remains a fundamental aspect of tax administration, aiming to ensure the accuracy and completeness of taxpayer-reported information. While traditional audits are conducted, there is a growing trend towards automated validation and cross-matching of taxpayer data, leveraging technology to enhance compliance checks.

Empirical evidence allows for a comparative understanding of tax administrations across the EU and might help identify relative weaknesses. Information on tax administrations is collected by the International Survey on Revenue Administration (ISORA). ISORA is a partnership between the Inter-American Center of Tax Administrations (CIAT), the Intra-European Organisation of Tax Administrations (IOTA), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD). The first survey was launched in 2016 and was completed by 135 tax administration ([133]). The OECD provides a comprehensive discussion of the rich empirical evidence contained in the dataset in an annual report on tax administrations (OECD, 2024b) ([134]). The value added of the present chapter is the sample restriction on EU-27 Member States and the focus on a few specific topics of interest. The chapter also aims to explore the usefulness of ISORA data for comparing tax administrations across the EU. ([135])

133 ISORA data can be accessed from the RA-FIT homepage (https://data.rafit.org/?sk=f02eda7c-dfd9-4c15-9ff9-8c5b400e16cb&sId=1445908451587). The site also provides a detailed description of the objectives, procedures and coverage of the dataset.

134 OECD (2024b),Tax administrations 2024 is the latest report in the tax administration series.

135 It is important to keep in mind that ISORA data is derived from surveys. That means data is self-reported. In some instances, levels but also changes over time seem exceptional and one stands to wonder how much reporting issues might cause this. In fact, we have received corrections from several Member States on some elements of the data reported for their countries. This is linked to a general problem with reliability of survey data. However, ISORA provides a unique source of information about a wide aspect of tax administrations. To the extent that biased survey replies result from the fact that insufficient resources are devoted to the replies or relevant data is not collected on a regular base, the analysis, discussion and publication of related findings might provide impetus to improve data quality in the future and make this source of information even more useful.

The practices and characteristics of tax administrations determine their performance. Stronger tax administrations should be able to collect more revenues at lower costs, i.e. more efficiently. Recent research by the IMF has set out to empirically determine what characteristics and activities can maximise revenue collection (Chang et al. 2020; Adan et al. 2023). Based on ISORA data, the researchers captured administrations' operational strength by six categories, comprising: 1) compliance risk management practices ([136]); 2) the use of third-party data; 3) the degree of digitalisation of services; 4) service orientation; 5) public accountability; and 6) autonomy. Results suggest that strengthening compliance risk management by adopting automated risk profiling and electronic audits; utilising third party data and adopting computer systems for processing the data and prefilling returns are particularly relevant for tax collection.

Associating compliance risk management and the use of third-party information with large taxpayer programs and public accountability further enhance revenue collection. The studies further indicate that several measures are strongly correlated among themselves while also being associated with better administrative performance. In addition to compliance risk management, public accountability and large taxpayer office programs (LTOs) can play a role for revenue collection. ([137]) The authors suggest that different tax administrations' functions support and reinforce each other (Chang et al. 2020, Adan et al. 2023).

Three important aspects of tax administrations are considered in detail in this chapter. Section 5.1 focuses staffing and resources available to tax administrations, Section 5.2 focuses on aspects of digitalisation. Section 5.3 finally aims to better understand audits as an important tool of compliance risk management.

5.1 Institutional characteristics: staff and other resources

Institutional characteristics provide useful information to understand and compare tax administrations across the EU. As in any institution, the staff structure, staff characteristics and resources available to a tax administration play a crucial role in its overall efficiency and ability to function cohesively. The recruitment, retention, and management of competent employees, coupled with adequate systems for upskilling and ensuring business continuity are keys to success. Another important factor for the success of tax administrations is the correct allocation of available resources to deal with the unique challenges faced by that Member State, which may vary greatly in the EU. Although there is no "one-size fits-all" formula, this section will examine the various trends in EU Member States regarding the workforce in their respective tax administrations, identifying areas for possible concern and highlighting where Member States are performing well.

In 2022, the total number of staff in tax administrations, expressed in full time equivalents (FTEs) per million inhabitants ranged from 433 in Spain to 1 979 in Luxembourg. ([138]) The average number across EU Member States was 1 045 FTEs compared to 1 063 in 2018, the relative consistency in this indicator between 2018 and 2022 is evident in Figure 60. Figure 60 also shows that Luxembourg (1 979), Denmark (1 634) and Slovenia (1 459) had a high number of FTEs per million inhabitants. On the one hand, this could indicate that sufficient resources are available to confront

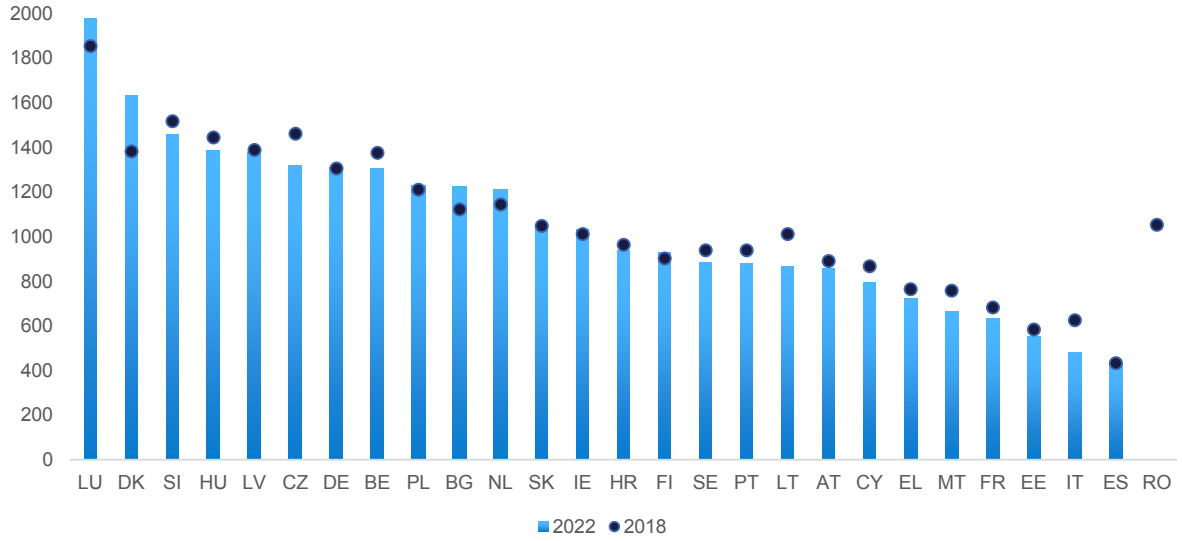
136 Compliance risk management for tax administrations is a strategic approach to identify, assess, monitor or reduce risks associated with compliance with tax laws and regulations and enforce these where necessary.

137 The empirical evidence in these papers is not based on data relating to the EU.

138 Note that the survey provides a partial picture in as much as only main tax administrations per country are included in the ISORA questionnaire. This means that administrations for example collecting SSC or where applicable regional taxes, might not be accounted for in the survey.

non-compliance in all areas of taxation. On the other hand, this could be an indication that there are economies of scale in tax administration which small countries cannot exploit. Spain (433), Italy (482) and Estonia (555) had the lowest level of full-time staff per million inhabitants. This could indicate that these tax administrations may have to prioritize certain activities due to an inability to allocate enough staff to all areas of taxation, or that these countries manage to realise economies of scale. Estonia is no large country however, so for Estonia, comparatively low levels of staff per population might be caused by the advancement in digitalisation of their public services, coupled with the simple approach of corporate taxation based on the distribution system, where corporate income taxes only accrue upon distribution to owners/shareholders.

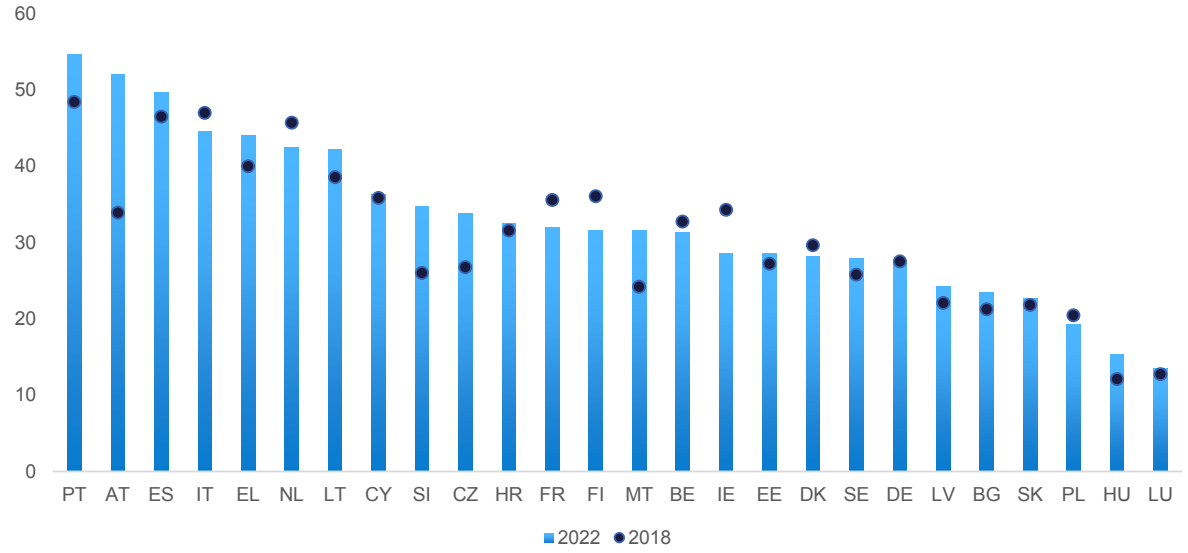
Figure 60: Total number of FTEs in tax administrations per million inhabitants



Notes: No data available for Romania in 2022.
Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

Several tax administrations in the EU may need to monitor and plan for their staff needs. Figure 61 highlights that Portugal (54.6%), Austria (52.0%) and Spain (49.6%) reported the highest percentage of total staff aged 55+. Tax Administrations hire more staff in certain periods than others, this can have a long-erm effect on age cohorts. This can indicate the need for a recruitment drive in the coming years as many of these employees may be nearing retirement age. Possible strategies may be necessary to ensure the proper relay of knowledge via a better age mix and service length, and the possible loss of knowledge and experience needs to be adequately accounted for via training programmes and relevant fieldwork. Interestingly, Figure 61 also shows that there is no common trend across the tax administrations of EU countries in terms of increasing proportions of total staff aged 55+: some administrations reported increases while others reported decreases of the proportion of staff in this age category. Austria reported the most notable increase in FTEs aged 55+ (18.1 pp). Ten tax administrations reported a decrease in the share of total staff aged 55-64 between 2018 and 2022 with Ireland (7.3 pp) and Finland (5.6 pp) having the greatest decreases.

Figure 61: Share of total staff aged 55+ in tax administrations (in %)



Notes: Data sorted by 2022 values
Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

Perhaps unsurprisingly, those countries with the highest age of staff also have the longest length of service. Portugal (90.2%), Slovenia (75.6%), and Austria (67.4%) are the top three EU countries regarding staff with 20+ years of experience in the tax administration. While this retention rate of staff can be viewed as a positive indication of a good work environment and staff satisfaction etc., it may also again flag the need to make provisions for future changes in the structure of these tax administrations. Increasing numbers of new recruits might require resources to be allocated to basic and specialised training branches in the short to medium term.

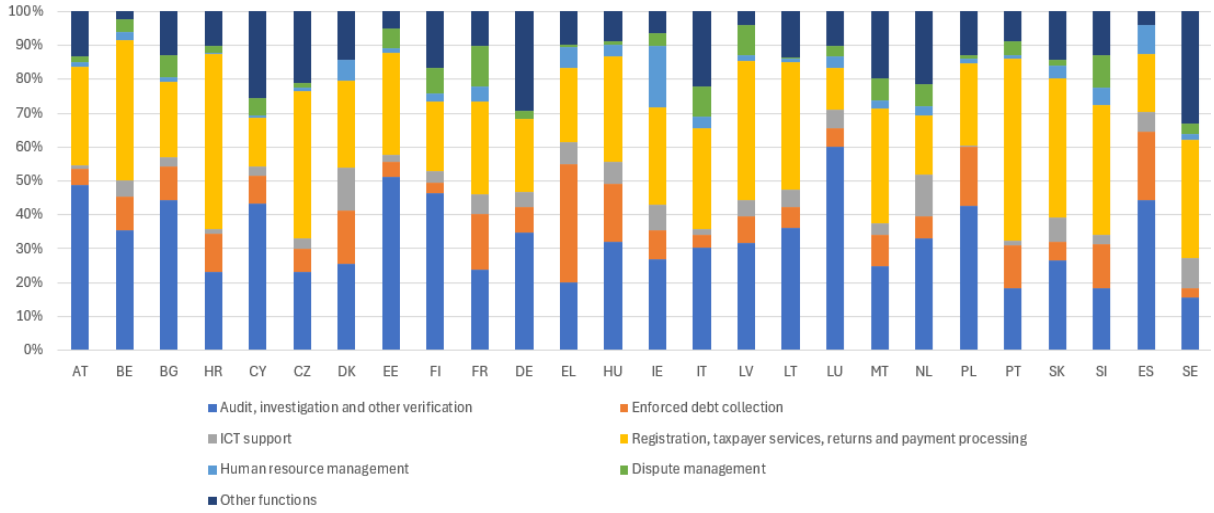
Some countries may have already taken steps to ensure a more balanced age and experience workforce. Denmark (56.6%), Luxembourg (33.6%) and Sweden (31.8%) had the highest number of their total workforce with less than 5 years of experience in the tax administration, which may explain the relatively large share of young staff and may be a sign that these administrations took steps to ensure business continuity and the relay of appropriate knowledge.

Differences in the functional organisation of tax administrations across the EU reflect the diversity in tax systems design and cultural differences. Figure 62 depicts the staff allocation (as shares of total FTEs) to the different functions of the tax administration. Countries such as Spain (64.4%) and Luxembourg (65.6%) dedicate relatively more staff to enforced debt collection and audit investigation and other verification procedures. These functions are related to a more reactive and enforcement-based approach towards taxpayers and could indicate that these tax administrations focus more on tackling non-compliant taxpayers. This might lead to higher success rates from audit procedures, stronger identification of instances of non-compliance, or indeed more accurate targeted intervention systems. Figure 62 also shows that Portugal (53.7%) and Croatia (51.3%) both allocate over half of their staff to registration, taxpayer services, returns or payment processing. This could indicate a stronger regard for preventive tax compliance. But it could also mean that the tax system is complex and regular taxpayers are more inclined to require assistance making payments or understanding the legislation.

Most tax administrations in the EU utilise specialist skills for behavioural science, user interface design or data science: 48% of tax administrations in the EU use specialists in behavioural science,

63% use specialists in user interface design and 74% use specialists in data science. Austria, Belgium, Bulgaria, Croatia, Denmark, Germany, Ireland, Latvia, Luxembourg, Netherlands and Sweden all employ specialists in each area (either in house, contracted or both). ([139]) While Slovenia, Slovakia, Romania, Malta and Greece do not have any specialists employed in those areas. The use of specialist skills, especially in data science, allows the administration to better identify risky taxpayers and focus resources in areas that are more likely to return a yield or discourage non-compliant behaviour.

Figure 62: FTEs by function of the tax administration (% of total, 2022)

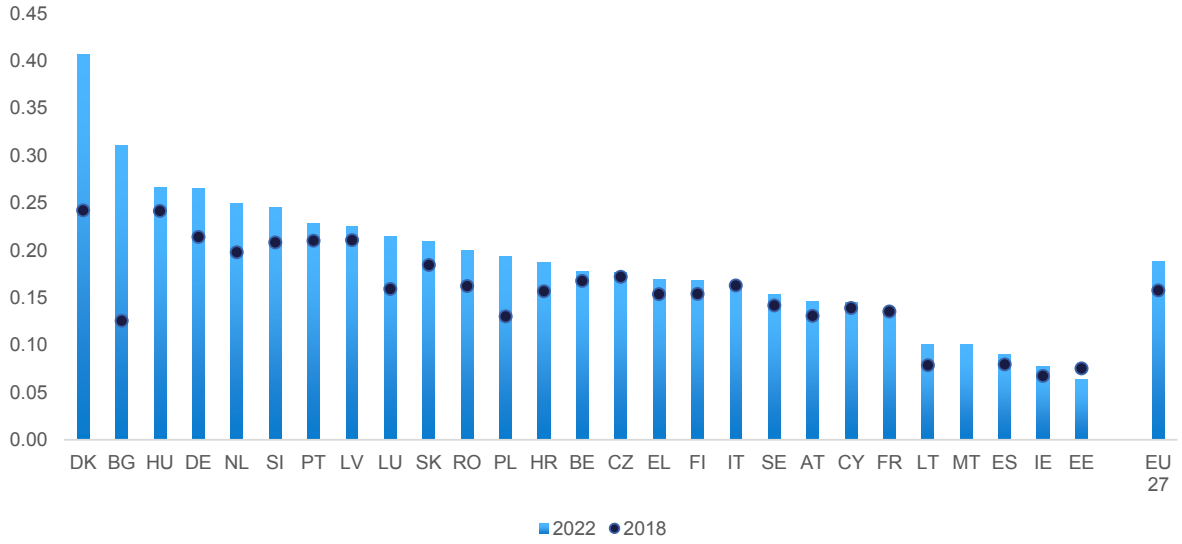


Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

Operating expenditures for tax administrations can differ by up to a factor of six across Member States when accounting for the size of the economy. Figure 63 indicates that in Estonia (0.064%), Ireland (0.078%) and Spain (0.09%) operating costs for tax administrations as a share of GDP are lowest. Denmark (0.407%), Bulgaria (0.311%) and Hungary (0.267%) have the highest relative operating cost among EU tax administrations, the EU average for this period is 0.188%. Operating expenditures have increased in most Member States compared to 2018. Estonia has seen a slight reduction in expenditures while Czechia, Italy and France have kept expenditures constant.

139 Source: CIAT, IOTA, IMF, OECD, International Survey on Revenue Administration, Table B.15 Specialist skills.

Figure 63: Operating expenditures as a % of GDP

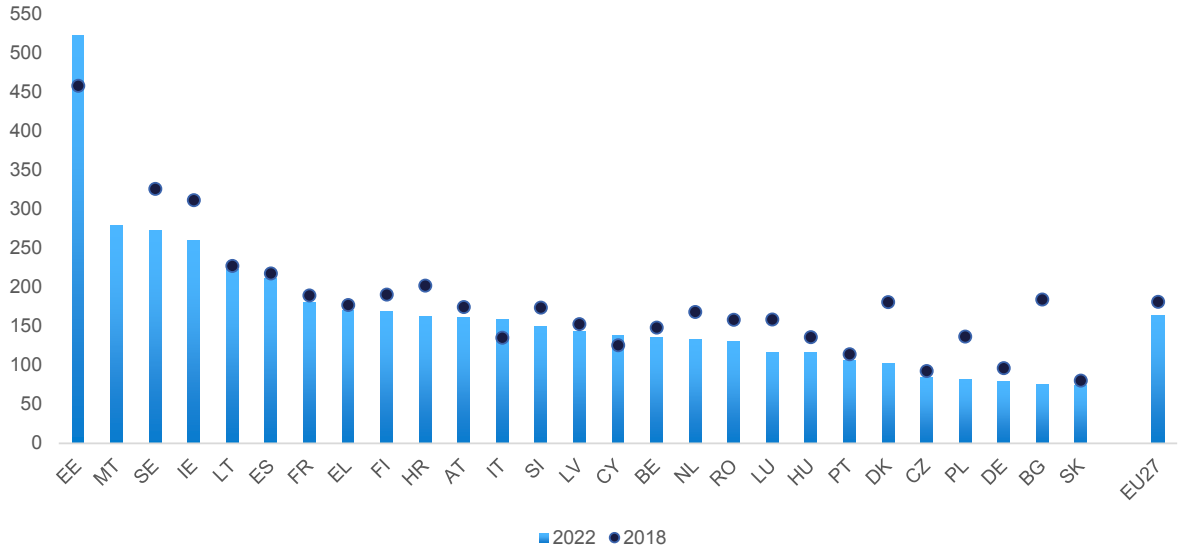


Notes: Data sorted by operating expenses in 2022.
Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

Operation costs alone however do not allow any inference on the efficiency of these administrations. At least one outcome variable would be needed to evaluate efficiency and cost-effectiveness. Figure 64 shows that Estonia collects EUR 522 for every Euro spent on operating the tax administration, nearly double the next highest EU tax administration in this category which is Malta (collecting EUR 279 per one Euro of operating expenditure). Figure 64 also depicts that the average amount of revenue collected across the EU is EUR164 per one Euro of operating expenditure compared to an average of EUR 181 in 2018, indicating that it may have become more expensive to collect revenue. The Slovakian tax administration collects EUR 74 for every Euro incurred in operating expenditure, Bulgaria EUR 75. The share of revenues per operation expenditure are sometimes considered as a measure of tax administration efficiency. A word of caution is needed: tax revenues are also determined by a host of factors outside the control of the tax administration such as economic and political circumstances, crises like the COVID pandemic and tax hikes. ([140]) For example, consider a revenue increase after a tax rate hike. Nothing has changed at the level of tax administrations, but the indicator would increase. Additionally, investment in digitalising tax authorities is an expensive process, which could increase costs in the short-term while the benefits only materialise in the medium to long-term term. In sum, while one should not make immediate inference about the efficiency of tax administrations from these indicators alone, it can still be instructive to look at these as a first step of the analysis.

140 In this context it is also important to consider that the administration- and collection costs differ across tax type. For example, relatively high costs result per Euro of CIT collected, while VAT can generally be collected at lower costs per Euro. From a pure tax collection efficiency point of view, it might be attractive to eliminate some taxes. There are however other reasons (like equity and fairness consideration) which require the use of those taxes.

Figure 64: Tax revenue collected per one Euro of operating expenditures



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

The Tax Administration Diagnostic Assessment Tool (TADAT) supports Member States in strategic tax administration reform. Box 9 details how the Technical Support Instrument supports Member States in reforming their tax administrations.

Box 9: Enhance Strategic Tax Administration Reforms in the European Union through Tax Administration Diagnostic Assessment Tool (TADAT)

Background

The European Commission's Technical Support Instrument (TSI) provides support to EU tax administrations aligning reforms with international good practice and enables administrations to take a strategic long-term view. The TSI 2023 multi-country project to Enhance Strategic Tax Administration Reforms in the European Union through the Tax Administration Diagnostic Assessment Tool (TADAT) ([141]) involved Bulgaria's National Revenue Agency (NRA), Greece's Independent Authority for Public Revenue (IAPR), and Romania's National Agency for Fiscal Administration (NAFA). TADAT provides a standardised framework for assessing the health of a country's tax administration system in the context of internationally accepted good practices. The results of a TADAT assessment provide the tax administrations, ministries of finance, and other stakeholders with a baseline of the maturity of the tax administration system from which reforms and related support can be planned and implemented. To date over 179 tax administrations (national and subnational) have been assessed. While most assessments concern developing countries TADAT has previously been used by European countries such as Spain and Norway. TSI support to bring three Member States together to utilise TADAT represented an opportunity for a unique regional approach and peer-to-peer exchanges, including sharing regional and international practices in reform prioritisation and strategic planning. The support was delivered by the IMF.

141 www.tadat.org

Support Measures

The project commenced with peer learning and capacity building with additional support provided through the TAIEX instrument. ([142]) Training and certification on the TADAT framework followed by provision of country-specific guidance and recommendations ensured that national officials were fully prepared for their TADAT assessment. The TADAT assessments of involved national tax administrations were carried out almost simultaneously by assigned country assessment teams involving international and EU senior tax experts. Immediately after the country-specific Performance Assessment Reports were agreed, an in-person workshop brought the three country teams together for peer-to-peer discussions of the assessment results and the overall experience. The project also provided capacity building in international good practice in reform design and strategic planning. Practical assistance detailed how the results from the TADAT assessment can be taken forward by identifying reforms and updating strategic and operational plans.

To ensure the sustainability of reforms, a dedicated project component supported the development of a communication strategy. Specific communication messages and events were designed and organised to promote the reform initiatives and achievements of the respective administrations to strengthen trust and transparency amongst stakeholders.

Outcomes and Impact

Romanian authorities used the TADAT assessment to benchmark their performance against international best practices, confirming positive developments. The assessment identified development priorities in compliance risk management, human capital risk management and improving audit quality control. These findings provided the basis for designing a new Strategic Plan for 2025-2028 with the aim to consolidate into a more data driven risk-based administration.

In Greece, the TADAT assessment identified key weaknesses in the taxpayer register, compliance and institutional risk management, audit and recovery of tax arrears**.** Beyond ongoing reform activities to strengthen some of these core tax administration areas, these findings helped to determine key strategic and reform priorities and the sequencing of reform initiatives for the next five years.

The TADAT assessment in Bulgaria identified development priorities in compliance risk management, especially in the large and medium taxpayer offices; human capital risk management; and improving audit quality control. These areas are already broadly addressed within the current (2021-2025) strategic plan, so the TADAT findings confirmed the relevance of the existing strategic framework and provided an evidential baseline against which the effectiveness of these strategic initiatives can be evaluated.

The project enabled the national tax administrations to:

- Identify strengths and the areas for improvement in their respective tax administration systems, processes, and institutions.
- Share views on the condition of the system of tax administration among stakeholders.
- Establish consensus on the reform agenda in short, medium, and long term with a detailed approach on how to put this agenda into action immediately after the end of the project.
- Improve institutional governance for design and implementation of reforms.

142 TAIEX is the Technical Assistance and Information Exchange instrument of the European Commission. TAIEX supports public administrations with regard to the approximation, application and enforcement of EU legislation as well as facilitating the sharing of EU best practices.

- Strengthen strategic management and planning processes based on evidence.
- Reinforce capacity of the tax administrations on strategic analysis and planning.

TADAT assessments provide an objective external diagnosis of tax administrations. This justifies resource allocation for reforms. Future TSI support may respond to the needs identified by the TADAT assessments.

Conclusion

This multi-country project brought three tax administrations together for simultaneous TADAT assessments. This created opportunity for peer learning with valuable lessons for the involved tax administrations. The close involvement of the European Commission, the IMF, and the TADAT Secretariat created strong synergies that contributed to the high quality and trustworthiness of assessment results. Follow-up TADAT assessments were used to measure progress and pointed to persistent strategic and reform management issues, enabling shortcomings to be addressed effectively in the future.

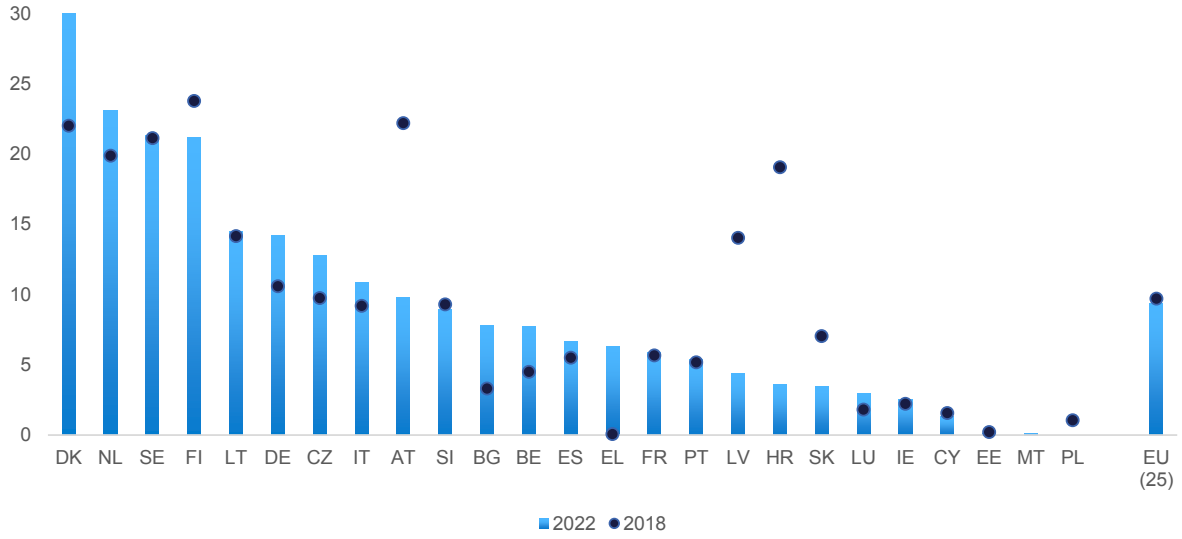
Following the positive outcomes from this multi-country project the TSI support was extended to three more countries - Czechia, Malta and Slovakia. This second TADAT multi-country project is currently ongoing and is expected to be finalised in Q1 2026. (The dedicated project website provides further information).

5.2 Digitalisation of tax administration

The past decade has been characterised by the continuous digitalisation of the economy, coupled with fast developing technological advances. These transformations have required tax administrations to adjust their operations. These changes are critical to ensure that the burden on taxpayers does not increase. Especially, pre-filling of tax declaration, e-filing of tax declarations and e-communication with tax authorities have become more common across the EU. At the same time, the post-pandemic period has seen a fast development of artificial intelligence (AI) technologies, which can bring about many potential benefits for tax administrations.

Relative expenditure on information and communication technologies (ICT) differs widely across Member States. Figure 65 indicates that expenditures on ICT can reach up to 30% of overall operating cost of tax administrations, as reported for Denmark. For seven Member States ICT expenditures are below 5% of total operating expenditures in their administration. The normative interpretation of this indicator without further details is difficult. High relative ICT spending could indicate a high level of digitalisation, but it could also indicate that large investments are required to improve the level of digitalisation. This could for example explain the large decrease in ICT expenditure compared to 2018 in Croatia, Austria, and Latvia.

Figure 65: Expenditure on ICT as a % of total operating expenditure



Notes: No data available for RO and HU.

Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

Pre-filled tax returns can considerably reduce compliance costs for taxpayers. Pre-filling refers to the practice of tax administrations automatically filling in certain fields of taxpayers' tax returns with information they have already collected or have access to (e.g., income data from employers). Pre-filled tax returns can significantly reduce the compliance burden on taxpayers in terms of time and effort spent on preparing and filing tax returns. Pre-filled tax returns eliminate the need for gathering and inputting data manually when that information is already readily available to the tax administration or other administrations. They also simplify the process for taxpayers with complex tax situations, such as those with multiple sources of income. Pre-filling also reduces administrative burden for the tax administration, since the information is already in the system and only returns where taxpayers made modifications need to be checked and inputted. This also facilitates risk-management because if a taxpayer deviates from the information already known by the administration, extra attention can be paid to the taxpayer. Prefilling is a form of compliance by default.

Pre-filled tax declarations for PIT are more common that for CIT and VAT. The ISORA survey data shows that in 2022 most Member States pre-filled PIT returns at least to some degree. For CIT returns, only four Member States report to do some pre-filling of returns in 2022. ([143]) Pre-filling of VAT returns is relatively rare. Greece, Portugal, Italy and Spain seem to pre-fill at least some VAT returns. Latvia and Lithuania pre-filled VAT returns in the years before 2022 but do not report pre-filling for 2022. The implementation of ViDA will lead to the introduction of digital reporting and e-invoicing in more Member States ([144]), thereby providing the conditions to introduce pre-filled VAT returns.

Table 11: Pre-filling CIT, PIT and VAT in 2022

Jurisdiction	CIT	PIT	VAT
Austria	no	yes	no
Belgium	no	yes	no

143 Note that according to ISORA data, Greece, Ireland and Sweden did pre-fill CIT returns in the years before 2022. The ISORA survey has nevertheless been modified with regards to that survey question. It is not clear if changes result from changes in practices on the ground or from the way the survey collects evidence.

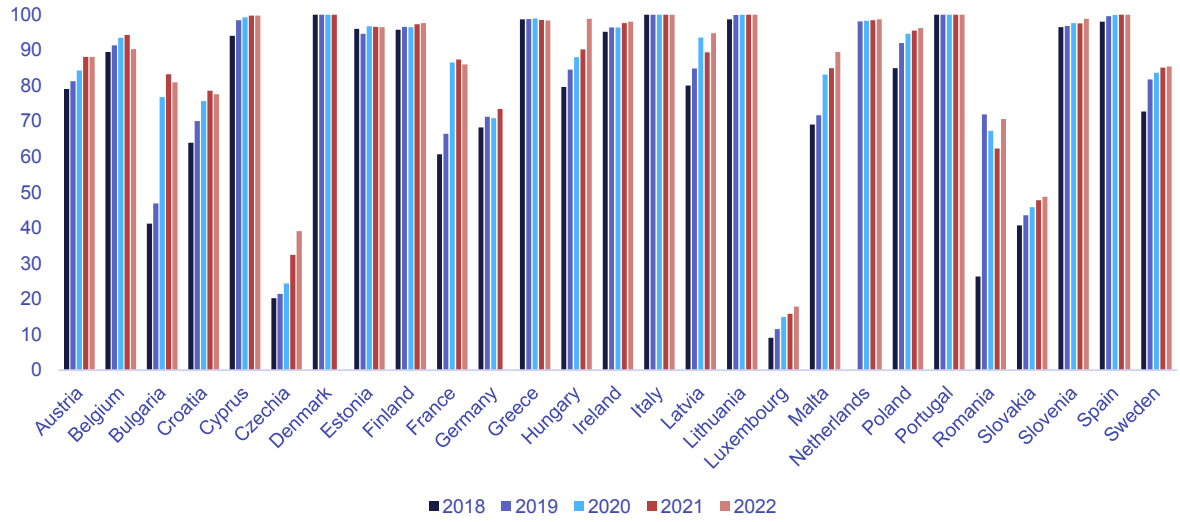
144 Digital reporting and e-invoicing will be applied in all Member States for cross-border transactions by 2030 but is not mandatory for domestic transactions, which is the basis for pre-filling.

Bulgaria	no	yes	no
Croatia	no	no	no
Cyprus	no	no	no
Czechia	no	no	no
Denmark	yes	yes	no
Estonia	yes	yes	no
Finland	no	yes	no
France	no	yes	no
Germany	no	yes	no
Greece	No, but	yes	yes
Hungary	no	yes	no
Ireland	No, but	yes	no
Italy	no	yes	yes*
Latvia	no	yes	No, but
Lithuania	no	yes	No, but
Luxembourg	no	no	no
Malta	no	yes	no
Netherlands	no	yes	no
Poland	no	yes	no
Portugal	yes	yes	yes
Romania	no	no	no
Slovakia	no	no	no
Slovenia	no	yes	no
Spain	yes	yes	yes
Sweden	No, but	yes	no

Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.
Note: *In Italy the pre-filled VAT return has been introduced starting from 2023 for VAT returns referring to 2022 tax year.

Electronic filing of tax declarations is common in the European Union. Electronic filing reduces the administrative burden of tax administrations and is part of a simple and reliable tax system. As e-filing eliminates the need for manual paperwork it saves taxpayers time and money. A higher share of e-filed tax returns thus should also indicate lower compliance costs for taxpayers. It also reduces the likelihood of errors in tax returns as e-filing systems often include integrated error-check mechanisms. Figure 66, Figure 67 and Figure 68 show the share of e-filing for PIT, CIT and VAT, respectively. Figure 66 conveys that e-filing in PIT has increased in all countries. Czechia, Luxembourg and Slovakia show relatively low rates of e-filing.

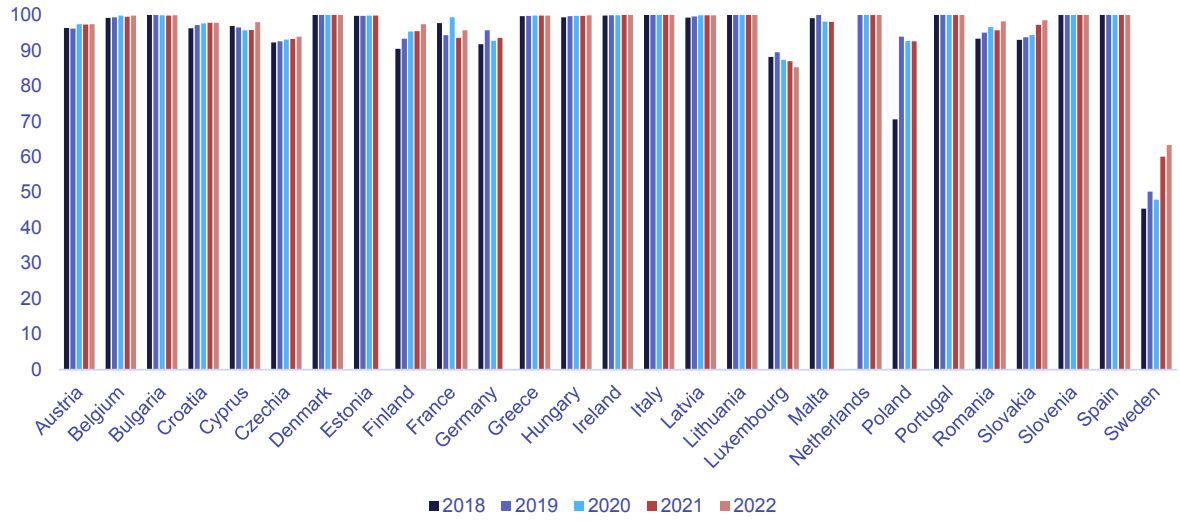
Figure 66: Electronic filing PIT in %



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

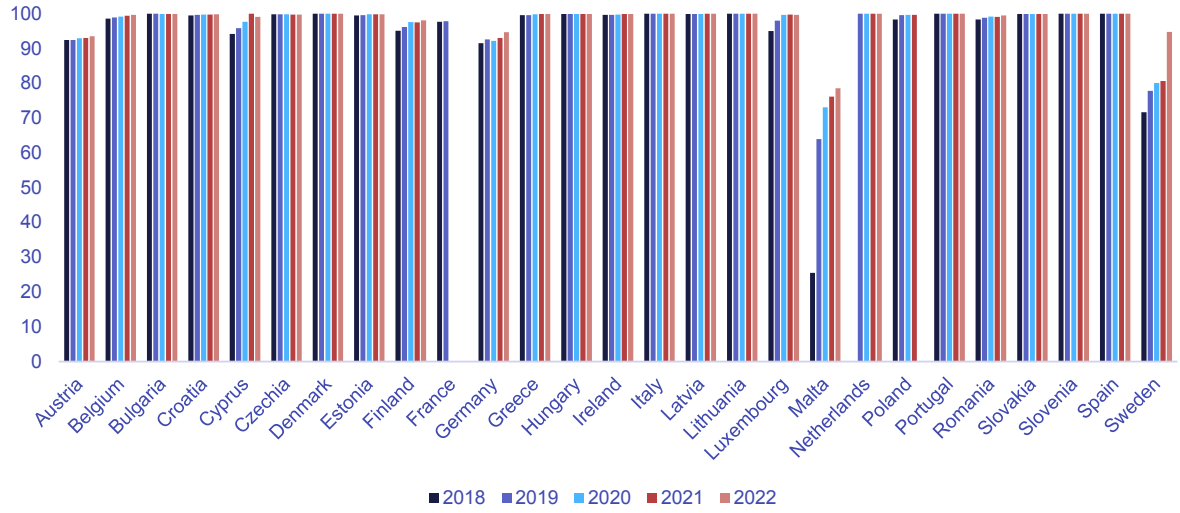
E-filing for CIT and VAT is common practice in the EU. Figure 67 shows that e-filing for CIT is a widespread practice in the EU. The relatively low share of e-filing in Sweden is remarkable. Over time the practice however becomes more common also in Sweden. Figure 68 indicates that e-filing is also common for VAT. Malta and Sweden exhibit a relatively low share of e-filing for VAT but it is becoming more common. There is no data for France for 2020, 2021 and 2022. In 2019 the percentage was 97.8.

Figure 67: Electronic filing CIT in %



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

Figure 68: Electronic filing VAT in %



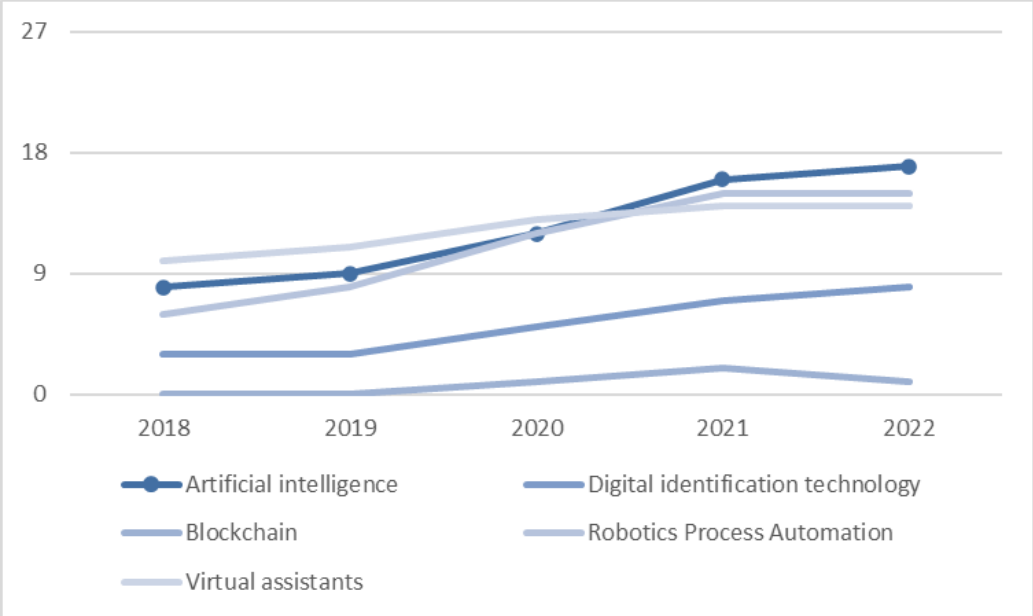
Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

The process of digitalisation of tax administration operations is ongoing and accelerating. Aslett et al. (2024) break down the evolution of digitalisation into different sub-periods. Specifically, since the 2000s the introduction of electronic services lead to significant increases in data, which in turn lead to investments in advanced analytics, data warehouses, big data platforms, and machine learning techniques. In the post- COVID-19 period investment has mainly turned to generative AI and its potential implications. See also

Box 10.

The uptake of innovative technologies is expanding across the EU. Despite differences across Member States, there is a considerable increase in the number of Member States where tax administrations use innovative technologies. Specifically, the number of Member States using AI solutions increased from to 17 between 2018 and 2022 (see Figure 69). The same period also saw an increase in the number of Members States using virtual assistants, robotics process automation and digital identification technology (e.g., biometrics, voice identification, Blockchain technology is currently only used in Poland, while Denmark has discontinued the technology after one year.

Figure 69: Innovative technologies in use, number of Member States in EU-27

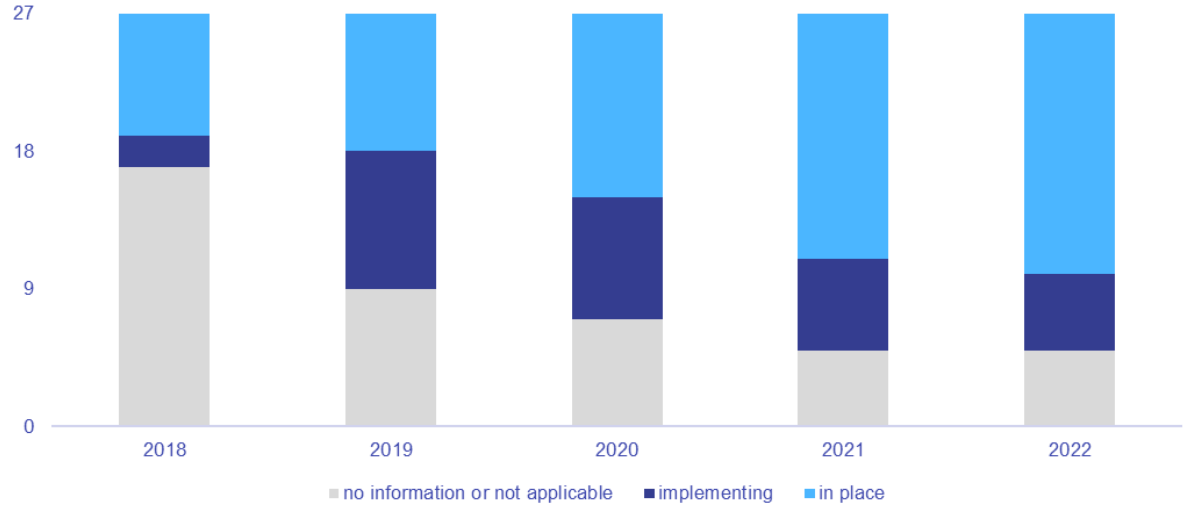


Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

AI technologies are being rolled out in tax administrations across the EU relatively quickly. Some form of AI has been used by tax administrations for many years. Today, most tax administrations use AI mainly for detecting tax evasion and fraud, more general risk assessment processes and virtual assistants. Figure 70 indicates that in 2018, 17 Member States did not either use or were just in the process of implementing AI solutions. By 2022, this number had fallen to 10 Member States. The fast adoption of AI since 2018 highlights the value added of this technology for tax administrations. Notably, AI can support the work at different stages, by supporting for example risk assessment and fraud detection, data analysis and processing or compliance and enforcement (Ilieva, 2025). However, the risk behind the deployment of this technology requires careful consideration by tax authorities. Specifically, potential biases an AI algorithm has picked up from the training data may lead to unfair treatment of specific taxpayers or disregard certain risky behaviours. Furthermore, the volumes of sensitive and personal data handled by tax administrations lead to concerns relating to privacy and security.

AI applications support tax administrations in their fight against tax evasion. Member States increasingly use new technological capabilities to mitigate tax evasion. For example, in Spain, AI is used for detecting interconnected websites and determine their ultimate owners. This way, unknown taxpayers can be detected, and potential non-compliance identified. In Belgium, the tax administration uses AI to flag and block suspicious VAT transactions. In France, AI is incorporated in the digital property systems to discover unknown real estate (Ilieva, 2025).

Figure 70: Implementation and use of AI technologies (number of Member States)



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

Blockchain technology is mostly not used by tax administrations, despite potential benefits. Blockchain technology is said to potentially increase transparency and trust in transactions through a verification process, that creates valuable audit trails (Mazur, 2022). Beyond, the use of blockchain could facilitate the automation of compiling and sharing of data, increasing efficiency. For example, by reducing the VAT compliance gap through a platform for digital invoices, which could reconcile the aggregated information in tax declarations with the individual invoices. However, the significant costs and complexity associated with the implementation of blockchain may explain its very limited adoption by EU tax administrations. For example, a common barrier to using blockchain technology is that manufacturing stages often occur in several different countries, meaning that such technology would need to be in place in each country involved in the manufacturing process to enhance transparency to the degree that it provides added value.

Box 10: Examples of digitalisation in Member States abound

In terms of practical examples at national level, Hungary has employed a comprehensive digital transformation, including a new IT strategy and developing data asset management the next strategic period of 2025-2028. Poland is relatively advanced in digitally transforming its tax administration having rolled out SAF-T in 2016 and initiating a clearing house IT system designed to combat tax fraud by fostering data exchange between tax authorities and banks in 2018 ([145]). Another example of an innovative solution is the App "*Appodixi*" developed by the Greek tax administration. This app will enable customers to scan an automatically generated QR code on receipts with their smartphone, and then check whether the receipt is valid and whether the card terminal is connected to the tax office. Participating customers enter a lottery and can win a cash reward. Yet another example is the Italian SDI (*Sistema di Interscambio*) which mandates businesses to send all invoices through the national tax platform which automatically verifies the information and cross-checks it against other tax data to identify discrepancies.

The Recovery and Resilience Facility (RRF) supports the digitalisation of tax administrations in several Member States. On the one hand, RRF reforms and investments aim to improve services for taxpayers and reduce compliance costs, through the creation or enhancement of IT platforms, pre-filled tax returns and faster processing of VAT refunds. On the other hand, the digitalisation of tax administrations also helps with the fight against tax evasion and aims to reduce the shadow economy, by improving, for example, risk assessment frameworks and the data available for tax audits. Box 11 discusses some examples.

Box 11: RRF measures for the digitalisation of tax administrations

Improving user-friendly services for taxpayers fosters greater trust and compliance within the tax system. Supported by the Recovery and Resilience Plan (RRP), Cyprus has created an Integrated Tax Administration System (ITAS) for VAT, which will be extended to direct taxes. Greece has also implemented an automated VAT refund procedure and IT platform, allowing all refund requests to be completed electronically and quicker. Italy provided pre-filled VAT returns to more than two million taxpayers, as a pilot project, easing the administrative burden of these taxpayers. In Romania, all large taxpayers and the vast majority of active taxpayers can, through the Virtual Private Space (a free online platform) quickly access information regarding their tax obligations, including social contributions, receive tax-related documents, and submit various requests to tax authorities. In Spain, the Tax Agency has four new Tax Digital Support Platforms (DSPs) that will improve services and provide online support to taxpayers, for example whilst filing tax returns. A dedicated service for corporate income taxpayers (Sociedades Web) has also been upgraded. Finally, a new software (Renta Web) allows the automatic importing of accounting books ("libros registro") into personal income tax returns for more than 1.7 million taxpayers. Croatia's RRP requires the creation, by mid-2026, of a new tax information system including a new data analytics platform, a new user experience design for taxpayers and tax officials, and the digitalisation of all processes with a view to simplifying and speeding up tax procedures and enhancing ICT security. All these digitalisation measures will reduce administration burdens by streamlining processes, enhancing accuracy and ultimately will provide taxpayers with a more efficient and seamless experience with tax administrations.

Digitalisation is also key to tackling tax evasion and the RRF supports many important measures on tax audits and data. Italy's RRP supported the integration and expansion of data-sets available to

145 See Section 3.3 above on how the European Semester and TSI have fostered digitalisation and the use of AI in tax administrations to fight fraud and evasion.

the tax administration as well as the analytical framework for targeting audits. In Greece, the activation of the "Mydata system" and the interconnection with third party bank information are expected to improve corporate tax compliance and revenue collection. In addition, the Greek RRP requires the introduction of artificial intelligence tools in tax and audit procedures to improve the detection of tax evasion and enhance compliance. Latvia's RRP required strengthening analytics and developing data management in the field of tax administration and customs, including the adoption of a work-plan to curb the shadow economy and the entry into operation of a taxpayer rating system to optimise controls. In Lithuania, the State Tax Inspectorate and Customs now obtains data on vehicle owners from the vehicle owners' register system. Lithuania's RRP also requires the implementation a fully functional digital tool (Builder ID information subsystem) which will enable mandatory registration of at least 80% of persons working on construction sites, who can be identified electronically in real time according to a special builder's identity code. Romania significantly shifted inspection actions from physical to digital control structures.

Real time data on electronic payments and cash registers provides tax administrations with the necessary tools to tackle tax evasion quicker. Italy extended the compulsory use of e-invoicing to firms previously exempted, introduced administrative sanctions for the refusal of electronic payments and provided for the daily transmission of e-payments data to the tax administration. Greece provided targeted and temporary incentives for electronic transactions and is expected to connect at least 400 000 cash registers with Point-of-Sale systems to the Independent Authority for Public Revenue. In Romania, over 600 000 cash registers have been connected to National Agency for Fiscal Administration, in order to reduce the VAT gap. Lithuania introduced restrictions on cash payments in 'at-risk' economic sectors and for individual types of transactions, in order to reduce opportunities for businesses and people to conceal their income.

Data is both a challenge and an opportunity for tax administration and support under the RRF for digitalisation of tax administration can ensure this challenge is overcome and tax evasion is minimised. Maximising revenue collection is an important objective that the RRF continuously supports.

5.3 Audits as integral part of compliance risk management

Audits are a key function of tax administrations to tackle non-compliant taxpayer behaviour. They, and generating additional revenue yields while, in the process, identifying areas for improvements in existing practices of tax assessment and collection. Audits discourage non-compliant behaviour. A a robust system for audit selection and risk analysis is thus critical to the efficiency of the audit procedure. This section aims to examine and compare audits in different EU tax administrations with regards to allocation of resources, revenue raised and overall effectiveness of these procedures.

Audits are costly. Audits are an important instrument for tax administrations' compliance activities. Audits can also be some of most expensive interventions a tax administration can do. Audits are time consuming for tax authorities and taxpayers alike and, depending on the type of audit, they may also bring along administrative and compliance costs. Based on compliance risk management the administration should decide to do audits or if there are other interventions, such as pre-filling, education, nudging activities and communication that could in a specific case have the same or better effect on tax compliance.

Evidence suggests that audits can be cost-effective and have a lasting impact. According to Advani et al. (2023), audits increase compliance and pay for themselves. They show that audits raised

reported tax liabilities of audited taxpayers for five years (on average) thus reducing underreporting also after the audit. This effect is found to be even longer-lasting (up to eight years) for more stable sources of income like wage income. It is estimated that the aggregate additional revenue from an audit is at least 50% larger than the additional immediate revenue resulting from the audit. The indirect effect of audits in increasing compliance is confirmed in further studies (e.g. Bergolo et al., 2023). There is further evidence that audit rule disclosure (i.e. disclosure of the rules guiding decisions to audit) increases tax revenues and compliance (Di Gregorio et al., 2024; Al-Karablieh et al., 2021). Using Finnish tax data, Harju et al. (2024) confirm increasing tax revenues and find that both, firms' revenue and labour costs increase after audits, suggesting that some firms may follow a strategy of under-reporting their overall scale of operation. Among non-compliant firms the authors find a large increase in the likelihood of bankruptcy after audits, while not such increase in bankruptcies is found for compliant firms.

Compliance enforcement via audits interact with tax moral, i.e. increased voluntary compliance behaviour if they are not perceived as coercive. A 2021 study by a Fiscalis workgroup on trust-based tax compliance (Dahl, 2021) argues that enforcement must be applied with measure to have overall positive effects on compliance. ([146]) Indeed, power and norm-enforcement may reduce trust and voluntary compliance if perceived as coercive. Therefore, striking the right balance between enforcement action and trust is crucial. ([147]) In the context of tax fraud, retributive justice, i.e. appropriate punishment of offenders is important for voluntary compliance. Accordingly, different tax climates require different enforcement strategies. To foster voluntary compliance, tax authorities can make use of many kinds of persuasion, nudging and cooperative compliance strategies (e.g. Siglé et al., 2018) and positively affect the likelihood of compliance via appeals to both morals, norms and deterrence. ([148]) For example, simple letters and reminders can affect voluntary compliance, but like audits, they may also backfire with already compliant taxpayers. Research also shows that descriptions of tax authorities' power and trustworthiness in brochures or news media can have behavioural effects, and that mass media campaigns may improve both intended and actual compliance (Slemrod, 2019).

Compliance risk management should guide which actions should be taken by tax administrations. In the process of ensuring compliance using risk management, a tax administration makes systematic, deliberate choices on which measures to use, based on its knowledge of the population of taxpayers (behaviour) and its capacity to effectively stimulate compliance and prevent non-compliance. It is a way to organise and direct all activities of a tax administration and in particular a tool for selecting taxpayers for auditing. ([149]) According to the TADAT field guide ([150]), a good practice in compliance risk management is the gathering of risk-related information from internal and external sources. Risk related information can be obtained from the analysis of own audits, tax gaps, studies of taxpayer behaviour and attitudes towards paying taxes as well as using third party information. Compliance improvement plans (CIPs) are a valuable tool for increasing taxpayers' compliance and boosting tax revenue. CIPs offer a systematic approach to mitigating the main compliance risks facing the tax system. Tax administrations that adopt a standardised methodology for designing and implementing CIPs help ensure that a coherent, consistent, and repeatable approach is applied to enhancing taxpayers' compliance (Brondolo et al., 2022).

146 https://www.trustandcompliance.com/

147 See for example Kirchler et al. (2008) and Lederman (2019). Dwenger et al. (2016) find that hat intrinsically motivated compliance is substantial and that there is no crowd-out between extrinsic and intrinsic motivations.

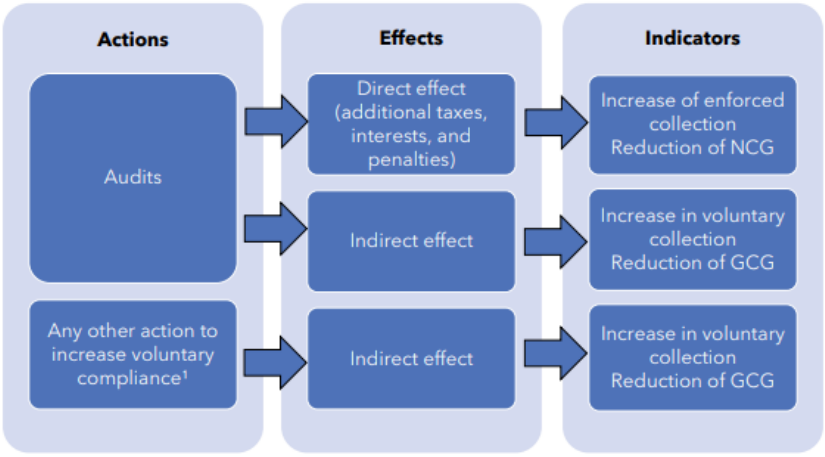
148 See for example the European Trust and Cooperation Approach.

149 European Commission, (2023h), Compliance Risk Management in the Digital Area, Field Guide

150 TADAT Field Guide

There is a circular relationship between tax gap estimation and audits and other compliance efforts. In a recent technical note, the IMF sets out how tax gap analysis (they call it compliance gap analysis) can be used to improve compliance risk management and thus the decisions of actual compliance enforcement action by tax authorities. These enforcement actions then feed back on the compliance gap through direct and indirect effects, as depicted in Figure 71 (D'Agosto et al., 2025).

Figure 71: Link between tax administration actions, their effects and influences on compliance

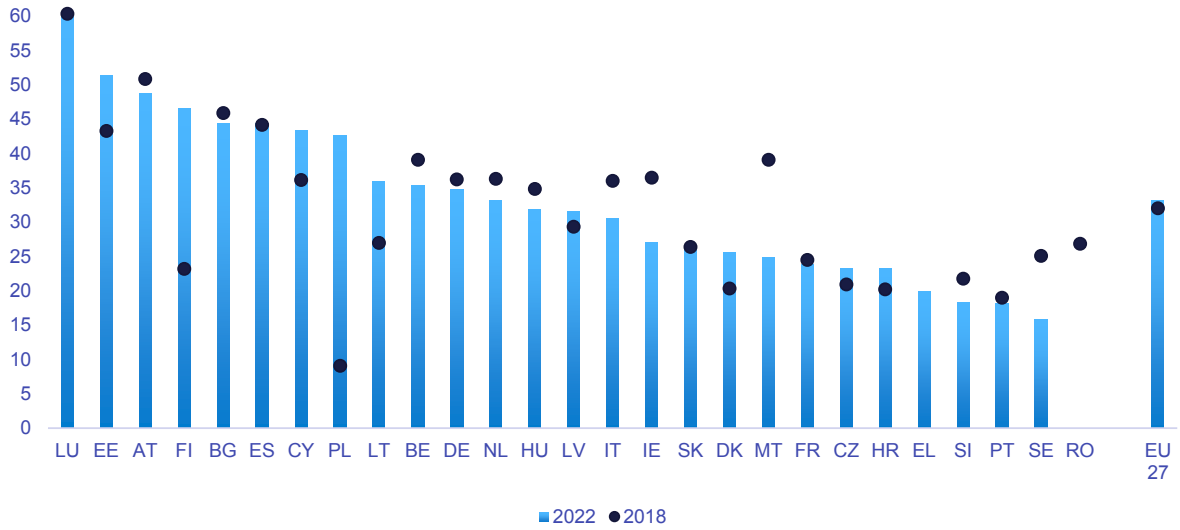


Note: NCG is the net compliance gap (i.e. net tax gap) and GCG is the gross compliance gap (i.e. gross tax gap).
Source: D'Agosto et al., (2025).

A considerable share of tax administration personnel is engaged in audit procedures. Figure 72 shows the share of FTEs dedicated to audit. The values for 2022 range from 16% in Sweden and 19% in both Portugal and Slovenia to about 50% in Austria and Estonia and even 60% in Luxembourg. Relatively low shares of personnel in Sweden, Portugal, Slovenia and Greece might indicate that these tax administrations tend to prioritise other functions. According to these numbers the audit function has become relatively more important especially in Poland and Finland which see considerable increases between 2018 and 2022. The data further reveals that overall, the number of FTEs for audits has increased by 14.9% between 2018 and 2022, and the number of audits per FTE by 11.1% across the EU (both not shown). In 2022, about 130 200 FTEs in audit within the EU have conducted a total of 10.7 million audits in their respective jurisdictions. Audits can in principle imply brief desk audits but also full on-site audits. ISORA does not provide a numerical breakdown of the different types of audits conducted. ([151])

151 When considering the number of audits per FTEs in audits, it becomes obvious that tax administrations might refer to different categories when replying to the same survey question. Annual audits per FTEs in audit range from less than one audit per FTE per year to more than 700 audits per FTE per year. It stands to reason that the former tax administration considers function in audit that are not considered to work in audit in other tax administrations, thereby increasing the count of FTEs in audit. The latter tax administration might include desk research on specific taxpayers or engagement with the compliance risk management tool as an audit, thereby inflating the number of audits, compared to tax administrations of other jurisdictions.

Figure 72: Number of FTEs in audits as share of total FTEs (in %)



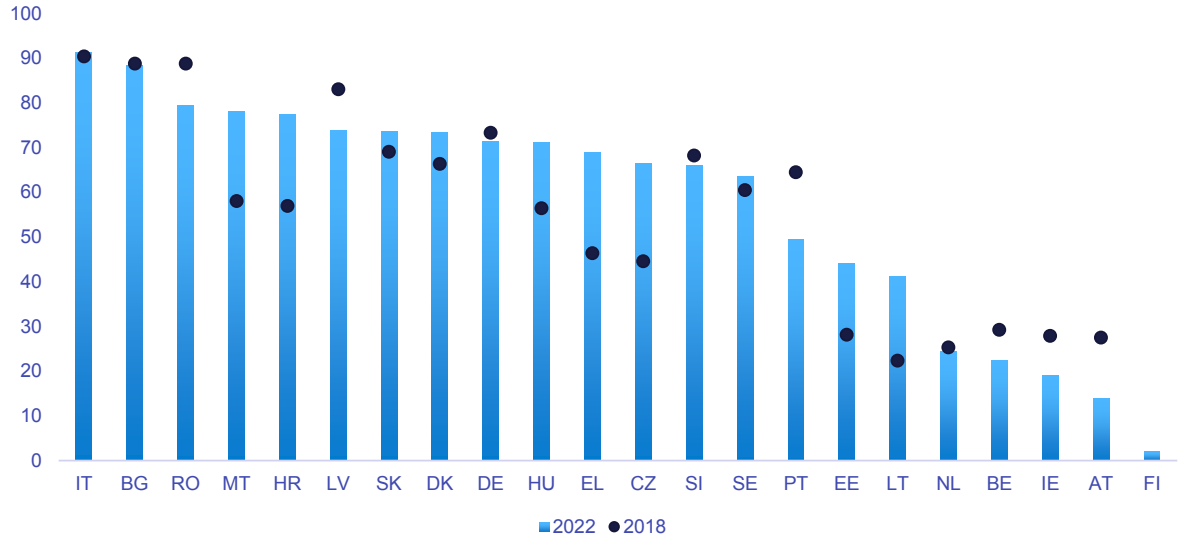
Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

The audit hit rate indicates the success of an audit with regards to raising additional revenue. ([152]) Figure 73 shows the audit hit rate, which highlights the percentage of audits that resulted in an adjustment to the tax return, for 22 Member States for which data was available. Italy (91.2%), Bulgaria (88.3%) and Romania (79.5%) reported the highest audit hit rates in the EU. Finland (2%) ([153]), Austria (13.9%) and Ireland (19%) reported the lowest audit hit rate. A high hit rate could indicate successful compliance risk monitoring but also could be related to a higher overall non-compliant behaviour in the population. If non-compliance is very low, it will be comparatively more difficult to conduct an audit that identifies non-compliance. It may also highlight that certain administrations have more resources allocated to audit functions and may not see yield as the only indicator for a successful audit. It should also be considered that tax administrations might report different metrics for Figure 73 due to different interpretations of the audit hit rate.

152 Source: CIAT, IOTA, IMF, OECD, International Survey on Revenue Administration, Table D.46 Audit ratios: Hit rate and additional assessments raised, https://data.rafit.org/regular.aspx?key=74180903

153 While tax compliance is considered to be rather high in Finland, this number seems very small. Finland has reported a very large number of audits. It is possible that audits and other interventions (nudges, review letters etc.) have been combined in Finish reporting.

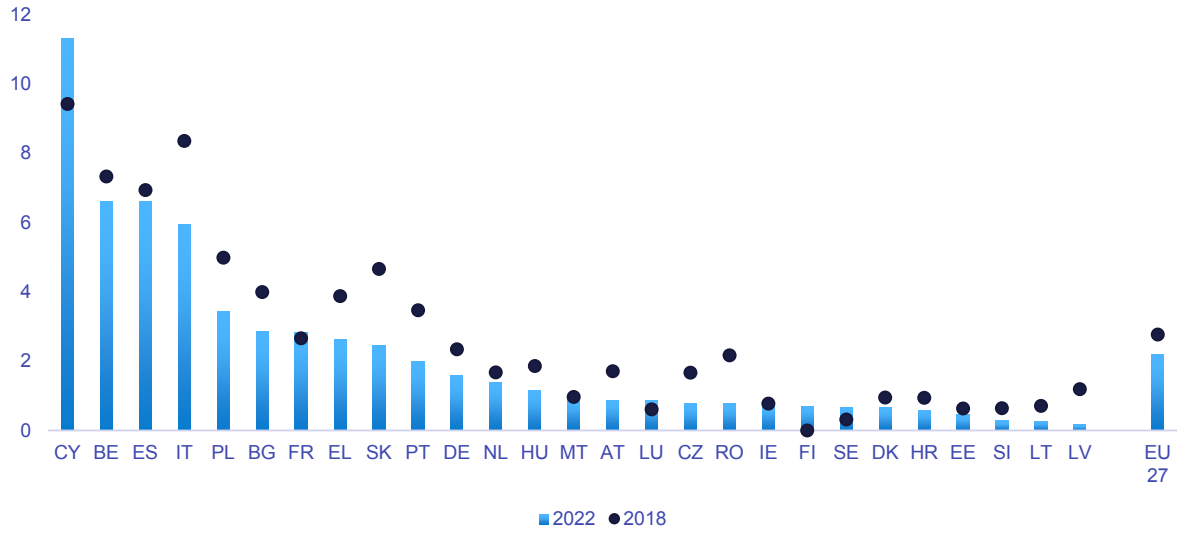
Figure 73: Audit hit rate



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org.

Audits collect additional tax revenues. Compliance audits by tax administrations contribute to the collection of additional revenues from tax bases that have initially evaded (or avoided) taxation. The survey data shown in Figure 74 suggests that in 2022, revenues from audits increased total tax revenues for EU-27 on average by 2.2%. In Cyprus audits increased revenues by more than 10% (2.3% of GDP), in Belgium and Spain by about 7% (i.e. 1.5% and 1.2 % of GDP respectively). While additional revenues are welcome from a fiscal perspective, it is not straightforward to interpret this indicator across Member States. High additional revenues from audits could in principle result from high audit intensity, successful compliance risk management or low general compliance in the specific taxpayer population.

Figure 74: Additional revenues from audits as share of total revenue (in %)



Source: Own elaborations based on International Survey on Revenue Administration data available at https://data.rafit.org

Additional revenues from audits show some decrease since 2018. In 2022, additional revenues from audits in the EU were EUR 3.9 billion (0.51% of GDP) on average. For the European Union as a whole, audits have collected an additional EUR 105 billion. In 2018, audits resulted in additional

revenues of EUR 4 billion (0.65% of GDP) on average or 108 billion overall, indicating a decline by 3.6% over the five-year period. Per audit, tax administrations collected an additional EUR 35 550 in 2022 and EUR 43 340 in 2018. This could be interpreted in different ways. One could speculate that compliance risk management is becoming less effective in identifying non-tax-compliant individuals. On the contrary and more likely, it could be that improvements in audit procedures are contributing to increased voluntary compliance in the EU. Similarly, the risk appetite of non-compliant taxpayers may have decreased in line with improvements in digitalisation and associated increased audit risks.

Audits pay for themselves and are a successful deterrent to tax evasion. Advani et al. (2023) suggest that more resources should be devoted to audits since audits have additional value beyond deterrence. For the US, Boning et al. (2025) find that one additional USD spent auditing taxpayers above the 90th income percentile yields more than USD 12 in revenue, while audits of below-median income taxpayers yield USD 5. On average, one USD in audit spending initially raises USD 2.17 in revenue. Audits of high-income taxpayers are more costly, but the additional revenue raised more than offsets the costs. Audits of the 99–99.9th percentile have a 3.2:1 initial return; audits of the top 0.1% return 6.3:1. The individual deterrence effect produces at least three times more revenue than the initial audit. Deterrence effects are relatively consistent across the income distribution. This results over time in the 12:1 return above the 90th percentile (Boning et al., 2025). The available information in the ISORA data with a few simplifying assumptions indicates that returns to audits might be up to ten times higher than related costs on average. ([154]) Research on optimal levels of audits cautions that the superficially appealing rule that the tax authority should maximise tax revenue net of administrative costs is not optimal because it involves too high a level of enforcement (Shaw et al., 2010).

There are important trade-offs related to compliance enforcement. Fairness in taxation implies that everyone should contribute their fair share in taxes and compliance enforcement helps maintain general compliance level and tax moral. There are nevertheless limits to the generation of additional tax revenues through more extensive compliance enforcement since compliance enforcement rises administrative cost of tax administrations and compliance costs of taxpayers. Due to diminishing returns, extending audits will likely increase the costs per audit while additional revenues per audit would decline. There is also some indication that overly aggressive compliance enforcement might backfire and can crowd out voluntary compliance. Finally, it is important to acknowledge that increased enforcement results in higher expected tax rates for prospective evaders. Compliance enforcement will thus trigger a similar real response as an explicit tax rate increase (Slemrod, 2019).

ISORA data contains important information for cross-country analysis, but comparability might not always be a given. This chapter has the double objective of analysing tax administrations across the EU while at the same time developing some understanding of the quality of available data. ISORA data used here is based on a survey of tax administrations. Surveys are known for a multiplicity of data challenges. Respondents might suffer from recall-bias, social desirability bias and a host of other biases. in addition, surveys rely on the interpretation of the question by the respondent and there are several instances where it seems that a given variable in ISORA is reporting different phenomena on the ground. Finally, for some variables, no appropriate data might yet be available in all tax administrations and respondents might provide an informed guesstimate instead of an actual statistic derived from operations. The use and analysis of this data however will improve the understanding of its variables and importance to appropriately fill relevant information so that data quality is expected

154 Compared to the analysis by Boning et al. (2025) this return on audit spending seems very high and is probably overestimated. Total operating costs have been attributed to audit as a share of FTEs in audit compared to overall FTEs. Since many functions in tax administrations might support and enable audits the audit related costs are thus likely underestimated.

to increase over time. We will further rely on ISORA data to better understand tax administrations across the EU.

6 Taxing wealth and top incomes: strategies for a fairer tax system

The progressivity of tax systems plays an important role in supporting tax fairness. In particular, tax design may be and is used in many Member States and around the world to help address inequality and promote equity across the economy, by ensuring that those who can most afford to contribute do pay a higher share. This is what prompted the design of progressive tax systems across the EU with increasing tax rates on higher incomes. Such progressivity features are typically used for personal income taxation, and in particular labour taxation.

The emergence of new forms of wealth, alongside rising wealth concentration and an ageing population, may undermine the progressivity of EU tax systems if based strongly on labour income. As EU tax systems strive to ensure stable and sustainable tax revenues to fund public expenditure (including more recently defence and security), while facing current and future fiscal sustainability challenges, making sure that everyone pays their fair share is particularly important. Still, ensuring progressivity at the top of the income distribution remains a challenge. In this context, taxing wealth and high net-worth individuals have recently featured prominently in the work of international organisations, including in the IMF, the OECD and the G20. The first part of the chapter focuses on tax progressivity and the features of progressive tax systems in the EU. The second section of the chapter focuses on high net-worth individuals, also covering existing tax policy tools that tax jurisdictions may use to ensure that this taxpayers' group contributes its fair share to revenue generation and general prosperity.

6.1 Progressive tax systems and their features

6.1.1 Tax progressivity aspects in the EU

Tax progressivity is a feature of most tax systems in the EU. A tax is considered progressive if the average tax rate increases with income. When this is the case, the marginal tax rate will be higher than the average tax rate at a particular income level. Conversely, a tax is proportional or regressive if the average tax rate is, respectively, constant or declining as income rises. Looking at the distributive effect, and assuming equal revenue-raising capacity, a neutral tax will not alter income distribution after taxes, a regressive tax will widen income inequality, and a progressive tax will reduce it. The term 'progressive' can be applied to individual tax types or to a tax system as a whole. Progressive taxation is based on the principle of vertical equity, which suggests that those with a greater ability to pay (typically measured in relation to income and/or wealth) should contribute a larger share of their

resources in taxes, based on the assumption of declining marginal utility of consumption. ([155]) Tax progressivity contributes to the wider policy objective of promoting a more equitable redistribution across society and mitigating income inequality.

In some EU member states, tax progressivity is embedded in the constitutional law. For a few EU Member States, the legal basis for tax progressivity stems from constitutional provisions. For example, the Italian Constitution (article 53) explicitly states that *"the tax system shall be progressive"*. ([156]) According to the Spanish Constitution (section 31) "*everyone shall contribute to sustain public expenditure according to their economic capacity, through a fair tax system based on the principles of equality and progressive taxation*". ([157]) The Portuguese Constitution (article 104) establishes that the "*personal income tax shall aim to reduce inequalities [...] and be progressive*". ([158])

A progressive tax system can be designed in a number of ways and using several types of taxes. Establishing a rate structure with multiple tax rates, e.g. for different income brackets (for example using various income thresholds tax brackets whereby an increasing rate is applied to the income above that threshold, while also often exempting incomes below a certain threshold), is the most common way to design a progressive tax. This is often the case for personal income taxation. In many cases, progressivity is also achieved by foreseeing specific tax expenditures, which affect the size of the tax base. In addition, the taxation of different sources of income plays an important role in determining the overall progressivity of the tax system. For example, most income tax systems applied in EU Member States tax capital income at lower rates than labour income, while only in few countries all personal capital income is treated in the same way (see also Box 13). Some progressivity elements can also be found in some countries in the context of corporate income taxation, inheritance and gift taxation, or property transaction taxes, for example.

Tax measures aimed at increasing progressivity may also have unintended outcomes. Tax expenditures, such as tax credits, allowances, deductions, exemptions, reduced rates and tax deferrals, are tax policy instruments that reduce the amount of tax to be paid for some activities or groups of taxpayers and can be used for redistributive purposes (OECD, 2010). Some tax expenditures, such as the ones related to family support, tend to have a progressive redistributive effect, i.e., reducing income inequality. In contrast, other tax expenditures (for example the ones related to housing, such as mortgage interest tax relief) have been found to be more likely to benefit households in high income deciles, depending on their design. According to recent research (Turrini at al., 2024), households with the lowest income levels tend to benefit less than proportionally from such tax support even in those Member States where tax expenditures are found to be progressive overall. This suggests that tax expenditures' if not properly designed may have unintended distributional effects (see also Chapter 4).

Tax progressivity is currently mainly achieved via progressive personal income taxation. Personal income taxes are traditionally considered to be the best instrument for redistribution. Atkinson and Stiglitz (1976) analysed the roles of direct and indirect taxation in achieving redistribution. They argue that, under certain conditions—specifically, when individuals' utility functions are separable between labour and consumption—differential commodity taxation (indirect taxes) is unnecessary for

155 The concept of declining marginal utility for consumption suggests that, as an individual consumes more units of a good or service, the additional satisfaction or utility gained from each additional unit decreases. Based on this assumption, imposing higher tax rates on higher incomes would minimise total welfare loss compared to a flat tax system.

156 Quoted from: https://www.senato.it/documenti/repository/istituzione/costituzione_inglese.pdf

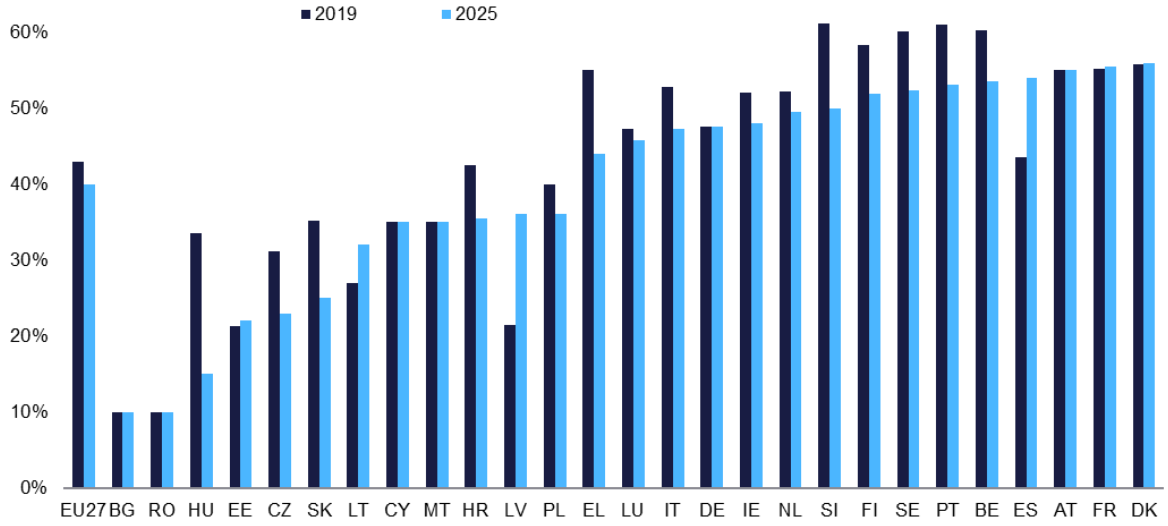
157 Quoted from: https://www.senado.es/web/conocersenado/normas/constitucion/detalleconstitucioncompleta/index.html?lang=en

158 Quoted from: https://www.parlamento.pt/sites/EN/Parliament/Documents/Constitution7th.pdf

redistribution purposes. Instead, they concluded that a well-designed nonlinear income tax (a form of direct taxation) can achieve optimal redistribution without the need for commodity taxes, underscoring the effectiveness of personal income tax as the primary instrument for income redistribution. Academic and policy research has generally focused on the role of personal income taxation for redistribution ([159]), but the recent policy debate has also been exploring novel approaches for increasing progressivity of wealth taxation and indirect tax tools. ([160])

The top statutory tax rate for personal income taxation differs significantly across EU Member States and has generally declined. The top statutory personal income tax rate applies to the share of income that falls into the highest tax bracket. Among EU countries, the average statutory top personal income tax rate stood at 39.9% in 2025. Denmark (55.9%), France (55.4%), Austria (55%), and Belgium (53.4%) have the highest top rates. The Czechia (23%) and Slovakia (25%) had the lowest top rates among the countries with progressive tax brackets. Four Member States (Estonia, Hungary, Bulgaria and Romania) have flat tax systems with personal income tax rates between 10% and 20%. Figure 75 shows that, since 2019, the top statutory rate has declined in many Member States, notably in Hungary (-18.5 pp), Slovenia (-11.1 pp), Greece (-11 pp), and the Czechia (-7.1 pp). On the contrary, it has increased in Latvia (+14.6 pp), Spain (+10.5 pp) and Lithuania (+5 pp). The overall EU-27 average has dropped from 42.9% to 39.9% (-3 pp).

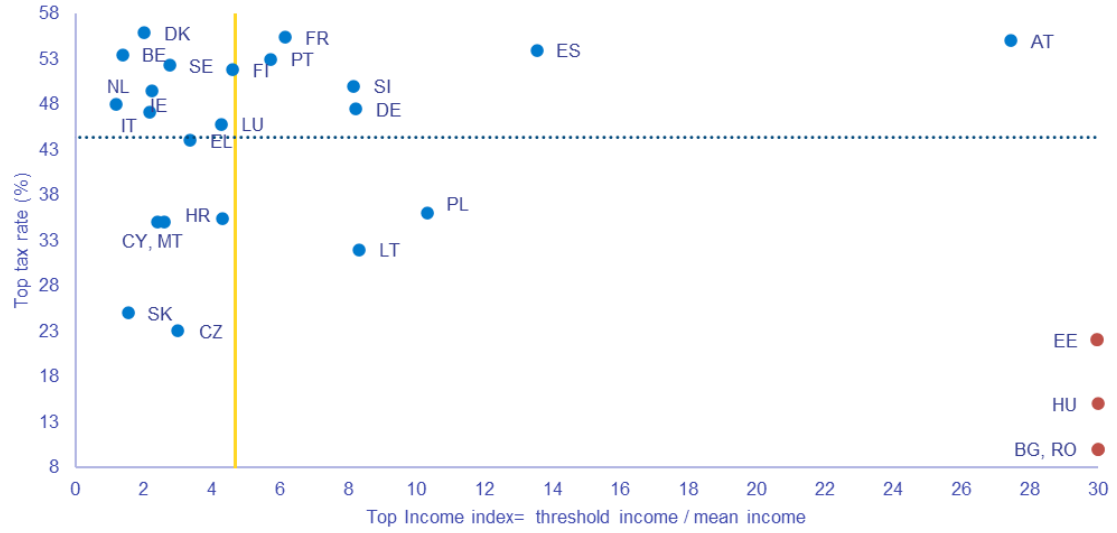
Figure 75: Trend in top statutory personal income tax rate – 2019 and 2025



Source: TAXUD elaboration based on Tax Foundation and TAXUD data.

159 See for example: Joumard et al. (2012); Vellutini & Benitez (2021).
160 See for example: Saez and Zucman (2019); de la Feria and Artur (2024).

Figure 76: Top statutory personal income tax rate vs applicable income levels (top income index: TII) – 2025



Source: TAXUD elaboration on EUROSTAT, Tax Foundation and PwC data.

Note: for a better readability, Latvia is not reported (top tax rate: 36; top income index: 65.7).

Similarly, the highest tax bracket of EU Member States' tax systems starts from very different levels of income. The design of the personal income tax brackets and the relative applicable tax rates is very specific to each national tax system. The effective burden of the top tax rate depends as well on the relative income level of application. Figure 76 shows, by country, the top personal income rate and the income level from which it applies in terms of multiples of the mean income. ([161]) For example, a top income index (TII) of 10 indicates that the top tax threshold is ten times greater than the mean income. ([162]) Latvia presents the highest TII (65.7), although it is not reported in Figure 76 for a better readability, while Ireland presents the lowest one (1.2). The scatterplot, divided in four areas by the average values of the axes, identifies different groups of countries according to the combination of the two variables. It is interesting to note that the countries in the upper left corner apply higher rates already at relatively low levels of income, while countries as Spain and Austria apply top rates only for much higher incomes. ([163])

The progressivity of labour taxation is reflected in the tax wedge on labour. The tax wedge measures the difference between the total labour cost of employing a worker and the worker's net earnings, expressed as a ratio over the total labour cost. An increasing tax wedge for higher labour income levels reflects the progressivity of the labour tax system ([164]), although it may also be influenced by social contributions and, in some cases, cash benefits (e.g. family benefits). Figure 77 shows the tax wedge on labour for four different standardised wage levels of a single person with no children. The tax wedge is higher for those on average wages (AW) than it is for those earning 67% of AW, and in turn higher than it is for those on 50% of AW, showing that labour taxation is generally progressive. In France, Belgium, Luxembourg, this is very pronounced, contrary to Bulgaria and Hungary where there is a completely flat taxation system. Conversely, the tax wedge for a person earning 167% of the AW tends to be higher, apart from Malta (in fact, the Maltese tax system appears

161 Mean equivalised net income by Eurostat [ilc_di03].

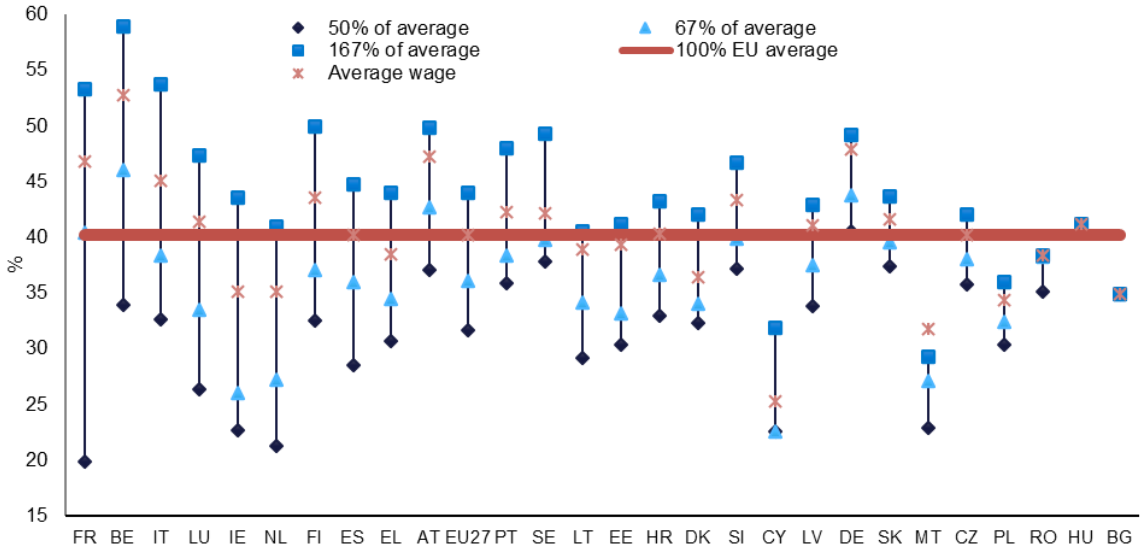
162 Looking only at the top tax threshold, it can be said that higher TII implies a less equitable tax system.

163 To be noted that focusing only on the top tax rates neglects several other aspects affecting the fairness and progressivity of the tax system, such as the entire distribution of incomes and the design of tax brackets.

164 The tax wedge on labour for a single worker on an average wage and a single worker on a low wage are important policy indicators also used by the Eurogroup for benchmarking progress in reducing the tax burden on labour.

to show some regressivity for certain income levels), Romania, Hungary and Bulgaria. To be noted, however, that the tax wedge does not capture the total progressivity of personal income taxation, as it excludes non-labour income (notably, capital income including income of self-employed persons and pension income).

Figure 77: Tax wedge (2023)



Source: European Commission.
Note: Member States ordered by the difference between tax wedge at 167% and at 50%.

Box 12: Analysis of the potential impact of introducing a progressive personal income tax system: the case of Romania.

This box presents the estimated impact by the Joint Research Centre (JRC) of a hypothetical personal income tax reform in Romania, aimed at introducing a progressive personal income tax system to replace the current flat system. Estimates have been done with the EUROMOD microsimulation tool and performed by the European Commission Joint Research Centre. ([165])

Suggested reform: Replace the 10% flat personal income tax rate with a 3-step progressive system. The first band is up to 33% of average taxable income, the second band is the average taxable income, and the final band is anything above the average income. The proposed tax rates are 6%, 12% and 18%.

Analysis: The EUROMOD simulations analysed the budgetary effects, distributional effects and effects on poverty and inequality all in comparison to a baseline scenario in which no change was implemented. The simulation was unable to analyse second round effects on employment, capital formation and GDP.

Results: EUROMOD simulation analysis highlights that the implementation of the suggested reform would generate EUR 11.8 billion in additional revenues, equating to an additional 25% of tax revenue. Furthermore, the analysis shows that both the Gini coefficient and s80/s20 ratio would decrease (by 0.0079 pp and 0.2189 pp respectively) with respect to disposable income, indicating a small but positive impact on inequality. Regarding the distributional effects, the reform would result in the first

165 Estimations were performed by the European Commission, Joint Research Centre, with the EUROMOD tax-benefit microsimulation model.

income decile realising an increase of 0.16% in mean household income, the fifth decile would see a decrease of 0.47% mean household income and the tenth decile would see a decrease of 4.43% in mean household income. This highlights that the impact of this revenue generating reform would be progressive and richer households would be impacted the most.

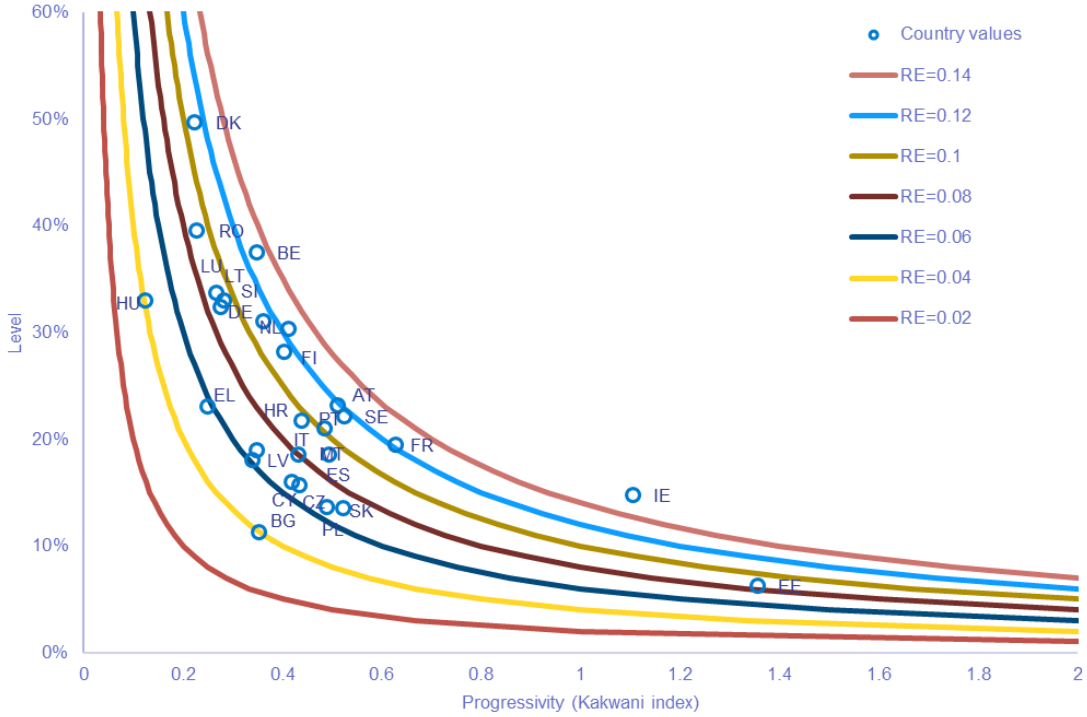
Additional considerations: Although the static EUROMOD model could not estimate the second round effects on employment, capital formation and GDP, Barrios et al. (2019) (estimated that revenue neutral increases in progressivity in the personal income tax system would have small but positive impacts on employment and overall output in Romania, reflecting that the gain in employment of low-income workers outweighs the fall in productivity of high-income workers and the proposed reforms could be considered growth friendly.

The degree of progressivity, combined with the level of taxation and transfers, is an important determinant of the total redistributive effect of a tax-benefit system. While there is no global consensus on how to measure progressivity, one of the most commonly used indicators is the one proposed by Kakwani (1977). The Kakwani index (for a tax) is defined as the difference between the concentration coefficient for tax liabilities and the Gini coefficient of pre-tax incomes. If we define pre-tax incomes as market incomes and pensions, the level of taxation can be defined as the relative size of taxation (direct taxes and social insurance contributions minus cash benefits, excluding consumption and wealth taxes as well as in-kind benefits) in relation to disposable income. Using EUROMOD data, Figure 78 shows the redistributive effect (RE) of EU tax-benefit systems. ([166]) Each of the "iso-redistribution curves" represents all the possible combinations of Kakwani progressivity and level of taxation that result in the same level of the redistributive effect. The further from the axis' origin, the more redistributive the tax-benefit system is (higher RE). ([167]) The Nordic and Central European countries (Ireland, Belgium, the Netherlands, France and Austria) exhibit the strongest redistributive effect. Countries such as Ireland and Estonia achieve redistribution mostly through progressivity of the tax-benefit system, while keeping a relatively low tax burden over disposable income. Denmark stands at the opposite side, with the redistributive effect resulting from the combination of low progressivity and a high level of taxation.

166 Benefits in kind are not included and pensions are not considered as redistribution, but as primary incomes.

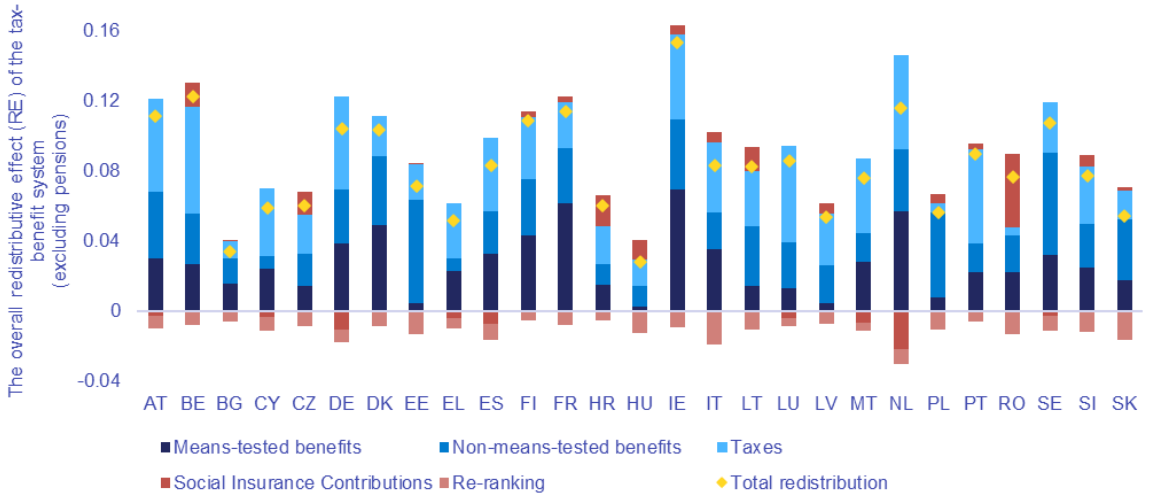
167 The redistributive effect of a tax-benefit system is the product of its relative progressivity (measured by the Kakwani index) and its level, minus a re-ranking effect. The re-ranking effect refers to changes in the relative ranking of individuals when the income distribution is changed by a policy. For example, an individual A with lower market income than an individual B may end up with a higher disposable income because he is entitled to a specific benefit while B is not.

Figure 78: Progressivity and redistribution of the EU tax-benefit systems (2024)



Source: European Commission Joint Research Centre
Note: RE stands for redistribution effect and the higher the value the higher the redistribution effect.

Figure 79: Overall redistribution of the EU tax-benefit systems by components (2024)



Source: European Commission Joint Research Centre.
Note: Means-tested social benefits are explicitly or implicitly conditional on the beneficiary's income and/or wealth falling below a specified level, with income or wealth that can be used to determine (i) only entitlement or (ii) both entitlement and amount. Means-tested benefits are more efficient at targeting vulnerable groups compared to non-means tested benefits, but they are more costly to administer and may have adverse incentive effects.

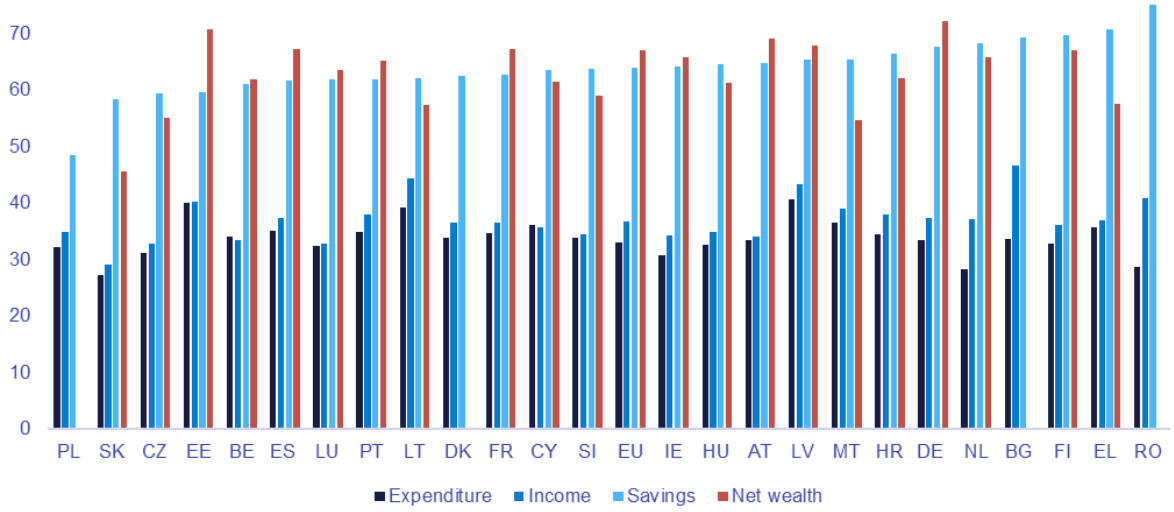
Each national tax-benefit system uses a specific combination of tax and benefit tools to achieve redistribution. In most EU member states, benefits play an important role along with personal income taxes to achieve income redistribution. In turn, social contributions may be based on a fixed rate or capped for certain levels of income, limiting (or even reversing) their redistributive impact. EUROMOD simulations show that in highly redistributive countries, like Estonia and Sweden, redistribution is

mostly achieved through the benefit system (see Figure 79). Based on the same analysis, EU Member States that present the highest redistributive effect attributable to the tax system are Belgium, the Netherlands, Luxembourg and Portugal.

6.1.2 Evolution of global wealth and the role of taxation

Wealth is typically defined as the total value of financial and non-financial assets owned by an individual or household, minus any liabilities or debts they owe. Personal net wealth encompasses various forms of assets, such as cash, real estate, stocks, bonds, and personal property (e.g. art, cars, boats). Over the past few decades, wealth has broadly increased, but the growing wealth has not been distributed equally and wealth inequality has intensified globally, with a growing concentration of wealth among the top percentiles of the population. ([168]) Several factors have contributed to this trend, including globalisation, technological advancements, and tax policy decisions favouring capital over labour. ([169]) These developments have contributed to significant increases in asset values, particularly in real estate ([170]) and financial markets, which predominantly benefit wealthier individuals who hold substantial investments in these areas. Conversely, stagnant wage growth and rising living costs have limited wealth accumulation among lower and middle-income groups in advanced economies including the EU, further exacerbating disparities in wealth distribution. ([171]) Across EU member states, wealth is significantly more concentrated than income, as shown in Figure 80.

Figure 80: Gini coefficient in households' income, consumption, savings and wealth



Source: Eurostat [icw_sr_05].

Notes: In the vertical axis, 0 expresses perfect equality, meaning that everyone has the same economic resources, and 100 represents complete inequality, with all the resources belonging to only one person or household. Data not available for IT and SE. Reference years corresponds to income (EU-SILC) in DE, SI – 2019; BG, CZ, HR, LV, AT – 2020; LT – 2022; IE, FI, PT – 2023; all other countries 2021. EU aggregate is based on the 25 countries with available data. Additional information available on https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Joint_distribution_of_household_income,_consumption_and_wealth_-_main_indicators.

168 See for example OECD (2024c), and UBS Global Wealth Report 2024.

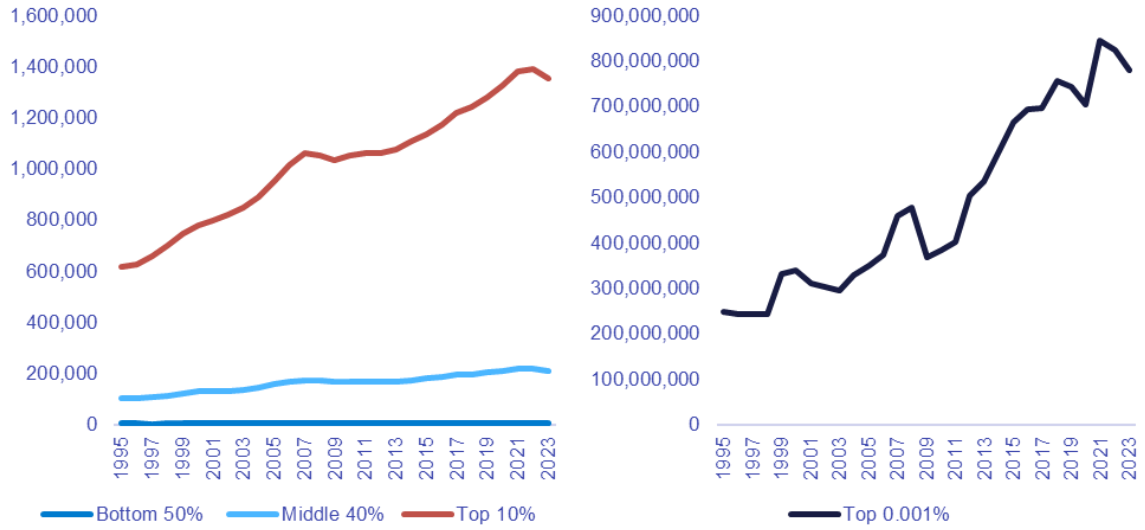
169 See for example Chancel et al. (2022); Hourani et al. (2023).

170 Additional factors that have contributed to rising asset values include low interest rates and (for real estate) population growth.

171 See for example European Commission (2024j).

Net personal wealth in recent years has been rising for all groups but the growth was somewhat faster for richer individuals. Between 1995 and 2023, the average personal wealth of the bottom 50% of the EU population increased by 76% (from EUR 4 662 to EUR 8 205 – in real terms), while that of the middle 40% increased by 98% (from EUR 102 496 to EUR 203 029) and that of the top 10% by 115% (from EUR 610 760 to EUR 1 314 421), as shown in Figure 81. The personal wealth of the ultra-wealthy adult Europeans (top 0.001% - roughly 3 560 individuals) rose over the same period from an average of EUR 242.3 million in 1995 to EUR 786.1 million in 2023, an increase of 224%, according to the World Inequality Lab. Rising wealth inequality may also hamper poverty reduction. For example, the poverty-growth-inequality triangle model (Bourguignon, 2004) suggests that effectively alleviating poverty requires a comprehensive strategy aimed at combining both growth and distribution policies. Academic literature has also explored how poverty and inequality would reduce economic growth, at least in the long run (Cerra et al., 2021).

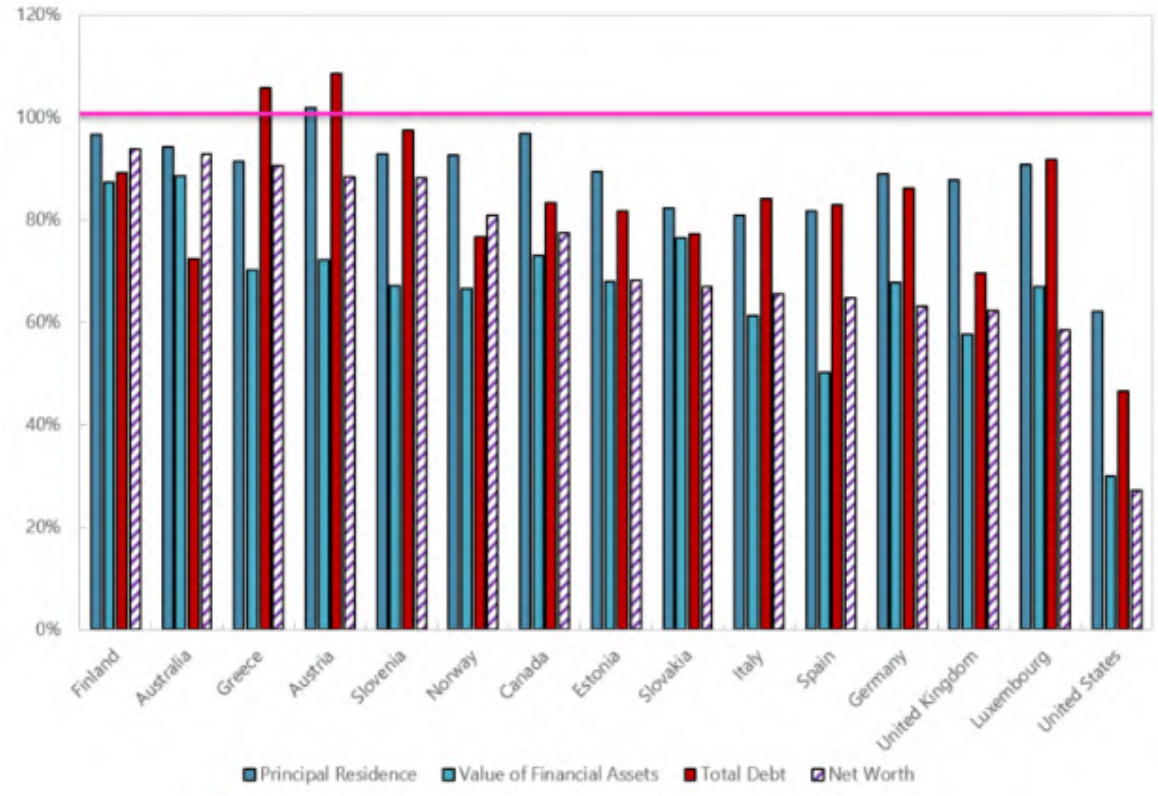
Figure 81: Evolution of average net personal wealth per wealth category in the EU, 1995-2023 (EUR)



Source: World Inequality Lab database (wid;world).
Notes: the data represents average net personal wealth among adults (all individuals over age 20). Currency conversion is based on purchasing power parity.

The wealth distribution reflects gender-based disparities in wealth accumulation. Men typically hold a larger share of wealth due to systemic factors such as the gender pay gap, disparities in labour market opportunities, and differences in savings and investment behaviours. Schneebaum et al. (2018) analysed household survey results in eight EU member states and found a large gender gap at the top of the wealth distribution. Still, gender differences in wealth remain often under-studied, also due to the limited availability of gender differentiated data on wealth ownership. According to Coelho et al. (2022), labour market characteristics and participation in asset and debt categories can explain some differences between male and female single households, but the remaining unexplained gap in gross wealth is still significant. Their analysis suggests that on average, for advanced economies with available household surveys, women have both lower gross wealth and net worth, despite men being more highly leveraged (Figure 82). The OECD (2022b) also underlined the need to explore implicit gender biases in the taxation of capital income and capital gains, as well as in wealth and inheritance taxes.

Figure 82: Net Worth of Women Relative to Men



Source: Coelho et al. (2022), Figure 14.
Note : Data refers to the latest available year for each country (not specified in the source publication).

There are several ways in which tax systems can aim to tax wealth. One possibility is taxing the stock of net wealth directly, either regularly through a net wealth tax (e.g. a tax that targets the cumulative value of assets owned by individuals with variations on the design, see also section 6.2.2), occasionally through a one-off capital levy, or a one-off tax when wealth is transferred through inheritance or gifts. ([172]) More commonly used than wealth taxes, recurrent taxes on residential property target specific personal assets, in the form of real estate (see Box 3 in Chapter 2). Another way is to tax the flow of income from wealth, i.e. capital income. In particular, taxing corporate profit through corporate income taxation (CIT) is a common form of taxing a capital income source of individuals owning/controlling a company or asset. Capital income can also be taxed as part of personal income taxation, for example taking the form of a tax on capital gains, dividends or interest income. Recent research argues that, over the past decades, tax rates on wealth have generally declined across the world (Hebous et al., 2024), including in EU Member States, for example via the decline in average CIT rates (see ART 2024), the abolition of net wealth taxes, or the favourable tax treatment of capital income over labour income.

A significant share of wealth remains often untaxed or under-taxed. While the wealthiest individuals in Europe have seen their wealth increase more rapidly than the rest of the population, the share of their income that they pay in taxes has not increased proportionally. This may be due to various elements, including the design of the tax system. If the progressivity of the tax system is mostly based on the progressivity of labour taxation (while various forms of capital income and wealth benefit

172 Also real estate transfer taxes or financial transfer taxes strictly speaking belong to wealth-based taxes.

from a lower tax rate or are tax-exempt at all), this will then lead to less progressivity at the higher end of the income distribution – considering that for higher incomes and wealthy individuals labour income generally represents a smaller share of total income. ([173])

Also, individuals can use strategies to minimise tax liabilities. For example, shifting capital income within or across countries to exploit differing tax provisions, often through legal tax avoidance involving offshore accounts and complex financial structures, can lead to reduced tax burdens. This may be more common for individuals at the top of the income distribution who can more often take advantage of loopholes and preferential treatments for certain types of capital income and thus lower their average tax rates (see also section 6.2.5). Additionally, wealthy individuals may react by adjusting their investment or saving behaviours or even relocating across borders. As a result, raising statutory personal or corporate income tax rates alone may prove ineffective to ensure fair and effective taxation of top wealth individual and households. Technological advancements and mechanisms like the cross-border automatic exchange of information (AEOI) are offering improved opportunities for effective wealth taxation. At the same time, the nature of current tax avoidance strategies calls for establishing robust registers of beneficial ownership and strengthened exchange of information on real estate, as there are indications that net foreign asset position of certain economies may be significantly under-estimated. ([174])

The current tax system design may result in regressive taxation at the top of the income distribution observed in several countries. Recent studies confirm that in some EU Member States, the design of the tax systems results in lower average effective tax rates (ETR) for top income individuals compared to the average population, but additional analyses need to be done to get a complete picture. In the Netherlands the tax system appears to be largely regressive at the very top of the income distribution, from an ETR rather flat of 40% from the second to ninth decile to around 20% for the top 0.01% (Bruil at al., 2022). Similarly, the ETR is also regressive at the top of the income distribution in France, from 46% for the top 0.1% of the income distribution to 26% for the top 0.0002% (Bach et al., 2023). Studies are being conducted for Sweden and Norway. A recent analysis (Dalle Luche et al., 2024) argues that ETRs in the Italian economy are regressive starting from the top 7% of the income distribution.

6.2. Fair taxation of high net-worth individuals (HNWIs)

6.2.1 The international debate on HNWI taxation

The need to ensure adequate taxation of high net-worth individuals (HNWIs) has recently gained momentum in the international context. The 2024 Brazilian G20 Presidency placed this issue at the top of their agenda on tax priorities. In July 2024, G20 Finance Ministers emphasised that the international mobility of ultra HNWIs creates challenges in ensuring adequate levels of taxation for this specific group, thus eroding tax progressivity. They also agreed that "(i)t is important for all taxpayers, including ultra-high-net-worth individuals, to contribute their fair share in taxes. Aggressive tax avoidance or tax evasion of ultra-high-net-worth individuals can undermine the fairness of tax systems, which comes along with a reduced effectiveness of progressive taxation." ([175]) That statement was later endorsed by G20 leaders.

173 See for example Piketty et al. (2018).
174 See for example Alstadsæter at al. (2022).
175 Rio de Janeiro G20 Ministerial Declaration on International Tax Competition

It has been suggested that strengthening international tax cooperation could help address this challenge. The G20 Brazilian Presidency commissioned a "blueprint for a coordinated minimum effective taxation standard for ultra-high-net-worth individuals" that presents a proposal for an internationally coordinated standard. The document suggests that individuals with more than USD 1 billion in wealth should be required to pay a minimum amount of tax annually (through a variety of domestic instruments, including a presumptive income tax, an income tax on a broad notion of income, or a wealth tax), equal to 2% of their wealth and estimates that this would generate between USD 200 and USD 250 billion annually (Zucman, 2024). In November 2024, a United Nations General Assembly's Resolution ([176]) adopted the terms of reference for a United Nations Framework Convention on International Tax Cooperation, which commit to address tax evasion and avoidance by HNWIs and ensuring their effective taxation in relevant Member States. ([177])

While there is no standard definition of HNWIs, these usually refer to individuals who are at the top of the wealth or income scale. Therefore, these include both high-wealth and high-income individuals. However, the precise definition of what constitutes a HNWI varies slightly. The most common definition, often used by the OECD (2009) and IMF (Mc Laughlin and Buchanan, 2017), defines HNWIs as individuals which own, directly or indirectly, wealth worth above USD 1 million or more in financial or investable assets (excluding the primary residence, collectibles, consumables, and consumer durables). ([178]) According to the OECD (2009), other sources define HNWIs as those who control the equivalent of USD 3 – 30 million or more in financial assets.

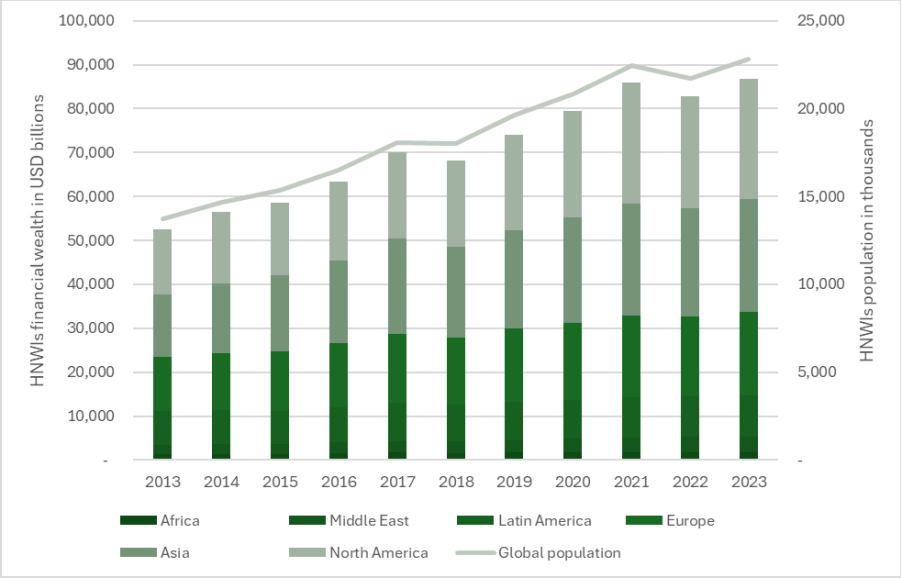
In the context of the work conducted under the G20 on the taxation of HNWIs, no concrete definition of HNWIs or ultra HNWIs was adopted. However, the OECD's report to G20 Finance Ministers (OECD, 2024d) makes use of the definition just outlined and classifies HNWIs as those which own, directly or indirectly, wealth worth above USD 1 million or more in financial or investable assets. Furthermore, the OECD builds on wealth reports published by private firms, to propose an additional segmentation of these HNWIs. In this context, ultra HNWIs are often referred to as those which have wealth worth above USD 30 million. Alternative definitions proposed also in the context of the G20 have been used recently. For example, Zucman proposes under his "blueprint for a coordinated minimum effective taxation standard for ultra-high-net-worth" to target individuals owning more than USD 1 billion in wealth (Zucman, 2024).

There are indications that the number of HNWIs and their wealth is increasing. A recent report by Capgemini indicates that HNWIs have increased substantially over the past decade, both in terms of financial wealth and their overall population. ([179]) Specifically, as shown in Figure 83, HNWIs accounted for USD 86.8 trillion in 2023 compared to USD 52.6 trillion in 2013. This represents a 65% increase of wealth held by HNWIs over the last 10 years, compared to a real increase of nearly 61%. ([180]) Furthermore, the population of HNWIs as defined above was composed by 22.8 million individuals in 2023 representing 0.28% of total world population, compared to 13.7 million in 2013 representing 0.19% of total world population. At the same time, 220 thousand ultra HNWIs were estimated to hold USD 29.3 trillion in 2023. ([181]) According to the same report, HNWI wealth is mostly concentrated in

176 Promotion of inclusive and effective international tax cooperation
177 Chair's Proposal for Draft Terms of Reference for a United Nations Framework Convention on International Tax Cooperation
178 Capgemini and Royal Bank of Canada Wealth Management (2015), World Wealth Report
179 Capgemini Research Institute (2024), World Wealth Report
180 UBS Global Wealth Management (2024), Global Wealth Report
181 The different evolution of the wealth of HNWIs in Europe between the data of the Wealth Inequality Lab and the Capgemini Research Institute can be explained by the methodological approaches behind each estimation.

North America (31.7%), Asia-Pacific (29.6%) and Europe (21.8%), with its population similarly distributed.

Figure 83: HNWIs global population and financial wealth per geographic area (2013-2023)



Source: Capgemini Research Institute (2024), World Wealth Report.

6.2.2 Net wealth taxes: literature review and existing measures

Net wealth taxes have been abolished by most EU Member States over the past decades. These taxes refer to recurrent taxes on individual net wealth stocks, which can generally be defined as the sum of both financial and non-financial assets, net of debt. The number of EU Member States levying individual net wealth taxes has decreased significantly since the 1990s, when nine Member States had such taxes. Since then, all but Spain have gradually removed their net wealth taxes over time including Austria (in 1994), Denmark (in 1997), Germany (in 1997), the Netherlands (in 2001), Finland and Luxembourg (both in 2006), Sweden (in 2007) and France (in 2017). While the justifications for repealing net wealth taxes vary, the main arguments concern the efficiency costs and risk of capital flight, particularly of HNWIs. Furthermore, the limited revenue raised through these taxes provides a further justification for the political feasibility of their abolishment (Kopczuk, 2013).

Recent research seems to indicate that net-wealth taxes were effective at reducing wealth concentration. Interestingly, Jakobsen et al (2020) discuss the effect of the wealth tax in Denmark on wealth accumulation using administrative wealth records and find that a reduction of the marginal wealth tax by 1.45 pp would increase the wealth of taxpayers within the top 1% by 65% in the long-run. During the same period, wealth tax revenue in Denmark remained quite small, never exceeding 0.7% of GDP before it was eliminated. These findings seem to suggest that, while the revenue potential of wealth taxes may be relatively small, the effects on wealth inequality can still be pronounced.

Relatedly, net wealth taxation is often seen as a tool to address both vertical and horizontal equity concerns. Akinmade (2018) argues that because income tax cannot account for all benefits of wealth ownership, a net wealth tax is a reasonable tool. A further argument used in support of net wealth taxes relates to the need to tackle growing inequality, particularly with regards to wealth (Scheuer and Slemrod, 2021). In a context of continued wealth concentration at the top of wealth distribution, this argument has gained prominence when discussing the merits and drawbacks of net wealth taxes.

Other arguments in favour of net wealth taxation often relate to its potential to efficiently substitute capital income taxes by promoting the use of more productive assets. For instance, Guvenen et al. (2023) present a theoretical model which indicates that replacing capital income taxes with a wealth tax shifts the tax burden to unproductive entrepreneurs leading to increases in aggregate productivity and output. Furthermore, wealth taxes lower the net return on real and financial assets relative to returns on investment in human capital. Consequently, these investments may have growth inducing effects and encourage a substitution form physical to human capital formation (Hansson, 2002).

Some research has also discussed how wealth concentration may be correlated with the ability to influence political power. For example, Gilens (2012) finds that U.S. government policy is often aligned with the opinions of the wealthy. Further research has provided evidence which suggests that these findings are also true in the case of Europe (Peters and Ensink, 2015). While this does not necessarily mean that power is proportional to wealth, the question of if and how those with wealth are able to capture policy making remains a relevant consideration.

Nevertheless, the implementation of net wealth taxes carries significant challenges and some potential negative consequences. These drawbacks of net wealth taxes can be divided into three categories: first, behavioural responses to net wealth taxes which can limit their capacity to achieve their intended targets; second, concerns over negative impacts of these taxes on entrepreneurial activity; and third, the difficulties associated with implementing such a tax from a tax administration and legal point of view. In this context, international cooperation and coordination is an important mechanism to address some of these challenges.

The risk of capital flight is often raised as a key argument against net wealth taxes, even if empirical evidence is still scarce and mixed**.** Specifically, there is a risk that HNWIs can change their tax residence to avoid the tax and reduce their tax burden. This capital flight is often also interlinked with tax avoidance and evasion activities. In fact, recent empirical evidence ([182]) finds significant concentration of offshore tax evasion at the very top of wealth distribution (see Section 6.2.5) However, there is contradicting empirical evidence of capital flight responses to net wealth taxes. While Pichet (2007) finds significant capital flight out of France following the introduction of the net wealth tax, Zucman (2008) shows that the tax evasion through capital flight was limited to around 10% of the total revenues raised. Furthermore, research analysing the case of Switzerland finds evidence of limited wealth tax-induced within-country mobility (Brülhart et al., 2016). Other recent empirical research suggests that trickle-down effects of tax-induced migration by the wealthy, i.e., closure of firms, losses in employment and labour earnings, are quantitatively small due to the reallocation of economic activity within Sweden (Jakobsen et al., 2024).

The introduction of a net wealth tax may negatively impact entrepreneurship and risk-taking. The reduction of available capital due to a net wealth tax may negatively affect business creation. Furthermore, such a tax may discourage entrepreneurial activity due to both the financial loss and the anticipated dilution of control rights (Scheuer and Slemrod, 2021). Recent research focusing on Norway, finds limited effects of the wealth tax in constraining entrepreneurial activities, with young firms particularly unaffected by this tax (Thoresen at al., 2022). The design of a net wealth tax can significantly increase or minimise the extent to which these effects may reduce growth. A recent paper by Ring and Thoresen (2025) using data from Norway finds that the introduction of such a tax results

182 See for example, Alstadsæter et al. (2019) and Londoño-Vélez and Ávila-Mahecha (2021).

in a decrease in philanthropic donations by HNWIs. However, this may be partially offset by allowing for a deduction of a part of the donations from the net wealth tax liabilities (OECD, 2020).

The challenges to identify wealth ownership and valuate wealth can lead to significant administrative and compliance costs. The valuation of some assets can prove very difficult, particularly in the case of non- or infrequently traded assets which often leads to their exemption, creating opportunities for tax avoidance. Some practical ways to address this valuation issues rely, for example, on the insured values of hard-to-value assets. Furthermore, lack of transparency regarding beneficial ownership can limit the capabilities of tax administrations. Some of these challenges could be addressed by increasing tax transparency and exchange of information between countries.

Spain is currently the only EU Member State with a tax on net wealth. The tax is charged on any assets exceeding the allowance of EUR 700 000, on a progressive basis with rates ranging from 0.2% to 3.5%. For Spanish residents, the total sum of worldwide assets (including real estate, investments, foreign bank accounts) is taken into account, while only assets physically located in Spain are considered for non-residents. There is a provision that the combined wealth and income tax rate cannot exceed 60% of a resident's taxable income, and deductions are available for actively managed business and agriculture assets. The tax was introduced temporarily in 1977, made permanent in 1991 and then repealed in 2008 for an inability to meet objectives. However, it was reintroduced in 2011 as a response to the financial crisis and has since remained, although there are exemptions across autonomous regions (namely Madrid has a 100% exemption from the Wealth Tax). With effect from 1 January 2022, Spain also introduced an additional solidarity tax on large fortunes, levied on the net wealth of individuals above EUR 3 million.

France's former tax on net wealth was replaced by a "real estate wealth tax" (IFI) in 2018. The previous wealth tax (*Impôt sur la fortune*), which existed between 1989 and 2017 was applied to households with taxable assets valued over EUR 1.3 million at rates ranging from 0.5% to 1.5%. The tax was replaced in 2017 by a real estate wealth tax (IFI) to encourage financial investments. The IFI is still levied on households with taxable assets valued over EUR 1.3 million, but the scope is limited to real estate, situated anywhere in the world directly or indirectly owned by French resident individuals as well as on real estate situated in France directly or indirectly owned by non-French resident individuals. The IFI raised EUR 2.3 billion in 2023. ([183]) Furthermore, a proposal to ensure that individuals with wealth of EUR 100 million or above pay a minimum level of tax equal to 2% of their total wealth has passed the Lower House in February 2025. However, the proposal needs further approval by the senate.

Net wealth taxes are also levied in some countries outside the EU, such as Switzerland and Norway. The Norwegian net wealth tax is levied at 1% on net wealth above NOK 1.76 million (around EUR 152 000) and 1.1% on wealth above NOK 20.7 million (around EUR 1.79 million), and generated EUR 2.7 billion in 2023 (0.6% of GDP). ([184]) Norway has also detailed wealth data registers which can deter taxpayers from significantly underreporting their wealth (Bø et al., 2015). In Switzerland, the net wealth tax varies across regions in terms of rates and thresholds and applies to all assets with the exception of real estate. The revenue generated from these net wealth taxes is estimated at 1.19% of GDP. However, the Swiss net wealth tax can be considered as an alternative to wealth taxes that are not covered by the Swiss tax system, such as capital gains tax on movable assets and inheritance tax (Scheuer and Slemrod, 2021).

183 INSEE https://www.insee.fr/fr/statistiques/2381408#tableau-figure1
184 Statistics Norway

6.2.3 The tax treatment of capital gains

One possible form of taxing wealth is by taxing the income it generates, i.e. through capital income taxes. Most EU countries tax capital income, and in particular capital gains, at separate and lower rates than labour income. There is however a large heterogeneity of approaches across the EU (see Table 12). Some countries tax capital gains together with other personal income but provide relief such as partial exemptions. Other countries tax capital gains separately from ordinary income, either at flat rates (possibly with other capital income) or at progressive rates, which nevertheless tend to be lower than the rates levied on labour income. Most countries that levy social security contributions on labour income do not do so for capital gains. Some countries exempt all or most capital gains from taxation.

Table 12: Capital gains tax regimes

Tax regimes	Countries
Taxed with other personal income	Bulgaria, Czechia, Malta, Poland, Portugal, Romania, Slovakia, Spain
Separate capital gains tax – flat rate	Austria, Croatia, Estonia, France, Germany, Greece, Hungary, Ireland, Latvia, Slovenia, Sweden
Separate capital gains tax – progressive rates	Denmark, Finland, Lithuania
Exempt	Belgium, Cyprus, Luxembourg
Other	Italy, Netherlands

Source: OECD, IBFD, PwC.

The evidence on whether the favourable tax treatment of capital gains leads to increased economic growth is mixed. A favourable tax treatment for capital gains is often justified on the ground that it may stimulate long-term economic growth through increased domestic savings and investment. However, academic research suggests that capital gains tax relief has an ambiguous impact on aggregate savings and investment and limited effects on overall economic growth. ([185]) Some jurisdictions extend preferential treatment to housing assets, particularly owner-occupied housing. However, there is little economic justification for treating realised capital gains differently from other asset classes—such as financial assets, housing, collectibles, and crypto assets. ([186]) Such distinctions can induce changes in asset portfolios of investors that erode the capital income tax base and create economic distortions that may not favour investment and competitiveness.

Favourable capital gains tax impacts the equity of the tax system. Lower tax rates for capital income compared to labour income may undermine horizontal equity, while vertical equity would also decline due to HNWIs disproportionately benefiting from it. ([187]) Additionally, the loss of potential tax revenue due to favourable capital gains tax treatment has been estimated to up to 2% of total tax revenues between 2019 and 2021, according to the OECD. Another key feature of capital gains is that they are usually taxed only upon realisation, i.e. when assets are sold and value increases are realised, due to difficulties in both monitoring and valuation. The profit realised from the sale of capital assets constitutes a realised capital gain. However, such system may incentivise tax minimisation strategies such as income shifting and capital gains deferral. Research from the OECD (Hourani and Perret, 2016) shows that realised capital gains have increased in many OECD countries. Among countries with

185 See for example Hourani and Perret (2025).
186 See the Annual Report on Taxation 2023, European Commission.
187 See for example Hebous et al. (2024).

available data, realised capital gains represented between 1% and 8.7% of GDP over the past two decades and have been increasing as a share of GDP since the global financial crisis. A study from Bastani and Waldenström (2023) highlights the incompleteness of the tax code when it comes to taxing all capital income, especially unrealized capital gains, which are enormous in most countries and concentrated among the wealthiest.

Possible alternative ways of taxing capital gains have been discussed in the literature. Capital gains taxation upon realisation has been recently put into question, as it leads to increased economic income and growth in overall wealth for HNWIs, without increasing their taxable income. ([188]) In this context, taxing unrealised capital gains has been presented in the international policy debate as a possible strategy to ensure effective taxation of HNWIs (and combat aggressive tax planning as a byproduct). ([189]) Capital gains could potentially be taxed, besides upon realisation, on an accrual base, retrospectively, or on deemed returns. While taxes on unrealised capital gains do exist in some countries, most are limited to certain assets. Alternatively, several options ([190]) for targeted tax reforms are possible, considering the need to balance them with the policy objective of ensuring adequate equity investment.

Box 13: Academic views on the tax treatment of capital income ([191])

Capital income often benefits from a more favourable tax treatment compared to labour income. In an integrated tax system, all income sources are taxed together under a unified system. In a dual income tax system, labour income is treated differently from capital income (e.g., interest, dividends and capital gains), and this might include a flat rate for capital income versus a progressive rate for labour income. In addition, different sources of capital income might further receive different tax treatment. Each method has its implications for simplicity, equity, and economic behaviour. High net-worth individuals often have some leeway to classify their income as labour or capital income, and therefore may be able to leverage the favourable treatment of capital income to reduce their tax liability.

Table 13: Approaches to taxing personal income

Type of system	Comprehensive income tax system	Dual income tax system	Semi-dual income tax system	Other
Definition	Taxes all realised income (e.g., from labour, capital) together under the same rate schedule.	Taxes labour and capital income separately. Labour income is usually taxed at progressive rates and capital income is typically taxed at lower flat rates.	Taxes some forms of capital income with labour income and other forms of capital income separately.	Combines elements of comprehensive and dual income taxation.
Countries	Bulgaria, Luxembourg	Croatia, Denmark, Finland, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Romania, Slovenia, Spain, Sweden	Belgium, Cyprus, Czech Republic, Estonia, Ireland, Slovak Republic	Austria, France, Germany, Portugal

Source: OECD, IBFD, PwC.

188 The potential role of capital gains taxation for taxing high-wealth holders is discussed in depth in Hebous et al. (2024) and in Slemrod and Chen (2023).

189 For publicly listed shares, the implementation of such a tax could rely on the accessibility of information about ownership and valuations. In the case of unlisted equity, taxing capital gains as they accrue would be more challenging and reliant on transparency of beneficial ownership registers and self-reporting.

190 See for example Hourani and Perret (2025).

191 The content of this box is based on: https://economy-finance.ec.europa.eu/document/download/0fe46ace-45b1-4838-867f-6f2805936cf6_en?filename=ip305_en.pdf#page=37

Recent academic literature provides several arguments for raising capital income taxation. Earlier economic literature argued that higher taxes on personal capital income (which includes interest, dividends, and capital gains) would reduce the after-tax return on investments, making saving less attractive relative to current consumption. Reduced savings would lead to a reduction in the overall capital stock over time, negatively impacting productive capacity and economic growth. However, a range of more recent papers have challenged such conclusions. It has been argued that a more equal tax treatment of capital income can reduce tax avoidance through income shifting, thus supporting the equity of the tax system (Diamon and Saez, 2011) (Stancheva, 2020) (Piketty et al., 2023). Capital income taxation can also capture economic rents—excess returns that go beyond normal investment gains, such as those from monopolistic positions or speculative activities. Targeting income that does not result from additional effort or risk-taking would also allow governments to raise revenue without significantly distorting economic behaviour. Analysing optimal taxation, Gerritsen et al. (2025) find that positive taxes on capital income are Pareto efficient if taxpayers differ in earnings potential, driven either by investment skills or scale effects in wealth accumulation for wealthy individuals. Optimal taxes on capital income increase with earning heterogeneity.

Changes in capital income taxation can have significant distributional effects. Since capital income is disproportionately earned by high-income individuals, raising taxes on capital income is often seen as a progressive measure that can help reduce income inequality. In this context, Nallareddy et al. (2022) show how corporate tax cuts lead to increases in income inequality. On the other hand, Zidar (2019) shows that tax cuts for high-income earners do not significantly increase growth or labour participation.

No academic consensus exists on the link between capital income taxation and economic growth. While some studies find positive growth effects of reduced capital income taxes ([192]), others find no significant relation between top income taxes and growth. ([193]) Arin et al. (2023) confirm the negative investment effect of higher corporate income taxation rates but find the opposite for higher personal income taxes. Their research suggests that higher personal income taxes could motivate companies to retain and invest earnings instead of paying profits out to investors.

Taxpayer characteristics and context are also important determinants for the impact of changes to capital income taxation. Sims and Wolff (2018) and Dernirel (2021) show the importance of overall macroeconomic conditions, with tax cuts being more effective during economic expansion and when the economy is operating close to its production frontier. Bertolotti and Marcellino (2019) show that risk is another factor. Reactions to tax changes are more muted in times of higher uncertainty. Choi and Shin (2023) show that households' level of indebtedness can also influence the impact of tax changes. Finally, Gunter et al. (2021) show that the initial level of taxation is relevant to the output reaction to a given tax change.

6.2.4 Other non-recurrent wealth-related taxes

Non-recurrent taxes, some of which are widespread in the EU, often serve as a mechanism to target wealth concentration. Unlike recurrent taxes, which are levied at regular intervals (e.g. annually), non-recurrent taxes can be defined as those which are levied only once on specific events or transactions (OECD, 2023b). These can happen through different applications, such as inheritance and

192 See for example Mertens, K. (2018).
193 See for example Piketty at al. (2014); Hope and Limberg (2022).

gift taxes, exit taxes, property taxes, one-off wealth levies, windfall taxes, gambling winnings taxes, and debt forgiveness taxes. The economic reasoning for the application of some of these taxes will be discussed below, as well as their overall effectiveness.

Inheritance and gift taxes are a specific form of wealth taxation which is levied when a transfer of wealth occurs and, in the specific case of inheritance taxes, only upon the donor's death. The taxation of gifts is often done to prevent the avoidance of inheritance taxes by transferring assets during lifetime. These can be further sub-categorised into inheritance taxes which are levied on the wealth received by the heirs, and estate taxes, which apply to the total wealth transferred by the donor. Furthermore, these taxes are often levied on a wide category of assets, including property and financial assets deducted of debts.

These taxes are a widespread mechanism to reduce wealth inequality in industrialised economies due to their significant distributional impact (Drometer et al., 2018). Specifically, inheritance and gift taxes aim at increasing the progressivity of the tax system, by ensuring that wealthy individuals pay their fair share. In fact, research indicates that well-designed inheritance taxes, targeting relative high levels of wealth transfers, can reduce wealth concentration and increase the equality of opportunity, even when levied on a small group of taxpayers (Kopczuk, 2009). Furthermore, inheritance and gift taxes can effectively target the otherwise un-taxed wealth of HNWIs.

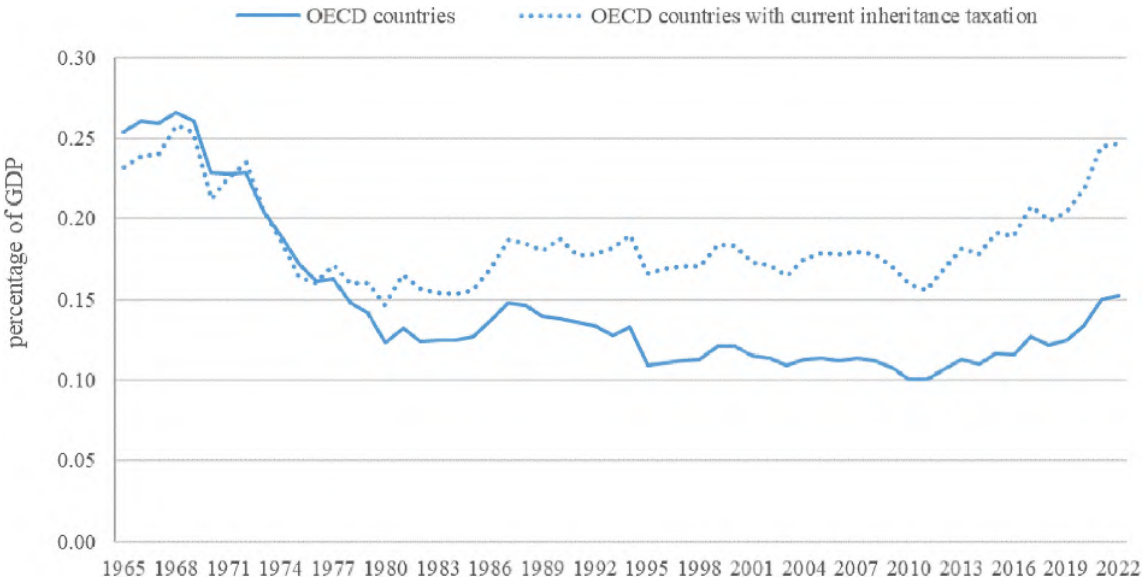
The concentration of wealth is also expected to increase inter-generational inequality. In a context of lower fertility rates and smaller households, wealth may be divided among fewer heirs leading to higher concentration of wealth. Furthermore, the OECD (2021) finds that wealthier households are more likely to receive inheritances which are also of greater value. However, there is no consensus in the literature on whether inheritances increase or decrease wealth inequality. While some research shows that small inheritances can be substantial in relation to pre-inheritance wealth for lower wealth households (Boserup et al., 2016), and that inheritances reduce relative wealth inequality, measured by the Gini coefficient (Elinder et al., 2018). Further research finds that inheritances and gifts account for approximately half of the parent-child wealth correlation (Adermon et al., 2018). In a recent paper Black et al. (2022) find that while inheritances represent a small share of total lifetime resources, in the case of people with very wealthy parents, inheritances represent significant proportion of these resources.

Inheritance and gift taxes may incentivise work and donations but may also impact business activity of small, family businesses if not properly designed. Research on the efficiency of inheritance taxes, while limited, seems to indicate that these taxes have a more limited effect on savings than other taxes, while at the same time increasing the incentives on heirs to work and the incentives on donors' charitable donations. A possible negative effect relates with a potential negative impact on entrepreneurship by heirs, as well as a more significant liquidity impact of inheritance taxes on SMEs because these are often family-owned business which tend to face more significant constraints in accessing credit markets (Redonda, 2017). Nevertheless, these potential negative effects of inheritance taxes on business may be addressed by adjusting the design of these taxes accordingly.

Inheritance and gift taxes are at risk of aggressive tax planning practices by HNWIs. There is extensive evidence of inheritance and gift tax planning, particularly during lifetime, which may lower the potential amount of wealth targeted by these taxes for some taxpayers (Kopczuk, 2013). Such behaviours may be less likely among the less wealthy who cannot afford to give away assets prior to death, or whose assets are not covered by certain exemptions.

Revenue from inheritance and gift taxes has decreased over time in the EU, while some Member States have chosen to abolish them. Despite its perceived advantages over other types of wealth-related taxes, existing literature seems to indicate that both the progressivity and revenue potential of inheritance and gift taxes has decreased over time. In fact, inheritance and gift taxes are currently levied in 17 Member States and were abolished in 6 Member States since 2001 (Schratzenstaller, 2024), and the resulting revenues represent a very limited share of GDP (see Figure 84, on OECD revenue statistics). However, recent empirical simulations suggest that, due in part to wealth accumulation, the revenue potential of inheritance taxes could be considerable in the long run (Krenek et al., 2022). One possible reason for the abolishment of inheritance and gift taxes may be related to the fact that these are among the least popular taxes, perhaps due to significant misinformation about their application (OECD, 2021). The same report argues that, should countries wish to make use of inheritance and gift taxes to expand and diversify their tax mix, these need to be carefully designed to minimise any potential negative effects.

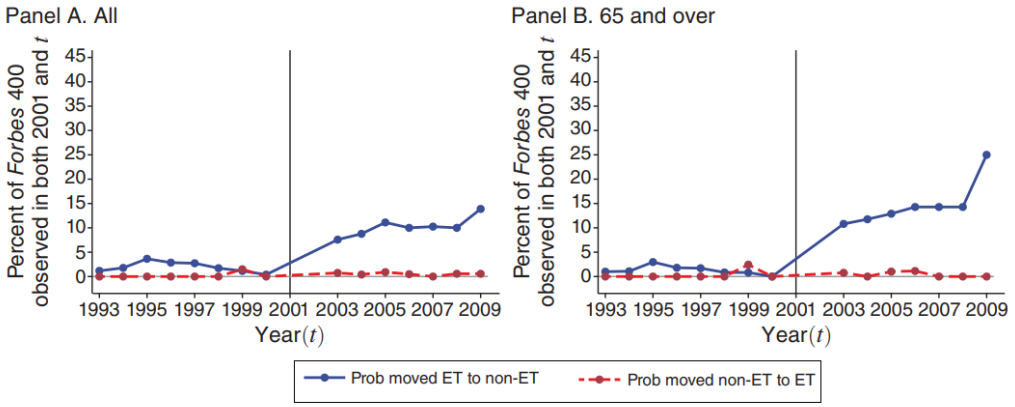
Figure 84: Estate, inheritance and gift taxes, percentage of GDP, 1965 to 2022



Source: Schratzenstaller (2025). Figure 1b.

One common challenge that can arise for the effective taxation of HNWIs relates with their mobility responses to taxation. Tax-induced mobility varies across different taxes (e.g., it is often lower for inheritance taxes), nevertheless evidence suggests that at the top of wealth distribution, individuals' responses to taxation become more significant. For example, Moretti and Wilson (2023) provide evidence of the high geographical sensitivity of HNWIs, focusing on individuals from the Forbes 400 in the US, as a response to estate tax changes across states. Additionally, as shown in Figure 85 below they find that the elasticity of location for older HNWIs is significantly higher than their younger peers. Furthermore, data records analysed by Alstadsæter at al. (2019) suggest that tax evasion increases substantially at the very top of wealth distribution.

Figure 85: Probability of moving between States with estate taxes and States without estate taxes



Source: Moretti and Wilson (2023). Figure 8.

Exit taxation is often introduced as a response to the challenge created by taxpayer mobility. Specifically, exit taxes usually refer to a capital gains tax that is levied on the assets of a taxpayer when they cease to be a tax resident of the state. Considering taxation will often have a realization requirement, income that is accrued within a tax jurisdiction could be moved to another before it is realised, and consequentially go un-taxed (Abreu, 1996). The tax revenue which moved to another jurisdiction is often lost due to tax planning strategies (Appleby, 2023). Therefore, exit taxes aim at preventing the outflow of untaxed assets and the possibility of tax avoidance or evasion through emigration, which, as outlined above, is particularly relevant in the case of HNWIs due to their high sensitivity to tax changes (Kleven et al., 2020). In practice, exit taxes usually take the form of unrealised capital gains which are calculated at the moment when the tax residence is terminated.

In the case of the European Union, the design of exit taxes needs to also consider compliance with the treaties. Specifically, the freedom of establishment principle, which is enshrined in the treaties, significantly influences the design of exit taxes in Member States (Mason and Knoll, 2011). For example, in the case of France, an exit tax was first invalidated by the European Court of Justice since it enforced an immediate tax on unrealised gains at the moment of migration. ([194]) Consequently, Mason and Knoll (2011) argue that in the case of the EU, exit taxes must be designed in such a way that ensures that these do not promote cross-border tax discrimination while ensuring that assets are effectively taxed. In the case of the United Kingdom, Advani at al. (2024a) argue that in the face of tax-migration threats that cost much needed tax revenue, exit taxes represent an important mechanism to prevent the erosion of the tax base.

6.2.5 The fight against aggressive tax planning from individuals and notably HNWIs

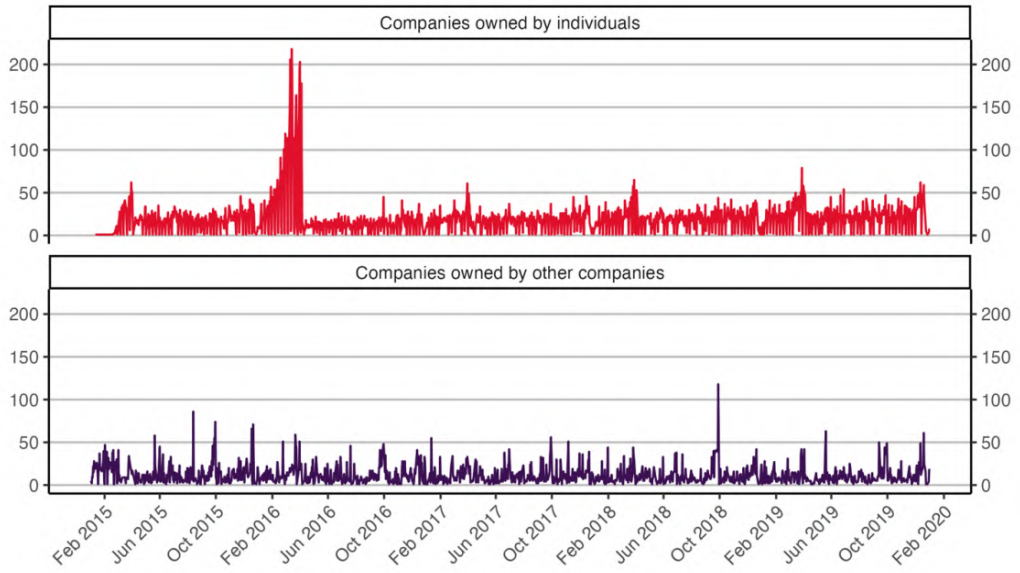
Aggressive tax planning is a form of tax avoidance that can be defined as when businesses or individuals exploit the limits of the law to minimise the amount of taxes paid. While these actions may be technically legal, they are ethically questionable and contribute to an overall loss of tax revenue ([195]), as well as eroding tax morale and distorting the equity of the tax system. This can be done using loopholes, tax arbitrage or exploiting opportunities for double non-taxation or double deductions. The Anti Tax Avoidance Directives were an important step to combat aggressive tax planning on an EU level, but they are focused on corporate tax avoidance. The challenge on

194 Case C-9/02, Hughes de Lasteyrie du Saillant v. Ministère de l'Économie, des Finances et de l'Industrie, 2004 E.C.R. I-2409.
195 Combatting tax avoidance in the EU - Consilium

combatting aggressive tax planning from individuals remains. There are several factors within tax environments that allow or encourage an individual to engage in aggressive tax planning. This includes personal income tax systems that tax at higher rates as income rises, systems that have different tax rates for different tax types and the availability of tax reliefs and exemptions (OECD, 2009).

The use of tax arbitrage is a method that can be used to reduce one's tax liability. The design of tax systems can provide incentives for business owners to optimize income in one category e.g. capital, to take advantage of a lower tax rate. For context, Piketty at al. (2018) estimated that 68% of income of the top 0.1% of taxpayers in the US is capital income, However, it must be noted that this is not only driven by tax considerations as large amounts of wealth can easily generate capital income. Furthermore, analysis of UK companies has highlighted the use of tax arbitrage inadvertently caused by different taxation rates across different income streams. The use of Members Voluntary Liquidations ([196]) (MVL) by 'owner managers' to shift income from labour to capital before extracting it from the company was 3 times greater in the months before the introduction of a pre-announced anti-avoidance reform than in the same period a year later (highlighted by Figure 86). The reform subsequently denied capital gains tax treatment of the proceeds of an MVL if a company carrying out the same trade was incorporated by the owner within 2 years (Advani et al., 2024b). This trend was not observed in companies owned by other companies.

Figure 86: Number of UK companies entering MVL pre and post anti-avoidance reform



Source: Advani et al. (2024b).

There are increased risks to tax revenues from capital income streams and tax administrations are often not well equipped to deal with these risks. Tax withholding and systems for the reporting of information on capital income streams are often not available or are more subject to manipulation

196 This process involves liquidating a limited company and distributing assets to shareholders, surplus company profits are categorised as capital income.

than earned income. As a result, tax administrations must rely on self-reporting mechanisms for many forms of capital income (Mc Laughlin and Buchanan, 2017). The ability of taxpayers to switch their status from employed to self-employed may also provide some tax benefits in countries with preferential regimes for self-employed/sole proprietors e.g. Poland has a flat rate regime for these individuals, while employees are subject to a progressive personal income tax rate (Zawisza et al., 2024). Generally, business owners (especially where the business is incorporated) have greater ability to dictate what form of income they receive from their business (Zawisza et al., 2024). Wages, interest, dividends and the sale of shares are the different methods used to extract income from a company.

Preferential tax treatment of dividends and capital income over labour income contributes to wealth accumulation. Most OECD countries have moved in the direction of taxing dividend income more favourably than wage income (Zawisza et al., 2024) in the years between 2000 and 2022, Figure 87 shows that most countries had a higher tax rate on dividends than the top all in rate on wages in 2000, but by 2022 only 12 countries taxed dividends at a higher rate. This provides a clear incentive for closely held business owners to shift to dividend income. Furthermore, preferential treatment of capital income in some systems also acts as an incentive for tax arbitrage. The strategic delay of selling business assets, until a time in which income is lower or until conditions are met for business asset relief etc., also encourages company owners to retain company profit in place of distributing wages. Such unrealised capital gains also play a big role in the increase of wealth of HNWIs.

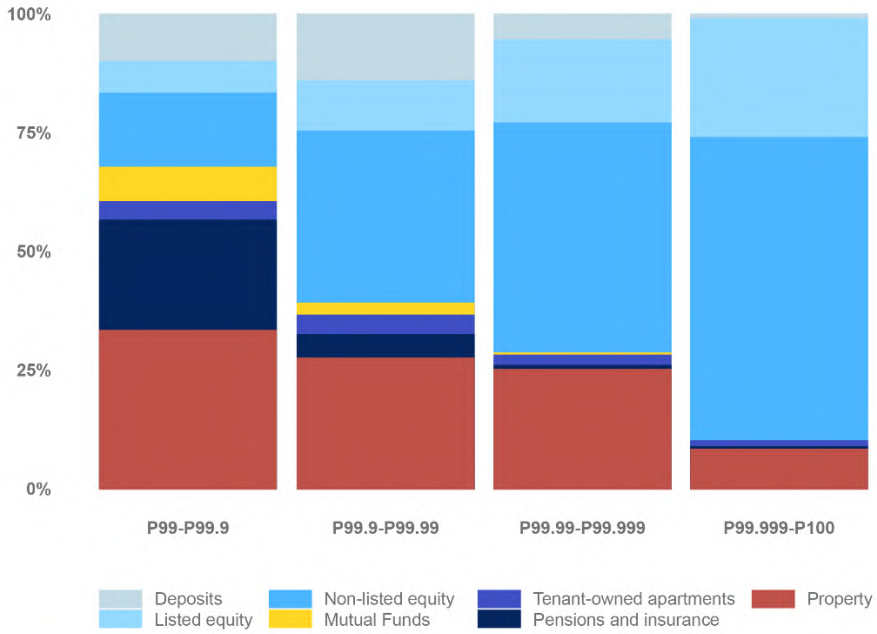
Figure 87: Gap between tax rates on wages and dividends

Source: OECD tax database, Zawisza et al. (2024).

Taxable income at the top of the income distribution may escape the tax net. Bastani and Waldenström (2023) highlights the incompleteness of the tax code when it comes to taxing all capital income. As heavily influential shareholders in public and private companies (see Figure 88), those at the top of the income distribution can avoid reporting taxable income while realising increases in their economic income. While this opportunity for investing in non-dividend paying companies is not exclusive to HNWIs, the overwhelming majority of their income comes from business ownership, which cannot be said for the rest of the income distribution. Another method is to use personal wealth holding companies to hold the shares of the corporations and then to receive the dividends linked to those shares. Those dividends, not distributed, are not subject to individual income tax either. The US, contrary to Europe, has measures to prevent the use of personal holdings to avoid taxation through the application of the accumulated earnings tax (applied to undistributed corporate profits deemed to

be retained for tax avoidance purposes) and the personal holding company tax (applied to undistributed income of a personal holding company). ([197])

Figure 88: Wealth composition among the top 1 wealth percentile in Sweden (2015)



Source: Bastani and Waldenström (2023).

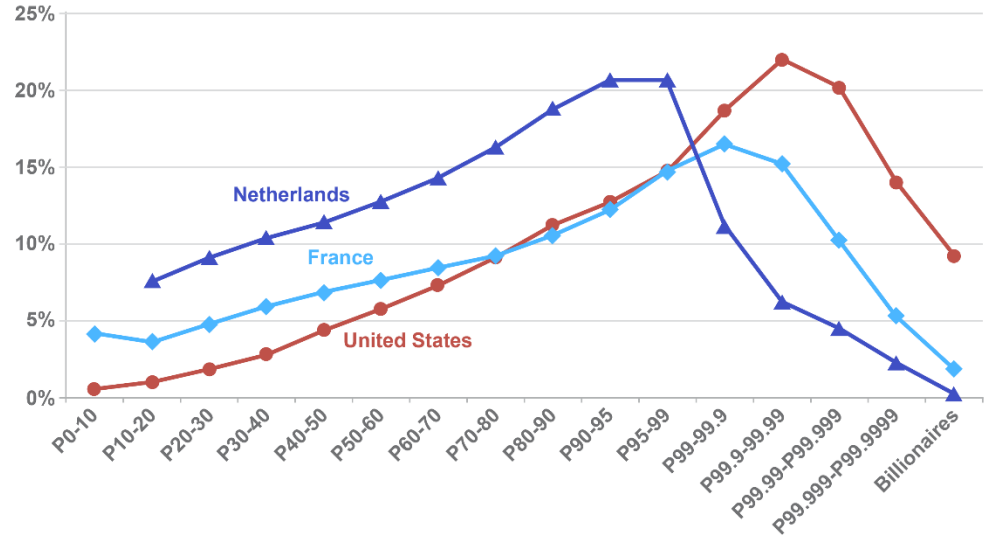
HNWIs can also use holding companies, and similar structures to mitigate their exposure to tax. While income tax can be avoided through the use of holding companies, the ability to use the untaxed income still exists in most cases. Some countries have measures in place to tackle tax avoidance through the use of holding companies, via taxes on undistributed income of holding companies for example. However, these provisions are not in place in each jurisdiction, meaning HNWIs can utilise such structures effectively. HWNI also make use of citizenship by investment and residence by investment programmes for several reasons, one of them being to avail of preferential tax treatment in some jurisdictions (Surak, 2020). Such programmes usually involve an investment or donation in the country in return for citizenship. For example, in 2025 the US President announced the intention to introduce a "gold card" visa programme, which would grant US residency and potential citizenship to foreign individuals, for a fee of USD 5 million. ([198])

Strengthening global cooperation on tax matters may contribute to mitigate aggressive tax planning risks. While the responsibility for fighting aggressive tax planning falls on individual tax administrations, global cooperation and transparency in areas such as beneficial ownership, financial and banking data are imperative to the fight against aggressive tax planning. The availability of timely targeted and comprehensive information at an early stage is another enabling condition for the fight against aggressive tax planning (OECD, 2012). Through the Directives on Administrative Cooperation (DAC), EU countries can make use of mechanisms like the automatic exchange of information and exchange of information on request which allows the tax administration access to sufficient information to make informed judgements on potential tax avoidance and aggressive tax planning. The DAC 8 also includes advanced tax rulings for HNWIs.

197 https://www.irs.gov/
198 Trump floats USD 5 million 'gold card' as a route to US citizenship | Reuters

An obstacle in the fight against aggressive tax planning is that tax avoidance regimes are substitutable. The challenge with identifying and closing specific aggressive tax planning regimes is that HNWIs can use a range of different structures to arrange their tax affairs, meaning that there will likely be alternatives that offer similar benefits. This is highlighted in the US, where anti-abuse provisions have been implemented to tackle tax avoidance via holding companies, and effective tax rates are higher than in France and The Netherlands, but effective tax rates of billionaires are still below 10% which indicates that there are alternative methods available (Zucman, 2024) (see Figure 89).

Figure 89: Effective average income tax rates by income groups and for billionaires as a % of pre-tax income

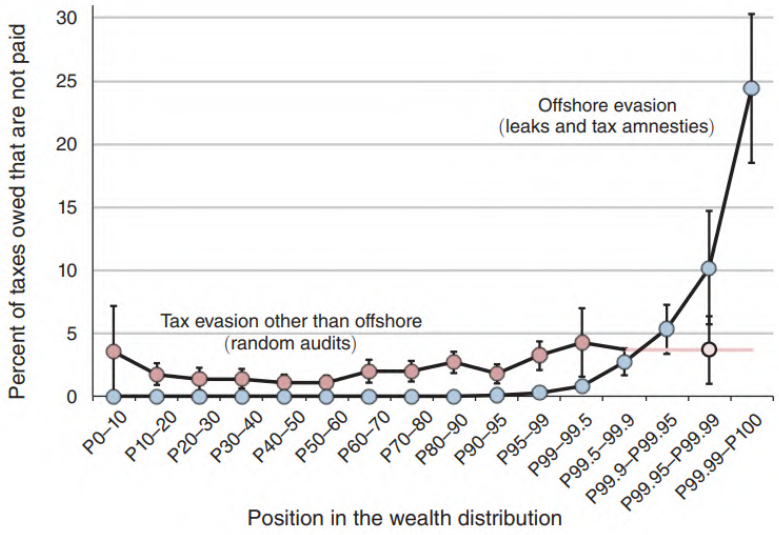


Source: Zucman, 2024.

A tax on overall net wealth has been put forward as an effective method to combat such aggressive tax planning regimes, as wealth is hard to manipulate. Although many wealth taxes have been repealed in the past, Zucman's report to the G20 in June 2024 contends that depending on the aforementioned improvements in international transparency in the area of beneficial ownership as well as implementing tax collector of last resort mechanisms that were included as part of Pillar Two regarding the global minimum effective corporate tax rate, the implementation of a global minimum tax on HNWIs is technically feasible.

Tax evasion from ultra HNWIs is also important to consider. While the aim of this section is to discuss aggressive tax planning, tax evasion must also be considered as a substitute which will be briefly examined. Based on publicly available information on offshore activities, the use of offshore shell companies to conceal wealth rises in conjunction with wealth, with figures from Norway and Sweden showing that most owners of the exposed shell companies were in the top 0.01% of wealth. Another conclusion that can be made from the leaked papers is that the use of random audit data does not fully quantify the levels of tax avoidance and evasion at the highest end of the wealth distribution (see Figure 90 for comparison), higher levels of tax evasion and avoidance among the wealthiest individuals undermines the fundamental principle of the taxation system causing regressivity at the top end (Alstadsæter et al., 2019). Furthermore, Brülhart et al. (2022) find that reported taxable wealth in Swiss Cantons is very responsive to changes in the tax rate, with a 1% reduction in the wealth tax rate causing a 43% increase in reported wealth, indicating a greater propensity for tax evasion in a setting with no third-party reporting of financial wealth.

Figure 90: Tax evasion by wealthy individuals



Source: Alstadsæter et al., 2019. Online appendix table.J.5.

Ensuring fair taxation of HNWIs would underpin tax revenue generation, also contributing to fiscal sustainability. HNWIs own a significant share of total wealth and income, and often benefit the most from public policies protecting legal systems, business environments and public safety. As EU governments face a pressing demand for public goods and services, such as healthcare, education, infrastructure, but also defence and security, tax revenue flows need to be able to support social cohesion, fiscal sustainability and economic resilience. The 2025 edition of the EU Tax Symposium ([199]) discussed the challenges for a fair contribution of ultra HNWIs, with some panellists highlighting that progressive tax systems ensuring fair taxation of HWNIs can underpin tax justice and be part of the policy mix to support public spending and strengthen EU public finances.

199 For additional information see the web page of the event.

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Glossary

Accelerated depreciation is the deprecation used for accounting or for income tax purposes that enables greater depreciation expenses in the first years of the life of a fixed asset.

Aggressive tax planning consists of taxpayers reducing their tax liability through arrangements that may be legal but are in contradiction with the intent of the law.

Base Erosion and Profit Shifting (BEPS) are tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations. The concept of BEPS was developed and advanced by the OECD as part of its workstream to combat tax avoidance and promote international tax fairness. The OECD's coordinated approach helps countries close gaps in tax rules and prevent profit shifting to low-tax jurisdictions.

Bottom-up approaches are based on micro-level data, such as tax returns or audits, which are usually available only for a segment of the tax base. The extent of non-compliance in a sample is then extrapolated to the entire population to arrive at an estimate of the overall tax gap.

Carbon Border Adjustment Mechanism (CBAM) is a climate measure to support climate mitigation by preventing carbon leakage (i.e. industries transferring polluting production to other countries with less stringent climate policies). It equalises the price of carbon between domestic products and imports, for a selected number of products.

Clean Industrial Deal outlines concrete actions to turn decarbonisation into a driver of growth for European industries. This includes lowering energy prices, creating quality jobs and the right conditions for companies to thrive.

Direct taxes are defined as current taxes on income, wealth and capital (including taxes such as inheritance, property or gift taxes). In the subcategory of income taxes, you can further distinguish between personal income tax (PIT), corporate income tax (CIT), and tax on capital gains.

Effective average tax rate (EATR) is calculated based on the nominal tax rate and the definition of the tax base.

Effective marginal tax rate (EMTR) shows what part of a change in earnings is taxed away by the combined operation of taxes, social security contributions (SSCs), and any withdrawal of earnings-related social transfers.

Environmental taxes include taxes on energy, transport, pollution and resources (excluding VAT, which is levied on all products).

Energy taxes include taxes on energy products and electricity used for transport (e.g. petrol and diesel) and stationary purposes (e.g. fuel oils, natural gas, coal and electricity).

European Semester is the European Union's framework for the coordination and surveillance of EU Member States' economic and social policies. As part of the process, the European Commission proposes every year country-specific recommendations (CSRs) that aim to address the key challenges in EU Member States. The CSRs are then endorsed by the European Council and adopted by the Economic and Financial Affairs Council (ECOFIN). Member States should incorporate this policy guidance into their annual budgets, national legislation and policy plans.

Excise duties are indirect taxes on the sale or use of specific products, such as alcohol, tobacco and energy.

Gini coefficient (also known as the Gini index) measures the inequality among values of frequency distribution, such as levels of income. A Gini coefficient of 1 reflects maximal inequality while 0 reflects perfect equality.

Health taxes are levied on products that have a negative public health impact, for example tobacco, alcohol and sugar-sweetened beverages. These taxes are meant to save lives and prevent disease, while in parallel advancing health equity and mobilising revenue for the general budget ([200]).

Indirect taxes are taxes levied on a material or legal event of an accidental or temporary nature and on a (legal or natural) person that can often be an intermediate and not the person responsible for the event (hence the indirect character of the tax), e.g. VAT, import levies, excise duties, other taxes on production.

Kakwani index (for a tax) is defined as the difference between the concentration coefficient for tax liabilities and the Gini coefficient of pre-tax incomes.

Patent box is a term used to describe tax regimes that allow for lower tax rate on profits made from intellectual property assets. This is often used as an incentive for companies' research and development activities.

Policy tax gap reflects revenue foregone due to deliberate policy choices, including tax expenditures such as exemptions, reduced tax rates or thresholds that narrow the tax base.

Pollution taxes include taxes on measured or estimated emissions to air (except taxes on CO_2 emissions) and water, on the management of solid waste and on noise.

Recovery and Resilience Facility (RRF) is a temporary instrument that enables the European Commission to raise funds by borrowing on the capital markets (issuing bonds on behalf of the EU) and make them available to its Member States. Member States use the funds provided by the RRF to implement reforms and investment to make their economies and societies more sustainable, resilient and prepared for the green and digital transitions.

Resource taxes include any tax linked to the extraction or use of a natural resource (e.g. taxes on licence fees paid for hunting and fishing rights) ([201]).

Savings and Investment Union is an initiative by the European Commission aimed at enhancing financial opportunities for EU citizens. It seeks to improve the way the EU financial system channels savings into productive investments, thereby fostering economic growth and competitiveness.

Second earner defines a person living in a household where the spouse/partner's earnings represent the household's main income. If the second earner is working, it is assumed to earn less than the primary earner.

Social contributions (sometimes also called social security contributions) are compulsory payments made by employers and employees into social insurance schemes that cover pensions, healthcare as well as other welfare provisions.

[200] This definition is based on: https://www.who.int/health-topics/health-taxes#tab=tab_1
[201] This definition is based on (European Commission, 2013).

Startup and Scaleup Strategy is an initiative by the European Commission aimed at fostering an innovation-friendly environment that makes it simpler and faster for European innovative startups to grow and scale up in the Single Market.

Subsidies are financial assistance provided by the government to organisations or companies as part of an incentive to further economic and social policy.

Tax allowance is the amount of money that can be deducted from taxpayer's income or a company's profit before tax owned is calculated.

Tax avoidance is the arrangement of a taxpayer's affairs in a way that is intended to reduce his/her tax liability and that (although the arrangement may be strictly legal) is usually in contradiction with the intent of the law.

Tax credit is a sum of money that taxpayers can deduct from the taxes they owe.

Tax exemption is the reduction or removal of a tax liability to make a compulsory payment that would otherwise be imposed by a ruling power upon persons, property, income, or transactions.

Tax expenditures are reductions in tax liabilities that result from special exemptions, deductions, credits, or preferential tax rates in the tax code. They are designed to achieve specific policy objectives, by encouraging certain behaviours (e.g., home ownership, education, or charitable giving) or supporting particular economic sectors.

Tax evasion generally involves illegal arrangements whereby liability to tax is hidden or ignored, i.e. the taxpayer pays less tax than they are legally obliged to pay by hiding income or information from the tax authorities.

Tax fragmentation refers to a situation where a tax system is divided into multiple, possibly conflicting, components or levels. This can occur when different jurisdictions (such as states or municipalities) have their own tax laws, leading to inconsistencies and complexities in the overall tax system. Tax fragmentation can result in challenges for businesses and individuals who operate across different jurisdictions, as they may need to navigate and comply with varying tax regulations, rates, and requirements.

Tax fraud is a form of deliberate evasion of tax that is generally punishable under criminal law. It includes situations in which deliberately false statements are submitted or fake documents are produced.

Tax gap refers to the difference between the amount of taxes that should theoretically be collected and the amount actually collected. Understanding and measuring this gap allows policymakers to identify revenue losses and develop targeted measures to improve the functioning of the overall tax system

Tax incentives are measures employed by the government to encourage activities in certain domains of the economy, by offering deductions, exclusions or exemptions from tax liability. Tax incentives are selective in nature in the sense that they give preferential treatment to economic activities which are in line with the objectives of the government.

Tax relief refers to any program or policy designed by the government to help individuals and businesses lower their tax burdens or settle their tax-related debt.

Tax wedge on labour is the difference between wage costs to the employer of a worker and the amount of net income that the worker receives, expressed as a proportion of the overall wage costs. The difference arises as a result of taxes, including PIT and compulsory SSC.

Technical Assistance and Information Exchange is a key European Union instrument for institutional capacity-building worldwide, providing targeted and rapid support to public administrations in EU candidate countries and beyond.

Technical support instrument is the EU programme that provides tailor-made technical expertise to EU Member States to design and implement reforms. The support is demand driven and does not require co-financing from Member States. It is an important pillar of the EU's initiative to help Member States mitigate the economic and social consequences of the outbreak of the COVID-19 crisis.

Top-down method use aggregate data on consumption or production to calculate the theoretical value of tax that could be collected. The difference between this estimated potential amount of revenue and the actual amount collected is then used to produce an estimate of the gap.

Transfer pricing concerns the prices charged between associated enterprises established in different countries for their inter-company transactions, i.e. transfer of goods and services. Since the prices are set by non-independent associates within a multi-national enterprise, it may be that the prices do not reflect an independent market price.

Transport taxes include taxes on the ownership and use of motor vehicles, and taxes on other transport equipment such as planes and on related transport services, e.g. duties on charter or scheduled flights.

VAT gap is the difference between VAT revenue actually collected by the tax administration and the theoretical net VAT liability for the economy as a whole, under the country's current VAT system. The theoretical VAT liability is estimated by identifying the expenditure categories that give rise to irrecoverable VAT and then applying the appropriate VAT rate to these to estimate the expenditure in each category.

Withholding tax is a tax on income imposed at source. A third party is charged with deducting the tax from certain kinds of payment and remitting that amount to the tax administration. Withholding taxes are widely used for dividends, interest, royalties and similar tax payments.

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