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**Annual Report on Taxation 2022
Review of taxation policies in EU Member States**



European
Commission

ANNUAL REPORT ON TAXATION 2022

TAX POLICIES IN THE
EUROPEAN UNION

*Taxation and
Customs Union*

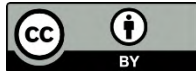
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Foreword

This Annual Report on Taxation 2022 presents an indicator-based analysis of the design and performance of Member States' tax systems. It provides policy makers across the EU with insights for designing and improving the functioning of their tax systems. Together with the Taxation Trend Report, published in parallel, it contributes to the reflection on the EU's tax mix on the road to 2050, which will be debated at Tax Symposium that DG TAXUD, under the leadership of Commissioner Gentiloni, is organising on 28 November 2022.

The COVID-19 pandemic and more recently **Russia's invasion of Ukraine** are testing the resilience of our economies, as they have unexpectedly plunged the EU and the world into a severe economic crisis. Swift and unparalleled measures were taken by the EU and Member States - including in the field of taxation - to support households and businesses and bring the economy back onto a recovery path. Public expenditure as a percentage of GDP jumped from 46.5% in 2019 to 53% in 2020 – an exceptional year- but is projected to remain above pre-pandemic levels in 2022, according to European Commission's spring forecasts. At the same time the annual tax revenue of the EU decreased in nominal terms for the first time since the 2009 economic and financial crisis.

Going forward the need to ensure the **green and digital transitions** takes place in the context of **major structural mega trends**. Changing demographics, labour market shifts, as well as important shifts in global trade, call for well-designed, fair and effective tax systems that ensure stable and sustainable tax revenues that foster innovation and productivity and support sustainable and inclusive growth. The EU average tax wedge on labour, despite the decline seen up to 2020, still accounts for 40% of labour costs. EU policymakers must take a proactive approach towards supporting all levels of society keeping **fairness and social balance** in mind.

The OECD tax agreement provides a framework for creating **a fairer global system** for corporate taxation. The rise of the **digital economy**, soaring digital trade via platforms, teleworking and disruptive digital business models create challenges for taxation systems. The process of adapting Member States' taxation systems to make them fit for the digital age has started and will require ongoing adjustments. The new VAT rules for online shopping in the EU entered into force in June 2021 and will be complemented by a proposal for EU VAT in the Digital Age later this year.

The European Green Deal entails the need to align national taxation systems with the EU's climate objectives. Environmental tax reforms can assist in reducing greenhouse gas emissions and encourage more sustainable energy consumption and production. The reform of the EU's Energy Taxation Directive (ETD) and the Carbon Border Adjustment Mechanism (CBAM) are part of this effort. Going forward it is estimated that more than half of the green investments needed should come from new technologies. The debt-equity bias reduction allowance (DEBRA) proposed by the Commission in May 2022 contributes to this objective by promoting equity financing and Capital Markets Union (CMU).

Last but not least the challenges ahead require **enhanced tax compliance to safeguard tax revenues**. Member States need to be able to collect taxes in a fair and effective manner. Tackling tax avoidance, evasion and tax fraud remains high on the Commission's agenda. The Tax Action Plan on Harmful Tax Competition targets old and new forms of harmful tax competition and increasing transparency on new asset classes (e.g. crypto assets). It is essential to ensure fair taxation and build up trust in our public policies.

Gerassimos Thomas

Director-General

Directorate-General for Taxation and Customs Union

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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
SE	Sweden
SI	Slovenia
SK	Slovakia

ACRONYMS

ACDC	Anti-Corruption Data Collective
AEOI	Automatic Exchange of Information
APIs	Application programming interfaces
ATAD	Anti-Tax Avoidance Directive
ATP	Aggressive Tax Planning
B2B	Business-to-Business
BEFIT	Business in Europe: Framework for Income Taxation
BEPS	Anti-Base Erosion and Profit-Shifting
CBAM	Carbon Border Adjustment Mechanism
CbCR	Country-by-Country Reporting
CCCTB	Common Consolidated Corporate Tax Base
CESOP	Central Electronic System of Payment Information
CFC	Controlled Foreign Corporation
CIT	Corporate Income Tax
CO2	Carbon Dioxide
CRM	Compliance Risk Management Model
DAC	Directive of Administrative Cooperation
DTC	Double Tax Convention
EAP	Environment Action Programme
EATR	Effective Average Tax Rate
EBITDA	Earnings before Interests, Taxes, Depreciation and Amortisation
EC	European Commission
ECA	European Court of Auditors
ECB	European Central Bank
ECEC	Affordable Early Childhood Education
E-Commerce	Electronic commerce
EIs	Exceptionally Electronic Interfaces
EMTR	Effective Marginal Tax Rate
ESA 95	European system of national and regional accounts
ESF+	European Social Fund+
ETD	Energy Taxation Directive
ETR	Effective Tax Rate
EU	European Union
EU-27	European Union (AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK)
EUCARIS	European car and driving licence information system
EUTO	EU Tax Observatory
FATF	Financial Action Task Force

FDI	Foreign Direct Investment
FED	Federal Reserve Bank
FTE	Full Time Employee
GDP	Gross domestic product
GHG	Greenhouse Gas Emissions
IBFD	International Bureau of Fiscal Documentation
ICT	Information and Communication Technology
IRD	Interest and Royalty Directive
IOSS	Important One Stop Shop
IP	Intellectual Property
ITR	Implicit Tax Rate
MABIS	Measurement and Analysis of Business Innovation Government Support Policies
MNE	Multi-National Enterprise
MOSS	Mini One Stop Shop
NECP	National Energy and Climate Plans
NFT	Non-fungible Token
NOE	Non-observed economy
NOx	Nitrogen Oxide
OECD	Organisation for Economic Cooperation and Development
OFC	Offshore Financial Centre
PIT	personal income tax
PP	Percentage Points
PPP	Purchasing Power Parity
PSD	Parent-Subsidiary Directive
R&D	Research and Development
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plan
SDG	Sustainable Development Goals
SEOIS	Spontaneous Exchange of Information
SIS	Seed Investment Scheme
SME	Small and Medium sized Businesses
SPE	Special Purpose Entity
SSB	Sugar Sweetened Beverages
SSC	Social Security Contributions
STR	Statutory Tax Rate
TADEUS	Tax Administration EU Summit
TBE	Telecommunications Broadcasting and Electronic
TIN	Tax Identification Number

TSC	Total government revenue from taxes and social contributions
VAT	Value Added Tax
WHO	World Health Organization
WHT	Withholding Tax
XML	Extensible Markup Language

Executive summary

The Annual Report on Taxation 2022 presents the state of play of taxation in the European Union (EU). The report aims to describe in a clear and accessible manner the most recent reforms and the main indicators used by the Commission to assess progress on taxation policies in EU Member States and at EU level. The report provides information on the EU's main tax priorities to:

- foster **innovation and productivity**, thereby supporting an EU economy that is fit for the digital and global challenges ahead;
- contribute to social **fairness and prosperity**, thereby ensuring that everybody pays their fair share and that EU tax systems support an economy that works for people and addresses their needs;
- make tax administrations more effective and efficient and ensure good cooperation between tax administrations, thereby contributing to the **stability and simplicity** of EU tax systems.

In addition, in view of the digital and green transition priorities and several important EU and international tax developments, the report zooms in on three topics:

- **green taxation** and its contribution to addressing climate change and supporting ambitious environmental objectives;
- **the digital transition**, and its effect on taxation systems, in terms of tax rules, tax revenue collection and tax administration;
- **business taxation** in the 21st century.

After a sharp COVID-19 induced contraction in economic activity in 2020, a strong economic recovery took hold in 2021. After falling sharply in 2020, the EU almost reached its pre-pandemic output in 2021, with a yearly increase of 5.3%. At the start of 2022, the EU economy was rebounding from the COVID-19 crisis faster and more forcefully than previously expected. The rebound was driven by consumption and investment, both of which had been depressed during the pandemic. The European Commission's Spring 2022 Economic Forecast ⁽¹⁾ projects the EU economy to continue growing in 2022 and 2023. However, while the EU economy continues to show resilience, the war in Ukraine has created a new environment, exacerbating pre-existing headwinds to growth, which were previously expected to subside. It also poses additional challenges to the EU economies related to security of energy supply and fossil fuel dependency on Russia. The outlook points to lower growth and higher inflation than in previous forecasts. Annual growth in the EU economy is expected to reach 2.7% in 2022 (previous estimation was 4%), and to 2.3% in 2023. These estimations slow the projected pace of GDP growth convergence in the EU compared to a scenario without the pandemic. The revised estimations for inflation points to an all-time high of 6.8% in 2022, before declining to 3.2% in 2023. Energy and commodity prices are behind the steep increase in inflation, but also disruption in logistics and supply chains are playing a role. The expectations on investment and external demand are also falling due to the global uncertainty, for example the impact of the new COVID-19 wave and the possible new restrictions. Labour markets will continue to improve, and it is expected that the unemployment rate will decrease in 2022 (6.7%) and 2023 (6.5%).

In 2020, annual tax revenue in the EU, measured as a percentage of GDP (the tax burden), increased to 40.1% despite the COVID-19 pandemic. However, in nominal terms, tax revenues decreased 3.9% in 2020 ⁽²⁾. This is the first decrease in tax revenues since 2009, in the middle of the economic and financial crisis.

Throughout 2020 and 2021, EU Member States implemented a number of tax reforms to support business activity and mitigate the impact of the pandemic on households. Member States have introduced tax cuts and tax deferrals as well as other tax

⁽¹⁾ See: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3070

⁽²⁾ There are different indicators to measure tax revenue. For this report the indicator of reference is the 'Indicator 2' of tax revenue that includes compulsory and actual social contributions. For more details on the different indicators on tax revenue see: https://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics#General_overview

measures, such as amending existing tax incentives to favour investment, to counteract the liquidity crisis and support businesses' productivity. To help households, a number of countries opted for cutting rates or adjusting tax brackets, allowing for deferral of payments or personal income tax (PIT) and social security contributions (SSC) waivers. Many gave tax relief to households, employers and the self-employed. To improve stability and simplicity, a number of countries reformed their PIT and SSC systems, certain countries announced revenue-increasing measures, and many boosted the digitalisation of their tax administrations.

As part of the recovery from the COVID-19 pandemic, the Recovery and Resilience Facility (RRF), the cornerstone of the EU's recovery plan, NextGenerationEU, allows significant investments and reforms to improve national tax systems. As the majority of Member States received tax-related country specific recommendations as part of the European Semester in 2019 and/or 2020, many Recovery and Resilience Plans also include tax reforms and investments to implement these recommendations. For example, the digitalisation of public administration systems is included in many national plans and most national plans contain green tax measures and measures with implications for labour taxation.

In addition to weathering the 2020 crisis and its impact, tax systems need to keep up with the fast-paced structural changes occurring in societies and economies. The green and digital twin transitions, combined with globalisation and population ageing, will have significant effects on the European social market economy. Some of these are already visible. For example, ageing is expected to lead to increasing dependency ratios and a decline in the working age population. If no adjustments are made, this will in turn affect the ability to generate revenues from labour taxes and social security contributions. In terms of tackling climate change and ensuring a more sustainable economy, changes in consumption and production behaviour is necessary and taxation can play an important signalling role in the right direction. Globalisation and digitalisation mean that activity can happen without there being a need for the people engaging in the activity to be physically present in a country. These structural changes make it necessary for the EU to adapt its tax systems and rules, including in relation to residency and source of revenue, in line with the principles of fairness and efficiency. These key principles, which do not have to be mutually exclusive, have to be considered with the fundamental objective of ensuring a socially fair transition that helps to develop education and skills, creates jobs and addresses inequalities.

To support productivity and innovation, Member States are increasingly supporting private R&D by offering tax incentives for both income and expenditure. Direct support through grants and loans is also being used alongside tax incentives although the former vary greatly from one Member State to another. EU average R&D support is about 0.05% of GDP and 0.06% of GDP for tax incentives and direct funding, though in all cases, it is still lower than in the United States (0.25% of GDP). Some countries have also introduced notional interest deductions to reduce **debt-equity bias**. However, all support must be effective, should not create loopholes liable to be used for tax avoidance, and should not make tax systems too complex or adversely affect fiscal sustainability.

On labour taxation, the report finds that the EU average tax wedge on labour, though on the decline, is still 40% of labour costs. Cross-country differences are significant, but this level is still above the OECD average of 36%. The overall tax burden on employment needs to strike a balance between funding welfare systems and public services and not stifling job creation and employment. This is why it is important to look at the tax burden of low earners and second-earners (typically women) which is particularly high in a number of Member States.

Appropriately designed tax policy can play a pivotal role in determining the distribution of disposable incomes. Labour taxation plays an important role in this, together with social transfers and pensions. Across the EU, there are large differences between Member States in the degree of progressivity of labour income taxation (when the tax burden for high earners is compared with the one for the low earners). Also, comparing income distribution before and after the application of taxes and transfers shows what a crucial role these play in reducing market income inequality. Labour taxes are and will remain a major source of public funding. Nevertheless, broadening the tax base and the tax mix, including through well-designed and balanced behavioural (including environmental and health taxes), property (including inheritance) and capital gains taxes can help generate revenues, encourage sustainable behaviour and address inequalities.

The report gives an overview of tax compliance, tax fraud, tax evasion and tax avoidance developments in EU Member States. On aggressive tax planning, it finds that over the past year and in the context of the RRF, countries such as the Netherlands and Cyprus have committed to take measures to close tax loopholes which facilitate aggressive tax planning. However, there is strong evidence that opportunities for aggressive tax planning are used in a number of countries, as several do not have a withholding tax or similar defensive measure in place for outbound payments exiting the EU. Transparency requirements have increased, but **tax evasion** by individuals in offshore financial centres still represents sizeable tax losses for EU Member States. EU revenue lost due to international tax evasion was estimated at EUR 124 billion in 2018 compared to EUR 46 billion in 2016. **Much tax remains uncollected. The VAT gap** (a measure of the effectiveness of VAT compliance and enforcement measures) was estimated to be a considerable EUR 134 billion in 2019 ⁽³⁾ and may have increased throughout the pandemic. In this context, the **increased digitalisation of tax administrations should contribute to improving tax collection and reducing tax avoidance and evasion. It should also reduce compliance costs for businesses and households.**

Environmental taxation can be a useful policy tool to help reach climate and environmental policy goals and reboot the EU economy in the aftermath of the COVID-19 crisis. The current rise in energy prices, exacerbated by the war in Ukraine, calls for an acceleration of the green transition. This should be supported by a balanced environmental taxation aligned with climate objectives, while protecting the most vulnerable. In that context, shifting away from labour taxation to environmental taxes that are fit for purpose, taking due account of the possible distributional effects, has the potential to stimulate employment and change behaviour in favour of more sustainable consumption and production. This report shows that environmental taxation is still underused in many Member States, despite being a potential key enabler for the transition to a greener economy. As part of the Fit for 55 package, the report presents the proposal for a revision of the Energy Taxation Directive, aimed at aligning the taxation of energy products with the EU's energy and climate objectives, to promote clean technologies and remove outdated exemptions and reduced rates that encourage the use of fossil fuels. Although not a taxation instrument, the Carbon Border Adjustment Mechanism will also be an important tool for addressing the risks of carbon leakage as a result of the EU's increased climate ambition.

The report is structured as follows:

- **Chapter 1** sets the context for the rest of the report. It looks at the effects of COVID-19 on Member States' tax revenues and economic outlook and describes the so-called 'megatrends' or structural changes (ageing, digitalisation, globalisation and climate change) that will have an impact on taxation and taxation systems.
- **Chapter 2** describes what makes for a fair and efficient tax system and gives an overview of how national taxation systems perform in relation to the Commission's tax priorities. By reviewing tax indicators and best practices, the report describes the reform options available to Member States for productivity, fairness, simplicity and stability. It aims to help Member States find the best way of addressing their own specific tax challenges.
- **Chapter 3** reviews the most recent tax reforms implemented in EU Member States since March 2020 from the perspectives of productivity, fairness and stability and simplicity.
- **Chapter 4** discusses in detail the role of taxation in supporting the green transition and the European Green Deal.
- **Chapter 5** sets out the consequences of rapid digitalisation on international and national taxation systems and tax administrations.
- Finally, **Chapter 6** elaborates on the context and principles of business taxation in the EU, focusing on the Communication on Business Taxation adopted in May 2021 by the European Commission.

⁽³⁾ See: https://ec.europa.eu/taxation_customs/news/vat-gap-eu-countries-lost-eu134-billion-vat-revenues-2019-2021-12-02_en

INTRODUCTION

The *Annual Report on Taxation 2022* analyses the performance and main challenges of EU Member States in taxation. Key taxation challenges include recovering from the COVID-19 pandemic, combined with the long-term structural challenges such as population ageing, digitalisation, globalisation and climate change. This report is accompanied by a descriptive analysis of latest trends on taxation (2022 edition) ⁽⁴⁾.

Member States continue to adjust to the health crisis, which had an unprecedented global socio-economic impact. Following a deep recession in 2020, EU economies returned to a growth path supported by national and EU level policy measures, including taxation. The EU also adopted a large stimulus package and most Member States' Recovery and Resilience Plans were adopted, for a fair and environmentally sustainable economic recovery that also ensures the competitiveness of the EU economy. Taxation policy, as this report shows, is an integral part of the recovery effort and of those plans.

The impact of the crisis will take longer to wear off than expected. As 2021 was coming to an end, the world was grappling with a new virus variant and a rise in infection rates, a distribution and energy crisis and the return of inflation, with possible changes to EU monetary policy following the announcement of the US Federal Reserve and the Bank of England. These will also have policy repercussions and may require further changes to tax policy. For example, some measures, including a temporary reduction of energy taxation and income support for poorer or hardest hit households, have already been implemented.

In line with the priorities of the European Commission, the report also discusses in detail recent developments in environmental and digital taxation. Ensuring the 'twin transitions' happens is crucial for the EU's recovery, and tax policy has a role to play in supporting a sustainable and digital-friendly recovery.

In May 2021, the Commission adopted a Communication on Business Taxation for the 21st Century ⁽⁵⁾ to promote a robust, efficient and fair business tax system in the EU. The Communication sets out both a long-term and short-term vision for supporting Europe's recovery from the COVID-19 pandemic and ensuring adequate public revenues over the coming years. The report details some of the proposals included in the Communication and outlines the way forward for business tax.

The report's indicator-based analysis assesses the recent trends in EU tax systems, and identifies how tax policy, implementation or compliance could be improved. Building on the current economic outlook, the report highlights that there is still scope for Member States' tax systems to be fairer and more efficient. This can be achieved in various ways, including tax incentives, reduced tax burdens on low-income earners, tax policies to foster social mobility and the development of effective tools to counter tax avoidance. One size does not fit all, so tax policies need to take careful account of national specificities and circumstances.

The analysis in this report is used in the context of the European Semester and more widely both EU and national for policy assessment and development, as it provides useful insight into current and future challenges for taxation systems.

⁽⁴⁾ See: See: Taxation Trends in the European Union (2022 edition).

⁽⁵⁾ See: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2430

1

IN THE AFTERMATH OF THE PANDEMIC AND THE IMPACT OF MEGATRENDS ON TAXATION

This chapter sets the context for the remainder of the report. It looks at the effects of the COVID-19 pandemic on Member States' tax revenues and economic outlook and describes the so-called 'megatrends' or structural changes (ageing, digitalisation, globalisation and climate change) that will have an impact on taxation and taxation systems.

1.1 In the aftermath of the COVID-19 pandemic ⁽⁶⁾ ⁽⁷⁾

The deep health crisis triggered by the COVID-19 pandemic at the end of 2019 has continued in 2021, affecting the world with significant economic and social consequences. The highly infectious COVID-19 virus has hit countries by waves, resulting in repeated sectoral and complete lockdowns and various restriction measures to protect people's health and to support health systems' ability to respond. As a result, EU countries experienced economic shocks to both aggregate demand and supply. Business activity, investment, private consumption, exports and imports were significantly reduced or limited in all Member States, although some Member States were more affected than others due to their economic structure (e.g. those more dependent on services) and degree of openness. Similarly, certain sectors and industries (e.g. tourism) have been more severely affected due to their strong exposure to restriction measures (social contacts, travels, etc.), while others have been fairly protected or actually benefitted from the pandemic situation (e.g. e-commerce platforms). The development of vaccines and the mass vaccination campaigns throughout 2021 have substantially helped in protecting people's health and alleviating most economic and social restrictions, enabling Europe's economies to bounce back. The emergence of new variants forced European governments to reintroduce certain measures in 2021 but the severity of the virus appears to have now considerably abated as a result of the successful vaccination campaign and most restrictions have been lifted.

EU governments provided an unprecedented fiscal response to the crisis. While differences exist in the national responses provided, measures have reached an unprecedented scale. The main measures included loan guarantee schemes, easier and broader access to finance, technical unemployment schemes, direct financial support and tax measures, including corporate and personal income tax cuts, deferrals and waivers on corporate and personal income tax and social security contributions, PIT tax brackets adjustments to make systems more progressive, discounts on early payments and reduced penalties on late payments, various tax incentives to investment and temporary VAT reductions. While these measures weight heavily on public finances, inaction would likely have had a deeper and more lasting negative impact and significant scarring effects.

The Commission supported the Member States' measures, and quickly acted to facilitate crisis response measures in the areas in which it has competence. The Commission suspended the Stability and Growth Pact fiscal rules and established the SURE program⁽⁸⁾ to maintain employment. It also adopted a temporary framework ⁽⁹⁾ to enable

⁽⁶⁾ For more information on taxation trends and figures, see 'Taxation Trends' accompanying document to this publication, which contains a detailed statistical and economic analysis of the tax systems of the EU Member States, plus Iceland and Norway <https://data.europa.eu/doi/10.2778/417176>.

⁽⁷⁾ For more extensive information from national finance ministries on their tax systems, see: https://ec.europa.eu/taxation_customs/tedb/taxSearch.html

⁽⁸⁾ See: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/financial-assistance-eu/funding-mechanisms-and-facilities/sure_en

⁽⁹⁾ See: Commission Communication (EU) C(2020) 1863 and its amendments C(2020) 2215, C(2020) 3156 and C(2020) 7127.

Member States to use the full flexibility envisaged under State aid rules to support their economies in the context of COVID-19. It also adopted a decision ⁽¹⁰⁾ helping Member States affected by the COVID-19 pandemic to temporarily suspend customs duties and VAT on protective equipment, testing kits and medical devices such as ventilators.

On 21 July 2020, the European Council agreed on a EUR 750 billion fund to help alleviate the cost of the COVID-19 pandemic and support the economic recovery: the Next Generation EU (NGEU). At the heart of this fund lays the Recovery and Resilience Facility, which provides an unprecedented EUR 672.5 billion of loans (EUR 360 billion) and grants (EUR 312.5 billion) in frontloaded financial support for the crucial first years of the recovery (see box 1).

Box 1: Recovery and Resilience Facility (RRF)

The Recovery and Resilience Facility is the key instrument of NextGenerationEU that will help foster a strong recovery in the EU and ensure that Member States are ready for future challenges and opportunities. The Facility allows the Commission to raise funds to help Member States implement reforms and investments that are in line with the EU's priorities. To benefit, Member States submit their Recovery and Resilience Plans (RRP) setting out the reforms and investments to be implemented by end-2026. Each plan should effectively address challenges identified in the European Semester, particularly the country-specific recommendations of 2019 and 2020. The plans should also tackle common European challenges such as the green and digital transitions to strengthen economic and social resilience of the EU ⁽¹¹⁾. The Commission supports Member States in the implementation of their RRP via the Technical Support Instrument (TSI) that provides tailor-made technical expertise to help Member States to design and implement reforms ⁽¹²⁾.

RRPs contain important investments and reforms to improve national tax systems, fight tax abuse and support cross-border cooperation. As the majority of Member State received tax-related country specific recommendations in 2019 and/or 2020, many RRP also include tax reforms and investments to address them.

The digitalisation of public administration systems, improving data procedures, improving risk assessment and increasing the use of international cooperation tools are included in many RRP. Examples include projects to modernise the analytical systems in their national administrations, which in Italy and Latvia will help to address their country specific recommendations on tackling tax evasion and economic crime. Investments in upgrading tax collection and auditing mechanisms and the introduction of electronic cash registers and e-invoicing in order to combat tax evasion have also featured in several RRP, including those of Greece, Lithuania and Romania.

Several Member States have committed to address aspects of their tax systems that facilitates aggressive tax planning (ATP). In its RRP, Cyprus committed to legislate for the introduction of a withholding tax on outbound payments of interest, royalties and dividends to low tax jurisdictions by 31 December 2024. The Irish commitment to introduce a withholding tax covering these flows to zero tax jurisdictions (and black listed jurisdictions) is an important step to prevent double non-taxation. Malta will commission a study on this issue and will enact legislation to mitigate the risks identified.

There are some RRP measures with implications for labour taxation, including tax shift aspects of the green tax measures. For example, the Lithuanian plan contains a reform aiming to improve the redistributive capacity and growth-friendliness of the tax-benefit system as well as boost tax compliance. In many cases active labour market, education and social protection measures are the primary means through which labour market country specific recommendations are being directly addressed through investments and reforms in RRP.

⁽¹⁰⁾ See: Commission Decision (EU) 2020/491.

⁽¹¹⁾ See: https://ec.europa.eu/info/sites/info/files/document_travail_service_part1_v2_en.pdf

⁽¹²⁾ See: https://ec.europa.eu/info/funding-tenders/find-funding/eu-funding-programmes/technical-support-instrument/technical-support-instrument-tsi_en

The majority of EU Member States have included green tax measures in their RRP. Measures included touched upon vehicle taxation (Belgium, Germany, Denmark, Finland, Slovenia, Romania), energy taxation (Finland, Portugal, Sweden) or carbon taxes (Austria, Denmark, Ireland). Several Member States will undertake studies or additional analytical work before deciding on further green tax measures.

In 2020, annual tax revenue ⁽¹³⁾ in the EU, in nominal terms decreased 3.9%, but as a percentage of GDP (the tax burden) it increased to 40.1% ⁽¹⁴⁾. This is the first decrease in tax revenue since 2009, when in the middle of the previous economic and financial crisis. As the GDP fell more than tax revenue, 4.4% in current prices, the tax-to-GDP ratio increased in 2020 by 0.2 percentage points (pp) and it is 2.2 pp above the value recorded in 2010 (37.9%).

At Member State level, the tax-to-GDP ratio increased in most countries in 2020. In 16 Member States the tax-to-GDP ratio increased, but in the majority of cases tax revenue in nominal terms decreased, but as GDP drops were larger, the ratio increased. Only 3 Member States increased their revenue in 2020 (Bulgaria, Denmark and Lithuania). There were strong yearly increases in the tax-to-GDP ratio in Spain (2 pp) and Latvia (0.9 pp). The main drops were registered in Ireland (1.9 pp) and Luxembourg (1 pp).

Tax-to-GDP ratio from taxes on labour increased in 2020, while the ratio decreased for consumption and capital taxes. The pandemic in 2020 altered the relative stable tax structure that the EU have seen over the last decade. Taxes from labour were more resilient due to different policy measures aiming to protect jobs and businesses. Revenues from labour taxation in the EU increased as percentage of GDP 0.8 pp, from 20.7 % in 2019 to 21.5 % in 2020, which represents the peak of the time series. At the same time, consumption and capital taxes decreased by 0.3 pp and 0.2 pp respectively. The drop of revenues from consumption taxes is explained to a great extent by the decrease of the VAT revenues, while in the case of capital taxes, this change was almost exclusively due to drops in taxes from the income of corporations.

Environmental taxes decreased in almost all Member States in 2020. This decrease, 0.2 pp of GDP, was due mainly to the mobility restrictions and reduced economic activity caused by COVID-19 that reduce the consumption of energy, including fuel, as taxes on energy in the EU accounted 77.2 % of the total revenues from environmental taxes, followed by 19.1 % of taxes on transport.

After a sharp COVID-19-induced contraction in economic activity in 2020, a strong economic recovery took hold in 2021. The EU economy almost reached its pre-pandemic output in 2021, with a yearly increase of 5.3%. At the start of 2022, the EU economy was rebounding from the COVID-19 crisis faster and more forcefully than previously expected. The rebound was driven by consumption and investment, both of which had been depressed during the pandemic. However, the start of the war in Ukraine and the energy crisis have impacted significantly in previous estimations. According to the European Commission Spring 2022 Economic Forecast ⁽¹⁵⁾, the outlook points to lower growth and higher inflation than in previous forecasts. Annual growth in the EU economy is expected to reach 2.7% in 2022 (previous estimation was 4%), and to 2.3% in 2023. These estimations slow the pace at which the EU was supposed to converge with the GDP projections in the case of an absence of the pandemic. The revised estimations for inflation points to an all-time high of 6.8% in 2022, before declining to 3.2% in 2023. Energy and commodity prices are behind the steep increase in inflation, but also disruption in logistics and supply chains are playing a role. The expectations on investment and external demand are also falling due to the global uncertainty, for example on the impact on the new COVID-19 wave and the restrictions.

⁽¹³⁾ There are different indicators to measure tax revenue. For this report the indicator of reference is the 'Indicator 2' of tax revenue that includes compulsory and actual social contributions. For more details on the different indicators on tax revenue see: https://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics#General_overview

⁽¹⁴⁾ The tax burden for the EU-27 represents the ratio between all tax revenues collected in the EU and the whole GDP of the EU. This is equivalent to the GDP weighted average of national tax burden. Data on overall tax burden were updated in May 2022; the detailed data were updated in March 2022.

⁽¹⁵⁾ See: https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2022-economic-forecast_en

Labour markets will continue to improve, and is expected that unemployment rate will decrease in 2022 (6.7%) and 2023 (6.5%).

Forecasts anticipate that the tax-to-GDP ratio will further increase in 2021. According to the 2022 Spring Commission Forecast ⁽¹⁶⁾, the tax-to-GDP ratio will increase in 2021, up to 40.7 % of GDP. It will start to decrease in 2022, followed by another smaller drop in 2023. Tax revenue and GDP in nominal terms will be already higher in 2021 than in 2019. However, in real terms tax revenue will be above the 2019 level in 2021 and the GDP only in 2022. The context is still quite volatile due to high impact events such the war in Ukraine, the energy crisis, high inflation or the consequences of the pandemic in the coming months.

Despite the bounce-back in growth, the crisis has placed considerable strains on Member States' public finances. The supportive fiscal and monetary policy mix during the COVID-19 crisis has ensured effective macroeconomic stabilisation, mitigating risks of scarring and supporting rapid economic recovery. The public expenditure to GDP ratio in the EU rose very sharply from 46.5% in 2019 to 53% in 2020. It is projected to remain unusually high (51.6%) in 2021 before decreasing to 49.6% in 2022, which is closer to but still above pre-pandemic levels. The large government deficits recorded in 2020 and 2021, as a result of the severe economic recession and the necessary policy response to the COVID-19 pandemic, have increased debt levels in all Member States. According to the Spring 2022 Economic Forecast, the EU aggregate debt-to-GDP ratio rose by around 13 points to 91.7% of GDP in 2020, and is expected to decrease slightly in 2021, down to 89.7%, and the following years. That would leave the debt ratio at 85.2% in 2023 on the back of lower deficits and the pick-up in nominal GDP growth.

Efficient and effective revenue collection has become even more fundamental in the aftermath of the COVID-19 crisis. The contraction in consumption and incomes, the negative effect of the crisis on many firms and, to a lesser extent, the temporary measures to cut or defer taxes during the crisis contributed to a considerable decline in tax revenue in 2020. Nevertheless, total revenues increased slightly as a share of GDP in 2020 (to 46.2%, up from 46.0% in 2019), as receipts of some taxes (especially those paid in arrears or projected on the basis of previous liabilities) did not immediately respond in full to the unprecedented drop in economic activity. By contrast, in both 2021 and 2022, total revenue is forecast to decline as a share of GDP, as growth in tax receipts slightly lags the strong rebound in GDP, to 46% and 45.7% respectively. This reflects the 2020 recession and the impact of several tax measures (such as tax deferrals) implemented to support businesses and households.

1.2 Addressing megatrends: calling for a tax mix that is fair and efficient to face the challenges ahead

The COVID-19 pandemic occurred against a background of ongoing major trends that are changing our societies and our economies, including demographic changes, climate change, environmental degradation, globalisation, digitalisation and the transformation of the labour market. These trends are set to intensify in the future with major impacts on existing tax bases.

Demographic changes

The EU's population is ageing. Longer life expectancies combined with lower fertility rates across the EU are leading to a general ageing of the population. This trend is not new, it began several decades ago and is observable in most developed countries ⁽¹⁷⁾. According to Eurostat ⁽¹⁸⁾, the share of the population aged 65 years and over in the total population has increased in every EU Member State from around 15% in 2000 to around 20% in 2020, while the share of people aged below 20 years has decreased from 24% to about 20%.

⁽¹⁶⁾ See: https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2022-economic-forecast_en

⁽¹⁷⁾ See: (United Nations, 2019).

⁽¹⁸⁾ See: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing

This trend is set to continue over the coming decades according to the demographic projections ⁽¹⁹⁾. The old-age dependency ratio (people aged 65 and above relative to those aged 20 to 64) is projected to sharply increase over the long-term, from 34.4% in 2019 to 59.2% in 2070 (+24.7 pps). This means that the EU would go from having about three working-age people for every person aged over 65 years in 2019 to having less than two working-age persons for every person aged over 65 in 2070. The ageing of population has significant implications in the labour market, in consumption patterns and in the increased social expenditure to sustain welfare systems, and in particular, in health and pensions, which will require additional resources: as the share of the working population is declining, a lesser base of people contribute to financing pay-as-you-go social protections systems including healthcare and pensions – while at the same time the share of pensioners and the prevalence of multi-morbidity due to ageing increases. In other words, the demographic changes arising from the ageing of the population is increasing tensions on taxation systems and is expected to amplify in the future ⁽²⁰⁾.

In parallel, the EU experiences flow of migration from third countries. Without taking into account the current refugee influx from Ukraine, annual net migration inflows to the EU are projected to decrease from about 1.3 million people in 2019 to 1.0 million people by 2070, representing a decreased contribution from 0.3% to 0.2% of the total population ⁽²¹⁾. The influence that this migration could have on labour markets, and therefore on the fiscal sustainability ⁽²²⁾, will depend strongly on the skill levels of migrants and the well-functioning of labour markets to match demand and supply. According to Belanger, Christl, Conte, Mazza, & Narazani, (2020), by 2035 an average native of an EU country will be a larger net beneficiary of public transfers than an average extra-EU migrant, while an average intra-EU migrant will be a net contributor. While migration can help addressing this issue, a rethinking of the financing of pension and in some countries health care systems seems inevitable.

Globalisation and digitalisation

Digitalisation and globalisation are reshaping our economies. Globalisation facilitates the movements of people, wealth and labour. It is widely believed to have had a generally positive impact on global economic growth in aggregated terms. Digitalisation has offered new tools connecting people and societies, and offering new business and working opportunities. It has led to an unprecedented and increasing number of people and businesses working, making purchases and selling, and interacting remotely without necessarily residing in the territory where the actual activity or sale takes place. Together, globalisation and digitalisation have created new opportunities for long-term economic growth.

But they have also created new challenges. The benefits of globalisation have been unequally distributed creating winners and losers. Globalisation and digitalisation have impacted wages, productivity and distribution of incomes impacting the tax bases. This could lead to the rise of populist movements that could damage international cooperation and trade, and may lead to important economic and tax consequences.

The trend towards higher levels of globalisation and digitalisation threatens the capacity of governments to set optimal tax rates. Tax bases are more elastic than ever, increasing tax competition to either attract or retain increasing mobile assets. Globalisation and digitalisation have created new opportunities for tax base erosion and profit shifting (BEPS) by corporations and for tax evasion by wealthy individuals, which calls for a future with even tighter international cooperation.

Globalisation and digitalisation also challenge the very concepts on which taxing rights are based. The nexus (from which the right to tax is derived) for corporate taxation is based on physical presence and value creation, i.e. where the company is headquartered and where it creates value. Thanks to globalisation and digitalisation, companies are now

⁽¹⁹⁾ See: (European Commission, 2021a).

⁽²⁰⁾ See: (Christl, Livanos, & Tumino, 2022).

⁽²¹⁾ See: (European Commission, 2021a).

⁽²²⁾ See: (Belanger, Christl, Conte, Mazza, & Narazani, 2020).

able to reach consumers worldwide and to provide their goods and services almost anywhere without having a physical presence in the market jurisdiction, rendering the direct link between taxing rights and physical presence flawed. The rise of intangible assets such as data and algorithms, in global value chains questions the location of value creation: for e.g. when a website user clicks on a webpage, he provides his preferences to a company that will either sell its data or use it in its value chain – putting the question of the value creation at user level and the location of the corresponding taxing rights. Globalisation and digitalisation have also facilitated greatly teleworking or working from home. The successive lockdowns linked to the COVID-19 pandemic have increased significantly the reliance on teleworking during 2020 and 2021, creating new challenges: where to tax the income of workers who can perform their work in any country?

Technological change

Technology has been one of the main drivers for social change over the last decades. In particular, digital technologies have had a prominent role in the economic growth (computers, internet, and smartphones etc.). This transformation is expected to continue in the coming decades. Change will come from new business models, like platforms, that can change our current work arrangements, from the new possibilities of massive data exploitation thanks to the cloud computing. More data and processing power will facilitate the development of more advanced artificial intelligence and its countless applications. These new technical capabilities are also drivers for robotisation and automation.

One of the obvious effects of this evolution is the impact in the labour markets: job polarisation, increases in productivity, changes in the demand of skills, robotisation and automation of activities or changes in work arrangements, etc. At the same time, some observers have pointed to the associated main threat of an increase in unemployment due to replacement of jobs by machines or algorithms. Taking into account that revenues from labour taxes are the main component of the tax mix in the EU (labour taxes, including social contributions, which provide more than 50% of the overall tax revenue in the EU-27), effects could be non-negligible in the tax revenues side ⁽²³⁾. Technological evolution could change the ratio between labour and capital income. Technology may as well change the nature of the jobs that are performed. For example, it may lead to increased decentralisation, with weaker formal ties between employers and employees. Outsourcing, as reliance on freelancing or (bogus) self-employment, will have a considerable impact on how labour taxes are collected and the revenue they yield.

At the same time, technology, especially more data and the capacity to link and analyse them, can support the fight against tax fraud. However, some of the new technologies can also help to create more advanced mechanism of tax evasion, in particular blockchain technologies such as cryptocurrencies or Non Fungible Tokens (NFTs).

Climate change and environmental degradation

The issues of climate change and environmental degradation are more pressing than ever. Global warming, deforestation, overuse of natural resources are impacting our planet more than ever before and are set to create crises in the near future that call for immediate action. Climate change and the green transition to mitigate its effects are expected to have relevant impact in the economy in the coming decades. Climate change is not the only environmental challenge that civilisation is facing, with other issues such as water/air pollution, waste management and biodiversity loss.

The EU has set ambitious objective to face these challenges. The European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring zero net emissions of greenhouse gases by 2050, an economic growth decoupled from resource use and that no person or place is left behind.

Taxation has a clear role to play in influencing behaviours, and thus in helping fighting climate change and environmental degradation. Tax policy can be used to change certain behaviours with negative environmental impact. However, if these taxes are successful their revenue could decrease, depending on how the tax rate is set and what the

⁽²³⁾ See: https://joint-research-centre.ec.europa.eu/publications/future-taxation-changing-labour-markets_en

price elasticity is. To ensure fiscal sustainability, the basket of green taxes and their scope could change over time to ensure stable revenue. At the same time, these kind of taxes could have some regressive distributional effect that can limit their implementation unless mitigating measures are put in place (ETLA - The Research Institute of the Finnish Economy, 2019). The current structure of environmental taxes as reported by Eurostat ⁽²⁴⁾, suggests that there is a scope for a better implementation of the polluter pays principle enshrined in the EU Treaties ⁽²⁵⁾. Redistributive measures accompanying environmental taxes may foster progressivity and positively affect the disposable income of lower income households ⁽²⁶⁾.

The way forward

A future-proof tax system will require reflection on the shape of efficient, sustainable and fair tax mix in light of these long-term mega trends. On the basis of these considerations, as announced in the Commission's *Communication for Business Taxation in the 21st Century*, the Commission will launch a broader reflection and the Tax Symposium on the 'EU tax mix on the road to 2050' in 2022 will contribute to it. This reflection will take into account the principles set out above, as well as the distributional impact of possible changes to the tax mix, including their effect on low-income households.

To deliver on the tax priorities, governments must design a tax mix that takes into account efficiency, distributional considerations and aspects of tax administration and compliance. In 2008, the OECD published several working papers on taxation and growth (Johansson, Heady, Arnold, Brys, & Vartia, 2008), which assessed the effect of taxes on growth. Income taxes are considered more detrimental for growth than consumption taxes. Environmental taxes and especially recurrent property taxes are reported to have the smallest effect on growth. However, some recent economic literature qualifies this view, pointing to a heterogeneity of responses, non-linear effects and the different amplitude of short- and long-term effects (Baiardi, Profeta, Puglisi, & Scabrosetti, 2019), (Xing, 2012). It appears that the specific tax design is at least as important as the tax type and the interaction of taxes with other factors. In order to fully assess the efficiency implications and the distributional implications of tax policies, tax and benefit systems have to be analysed as a whole (Brysi, Perret, Thomasi, & O'Reilly, 2016). In addition, it is important to consider dynamic effects, such as the impact of consumption tax increases on prices and wages.

Table 1 gives an overview of tax types with regard to their efficiency, distributional implications and administration/compliance. In addition to the dimensions covered in the table, one should consider the long-term viability and sustainability of specific taxes. For example, the sustainability of labour taxation, as a revenue source and a tool for redistribution, may be affected by the transformation of labour markets, driven by digitalisation, robotisation, the emergence of non-standard employment and population ageing. Table 1 is primarily from a Member State's perspective and omits certain issues arising from the stronger global economic integration and digitalisation. For example, the existing international corporate tax framework does not fully align with the way business activity is conducted today (e.g. large multinationals conducting their activity in countries where they do not necessarily reside), and as such it is seen as unsustainable from a cross-country/global burden-sharing perspective. It may also distort investment and hampers competition, ultimately impacting on sustainable and inclusive economic growth.

⁽²⁴⁾ See: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20211214-2#:~:text=In%202020%2C%20environmental%20tax%20revenue,energy%20taxes%20compared%20with%20019>

⁽²⁵⁾ Article 191(2) of the Treaty on the Functioning of the European Union (TFEU) states that: "Union policy on the environment (...) shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay".

⁽²⁶⁾ See: https://eur-lex.europa.eu/resource.html?uri=cellar:30010ced-e558-11eb-a1a5-01aa75ed71a1.0001.02/DOC_3&format=PDF

TABLE 1. OVERVIEW ASSESSMENT OF TAX CATEGORIES

	Efficiency	Distributive effects	Administration/compliance
Labour income taxes	<ul style="list-style-type: none"> • May distort labour demand through increased labour costs and labour supply through reduced work incentives. • However, empirical research suggests very low labour supply elasticities, with the exception of low-income and second earners. 	<ul style="list-style-type: none"> • If designed progressively, they represent the primary tax instrument for redistribution, taking into account the 'ability to pay' principle ⁽²⁷⁾. • Specific design features (e.g. joint taxation) might discourage second earners (still primarily female) from taking up work, which bears the risk of maintaining a wide gender gap in employment rates, thus exacerbating the gender pay gap. 	<ul style="list-style-type: none"> • Withholding taxes (WHTs) on labour substantially facilitate tax administration and compliance. • Non-standard employment and the rise of (online) platform work create challenges for the efficient administration of earned income. • However, technology (in particular, platforms) may also provide opportunities for more efficient tax administration.
Corporate income taxes (CITs)	<ul style="list-style-type: none"> • May distort capital formation, investment decisions and productivity in several ways. • Distortions may vary considerably with certain features, e.g. destination-based cash-flow taxation does not distort behaviour (including investment decisions) but falls only on domestic residents. • Economic integration and digitalisation pose particular problems for the international CIT framework, as they distort investment location and magnitude, and the playing field between businesses. 	<ul style="list-style-type: none"> • CIT is often seen as an instrument for taxing corporations' profits, thereby contributing to a more progressive burden-sharing among taxpayers. • The challenges of international corporate taxation contribute to a shift of the tax burden to less mobile tax bases (e.g. labour, consumption), with consequences in terms of inequality and burden-sharing. 	<ul style="list-style-type: none"> • Companies' compliance costs are high, especially for SMEs due to complex accounting standards and tax provisions (e.g. deduction rules) ⁽²⁸⁾. • In particular, compliance is increasingly complex for businesses operating across borders due to different tax rules. • Loopholes in and mismatches between corporate tax systems create substantial opportunities for tax avoidance.
Capital income taxes (households)	<ul style="list-style-type: none"> • May distort investment decisions if different forms of capital income (e.g. from dividends, interest, sale of capital shares) are not taxed in the same way. • May discourage savings and investment. • As dividends are often taxed both at company and shareholder level, the tax burden may be higher than in the case of other capital income ('economic double taxation'). 	<ul style="list-style-type: none"> • Typically, capital income increases as a proportion of total personal income towards the top of the income distribution. • Under the 'ability to pay' principle, all personal income from different sources (labour, capital etc.) should be taxed to the same degree. 	<ul style="list-style-type: none"> • Taxing capital income at source (WHT) e.g. through banks or companies issuing shares reduces the risk of fraud or evasion. • But WHT leads to a high administrative burden related to reclaim procedures. • A well-calibrated common, standardised, EU-wide system for withholding tax relief at source would ease the administrative burden for tax authorities and cross-border investors.
Taxes on immovable	<ul style="list-style-type: none"> • If designed as <i>recurrent</i> taxes, the distortive impact is limited compared to other taxes. 	<ul style="list-style-type: none"> • Distributional implications depend on distribution of property ownership and specific 	<ul style="list-style-type: none"> • Valuation can be complex but is considered less costly than in the context of net wealth taxes.

⁽²⁷⁾ The 'ability to pay' principle maintains that taxes should be levied according to taxpayers' financial standing.

⁽²⁸⁾ See, for example, Graph 2.11 in the 2018 edition of the *Tax Policies in the EU Survey*, which shows SMEs' compliance costs for direct and indirect tax (European Commission, 2018a).

	Efficiency	Distributive effects	Administration/compliance
property	<ul style="list-style-type: none"> If designed as <i>transaction</i> taxes, they may create a lock-in effect that reduces labour mobility. 	design of the tax.	<ul style="list-style-type: none"> Due to visibility and immobility, evasion and avoidance opportunities are limited.
Net wealth taxes (29)	<ul style="list-style-type: none"> May discourage savings. May decrease the level of investment. 	<ul style="list-style-type: none"> If designed with appropriate thresholds and (possibly) progressively, may make a significant contribution to reducing wealth inequality. 	<ul style="list-style-type: none"> May encourage people to move their wealth offshore. Substantial avoidance opportunities, particularly for the very rich. Difficult to trace ownership; annual valuation of privately held wealth is costly. However, appropriate design and technological progress can cut valuation costs and administrative complexity substantially.
Inheritance/gift taxes	<ul style="list-style-type: none"> Can reduce the incentive to save among those who may want to leave an estate to the next generation, or on the contrary can increase savings by donors to pass on a sufficient estate to the next generation. Incentives increase for heirs to work and save, in view of a lower inheritance. Can have positive effects on economic growth, e.g. as inheritance taxes may induce an increase in consumption, leading to an increase in aggregate demand 	<ul style="list-style-type: none"> Can help reduce wealth inequality. Can support social mobility by reducing the extent to which wealth inequalities are transmitted from one generation to another (inter-generational fairness). 	<ul style="list-style-type: none"> Since assets are valued only once, administrative costs are less than those for net wealth taxes. Avoidance and evasion opportunities depend on the design and the scope of exemptions.
Value-added tax (VAT)	<ul style="list-style-type: none"> Considered to be among the less distortive taxes, as it does not directly distort the choice of production technique. 	<ul style="list-style-type: none"> Reduced rates are not effective in terms of redistribution, as they cannot target a specific (e.g. low-income) population. Nevertheless, low rates for basic foods are often used to support low income groups. 	<ul style="list-style-type: none"> Considerable scope for tax evasion and fraud (e.g. VAT gap), notably due to the break in the fractioned collection of VAT when it comes to intra-EU business-to-business (B2B) transactions. Reverse charge mechanisms may help tackle certain types of VAT evasion and fraud, but they may also create new opportunities for VAT evasion and fraud.
Environmental	<ul style="list-style-type: none"> If appropriately designed, considered to be among the least distortive of taxes. 	<ul style="list-style-type: none"> Many types of environmental taxes are typically regressive, so their increased use should be 	<ul style="list-style-type: none"> The level of administrative complexity defines the feasibility of environmental taxes.

(29) There are concerns regarding economic double taxation when it comes to net wealth or inheritance/gift taxes, as the stock of wealth has probably already been subject to some form of income taxation. However, that concern would then also apply to taxes on consumption typically financed by personal or capital income that has already been subject to taxation.

	Efficiency	Distributive effects	Administration/compliance
taxes	<ul style="list-style-type: none"> • One of the main objectives is to incentivise behavioural change in order to internalise negative externalities and thereby create overall welfare gains. • Concerns over carbon leakage (domestic reductions in greenhouse gas emissions are counterbalanced by increases elsewhere) and competitive disadvantages for domestic firms following unilateral action in a given country; can therefore justify international coordination. 	<p>accompanied by mitigating policy measures. However, environmental taxes can support intergenerational fairness, as behavioural change will probably reduce costs for future generations of mitigating the impact of climate change. Studies also show that vulnerable households are those that suffer the most from the environmental degradation, hence they also benefit the most results of behavioural change resulting from pricing environmental externalities.</p>	<ul style="list-style-type: none"> • Ideally, would take the form of a tax on each unit of measured emissions (e.g. CO₂, NO_x) according to social cost. • However, depending on the pollutant and type of tax, the information requirements can be very high. As a result, taxes are often imposed on a proxy for the pollutant, e.g. volume of fuel placed on the market. • Difficult to evade.
Health taxes	<ul style="list-style-type: none"> • Primary objective is to correct behaviour to internalise negative externalities and thereby create overall welfare gains. • Concerns over illicit trade / evasion 	<ul style="list-style-type: none"> • Health taxes are typically progressive, provided the health burden and healthcare costs are factored in. 	<ul style="list-style-type: none"> • Compliance costs for health taxes on alcohol and tobacco products are low and often arise from compliance with the overall excise duty provisions.

2

PERFORMANCE OF NATIONAL TAX SYSTEMS: HOW FAIR, EFFICIENT AND STABLE ARE EU TAX SYSTEMS?

The EU needs a fair, efficient and stable tax framework that meets public financing needs, while also creating an environment conducive to a fair and sustainable growth with high levels of investment. This chapter sets out what makes a fair and efficient tax system. In particular it presents the key features that are important when assessing the productivity, fairness, stability and simplicity of a tax system. Recognising that challenges are country-specific, chapter 2 provides an overview of how national taxation systems perform.

2.1 What makes a tax system fair and efficient

The primary purpose of taxation is to fund government's spending by reallocating funds from taxpayers (individuals/businesses) to governmental/public agencies or those acting on the public's behalf to maximise social welfare ⁽³⁰⁾. The general aim of collecting public revenue is to secure funding for welfare-improving public goods, in particular in areas that tend to see significant market failures ⁽³¹⁾ such as education, healthcare, social protection, infrastructure, pollution and climate change. However, tax collection has dead weight costs in itself and taxes can affect people's decision making (e.g. in taking up a job, renting versus buying a house, types and location of investments).

Hence, it is pertinent to ask: how can we collect a certain level of tax revenue in a way that maximises social welfare, minimises collection costs and unwanted distortions and induces desirable behaviour (e.g. developing public infrastructure to support productivity growth; reducing consumption of unhealthy foods and beverages; inducing more environmentally sustainable behaviour)? While there are trade-offs between a tax system that is fair and a tax system that is efficient, these goals are not necessarily mutually exclusive. For example, the tax system can encourage the development of production methods or technology that are more environmentally friendly, increase inclusivity in the workplace, protect workers' safety, enhance productivity or introduce mitigating measures to lighten the burden on vulnerable households.

Taxation can influence behaviour and social welfare through five channels:

1. Taxation can influence/distort economic decisions – in the absence of market failure, the need to raise public revenue via taxation can distort otherwise efficient economic decisions, leading to sub-optimal outcomes. The levying of taxes can affect decisions regarding, among others:

- a) the scale, location and sector of investment or investments in R&D&I;
- b) how to finance investment, e.g. debt versus equity;
- c) the supply and demand of labour; and
- d) the nature and timing of consumption.

⁽³⁰⁾ Social welfare can be measured in various ways, e.g. as the (weighted or unweighted) sum of utility functions of all individuals in a given society.

⁽³¹⁾ Market failure occurs where a market, when left to its own devices, results in resource allocations that do not maximise social welfare. The causes include positive externalities (e.g. from education), negative externalities (e.g. pollution), incomplete/asymmetric information (e.g. in health markets) and public goods (e.g. many types of infrastructure, or police and national defence). Public goods are characterised by the fact that:

- consumption by one individual does not preclude consumption by another (non-rivalry); and
- it is economically or technically impossible to restrict consumption by anyone and it is impossible for anyone to refuse its consumption (non-excludability).

Tax systems should therefore be designed to minimise these distortions and the resulting 'deadweight loss', which would imply raising taxes on price-inelastic goods and services.

2. Taxation design is influenced by social preferences and affects income redistribution – taxation can be a powerful instrument for redistribution, determining the extent to which overall income is shared among members of a society. Depending on social preferences and policy goals, redistributive taxes can be powerful at enhancing social welfare. In addition, a tax system must be carefully designed to avoid loopholes and complexities that can lead to opportunities for aggressive tax planning, which can hamper the level playing field, distort competition and, in turn, reduce the redistribution ability of the system and the sustainability of public finances.

3. Taxation can help address market failures – when market failures are present, economic decision-making based solely on market signals may be neither efficient nor fair. For example, events or actions with associated negative externalities which do not translate into a clear price/cost and are not internalised by consumers or businesses can be detrimental to society's welfare. In such cases, taxation can play a role in correcting the economic inefficiencies to the benefit of the society as a whole. For instance, where there is:

- a) activity that is bad for the environment or public health (e.g. smoking, consuming unhealthy products, driving polluting cars, production sites that pollute the environment). This may have an impact on the economy, general welfare or activities that can lead to an unfair burden-sharing across generations. Taxes have the ability to correct market-failures in a cost-effective way, based on market signals embedded in the higher price of affected products or activity; and
- b) too little activity that benefits others, e.g. investment in research, development and innovation or spending on education, which is a key driver of economic growth, and upward social mobility⁽³²⁾. For instance, tax incentives for fostering innovation, research and education can contribute to the growth of the economy.

4. More uniform/coordinated taxation policy can help take account of cross-border spillovers – allowing for more efficient choices from a global perspective. For example, billions of Euros are lost in the EU each year to tax fraud, evasion and avoidance. Tax provisions of individual Member States can also result in revenue losses for other EU Member States, for example, where royalties and interest payments can be made to recipients in low or no-tax jurisdictions without taxes having been paid in the EU. Likewise, addressing greenhouse emissions at EU and global level may be more effective than if each country implements related policy on its own, so as to ensure a fairer distribution of both costs and benefits.

5. Administrative costs – levying taxes is costly for administrations and taxpayers. An efficient tax administration should minimise these costs, which are in general a deadweight loss to the economy.

With this in mind, a coherent tax design, combined with effective and efficient administrations and effective and transparent legislation, which is properly enforced, can ensure that taxation works as intended, that all taxpayers abide by common rules and pay their fair share and that the distortions and costs of taxation are minimised.

⁽³²⁾ In addition, OECD findings suggest that excessive inequality can be detrimental to long-term growth by hindering human capital accumulation, so that redistributive policies can be justified from a growth angle.

2.2 Productivity

The way taxation influences productivity is not straightforward as there are many direct and indirect roads to increasing productivity. Tax design (rates and base), how taxes are collected, what they are used for and the overall business environment impact on investment decisions and productivity. This section examines the features of national tax systems that may be relevant in this respect, looking at indicators on effective tax rates, the corporate debt bias, R&D tax incentives, tax administration, and tax certainty.

Historically, the literature has put forward that taxation should shift from income taxes to less (productivity/growth) distortive taxes such as various immovable property taxes (including real estate and land levies) or consumption/behavioural taxes. For instance, this can be seen by research for 34 OECD countries over 1980-2014 (Oguzhan, Cournède, & Fournier, 2017). Additionally, others find that raising greater revenues in inheritance taxes could generally improve output per capita, while also narrowing the distribution of after-tax (disposable) income, also implying higher productivity and growth (Cournède, Fournier, & Hoeller, 2018).

There is nevertheless a possible trade-off between equity and efficiency so that designing the overall tax mix in a growth friendly way may also require measures to improve progressivity and broadening the tax base notably by removing inefficient (and regressive) tax expenditures. The relation between equity and efficiency is not always clear-cut. Shifting from corporate income to consumption taxes would generally increase share prices by raising the after-tax present value of the firm, implying a non-trivial trade-off between equity and efficiency, while also stimulating nominal growth (and possibly, in the mid- to long-run, actual productivity). However, shifting away from personal income taxes to consumption taxes would on average reduce the progressivity of the tax system, as consumption taxes are generally less progressive (and, in some cases, are considered to be regressive), with the progressivity-growth effect being ambiguous. Hence, a good tax design would include measures to improve progressivity and ensure the redistributive function of the system through personal income taxes and social transfers and the broadening of the tax base notably by removing inefficient (and regressive) tax expenditures (O'Reilly, 2018). Additionally, fiscal support for investment and innovation can lead to more business dynamism and productivity, as well as, along with previous measures, to more inclusive growth overall.

Taxation is a crucial source of revenue for the provision of public goods in any given setting, in countries, regions, and municipalities including infrastructure which in turn supports productivity. A large share of taxpayers' contributions funds public infrastructure. Such infrastructure includes roads, railways, environmental management tools (including of waterways), power plants, informational infrastructure (including broadband network), educational and political institutions, as well as recreational and health facilities. Clearly, a satisfactory level of development of such facilities is necessary to support productivity (both in level and growth) in modern economies, both in private and public sectors. It is therefore important to consider the level of development of (and the needs for) infrastructure (broadly and in specific settings) when considering the overall effect of taxation on the level of productivity and on productivity growth.

Taxation is one of many factors that can influence companies' investment decisions. The impact on growth also depends on many other factors that impact jurisdiction' competitiveness such as levels of education and skills, existing business models, access to technology, the sectoral structure and openness of the economy, as well as the efficiency and effectiveness of public authorities in delivering public services and collecting revenues.

2.2.1 Effective marginal tax rates on corporate income

The effective marginal tax rate (EMTR) on corporate income can influence corporate investment decisions, and in particular how much to invest in a given project. The EMTR is the (forward-looking) expected tax burden on the last euro invested in a hypothetical project that

just breaks even (the 'marginal' investment) ⁽³³⁾. It captures a wide range of factors in addition to statutory corporate tax rates, such as:

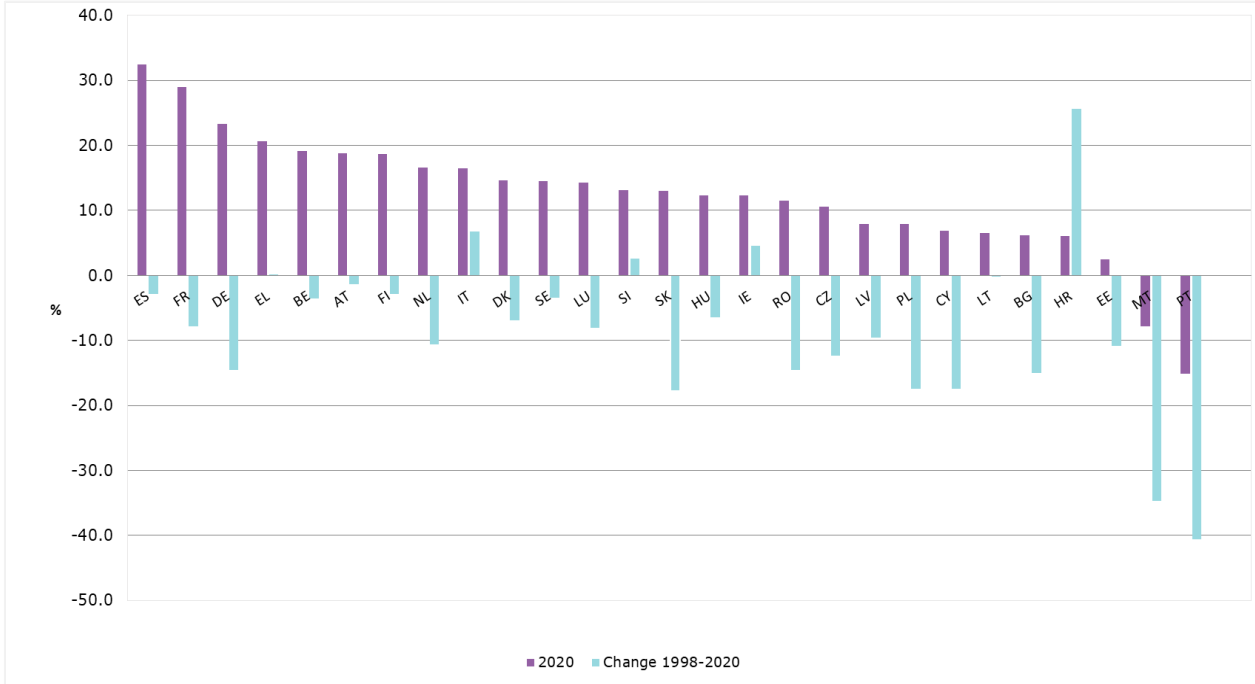
- the elements of the tax code affecting the determination of the corporate income tax (CIT) base;
- the source of financing for the investment (debt, retained earnings or new equity); and
- the type of asset to be invested in (machinery, buildings, intangibles, inventory or financial assets).

The EMTR is calculated based on a series of assumptions about the pre-tax rate of return, the interest and inflation rates, and the asset and funding source composition. It does not in its primary nature (i.e. without extensions) reflect the impact of aggressive tax planning (ATP) or tax rulings/special tax regimes. On average, the lower the EMTR, the more conducive a tax system is to corporate investment. However, tax sensitivity differs among firms with different profitability levels (particularly multinationals), with the least and the most profitable firms being less sensitive to EMTRs than firms with average profitability (Millot, Johansson, Sorbe, & Turban, 2020).

There are several ways to influence the EMTR and design a tax system that is more supportive of investment. These include: offering faster depreciation schedules; making equity costs deductible; and improving conditions for carrying losses forward to be offset against future profits. In general, high corporate taxes can be distortive and affect investment levels. At the same time, low corporate taxes can negatively affect revenue generation, increasing the pressure on other tax bases. It is important to be wary of the trade-off between tax incentives and revenues. Corporate taxes also affect business location, profit-shifting and the choice of company structure. Lowering the EMTRs on equity and R&D expenditure can thus in principle increase investment, reduce the tax-induced corporate debt bias and increase R&D spending. Addressing the tax-induced corporate debt bias can lower the EMTRs for equity, and R&D tax incentives can do the same for R&D investment. For example, reductions in the EMTRs for Belgium, Cyprus, Malta, Poland and Portugal stem partly from the introduction of notional interest deductions in those countries. In the context of the current pandemic, the EMTR could be reduced for investment projects in certain EU priority areas (e.g. more environmentally sustainable production). Importantly, however, the particular incentive effects of EMTRs can be better analysed at industry- and firm-level, as substantial heterogeneity can mask the channels of interest when looking at the country-level EMTRs.

⁽³³⁾ Forward-looking EMTRs are expected to determine firms decisions as to where to invest and the intensity of such investment in a given location (Devereux, 2007); (Devereux & Griffith, 2003).

GRAPH 1. (FORWARD-LOOKING) EMTRS (%), 1998-2020



Source: (ZEW, 2020)

Notes: The indicator is based on a version of the Devereux-Griffith model, which considers five types of asset and three sources of finance at corporate and shareholder level. This methodology has been used to calculate (forward-looking) effective tax rates in the EU every year since 1998. The full dataset is available at: https://ec.europa.eu/taxation_customs/publications/studies-made-commission_en

2.2.2 R&D tax incentives

Research and development (R&D) is a key driver of innovation and long-term economic progress (European Commission, 2020a) and (Schoonackers, 2020). It enhances competitiveness of the EU market by positively affecting various stages of product life cycle, from production and distribution to final consumption. R&D investment can boost total productivity and innovation within a Member State (direct impact), or increase country’s ability to absorb worldwide available technology (indirect impact). While these impacts are applicable to all types of R&D investment, focusing on direct effects and digital technology in particular could play an important role in strengthening the strategic autonomy of the EU in the ever-expanding digital market (Cornago & Springford, 2021).

To support this and be at the centre of the green and digital transition, the EU needs to leverage its R&D investment and ensure a quick and widespread adoption of new technologies, disruptive innovations and new business models. Research and innovation are critical drivers and enablers for accelerating the green transformation of our societies, in line with the priorities of the European Green Deal. Half of the global reductions in CO2 emissions through 2050 will have to come from technologies that are currently at the demonstration or prototype phase (IEA, 2021). Regarding the digital transition, there are several digital R&I investment gaps of the EU relative to its main competitors. These correspond, for example, to: EUR 20 billion in public and private investments per year to foster the development of artificial intelligence in the EU, EUR 6 billionn per year to support digital green technologies, and EUR 5 billion per year for digital innovations/Data and Next-Generation Internet ⁽³⁴⁾. Leveraging EU R&D investment and manufacturing equipment excellence, including in nanotechnologies (European Commission, 2021b), is also particularly relevant for future policies such as the European Chips Act, as well as for the recently launched initiatives, namely European Alliance for Industrial Data, Edge and Cloud and the Alliance for Processors and Semiconductor technologies (European Commission, 2021c).

⁽³⁴⁾ See: SWD(2020) 98 final.

Existing literature shows that the overall R&D investment in the EU still appears to be sub-optimal and below the targeted 3% of EU GDP by 2030 ⁽³⁵⁾ (Borunsky, Goranov Dumitrescu, Rakic, & Ravet, 2020), (Schoonackers, 2020). One of the main reasons for lagging behind in reaching the set threshold is due to innovative companies not being able to capture all the economic benefits from their inventions and disregarding positive spillovers that stem from knowledge creation (Hall, 2019); (Arrow, 1962). In other words, private returns fall behind social returns, which results in underinvestment at the company level compared to a socially optimal level, and this consequently limits the overall R&D investment at the economy level.

One reason for underinvestment is lower certainty of success with projects based on R&D spending. R&D activities tend to be riskier and firms are therefore not able to insure fully their research activity or obtain funding, which brings about higher financing costs and ultimately less R&D investment (Schoonackers, 2020); (Arrow, 1962). Since innovation costs are usually covered in advance, young and innovative companies are particularly sensitive to this issue (i.e. SMEs often face liquidity limitations), and governments are inclined to offer preferential tax treatments. Yet, evidence on the effectiveness of such a treatment remains somewhat mixed. For example, preferential treatment may hamper growth of the SMEs since incentives usually come with thresholds on size (profit, number of employees, etc.) to differentiate between large and small companies (Spengel, et al., 2015), (Almunia & Rodriguez, 2014). To maintain the incentives, SMEs are henceforth discouraged to expand beyond the set thresholds, which can also be viewed as a tax avoiding practice ⁽³⁶⁾. Others argue (Sterlacchini & Venturini, 2018) that tax incentives for R&D could have positive effects on SMEs should these be accompanied with complementary measures aimed at raising human capital in those smaller firms (otherwise, compliance costs tend to get too high for SMEs to properly benefit from the incentive schemes).

Jurisdictions offer support to private R&D directly through grants and/or indirectly via tax incentives. Grants can be directed to projects with high social returns, but at the same time involving higher administration costs (e.g. selection of projects by public offices). Tax incentives, on the contrary, are considered market-based instruments as the choice of the R&D programme is left in the hands of the companies (Appelt, Bajgar, Criscuolo, & Galindo-Rueda, 2016). The indirect support can come in the form of income- and/or expenditure-based tax incentives. The former refers to patent boxes ⁽³⁷⁾, while the latter comprises tax credits and tax allowances (both redeemable against CIT), tax relief redeemable against payroll withholding tax or social security contributions, and accelerated depreciation provisions. Table 2 below shows an overview of tax incentivising instruments for R&D available in the EU.

⁽³⁵⁾ See: <https://sciencebusiness.net/news/funding-synergies-nudge-eu-countries-closer-3-rd-spending-target-203>

⁽³⁶⁾ For example, companies intentionally split in two smaller entities so as to be under certain threshold and benefit from tax incentives.

⁽³⁷⁾ The evidence in the literature suggests that patent/IP boxes do not necessarily stimulate R&D and can be used as a profit-shifting instrument. For more details on the inefficiency of IP boxes see the previous edition of this report (European Commission, 2021d).

TABLE 2. R&D TAX INCENTIVE FEATURES AS OF 2020

MS	Income-based	Expenditure-based				
	Patent box	Tax credit	Tax allowance	Tax relief on payroll or SSC	Ceilings on eligible expenditure	Accelerated depreciation
AT		•			•	
BE	•	•	•	•		•
BG						
CY						
CZ			•			
DE		•			•	
DK		•	•		•	•
EE						
EL	•		•			
ES	•	•		•	•	•
FI						
FR	•	•		•	•	•
HR			•		•	
HU	•	•	•	•	••	
IE	•	•			•	•
IT	•	•			•	
LT	•		•			•
LU	•					
LV			•			
MT	•	•			•	
NL	•			•		
PL	•		•			•
PT	•	•			•	
RO			•			•
SE				•		
SI			•			
SK	•		•		•	
EU-27	14	11	12	6	10/3	8

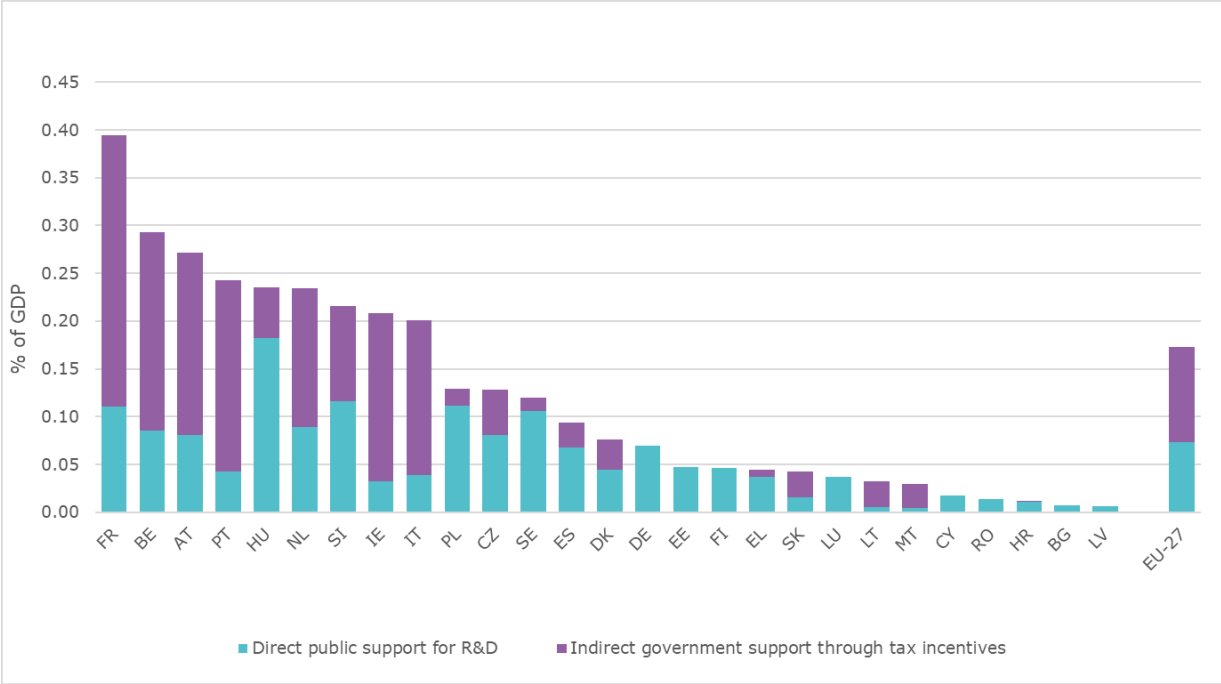
Source: OECD, 2020, Measuring R&D Tax Incentives (<http://oe.cd/rdtax>); OECD, 2020, Intellectual Property Regimes (https://qdd.oecd.org/data/IP_Regimes)

Notes: Ceilings on eligible expenditure are considered further qualifications of tax credits (orange) or tax allowances (green).

Member States are providing increasing support to private R&D by offering tax incentives on both income and expenditure as a part of the policy mix. Direct support through grants and loans is also being used alongside tax incentives in the countries. As shown in

Graph 2 below, the combined support to R&D (direct and indirect) is relatively high in Austria, France, Hungary, and the Netherlands, ranging between roughly 0.23% and 0.40% of GDP. On the other hand, Bulgaria, Croatia, Cyprus, and Latvia offer less support to R&D programmes (around 0.01% of GDP). The EU average support to R&D is set to 0.05% and 0.06% of GDP for tax incentives and direct funding respectively, much lower than the United States' R&D support of about 0.25% of GDP.

GRAPH 2. R&D DIRECT PUBLIC SUPPORT AND INDIRECT GOVERNMENT SUPPORT THROUGH TAX INCENTIVES, 2019



Source: OECD, 2021, R&D tax expenditure and direct government funding of BERD indicator

(<https://stats.oecd.org/Index.aspx>)

Notes: (1) For tax incentives, 2018 figure is used for Spain, while for there is no available data for Romania.

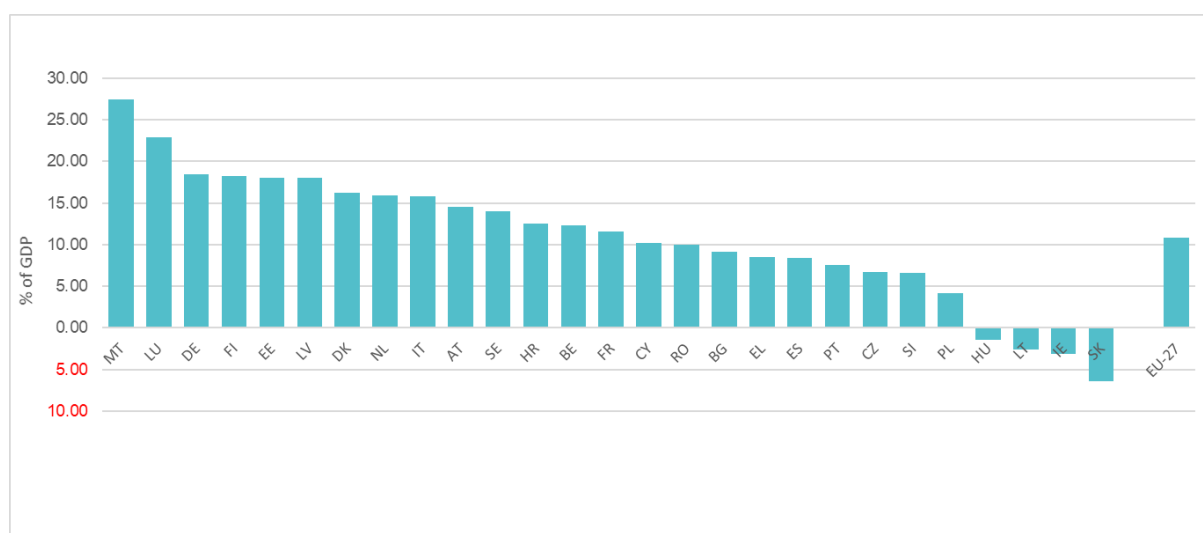
(2) Estimated direct public support for R&D includes direct government funding, funding by higher education and public sector funding from abroad.

(3) Germany introduced an R&D tax incentive in 2020, while Finland introduced it in 2021.

Decisions on whether and where to invest in R&D (i.e. the extensive margin) could be made by relying on the effective average tax rate (EATR) for R&D (González Cabral, Appelt, & Hanappi, 2021). The EATR measures the impact of taxation on R&D investments that earn an economic profit. Graph 3 below shows the EATRs for R&D investments across Member States. This gives an insight into the incentives included in the tax system for the location of R&D investments that are profitable. In principle, the higher the tax incentives that reduce effective cost of R&D investment, the lower the EATR ⁽³⁸⁾. Hungary, Ireland, Lithuania, and Slovakia all have negative rates ranging between -6.5% and -1.5%, meaning they are relatively more generous in granting tax subsidies to infra-marginal R&D investments. Inversely, countries like Germany, Luxembourg, and Malta have less attractive tax incentive schemes for R&D with EATRs ranging from 18.5% to 27.5%. The EU average EATR comes close to 11%.

⁽³⁸⁾ The level of decrease of EATR is defined by the generosity of a tax system, as well as by other elements of the CIT system. Inframarginal R&D investments look at, for example, the location of the R&D laboratories (for more details see González Cabral, Appelt & Hinappi, 2021).

GRAPH 3. R&D EFFECTIVE AVERAGE TAX RATES (IN %), 2020



Source: OECD, 2021, Effective tax rates for R&D (<https://stats.oecd.org/Index.aspx>)

An important question touches upon the effectiveness of tax policy-based support for R&D and the resulting research output. In this regard, (Blandinières & Steinbrenner, 2021) conduct a meta-analysis on the effectiveness of various R&D tax incentive schemes. While the effectiveness of R&D tax incentive schemes exhibits substantial heterogeneity, two distinct strands of literature document that, on average, R&D tax incentives stimulate the level of R&D expenditure. The underlying feature of tax incentive schemes are however very important in determining the resulting effectiveness. For instance, the incremental bases and SME-targeting schemes are, on average, shown to be particularly effective. At the same time, caps on incentives or pre-approval processes for such incentives have not negatively impacted the effectiveness of various R&D tax incentive policies. Importantly, clear and stable tax incentive frameworks reduce the uncertainty and thus also increase the resulting effectiveness of the schemes.

2.2.3 Further considerations on taxation and productivity

While the effective marginal and average tax rates and tax policy vis-à-vis R&D can be important in investment decisions, a number of other related elements play a role in such decisions and in turn impact on productivity. Research shows that biases that result from debt over equity financing may discriminate against more innovative firms, due to, for example, their greater propensity to invest more heavily in intangible property. More innovative firms are in the mid- to long-run the main drivers of productivity, with substantial spill-overs both within their sector as well as to other sectors. As such, removing or reducing debt-equity bias resulting from tax systems themselves (i.e. tax-based advantages of debt- rather than equity-financing) can lead to higher growth and productivity)⁽³⁹⁾.

Looking at fiscal consolidation, evidence suggests that tax hike driven consolidation can lead to higher total factor productivity (Bardaka, Bournakis, & Kaplanoglou, 2021). Their findings, for 26 OECD countries between 1980 and 2016, imply that uncertainty associated with expansionary fiscal policy can be more effectively addressed using tax increases than by cutting public spending. The implications of their findings are relatively general, implying that government consumption (including on public employees' wages) is central in shaping national productive capacity, especially when it comes to fixed assets that are relatively complementary to private investment. As such, raising (and collecting) tax revenues as efficiently as possible is particularly important in periods of economic downturn; the collected revenues can be used in productive ways to support further private investment across sectors, especially the ones most promising in the mid- to long-run.

⁽³⁹⁾ See also discussion in Section 6.2.

While it is clear that, ceteris paribus, higher corporate tax burdens will negatively affect the level of productivity across firms, it is less obvious how levels of tax burdens affect productivity convergence between firms, or within a specific sector. A study that uses data from 11 European countries finds that higher statutory corporate tax rates are associated with a slower productivity catch-up, controlling for both industry and year specificities, as well as levels of personal income tax rates. At the same time, the study finds that larger firms are more strongly affected by effective marginal tax rates, thereby implying the benefits for productivity of different types (or rates) of corporate taxation of smaller and larger firms (Norman, Kneller, McGowan, Sanz, & Sanz-Sanz, 2018).

Overall in 35 OECD countries, between 1992-2014, the relationship between both R&D intensity and tax on corporate income with labour productivity has an inverted U-shape (Coccia, 2018). As such, labour productivity is more strongly negatively affected both by low and high levels of R&D intensity, as well as by low and high levels of corporate income taxation. Average and high R&D investments, along with high levels of corporate income taxation, beyond the statistically optimal levels, will not be very likely to increase the labour productivity at the level of the whole economy. Furthermore, even if one believes that, ceteris paribus, lower (personal) distributed income inequality implies a greater average productivity over the mid- to long-run, the optimal choice of corporate income taxation is not clear. Corporate taxation influences the demand for (but also supply of) both capital and labour. Hence, determining the general effects on inequality require investigating the underlying economic incidence (and elasticity) of specific types of taxes (Faccio & Iacono, 2021). The extent to which different levels of corporate and labour income taxation will affect the levels of and the distribution of productivity (of either capital or labour) in a given economy will thus depend on the underlying structural incidence and elasticity of the relevant economic inputs.

The relationship between (different types of) taxation and productivity is also very relevant in the context of digital transition. In this regard, different types of provisions in the sphere of corporate taxation are especially important. For instance, a study looks at how tax loss restrictions distort venture capital funding of start-ups, thus creating specific inefficiencies in the distribution of capital, especially in the digital sector (Bührle, 2021). Overall, the latter work finds that strict anti-tax loss trafficking rules impair venture capital funding, affecting the distribution of capital in high-tech industries. Such work shows that, beyond simply considering differing levels of different types of taxation, specific rules within a given tax system can play an important role in targeting specific types of productivity, which is of relevance to the objectives of both digital and green transitions.

Digital transition can, in itself, aid the public sector's – and tax administration's – ability to collect more taxes, in a fairer and more efficient manner. To that end, researchers (Zheng, et al., 2020) show that AI (artificial intelligence) driven dynamic tax policies, based on economic simulations in which both agents and government learn and adapt, substantially improve the tax policy-related outcomes, both in terms of equity and productivity. Specifically, the AI driven tax policies achieve such improvements by setting a higher top (marginal) tax rate, while distributing higher net subsidies for low income earners (individuals and households). The authors confirm the welfare improvements of such simulations using online experiments (conducted on MTurk), measuring the social welfare using inverse income-based social welfare functions.

Finally, infrastructure investment and productivity-enhancing policies are (strategic) substitutes for capital taxation (Sanz-Cordoba, 2020). **In this regard, corporate tax competition is greater between countries with similar infrastructure investments, holding the geographical proximity constant.** As such, relevant infrastructure investment, both in the context of green and digital transitions, can be used to enhance productivity, and – to some extent – alleviate the corporate tax competition, which pushes the optimal corporate income taxes (and other taxes on capital) downward.

2.3 Fairness

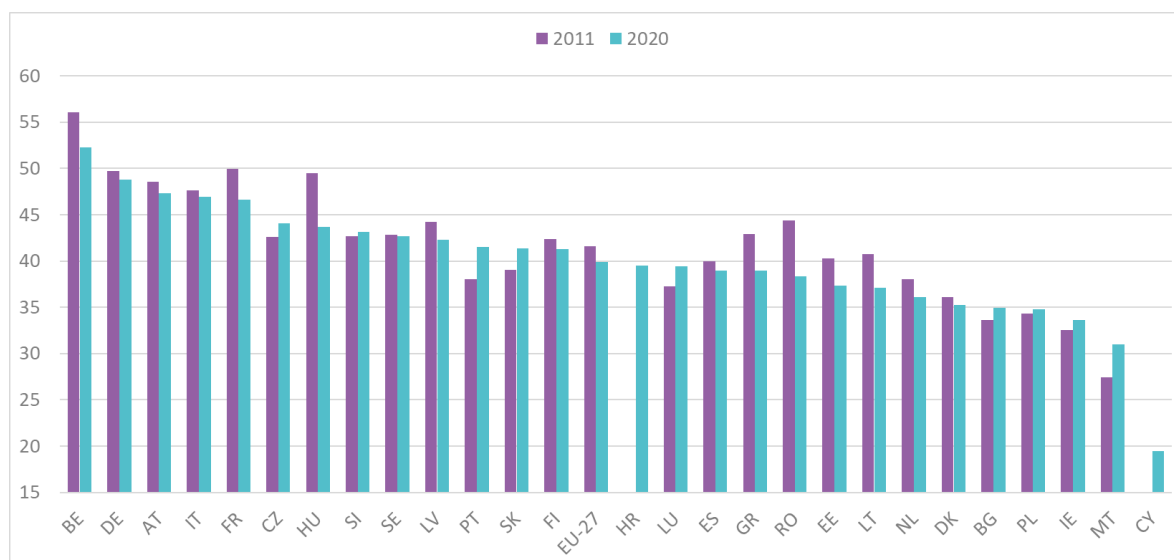
2.3.1 Work incentives and labour taxes

The overall tax burden on employment needs to strike the balance of funding welfare systems and public services while not negatively impacting on job creation and

employment. On the supply side, features of tax and benefit systems can impact on labour market participation decisions. A high tax burden and features of the tax system that de facto lead to a high tax burden for all members of the household can disincentivise hours worked (i.e. opting for part-time or fewer hours of work rather than full time), or working altogether, especially for low income and second earners, often women. If this leads to an increase in low-work intensity and a reduction in income in households with children, a high tax burden may also have knock-on effects on children’s well-being and access to good quality education. From the employers’ point of view (demand side), a high tax wedge discourages hiring, resulting in lower employment and higher unemployment rates. In turn, this could increase government expenditures on unemployment and other social benefits. It may also discourage employers from investing in skill formation with an adverse impact on productivity and equality of opportunity.

The EU average tax wedge on labour, despite the decline seen up to 2020, still reaches 40% of labour costs. The tax wedge measures the difference between employers’ labour costs and employees’ net pay, relative to labour costs⁽⁴⁰⁾. It is an indicator of the tax burden borne by employers and employees. The EU-27 tax wedge for a single person on an average wage has declined during the last decade until 2020, down to some 40 % (see Graph 4). In several countries the reduction is related to a reduction of the tax burden for low-income and second earners. While cross-country differences are considerable, this level is above the OECD average of 36 % (2019 latest data available).

GRAPH 4. TAX WEDGE FOR SINGLE PERSON EARNING AN AVERAGE WAGE, 2020 AND 2011



Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax/benefit model (last update: Dec 2021).

Notes: 2011 data are not available for Croatia and Cyprus.

The level of the tax wedge on labour has important implications on the labour market. Policies reducing the tax wedge proved to be effective in increasing employment. The tax wedge’s components (personal income tax (PIT), employee Social Security Contributions (SSC) and employer SSC) adversely influence labour supply and/or demand, depending on who bears the cost. Policies reducing the tax wedge can have many forms. For example, analysis (European Commission, 2017a) has shown in a model simulation for Finland that pension reforms strengthening the actuarial link between life expectancy and retirement age would ease the financial pressure on pension systems in the long run. SSC rates would decline at a given level of benefits, so that workers would see their take-home pay increase while employers’ labour costs would decline. Workers would thus be more motivated to join the labour market while firms would

⁽⁴⁰⁾ The tax wedge on labour for a single worker on an average wage and a single worker on a low wage (50 % of average wage) are indicators used by the Eurogroup for benchmarking progress in reducing the tax burden on labour. See: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/144872.pdf <http://www.consilium.europa.eu/en/press/press-releases/2015/09/12-eurogroup-statement-structural-reform/>

have an additional incentive to hire workers, all else being equal. As a result, employment would increase, as would investment as firms would endow additional workers with capital. With employment and investment increasing, so would economic growth (European Commission, 2017a).

Active labour market policies also have an impact but the way they are funded matters for their success. For example, Belgium has the highest tax wedge on labour (see Graph 4). The European Commission has shown that social investment in workers' skills through training could have twice the impact on employment in Belgium if the measure was financed through lump-sum taxes rather than via labour taxes (European Commission, 2019a). This is because higher lump-sum taxes imposed on all households would not put the financial burden specifically on labour. By contrast, higher labour taxes would further inflate the already high tax wedge on labour in Belgium, thereby reducing take-home pay while increasing labour cost.

Increasing pressure from global competition may force Member States to de-tax labour, rethinking the funding of public tasks. Take social security contributions. In 2019, social security contributions still contributed the most to the financing of social protection, accounting for 57% of the total social protection receipts. However, their share has declined over the last ten years by more than two percentage points, parallel to an increase of general government contributions (39% in 2019) ⁽⁴¹⁾ via subsidies. This gradual shift of government funding away from social contributions and labour taxes is likely to continue for a number of reasons:

- Demographic ageing will put further strain on social protection schemes (European Commission, 2021a);
- New forms of work may emerge with lower coverage by classical social insurance systems;
- Adverse economic shocks such as the COVID-19 crisis or migration waves from war areas may result in massive increases of social expenditure.

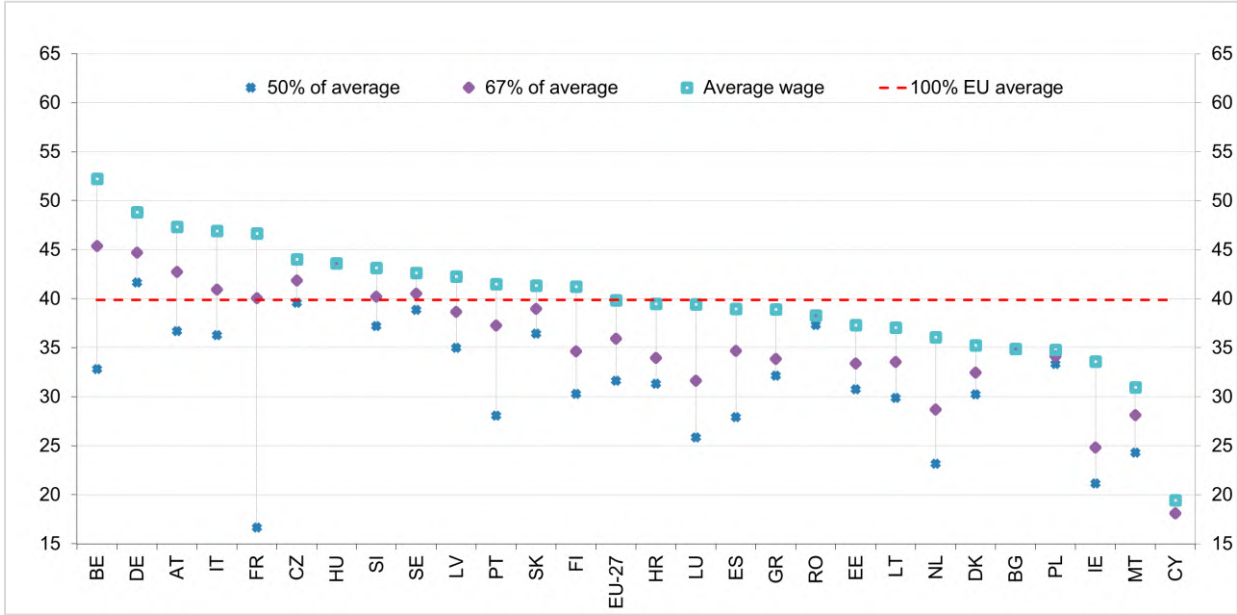
These megatrends may push social protection (and other) expenditure up while potentially limiting social contribution revenues. Governments may thus be 'forced' to reconsider how to rebalance the role of social security contributions vis-à-vis other revenue sources for the funding of social insurance schemes and social protection. An alternative to future large increases in social security contribution rates – and thus the tax wedge on labour may be necessary. Note that policies in other areas such as pension reforms as shown above, or childcare and long-term care support are also important to help balance the equation between work, productivity and revenues on one side and social protection expenditure on the other.

Wage tax systems tend to be progressive: the tax wedge on labour is lower for lower wage levels. Graph 5 shows the tax wedge on labour for different standardised wage levels and family constellations. The tax wedge for single earners with no children 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 ⁽⁴²⁾. This demonstrates some progressivity of taxes for those on average to low earnings, in the EU-27. In France, Belgium, Luxembourg, this is very pronounced. Following the above, lower tax burdens on low-income earners have a less distortive impact on labour demand and supply and should also increase economies' capacity to recover from adverse economic shocks such as the COVID-19 crisis in a more equitable way: it lowers barriers to hiring low-skilled workers who were hit hardest by the crisis.

⁽⁴¹⁾ See: <https://ec.europa.eu/eurostat/web/social-protection/data/database>

⁽⁴²⁾ This is one of the indicators used by the Eurogroup in benchmarking the tax burden on labour (alongside the tax wedge for a single person on the average wage – see above).

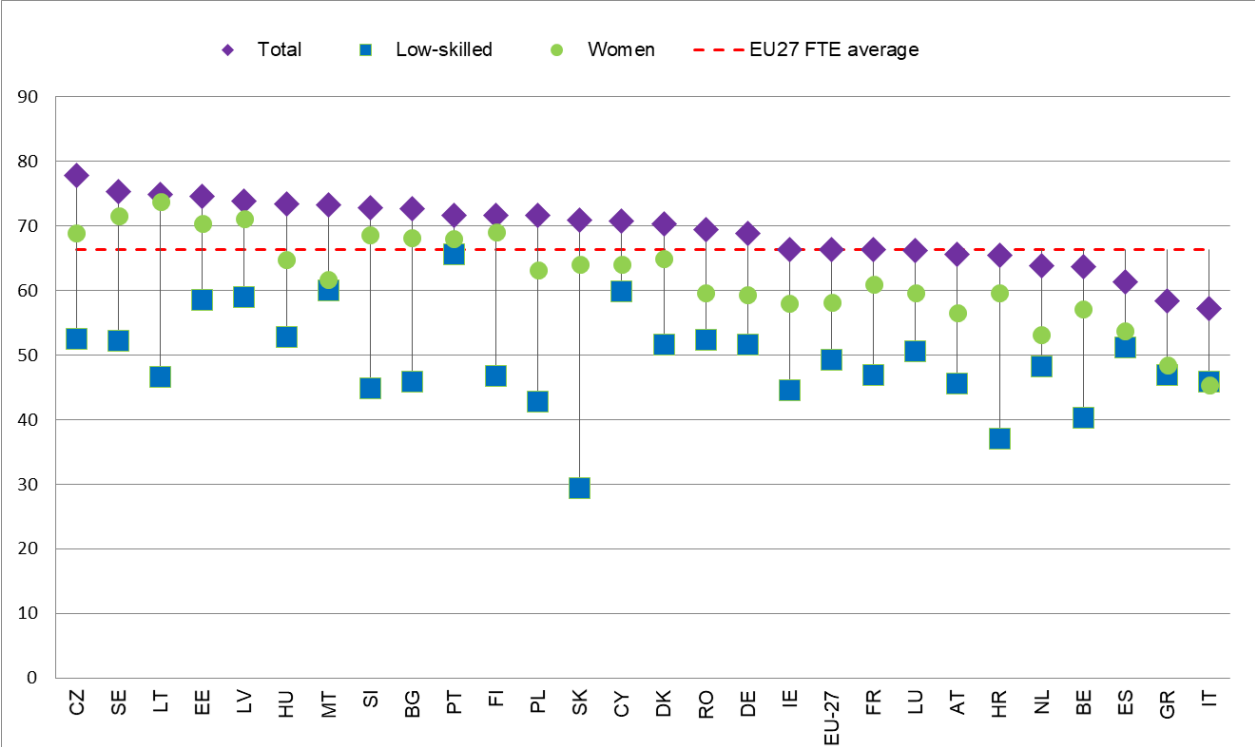
GRAPH 5. TAX BURDEN FOR A SINGLE LOW WAGE EARNER (50 % & 67 % OF AVERAGE WAGE) COMPARED TO AVERAGE WAGE, 2020



Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax/benefit model (last update: Dec 2021)

By contrast, high taxes on labour are problematic for low-wage earners, who are often more responsive to rate changes. Women and low-qualified workers are more often concentrated in the low-income earning brackets. They show below average employment rates and much higher incidences of part time work. This is shown in Graph 6 which compares full-time equivalent (FTE) employment rates of the total population, women and low-educated workers of working age. FTE employment rates reflect hourly work patterns and capture the extent of part-time work, which is hidden in the overall employment rates. A major reason for these groups' low work intensity are explicit or implicit taxes on labour. Those incur in the explicit form of a high tax wedge on labour, but also in the form of other costs workers have to take into account as they decide to move into employment or to increase working hours. Those include the loss of social benefits, or additional expenses for childcare or long-term care services which may become necessary as people start working full time. These problems are referred to as 'low-wage trap' or 'inactivity trap' on the labour market. Also, some features of the tax system for example in the way you submit your personal income tax declaration may de facto lead to a higher tax burden for the second earner and thus discourage full-time work or work altogether (see further details in the paragraphs below).

GRAPH 6. FULL-TIME EQUIVALENT EMPLOYMENT RATES, 20-64 YEARS – TOTAL POPULATION, WOMEN AND LOW-SKILLED (%), 2020



Source: Eurostat, extractions from EU-LFS microdata

Those moving into work can incur implicit taxes that may perpetuate inactivity. This happens when net gains in disposable income on taking up work are small, due to costs brought about by the tax/benefit system largely offsetting the increase in gross labour income. These costs are realised through increases in tax and social security charges as well as a reduction or even withdrawal of cash and in-kind benefit support, including for housing. It therefore creates a trap and acts as disincentive to work. The **'inactivity trap'** is calculated by measuring the part of the additional gross wage that is taxed away where a previously inactive person ⁽⁴³⁾ takes up a job, i.e. showing the remaining financial incentive to move from inactivity (and social assistance) to employment. The inactivity trap is shown in Graph 7 for two income levels. For the EU as a whole, the inactivity trap is higher than 50% for both levels. For very low income levels (50% of average), more than 70% of the additional wages are 'taxed away' in nine Member States.

⁽⁴³⁾ A person not entitled to receive unemployment benefits, but eligible for income-tested social assistance.

GRAPH 7. INACTIVITY TRAP FOR LOW INCOME EARNERS, 2020

a) 50% of average wage (AW) and b) 67% of average wage (AW), single person



Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax/benefit model (updated: Dec 2021)
 Note: 'Contribution of tax (including SSCs)' refers to the percentage of additional gross income that is taxed away due to taxation and SSCs (other elements contributing to the inactivity trap are withdrawn unemployment benefits, social assistance and housing benefits).

b) 67% of average wage (AW) and b) 67% of average wage (AW), single person



Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax/benefit model (updated: Dec 2021)
 Note: 'Contribution of tax (including SSCs)' refers to the percentage of additional gross income that is taxed away due to taxation and SSCs (other elements contributing to the inactivity trap are withdrawn unemployment benefits, social assistance and housing benefits).

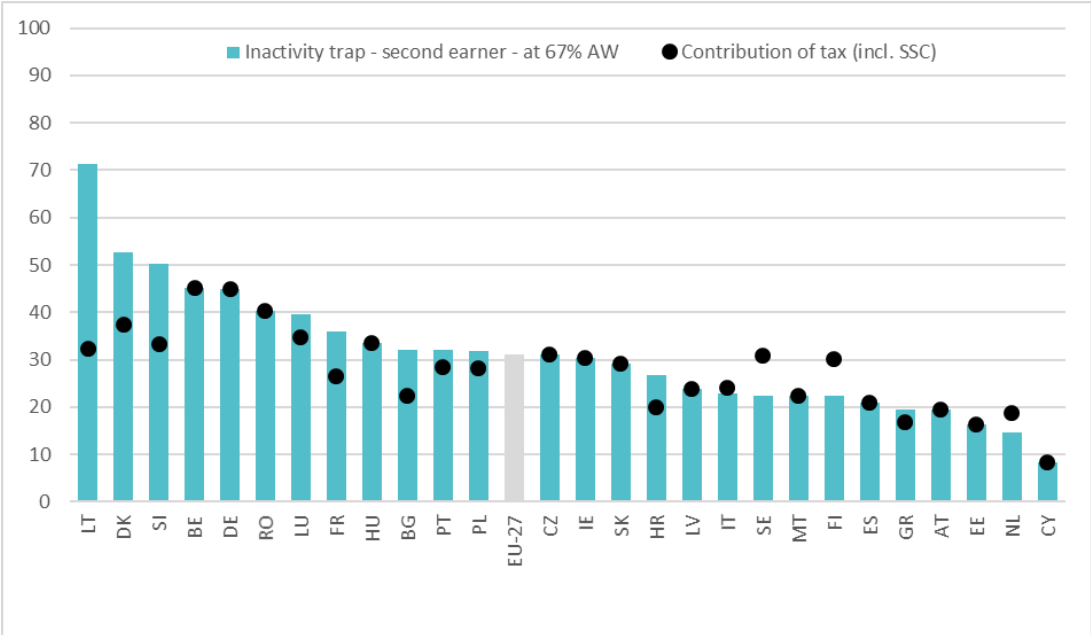
The inactivity trap has important gender equality implications. The majority (78%) of second earners in the EU are women. Joint progressive taxation systems can negatively impact second earners' entry into employment and hours worked by creating a high marginal tax burden and potentially contradicting the principle that more work should equal more pay. The degree of the joint taxation of the combined income of a couple (including transferable tax credits) and the

benefit system design (e.g. the withdrawal of means-tested benefits) affect the level of the inactivity trap for second earners. Joint taxation can lower single or dual-earner couples' overall tax burden where earnings are unevenly distributed between the partners. It can inflate marginal tax rates for non- or lower earners, as all their income is effectively taxed at a higher marginal rate in line with their higher-earning partner. This can therefore drive gender employment gaps. It also contributes to the unadjusted gender pay gap, as the differences in average hours worked is the second largest contributor of the explained proportion of the gender pay gap.

Problems with the availability of affordable early childhood education (ECEC) and long-term care add to the levy on women as second earners. They would have to factor in these costs when considering whether to move into work or working full-time. These costs are known as the participation tax rate. Some Member States offer a range of support to families, from guaranteed places (for example Denmark, Estonia and Latvia, though not necessarily free), fee reductions and subsidies covering part or all costs, and tax credits. However, the participation tax rates in the EU tend to be high in a number of Member States. Consider a low-earning mother in a two-earner couple with two children. In nine Member States she can lose at least 50% of her gross earnings through higher taxes, withdrawn benefits and childcare costs, all of which she would not face if she did not work. In Denmark, Ireland and Slovenia she can lose almost her entire earnings. In seven Member States, more than one third of the participation tax is due to childcare costs (OECD, 2020a). Participation taxes are a strain for female labour market participation. They may favour long-term career interruptions for women which, in turn, have knock-on effects on the gender pay gap; the latter tends to be higher in those countries where long career breaks are common. This is may also not be desirable in the context of an ageing population.

Taxation contributes significantly to the second earners inactivity trap in most Member States. The inactivity trap for second earners is highest in Lithuania, Denmark, Slovenia, Belgium, Germany, and Romania (see Graph 8). This means that if an inactive spouse with two children takes up a job at 67 % of the average wage in Lithuania, more than 70 % of her earnings would be lost in additional taxes and withdrawn benefits. In contrast, this implicit tax rate is less than 20 % in Estonia and the Netherlands, and less than 5 % in Cyprus. The contribution of taxation is most pronounced in Belgium, Germany and Romania, contributing over 40 % in potential loss of revenue for a second earner on 67 % of average wage when entering paid employment.

GRAPH 8. INACTIVITY TRAP FOR SECOND EARNERS, 2020



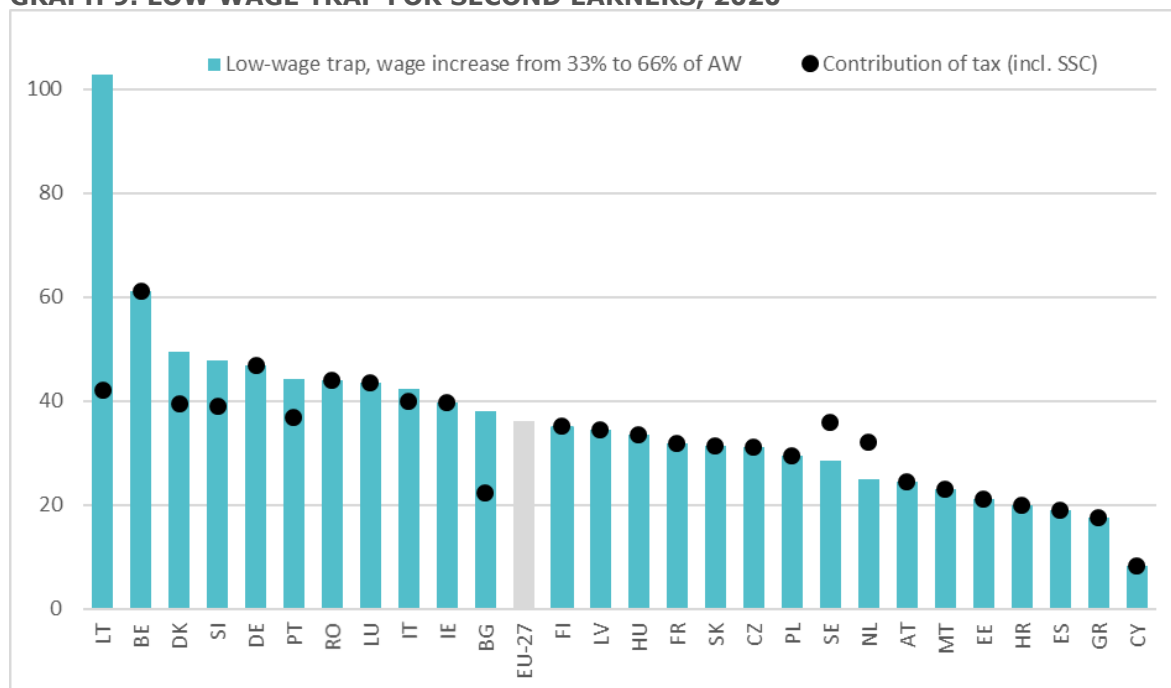
Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax/benefit model (last update: Dec 2021).

Notes: (1) The data are for a second earner on 67 % of the average wage in a two-earner family with two children; the principal earner is on the average wage.

(2) 'Contribution of taxation (including SSCs)' refers to the percentage of additional gross income that is taxed away due to taxation and SSCs (other elements contributing to the inactivity trap are withdrawn unemployment benefits, social assistance and housing benefits).

A 'low-wage trap' affects workers in employment when their labour supply and earnings increase. It disproportionately affects women as the rate at which taxes are increased and benefits withdrawn is too steep when earnings rise. For second earners, as with the inactivity trap, taxation plays a key role in determining the level of the low-wage trap, in most Member States. This differs from the inactivity trap in that they are active but working part-time. Graph 9 shows the percentage of additional earnings 'taxed away' when second earners increase their earnings from a third to two thirds of average wage, if they increase their hours of work. On average second earners can lose around a third of their incremental earnings across the EU, rising to 60 % in Belgium and Slovenia. As above, the availability of affordable and good quality care services, as well as a wide range of well-designed work-life balance policies, can influence people's decisions on whether to work longer hours. The low wage trap for second earners is highest in Belgium and Slovenia, where the contribution of taxation is also most pronounced.

GRAPH 9. LOW WAGE TRAP FOR SECOND EARNERS, 2020



Source: European Commission, DG ECFIN, Tax and benefits database, based on OECD tax-benefit model (last update: Dec 2021).

Note: A second earner whose wages increase from 33 % to 66 % and the principal earner is on 100 % of AW, with two children.

For the structure of labour taxes to remain viable, welfare states must rely on everyone's contribution. The volume of labour taxes in the EU still amounts to more than 40% of its total revenue. They are and will remain a major indispensable source of public funding. This is particularly true during times of severe adverse economic shocks, such as the current COVID-19 crisis, when expenses for short-time work, unemployment benefits or for the support of businesses are massively increased. Indeed, the crisis highlights the urgency of addressing any form of tax evasion. Evasion often happens in the form of 'envelope wages' - workers working in the informal economy - that leave many unprotected in times of financial need and reduce public revenue. Informal workers receive a wage but have no access to insurance-based social benefits or training. Evading taxes leaves a higher burden to those who continue paying their share, undermining their willingness to continue contributing to the financing of important public tasks. Avoiding the payment of taxes through using loopholes in (international) tax law may be legal, but its impact on social justice and trust in tax and welfare systems may be even worse as it is mainly people or firms with high earnings who can cash in on those loopholes. Coordinated action both at EU and Member State level is therefore important to reduce tax avoidance. The European Commission's

recent initiative countering the misuse of so-called shell entities (with little or no economic substance) for tax purposes is one example ⁽⁴⁴⁾.

2.3.2 Income inequality and social mobility in the EU

High levels of social mobility indicate a meritocratic society where effort and talent are rewarded, and sufficient opportunities are available for everyone to improve their economic and social positions. Equality of opportunity is a prerequisite for social mobility. Existing economic inequalities, especially income inequality can be both, a symptom and cause of unequal opportunities and low levels of social mobility.

Income inequality is only one albeit an important element of inequality. Inequalities are present in multiple dimensions such as income, wealth, education, health etc. (Joint Research Centre, 2021). They exist among populations as vertical inequality (e.g. income inequality between households) or between groups as horizontal inequality (e.g. health inequality between men and women, young and old, natives and migrants).

The relevance of the reference group considered further complicates the discussion on income inequality. Focusing only on vertical income inequality, the income inequality within one Member State, is different from the income inequality between Member States. For the latter it further matters if the inequality in average incomes between Member States is compared or if income inequality between all citizens of the EU are compared (see e.g. Joint Research Centre, 2020).

The dynamics of income inequality over time and across countries also depend on the measurement approach taken. Income inequality is most commonly measured by the Gini coefficient of concentration, income quintile ratios (e.g. S80/S20 or S10/S40 called Palma ratio) or by top income shares. The Gini coefficient provides a measure of concentration with a Gini of 0 indicating that everybody earns the same and 1 that all income is earned by one individual or household. The Gini coefficient is sometimes criticised for putting too much weight on the middle of the distribution. Income quintile ratios only compare the tails of the distribution. For example, the S80/S20 ratio give the ratio of the share of income earned by the richest 20% of the population compared to the share of income earned by the poorest 20% of the population. Top income shares focus simply on the share of incomes accruing to the top 10% or top 1% of the population.

High levels of income and wealth inequality have been associated with a series of negative social outcomes related to education, health, violence and general well-being ⁽⁴⁵⁾. Societies that are more unequal exhibit lower levels of social cohesion and are perceived as less fair by citizens, which in turn report lower levels of self-reported happiness ⁽⁴⁶⁾. There is further evidence that higher levels of income inequality tend to come with lower equality of opportunity and lower levels of social mobility ⁽⁴⁷⁾.

Income inequality is an inhibiting factor to the full achievement of the pillars of social rights ⁽⁴⁸⁾. Widespread inequality is not compatible with the goals of the pillars. But further progress towards a full implementation of the pillars will support the mitigation of income inequality.

⁽⁴⁴⁾ On 22 December 2021, the European Commission presented the 'Unshell' proposal. It should ensure that entities in the European Union that have no or minimal economic activity are unable to benefit from any tax advantages and do not place any financial burden on taxpayers.

⁽⁴⁵⁾ Correlational evidence is provided by (Pickett & Wilkinson, 2020) (Wilkinson & Pickett, 2010).

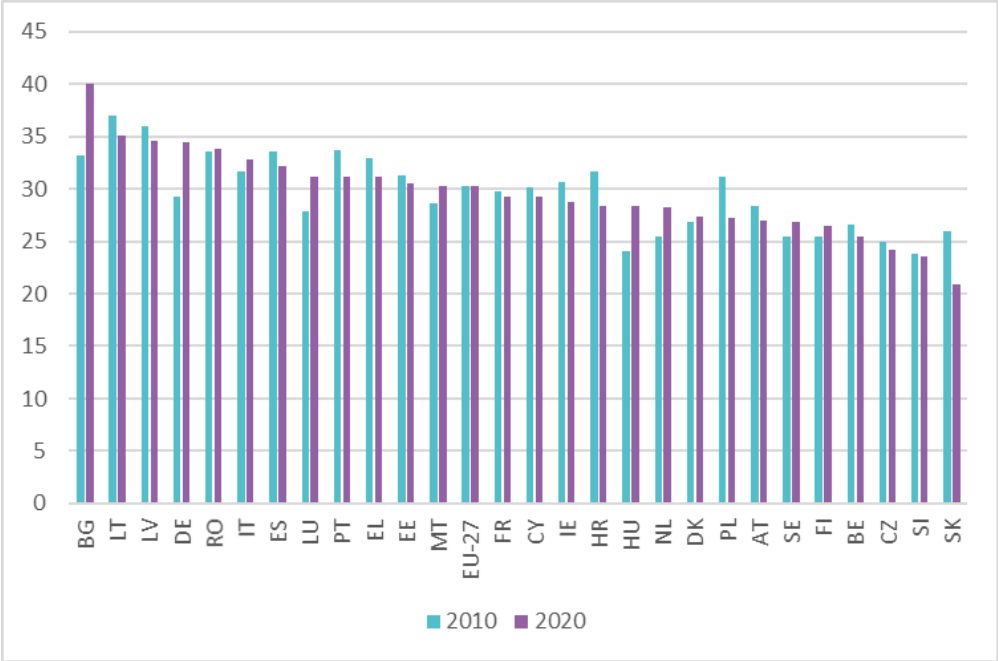
⁽⁴⁶⁾ The relationship of fairness perceptions and inequality is discussed in detail in (Joint Research Centre, 2020).

⁽⁴⁷⁾ For the relationship between inequality, equality of opportunity and social mobility refer to e.g. (Corak, 2013) (Andrews & Leigh, 2009), (Aiyar & Ebeke, 2020), (Peragine, Palmisano, & Brunori, 2014) and (Checchi, Peragine, & Serlenga, 2015).

⁽⁴⁸⁾ See: https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles_en

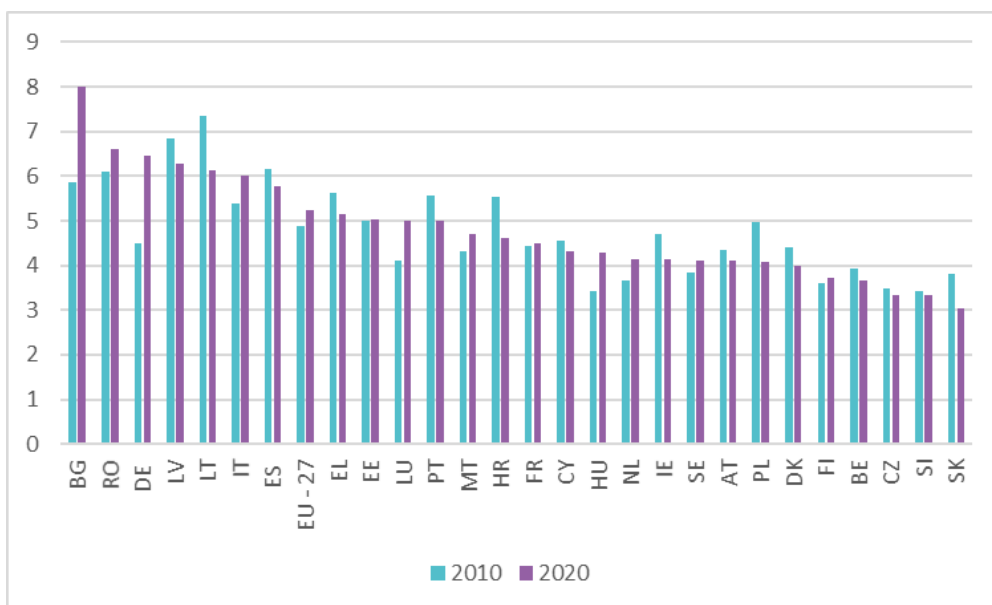
The COVID-19 crisis is expected to have negative long-term consequences on inequality (Furceri, Loungani, Ostry, & Pizzuto, 2021). The levels of income inequality in 2010 and 2020 are depicted in Graph 21 using the Gini coefficient of disposable income and in Graph 22 using the S20-S80 income ratio. However, note that 2020 data mostly reports information on 2019 incomes, since households are surveyed on their past incomes. The empirical evidence thus does not yet account for the period of the pandemic. Graphs 10 and 11 together show that Bulgaria unambiguously has the highest level of income inequality. Belgium, Czechia, Slovenia, and Slovakia have the lowest levels. For most other Member States the relative positions somewhat depends on the measure of income inequality chosen. Changes in income inequality between 2010 and 2020 seem to be modest overall, albeit there are some countries with notable changes. Bulgaria, Germany, Luxembourg, and Hungary seem to have become more unequal. In contrast, Portugal, Croatia, Poland, and Slovakia have decreased income inequality.

GRAPH 10. INCOME INEQUALITY, GINI OF DISPOSABLE INCOME 2010 AND 2020



Source: Eurostat (online data code: ilc_di12)
 Notes: Gini coefficient of disposable income reported. The value 0 corresponds to perfect equality (same income for everybody), while 100 corresponds to maximum inequality (all income distributed to one person while the others have nothing).

GRAPH 11. INCOME INEQUALITY, INCOME QUINTILE RATIO 2010 AND 2020

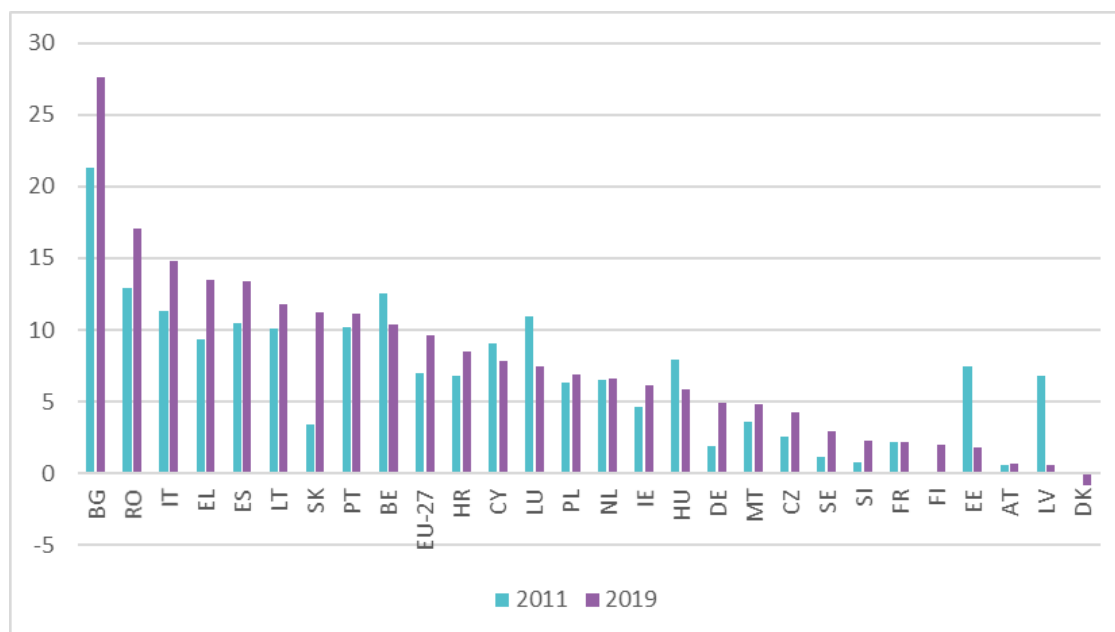


Source: Eurostat (online data code: ilc_di11)

Notes: The S80/S20 income ratio provides the ratio of the income obtained by the richest 20% of the population with the income obtained by the poorest 20% of the population. For example, a value of 6 indicates that the top quintile (richest 20%) have six times more income than the bottom quintile (poorest 20%).

Equality of opportunity is a theoretical concept, which is empirically hard to grasp. It is often approximated with intergenerational educational mobility: how much the educational attainment of children is correlated with the educational attainment of their parents. The underlying notion is that parental characteristics determine their children's opportunities. A detailed discussion on equality of opportunity and intergenerational transmission of educational privilege is provided in the JRC Fairness Report (Joint Research Centre, 2020). Graph 12 takes a related but different perspective on social mobility and equality of opportunity. The underlying data reports the share of the adult population that are at risk of poverty, contingent on them growing up in households with bad or good financial situations (i.e. when aged 14). The graph reports the percentage point difference in this risk between households in bad or good income situation. A higher value provides an indication that family background is relatively important for being at risk of poverty as an adult. This statistic is reported for 2011 and 2019. In Bulgaria, Romania, Italy, and Greece, the family background seems to be very important and has become more important over time. Slovenia and Germany stand out as having experienced especially large increases in the importance of family background. In contrast, Latvia, Estonia, and Luxembourg stand out as examples where the importance of family background has been reduced considerably. Denmark is noteworthy since in 2019 an individual growing up in a family with good income is more likely to be at risk of poverty compared to an adult growing up in a household with bad financial conditions (though generally scores better than most Member States in terms of income equality).

GRAPH 12. INTERGENERATIONAL TRANSMISSION OF DISADVANTAGES: DIFFERENCE IN SHARE OF ADULTS AT RISK OF POVERTY FROM HOUSEHOLD WITH BAD OR GOOD INCOME SITUATION WHEN AGED 14



Source: Eurostat (online data code: ILC_IGTP04)

Notes: The graph reports the percentage point differences in the share of adult individuals at risk of poverty (AROP) which in their youth (age 14) have resided in households with an income situation regarded as bad versus good. Higher values thus indicate the importance of the parental background for the economic status of the individual as an adult.

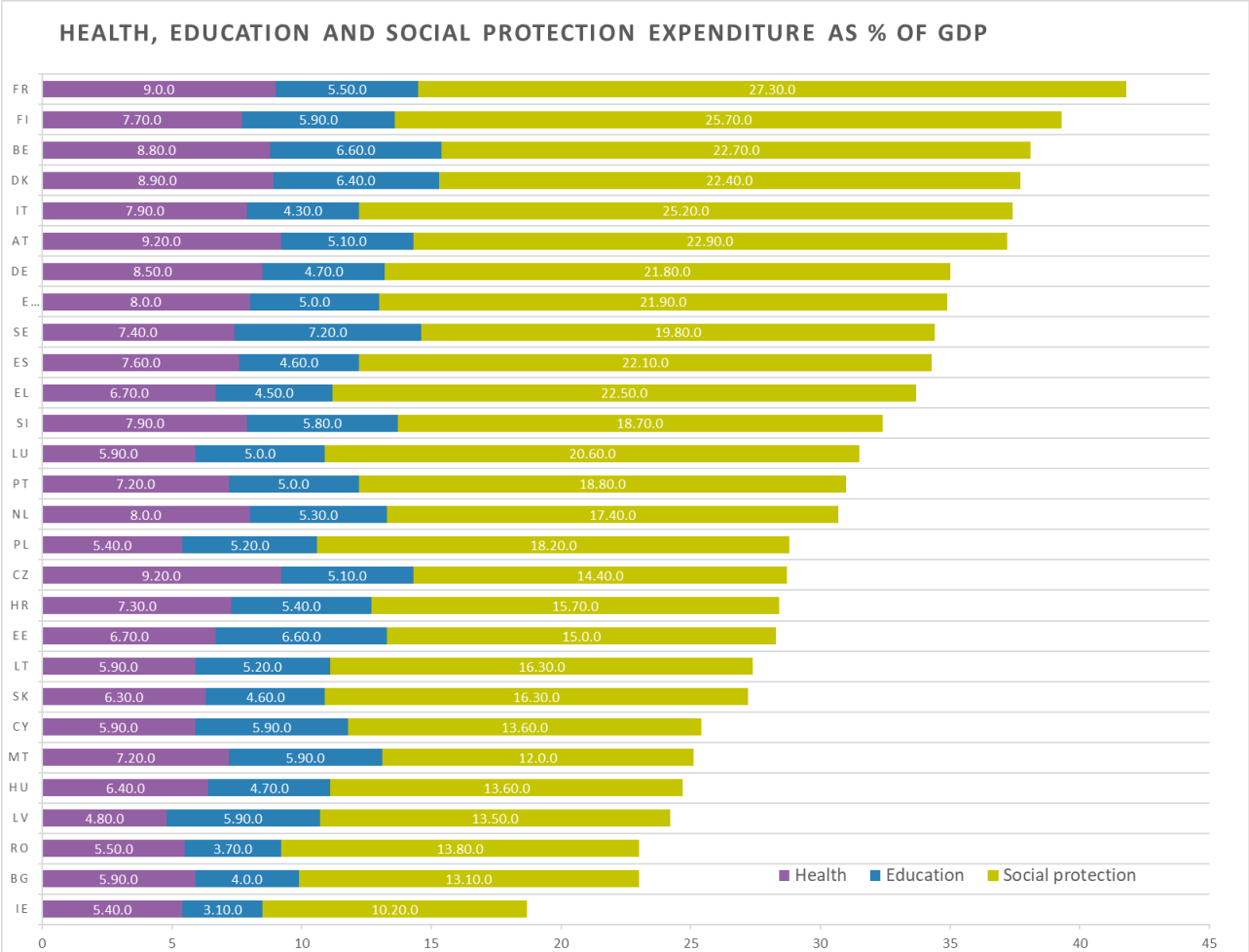
Individuals at the lower end of the socio-economic distribution are more exposed to a wide range of disadvantages. Intersecting inequalities multiply vulnerabilities. Global developments, such as climate change, automation, or population ageing affect vulnerable groups disproportionately. It is thus crucial that policy initiatives carefully assess their distributional impacts. Policy packages need to be holistic and sustainable in their response to economic, social, and environmental challenges.

2.3.3 Mitigating inequality and fostering social mobility

Appropriately designed tax policy can play a pivotal role in the distribution of disposable incomes (i.e. after taxes and transfers, also referred to as secondary income distribution). Tax policy can thus support social mobility indirectly through the reduction of income inequality. Progressive taxation fosters social mobility also through an insurance effect, which allows for a better allocation of talents. Finally, a number of tax policy measures have the potential to increase social mobility directly.

Redistribution in welfare states happens through cash transfers but also in-kind through the provision of public services and other public goods funded by taxes. Universal access to education, affordable healthcare and the availability of social protection provide individuals with capabilities and foster equality of opportunity. Graph 13 shows health, education, and social protection spending in Member States as a proportion of GDP. Access to affordable healthcare and education including early childhood education and care are seen as particularly important early life stage investments that deliver high returns. They have the potential to increase educational attainment levels, strengthen labour market attachment and prevent or minimise costly health issues.

GRAPH 13. GOVERNMENT EXPENDITURE, 2020

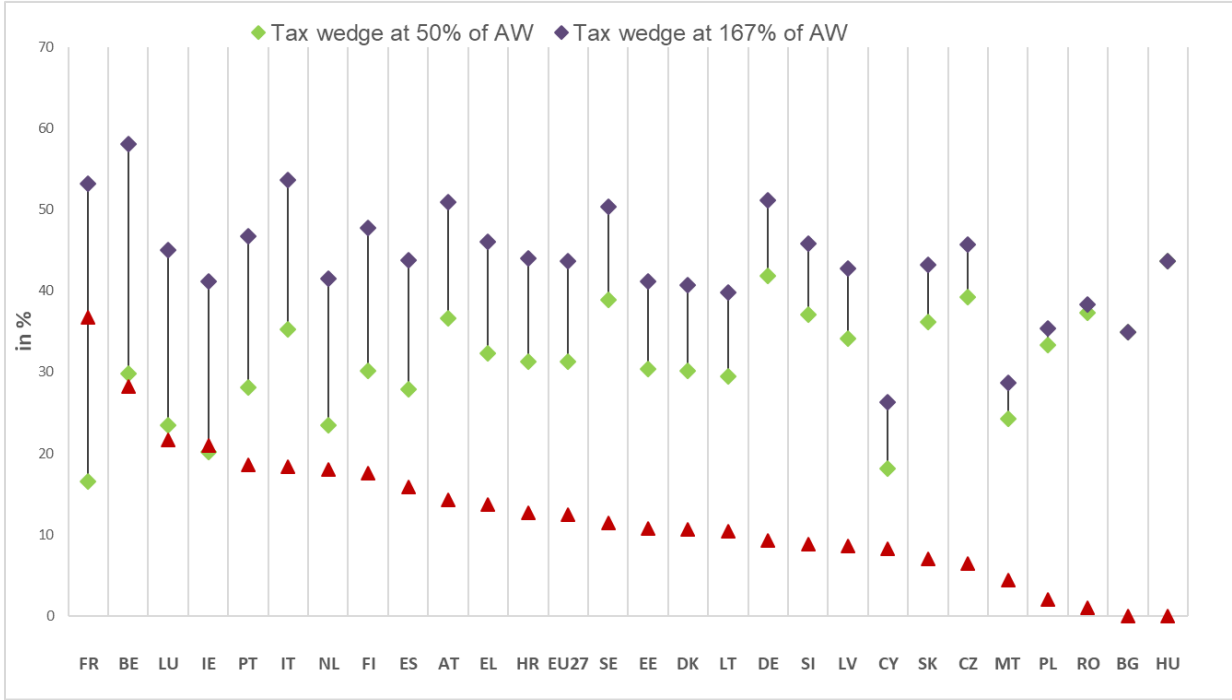


Source: Eurostat (online data code gov_10a_exp)

Progressive income taxation and redistribution through social transfers and the provision of public goods is a central policy approach to reduce inequality in disposable incomes. This implies high and increasing marginal tax rates at the top of the income distribution and income subsidies provided for the poorest households (Diamond & Saez, 2011). Progressivity in general implies a proportionally higher tax burden for higher incomes (or wealth in some cases). In contrast, taxes are considered regressive when they create a relative higher burden for lower incomes. So, how progressive are tax systems in the EU?

The degree of progressivity of labour income taxation can be approximated by comparing the tax wedges of high versus low income earners (i.e. 50% versus 167% of average wage). The tax wedge in labour taxation has already been discussed in the subsections above. The progressivity of labour taxation is depicted in Graph 14. The red triangles report the difference between the tax wedge for high wage earners and low wage earners in percentage points. A larger difference indicates more progressive labour taxation. Progressivity of labour taxation is high in France and Belgium and very low or even absent in Hungary, Bulgaria, Romania and Poland.

GRAPH 14. PROGRESSIVITY OF LABOUR TAXATION: THE DIFFERENCE BETWEEN THE TAX WEDGE FOR HIGH AND LOW WAGE EARNERS (167% AND 50% OF AVERAGE WAGE), 2020



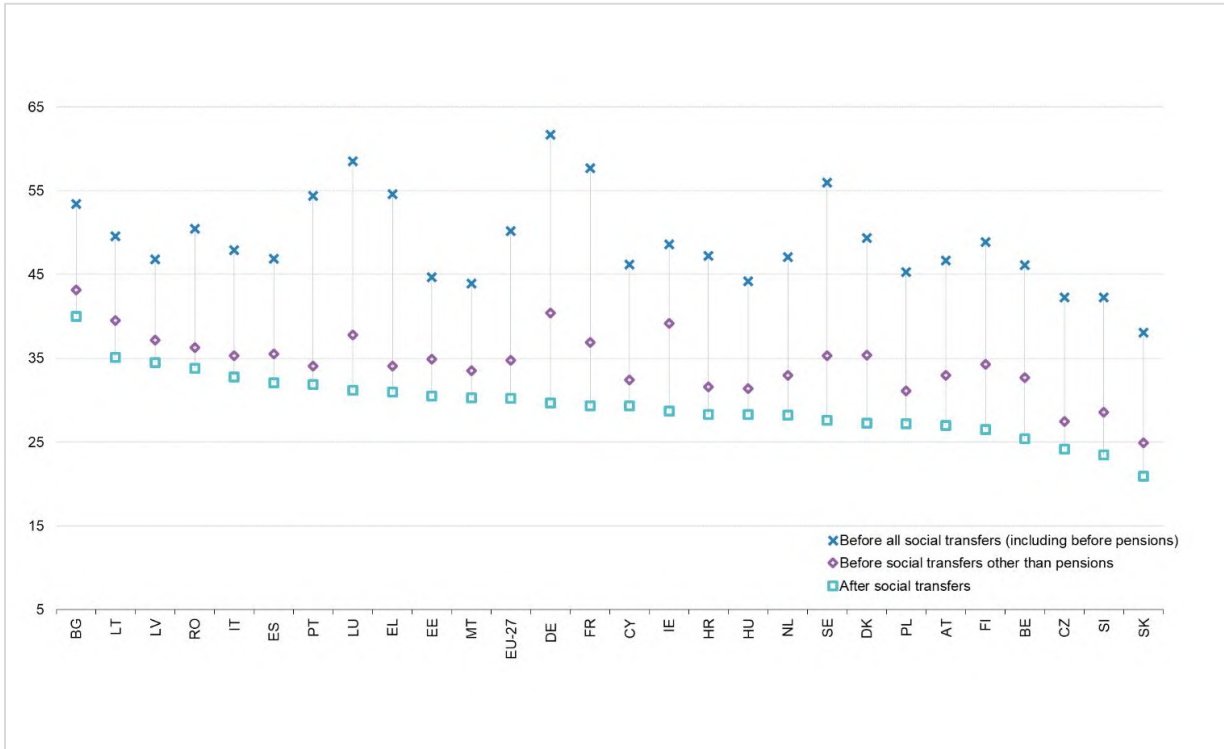
Source: European Commission services (https://europa.eu/economy_finance/db_indicators/tab/)
 Notes: Depicted is the tax wedge for singles, earning 50 % or 167 % of the average wage. The tax wedge is defined as the ratio between the amount of taxes paid by an average worker and the corresponding total labour cost for the employer. The difference between the tax wedges at 167 % and 50 % AW is expressed in percentage points. Where 2020 values are not been available, the latest available data has been used.

The progressivity of the tax-transfer system as a whole can be inferred from a comparison of the income distribution before and after the application of taxes and transfers. Graph 15 focuses on the effect of pensions and social transfers on the concentration of income in EU Member States. The graph depicts the Gini coefficient of equivalised disposable income ⁽⁴⁹⁾ before social transfers and pension, before social transfers after pensions and the Gini of final disposable income. Income inequality in disposable income is highest in Bulgaria, Lithuania, and Latvia, and lowest in Slovakia, Slovenia, and Czechia. The large equalising effect of pensions in Portugal, Luxembourg, Greece, Germany, France, and Sweden are noteworthy. Social transfers⁽⁵⁰⁾ have an especially equalising effect in Germany, Ireland, Sweden, and Denmark.

⁽⁴⁹⁾ i.e. after tax income.

⁽⁵⁰⁾ i.e. unemployment, family, sickness and disability benefits, and education related allowances.

GRAPH 15. INEQUALITY REDUCING EFFECT OF TAX- TRANSFER SYSTEM IN THE EU – OPTION A



Source: Eurostat (online data codes: ilc_di12, ilc_di12b and ilc_di12c)
 Notes: In general, 2020 values are presented. If no data was available for 2020, the latest valid observation has been used.

Well-designed inheritance/gift and capital gains taxes can address wealth inequality with acceptable levels of administrative complexity (OECD, 2018). Inheritance/gift and capital gains taxes mainly affect the middle classes as very wealthy households are more likely to have greater estate planning and avoidance opportunities (European Commission, 2020b), (OECD, 2018) In addition, the treatment of cross border inheritances may be problematic, especially if Member States apply different valuation methods for the same property. Moreover, the overall tax revenue from these taxes is moderate to low in the EU and, as other wealth-related taxes, they have negligible redistributive effects⁽⁵¹⁾. Many of these concerns can be addressed through proper design. For a more detailed discussion, see 2018 edition of this report (European Commission, 2018a). Table 3 provides an overview of inheritance taxes across the EU.

⁽⁵¹⁾ See: https://knowledge4policy.ec.europa.eu/publication/budgetary-redistributive-effects-wealth-related-taxes_en

TABLE 3. INHERITANCE TAXES

Member State	Inheritance tax?	Flat or progressive?	Min. - max. rate in %	Special regimes for family-owned business in certain cases?
BE	✓	Progressive	3% - 80%	✓
BG	✓	Flat	0 - 3,6%	✗
DK	✓	Progressive	0 - 36.25%	✓
DE	✓	Double Progressive ⁽⁵²⁾	7% - 50%	✓
IE	✓	Flat	33%	✓
EL	✓	Progressive	1% - 40%	✗
ES	✓	Progressive	7,65% - 34%	✓
FR	✓	Double Progressive	20 - 60%	✓
HR	✓	Flat	0 - 4%	✗
IT	✓	Flat	4% - 8%	✓
LT	✓	Progressive	0 - 10%	✗
LU	✓	Progressive	0 - 48%	✗
HU	✓	Flat	0 - 18%	✗
NL	✓	Progressive	10% - 40%	✗
PL	✓	Progressive	3% - 20%	✗
SI	✓	Progressive	5% - 39%	✗
FI	✓	Double Progressive	10% - 33%	✓
CZ, EE, CY, LV, MT, AT, PT, RO, SK, SE	✗			

Source: European Commission services

Note: Exemption thresholds are provided, in particular for spouses and children.

Inequality is not necessary for efficiency. On the societal level there is not necessarily a trade-off between equality and efficiency. There are equal societies that exhibit high levels of efficiency and productivity. Disincentive effects of taxation and redistribution apply at the individual level. There are however other forces at work on the aggregate level as well. More unequal societies indeed exhibit a stronger work ethic in the sense that with higher inequality on average more people report to teach their children about the importance of hard work. But higher levels of income inequality also come with more status anxiety, more health issues and overall lower levels of well-being, which might well balance out a stronger work-ethic. In addition, welfare states provide an insurance for individuals to take risks and develop their talents ⁽⁵³⁾. It is further argued that the equality-efficiency trade-off relies on a first best perspective. Due to several market imperfections in labour markets, capital markets and insurance markets, more progressive taxation can improve efficiency (Abdel-Kader & Mooij, 2020). Overall, public policy needs to strike the delicate balance of assuring individual capabilities and providing sufficient opportunities for successfully employing those talents without muting individual initiative, responsibility and ownership.

⁽⁵²⁾ Double progressive means that the higher value of the inheritance the higher the rate and the more distant the blood relation between the deceased and their family member, the higher the rate.

⁽⁵³⁾ Work ethic and other values are analysed in (Corneo & Neher, 2014); (Corneo G. , 2013) shows that the dis-incentive effect of highly redistributive welfare states can be outweighed by welfare states' insurance function, which allows people to take risks and develop their talents. This will result in higher levels of unemployment but also in higher growth rates. In general, the economic literature sees the effect of progressive taxation on risk-taking and entrepreneurship as ambiguous (e.g. (Bamberg & Richter, 1988), (Zhao, 2018)).

2.3.4 Health taxes

Non-communicable diseases ⁽⁵⁴⁾ **such as cancers, heart disease, chronic respiratory diseases and diabetes, are the leading cause of mortality in the EU.** These conditions are collectively responsible for 41 million deaths worldwide annually ⁽⁵⁵⁾ and cost EU economies EUR 115 billion or 0.8% of GDP annually ⁽⁵⁶⁾. These diseases can be prevented by reducing the five leading behavioural and dietary risks: tobacco use, alcohol use, high body mass index, unhealthy diets and a lack of physical activity.

The EU is committed to supporting Member States to reduce premature mortality from such diseases by one third by 2030. This voluntary target of the UN's Sustainable Development Goals (SDGs) can be achieved through prevention, treatment and promotion of mental health and well-being. Reducing unhealthy lifestyle choices that can increase the risk to these diseases is very effective in saving lives. As such, the EU is also committed to the SDG target of strengthening the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol ⁽⁵⁷⁾. The Commission launched Europe's Beating Cancer Plan in February 2021, a key pillar of a stronger European Health Union. The Plan reflects a political commitment to address the growing challenges in a holistic way and recognises the role of taxation in reducing cancer risk, in particular to deter young people from smoking and abusing alcohol. In addition, the Commission is working on the new EU non-communicable diseases initiative that aims to help EU countries reduce the burden of non-communicable diseases and improve the citizens' health and well-being. The initiative identifies priorities, targets and promising initiatives to help Member States with knowledge, governance, identification of best practices, collaboration and financing. The initiative covers the period 2022-2027 and follows the framework of the EU4Health programme.

Taxation measures are a powerful tool to improve and promote the health and well-being of all. The effectiveness of taxing addictive substances in changing behaviour and improving public health is recognised by many, including the World Health Organization ⁽⁵⁸⁾. This section examines how Member States use health taxes and discusses how taxation can contribute to improving public health.

Excise duties ⁽⁵⁹⁾ **on tobacco and alcohol, are a well-established but often underutilised part of Member States' taxation systems.** The share of taxes on tobacco and alcohol remained relatively low but stable between 2010 and 2020 with approximately 1.9% of total tax revenue in the EU-27 in 2020. The share at Member State level ranges from 1.2% in Denmark to 8.5% in Bulgaria.

This underutilisation may be in part due to their possible short-term regressive effects. This is because such goods represent a relatively larger share of consumption and income of poorer households. The World Bank notes, however, that traditional analyses often overlook the many economic benefits of reducing the consumption of these products. For example, large price shocks on cigarettes can generate progressive and welfare-improving medium and long-term net impacts that particularly improve welfare of lower-income households (World Bank Group, 2019). Low income households reduce their total spending on cigarettes in response to tax increases as these

⁽⁵⁴⁾ Non-communicable diseases are those, which are not caused by acute infection.

⁽⁵⁵⁾ See: https://www.who.int/health-topics/noncommunicable-diseases#tab=tab_1

⁽⁵⁶⁾ See: https://ec.europa.eu/health/non_communicable_diseases/overview_en

⁽⁵⁷⁾ See: <https://www.un.org/sustainabledevelopment/health/>

⁽⁵⁸⁾ See: https://www.who.int/health-topics/health-taxes#tab=tab_1

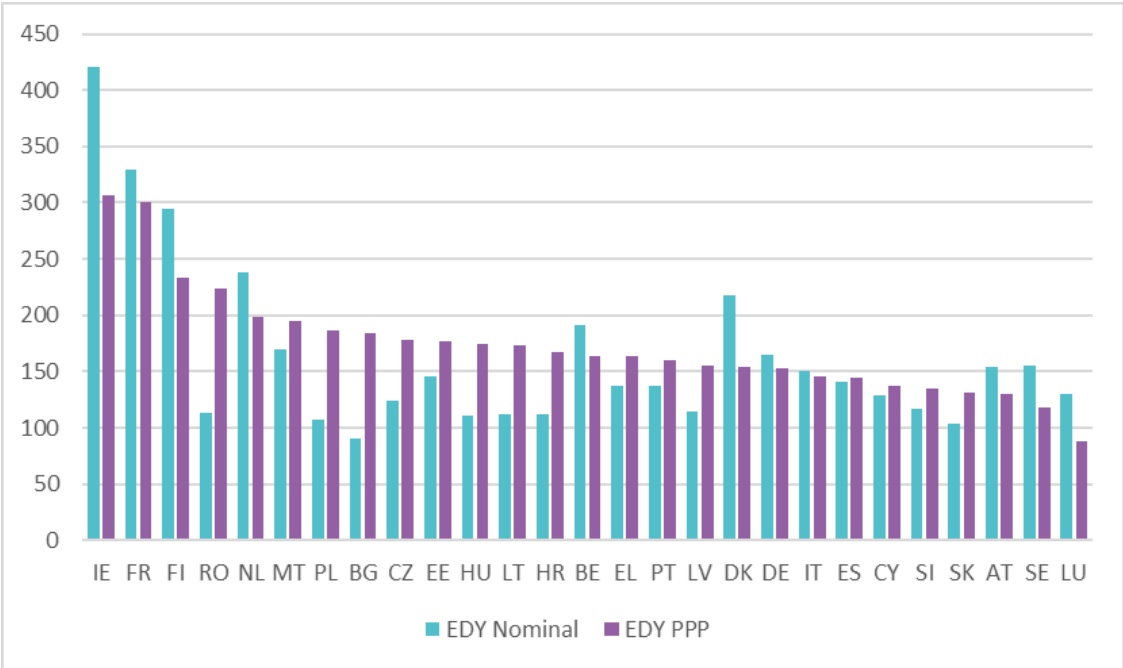
⁽⁵⁹⁾ Excise duties are indirect taxes on the sale or use of specific products, such as alcohol and tobacco and harmonised rules for these products are in place in the EU since 1992 and ensure that excise duties are applied in the same way and to the same products(). Member States are free to apply excise duty rates above the EU harmonised minimum rates, according to their national needs, which results in some variation in the taxation levels imposed. . The revenue from these excise duties goes entirely to the country to which they are paid. For more information, see: https://ec.europa.eu/taxation_customs/taxation-1/excise-duties_en

households have the highest price elasticity (Tobacconomics, 2019). Furthermore, these households can have positive income gains due to lower tobacco related medical expenses and premature deaths.

Taxation is considered the most effective tool for reducing tobacco use. Tobacco consumption is responsible for almost 700 000 deaths per year, the most significant cause of premature death in the EU. Half of all smokers die on average 14 years earlier than non-smokers ⁽⁶⁰⁾. Cigarettes are the prominent tobacco product consumed in the EU, even if fine cut tobacco ⁽⁶¹⁾ is growing in popularity.

The nominal price of tobacco across the EU differs substantially but reducing the affordability of tobacco products is key for successful tobacco control. When converted in real terms, the excise duty rates applied in Member States differ significantly from the nominal rates. Graph 16 below compares national excise duty levels for cigarettes in nominal terms and in Eurostat’s purchasing power parity (PPP) terms, i.e. after adjusting rates by the country’s price level index.

GRAPH 16. CIGARETTE EXCISE DUTY RATES IN MS, NOMINAL AND PPP-ADJUSTED TERMS (2020)



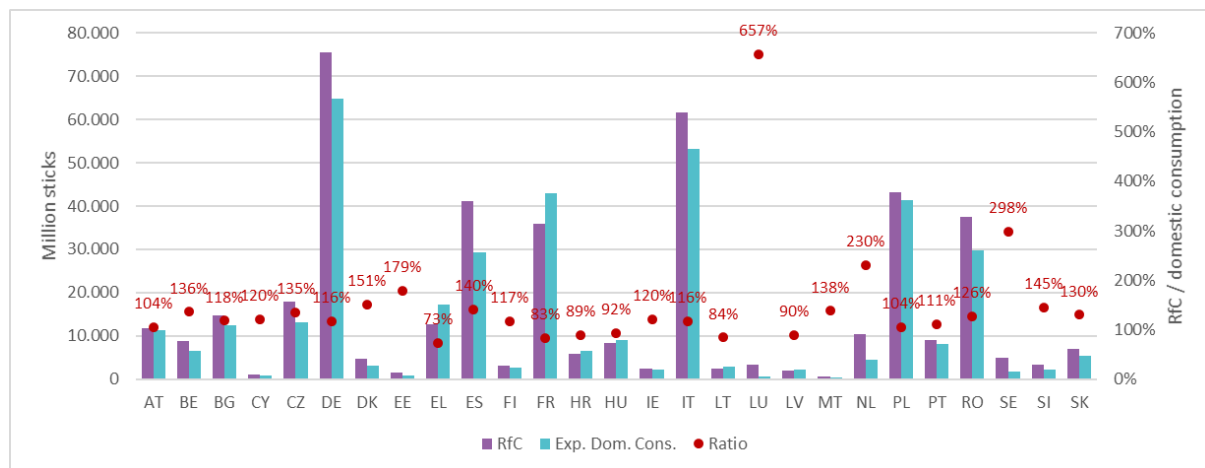
Source: Economisti Associati, Impact analysis of the review of the tobacco excise duty rules, 2021, unpublished

It is important to consider any changes to tobacco taxation holistically. For example, rate increases on cigarettes can encourage consumers to use fine cut tobacco, which is generally taxed at a lower rate than cigarettes, or can incentivise consumers to engage in cross-border shopping of all tobacco products in Member States with lower taxes. This undermines individual Member States’ tobacco control objectives (notably health-related objectives) and can affect excise duty revenues with the purchase Member States registering an increase in their revenues at the expense of the Member States of ultimate consumption. This can also distort competition and market functioning at the country level. Graph 17 shows the disparities in the fine cut tobacco market, where the quantity of such tobacco sold in some Member States significantly exceeds the expected consumption in that Member State.

⁽⁶⁰⁾ For more information on the Commission’s tobacco policy, see: https://ec.europa.eu/health/tobacco/overview_en.

⁽⁶¹⁾ Fine-cut tobacco is loose tobacco, which the consumer can use to make cigarettes, by either hand rolling it into cigarette paper or using a device.

GRAPH 17. DISPARITIES BETWEEN FINE CUT TOBACCO RELEASED FOR CONSUMPTION AND EXPECTED DOMESTIC CONSUMPTION ACROSS MS, 2021



Source: Economisti Associati, Impact analysis of the review of tobacco excise duty rules, 2021, unpublished

Illicit trade in tobacco products remains a concern and work is underway at EU level to improve the effectiveness of tobacco legislation. The diversion of raw tobacco to illicit trade is a growing threat to tax revenues and equally public health. It is estimated that between 30% and 50% of this illicit trade is actually manufactured in clandestine factories ⁽⁶²⁾ scattered over many Member States. The possibility to monitor the movements of raw tobacco used in these operations is being explored.

Taxation is also an effective tool to reduce harmful levels of alcohol consumption. Around 800 deaths daily can be linked to the consumption of alcohol in Europe. More worryingly, one in every four deaths among young adults aged between 20 and 24 is caused by alcohol consumption ⁽⁶³⁾. Alcohol consumption increases the long-term risk of certain heart conditions, liver disease and cancers, and frequent consumption of large quantities can lead to alcohol dependence ⁽⁶⁴⁾.

Increasing the price of alcoholic beverages can reduce alcohol consumption by price sensitive consumers including young people and heavy drinkers (Sornpaisarn, Shield, Österberg, & Rehm, 2017). Member States impose different levels of excise duties on alcoholic beverages ⁽⁶⁵⁾ ranging from EUR 0 on still wine in 15 Member States to EUR 4.24 per litre in Ireland. Graph 18 compares the level of excise duties imposed on 1 litre of pure alcohol ⁽⁶⁶⁾.

⁽⁶²⁾ Clandestine factories discovered in the EU between 2016 and 2019 were equipped with full production lines. In most cases, production lines were relatively modern and high performing, with a capacity comparable to big legal factories (i.e. up to 4,000 cigarettes per minute). Machinery was operated by skilled workers, often former employees of legal manufacturing plants in the EU or abroad.

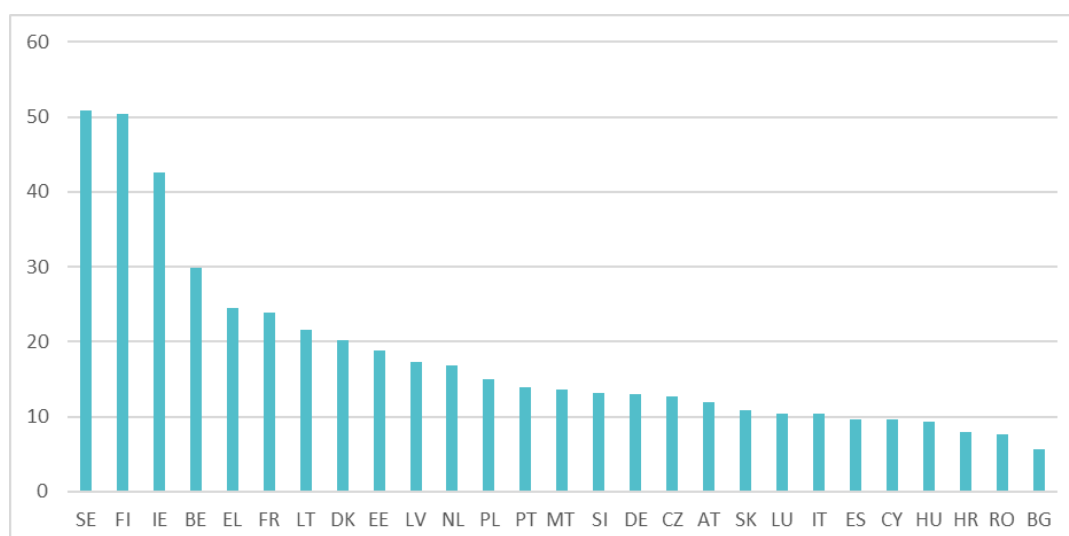
⁽⁶³⁾ See: https://www.euro.who.int/_data/assets/pdf_file/0009/386577/fs-alcohol-eng.pdf

⁽⁶⁴⁾ For information on EU actions aimed at reducing alcohol-related harm, see: https://ec.europa.eu/health/alcohol/overview_en

⁽⁶⁵⁾ For more information on EU legislation on excise duties on alcohol, see: https://ec.europa.eu/taxation_customs/business/excise-duties-alcohol-tobacco-energy/excise-duties-alcohol_en

⁽⁶⁶⁾ There are differences between the level of excise duties imposed by Member States on other alcohol products such as beer and wine. This graph shows the rates for ethyl alcohol or spirits.

GRAPH 18. EXCISE DUTY OF ONE LITRE OF PURE ALCOHOL (100% ABV), 2021



Source: European Commission, DG Taxation and Customs Union, 'Taxes in Europe' database (TEDB)

Changes in alcohol taxation need to take account of cross border shopping as is the case for tobacco taxation. Work is underway at EU level to improve the effectiveness of excises in Member States directives in this regard.

The taxation of other unhealthy products is gaining interest in some Member States. The World Health Organization considers the taxation of sugar sweetened beverages (SSBs) as a win-win policy as they reduce consumption of SSBs, which can help stem the growing threat of obesity and diabetes, while generating tax revenues ⁽⁶⁷⁾. These taxes are not harmonised and currently only 12 EU Member States ⁽⁶⁸⁾ and the Spanish region of Catalonia tax SSBs.

Box 2. Health taxes results

In May 2017, the Spanish region of Catalonia introduced a SSB tax. The tax is applied to all beverages containing added caloric sweeteners and must be passed through to the final consumer. The rates of the tax are EUR 0.08 per litre for beverages containing between 5 and 8 grams of sugar and EUR 0.12 per litre for beverages with 8 grams or more of sugar.

Results estimate that the SSB tax in the Catalonia region reduced SSB purchases by 7.7% (Castelló & Casanovas, 2020). Part of this reduction is due to an increase in sales of zero/light drinks (substitution effect). The reduction in purchases is stronger in areas with a higher incidence of obesity, in areas with higher household incomes and for products with higher sugar content.

In 2011, Hungary introduced the public health product tax (PHPT) on food products, which contain unhealthy ingredients such as salt, sugar etc. over a certain threshold. The tax applies to foods such as pre-packaged sweetened products, sugar sweetened beverages, excessively salty snacks, etc.

The first assessment of the tax in 2012 showed that 40% of food manufacturers reformulated their products to reduce or remove the unhealthy ingredients. Prices of taxable products increased on average by 29% and their sales fell on average by 27%. The second assessment in 2014 found that the tax has had a long-term impact. Between 59% and 73% of consumers have sustained the reduced consumption of the taxed products (WHO, 2015).

⁽⁶⁷⁾ See: https://www.who.int/health-topics/health-taxes#tab=tab_1

⁽⁶⁸⁾ IE, FI, PT, FR, LV, BE, HU, PL, DK, NL, EE, HR

2.3.5 Addressing tax evasion and avoidance at international and EU levels

The Base Erosion and Profit Shifting (BEPS) project, established by the OECD in 2015, has been crucial in developing global policy to tackle tax avoidance at a global level. A very large number of countries forming the so-called Inclusive Framework, currently 141 members, recognised that it was crucial to address not only tax evasion and fraud, but also tax avoidance and especially aggressive tax planning (ATP) practices by MNEs. These can more easily use loopholes in tax systems or mismatches between two or more tax systems to reduce their tax liability. ATP can result in double deductions (e.g. the same loss is deducted both in the state of source and in the state of residence) and double non-taxation (e.g. income that is not taxed in the source state is exempted in the state of residence).

Going beyond the BEPS compulsory requirements, the EU designed a set of anti-abuse rules⁽⁶⁹⁾ with the Anti-Tax Avoidance Directive (ATAD)⁽⁷⁰⁾ and increased tax transparency with the exchange of tax rulings and country by country reporting. ATAD has been implemented since 1 January 2019. As a result, tax authorities of all Member States have the same information on tax rulings between companies and tax administrations and on taxes paid throughout the EU and in non-cooperative tax jurisdictions by MNEs. In November 2021, the EU adopted a public country by country reporting⁽⁷¹⁾, which will increase tax transparency for MNEs by allowing enhanced public scrutiny of businesses making over EUR 750 million in revenues.

The OECD-led global political agreement reached in 2021 will further reduce the possibilities of ATP. Built on two pillars, it provides for a partial re-allocation of taxing rights (pillar 1) and sets a minimum effective tax rate on companies' profit at 15% (pillar 2). This agreement reached through the Inclusive Framework and endorsed by 137 countries representing 96% of the world's GDP ensures a global coverage. The Commission proposed a Directive on 22 December 2021, which transposes into EU law the agreement on a minimum effective tax rate (pillar 2). This new Directive when adopted can go a long way to address the issue of payments exiting the EU untaxed and not being properly taxed elsewhere.

Nonetheless, there remains room for potential aggressive tax planning. Companies with less than EUR 750 million turnover will not be within scope of this global agreement. The absence of withholding taxes in certain Member States, linked with the possibility for financial flows to circulate freely within the EU in line with the freedom of movement of capital and free from withholding taxes since the implementation of the Interest and Royalty Directive⁽⁷²⁾ and the Parent Subsidiary Directive⁽⁷³⁾ may also facilitate ATP. If a Member State, on its own, implements a defensive measure against financial flows exiting to a third country untaxed or low-taxed, such financial flows might be redirected to other Member States that still allow for such flows to exit the EU untaxed or low-taxed. Bilateral tax treaties with no or low tax third countries should also be renegotiated if necessary to ensure that domestic withholding taxes are not overridden by obligations under bilateral tax treaty. Table 4 shows which Member States apply a withholding tax (i.e. exceeding 0%) on flows of interest, dividends or royalties to non-EU country jurisdictions.

⁽⁶⁹⁾ Interest limitation rules, controlled foreign companies rules, exit tax rules, general anti-abuse rules and rules against hybrid mismatches, for more information, see (Commission, 2015).

⁽⁷⁰⁾ Council Directive (EU) 2016/1164.

⁽⁷¹⁾ On 24 November 2021, directive of the European Parliament and of the Council amending Directive 2013/34/EU as regards disclosure of income tax information by certain undertakings and branches.

⁽⁷²⁾ Council Directive 2003/49/EC.

⁽⁷³⁾ Council Directive 2011/96/EU.

TABLE 4. WITHHOLDING TAXES (WHT) ON FLOWS TO NON-EU JURISDICTIONS, 2021

	Royalties	Interests	Dividends
HU	x	x	x
MT	x	x	x
CY	✓	x	x
EE	✓	x	x
LU	x	x	✓
LV	x	x	✓
AT	✓	x	✓
DE	✓	x	✓
IE	✓	✓	x
FI	✓	x	✓
SE	✓	x	✓
BE	✓	✓	✓
BG	✓	✓	✓
CZ	✓	✓	✓
DK	✓	✓	✓
EL	✓	✓	✓
ES	✓	✓	✓
FR	✓	✓	✓
HR	✓	✓	✓
IT	✓	✓	✓
LT	✓	✓	✓
NL	✓	✓	✓
PL	✓	✓	✓
PT	✓	✓	✓
RO	✓	✓	✓
SI	✓	✓	✓
SK	✓	✓	✓

Source: (European Commission, 2016a) and complementary desk research carried out by the Commission.

Notes:

- (1) The table focuses on WHT rates specified in national legislation; it does not reflect those specified in double tax treaties.
- (2) A cross means that the Member State does not apply a WHT (exceeding 0%).
- (3) WHTs on royalties in IE are only applied on patents and with exemptions in certain cases, for WHTs on dividends there is a broad range of exemptions for corporate and individual shareholders. In DK, WHTs on interest are only applied if paid to foreign related entities. In SE, royalties are subject to income tax by assessment.

Box 3: EU list of non-cooperative jurisdictions for tax purposes ⁽⁷⁴⁾

The EU list of non-cooperative jurisdictions for tax purposes is a common tool that Member States can use to tackle external risks of tax abuse and unfair tax competition.

The idea was first floated in the Commission's 2016 external strategy for effective taxation, which pointed out that a common EU list would hold much more weight than a medley of national lists and would have a dissuasive effect on non-EU jurisdictions that do not play fair on tax matters. The first EU list was agreed by Member States in December 2017.

It was the result of an extensive screening of 95 jurisdictions, using internationally recognised good governance criteria, such as tax transparency (exchange of information), fair taxation and implementation of anti-base erosion and profit-shifting (BEPS) measures. The listed countries are those that fail to make a high-level commitment to comply with agreed good governance standards or that do not deliver on their commitment. The Commission monitors the implementation of these commitments on behalf of the EU Member States. Since 2020, the EU list is updated twice a year based on progress made by jurisdictions. By the end of 2020, 95 jurisdictions had been screened.

The purpose of the list was to address threats to Member States' tax bases. However, it has evolved into something much wider than just a listing exercise. It has prompted unprecedented engagement between the EU and its international partners on important tax issues. It has raised the standards of tax good governance globally, both through improvements made by other countries and by influencing international criteria for zero-tax countries.

As a result of the EU listing process, countries have taken tangible steps to improve their tax systems, in line with international standards. Over 140 harmful regimes have been eliminated. Zero-tax countries have introduced new measures to ensure a proper level of economic substance and information exchange and a monitoring process is in place to ensure that these measures are effectively applied in practice. In addition, many jurisdictions have brought their tax transparency standards in line with international norms for the first time. Moreover, dozens of countries became members of international fora such as the OECD's Global Forum for Transparency and the Base Erosion and Profit Shifting (BEPS) Inclusive Framework.

To ensure effectiveness, the EU list is linked to EU funding under new provisions in the Financial Regulation and other legislation, so listed jurisdictions cannot be used to channel EU funds. In addition, Member States have introduced defensive measures that apply to companies operating in listed jurisdictions as of 1 January 2021 ⁽⁷⁵⁾. In line with its Communication on tax good governance in Europe and beyond, the Commission is supporting Member States' work on developing coordinated defensive measures for the EU list and enhancing and updating the EU listing criteria. In particular, the Commission has delivered on the implementation of the Country by Country Reporting criterion and is currently reflecting on how to make the transparency criteria more robust and effective.

2.3.6 Fighting tax fraud, evasion and avoidance at Member State level

Following European Semester country specific recommendations to fight ATP made to Member States in 2019, national measures have been taken to address the issue. The Netherlands has in place since 1 January 2021 a withholding tax of 25% on interest and royalty payments towards no or low tax countries and non-cooperative tax jurisdictions of the EU black list. The Netherlands is in the process of adopting a similar withholding tax of 25% for dividend payments that will be implemented as of 1 January 2024. In case a clause in a bilateral treaty between the Netherlands and one of these low-tax jurisdictions neutralises the effect of the tax

⁽⁷⁴⁾ For the latest information on this initiative, including the current EU list, see: https://ec.europa.eu/taxation_customs/tax-common-eu-list_en

⁽⁷⁵⁾ See Annex 4 of the Code of Conduct Group Report to the Council of 25 November 2019 (Guidance on defensive measures): <https://data.consilium.europa.eu/doc/document/ST-14114-2019-INIT/en/pdf>

(which is the case for 4 countries), the Netherlands have committed to renegotiate the clause/treaty in question within 3 years or to terminate it unilaterally if the jurisdiction refuses to renegotiate the clause. Cyprus suspended in November 2020 and definitely abolished in April 2021 its Citizenship by investment regime, which could be used for tax evasion purposes. Investor citizenship schemes, or 'golden passport' schemes, allow a person to acquire a new nationality based on payment or investment and in the absence of a genuine link with the naturalising country. These schemes are different to investor residence schemes (or 'golden visas'), which allow third-country nationals, subject to certain conditions, to obtain a residence permit to live in an EU country. The conditions for obtaining and forfeiting national citizenship are regulated by the national law of each Member State, subject to due respect for EU law. As the nationality of a Member State is the only precondition for EU citizenship, and subsequent access to rights conferred by the Treaties, the Commission has been closely monitoring investor schemes granting the nationality of Member States. In a recommendation issued on 28 March 2022, the Commission urges Member States to immediately repeal any existing investor citizenship schemes and to ensure strong checks are in place to address the risks posed by investor residence schemes such as security, money laundering, tax evasion and corruption.

Following the Council conclusions of December 2019 ⁽⁷⁶⁾ on defensive measures against non-cooperative tax jurisdictions, further measures have also been taken that may also reduce ATP. Cyprus put in place a withholding tax on interest, royalty and dividend payments going to non-cooperative jurisdictions as of 1 January 2021. Ireland and Hungary have strengthened their controlled foreign corporations (CFC) rules towards non-cooperative jurisdictions, as of 1 January 2021. Luxembourg has adopted a legislative measure prohibiting the deductibility of outbound royalties and interest payments to non-cooperative tax jurisdictions, which entered into force on 1 March 2021.

Malta has limited its participation exemption, which allows dividend income or capital gains derived from a participating holding (usually an equity shareholding of at least 5%) to be exempted from tax in Malta. Specifically, dividends derived from the body of persons resident in jurisdictions that have been listed in the 'Code of Conduct Group' list of non-cooperative jurisdictions for a minimum period of three months would not qualify for such an exemption. The reform will also increase the number of investigators dedicated to the scrutiny of taxpayers' declarations and will be implemented by 30 September 2022.

Within the Recovery and Resilience Facility (RRF) process countries have committed to act further to address ATP. Malta has committed to change its Citizenship by Naturalisation for Exceptional Services by Direct Investment, with the implementation of spontaneous exchange of information (SEOI) mechanism to exchange information with the jurisdictions of original residence of persons granted such citizenship. The measure will be implemented by 31 March 2022, for new beneficiaries of the regime. Malta has also committed to reform its transfer pricing legislation with a consultation process by June 2022 followed by specific rules on transfer pricing relating to the arms-length principle and advanced pricing agreements to enter into force by end 2022.

Ireland and Cyprus have committed to implement measures to address outbound payments. In the case of Ireland, these will take effect from 1st of January 2024 and include a withholding tax or a limitation or denial of deductibility for interest and royalty outgoing payments. This will apply to both zero or no-tax jurisdictions and jurisdictions included on the EU list of harmful jurisdictions for tax purposes. Cyprus has also committed to widen the scope of its withholding tax, originally limited to EU black listed jurisdictions, to cover payments to low tax jurisdictions (with a headline corporate tax rate of less than 9%) by end 2024. The authorities announced that they may explore applying non-deductibility in the case of interest and royalty payments instead of the withholding tax. Cyprus has also proposed to amend the Corporate Tax Residency rules by 2021 to address the situation that a company can be incorporated in Cyprus but not resident in Cyprus.

⁽⁷⁶⁾ See: <https://www.consilium.europa.eu/media/42181/st14851-fr19.pdf>

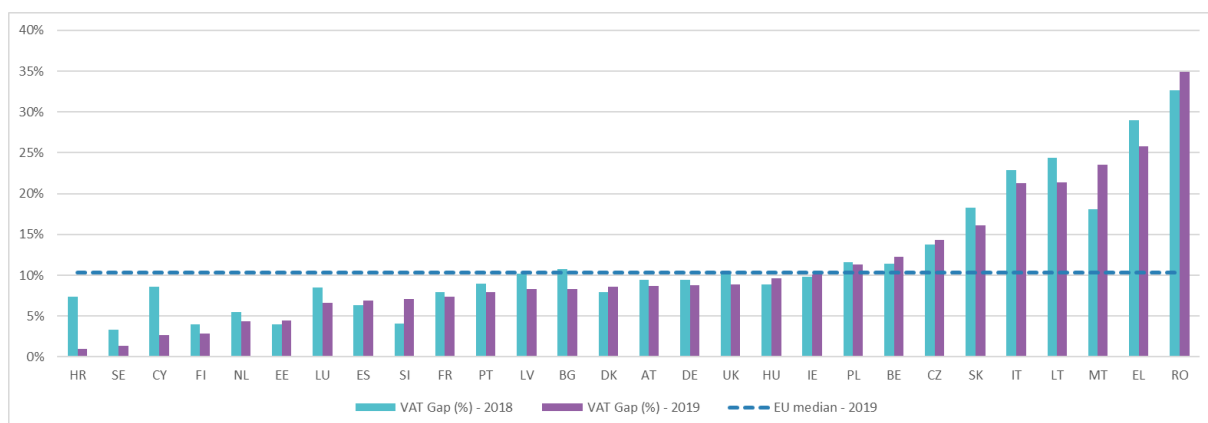
2.3.7 Estimates of tax fraud and evasion

Tax evasion is an illegal practice whereby taxpayers pay less than they should, by hiding or understating the base on which the tax should normally be paid. As the tax base is not easy to calculate, because some activities may be hidden, it is difficult to measure the actual extent of tax evasion. To calculate the magnitude of tax evasion, it is necessary to establish the 'correct' benchmark level of the tax and have good available data. The revenue lost to tax evasion can be estimated by using a top-down methodology ⁽⁷⁷⁾ based on macroeconomic data such as national accounts data, or a bottom-up methodology ⁽⁷⁸⁾ that uses more specific, individual-level data, e.g. from surveys and tax audits. Tax fraud is a deliberate form of tax evasion, which is generally punishable under criminal law. The term also includes situations in which deliberately false statements are submitted or fake documents are produced.

The non-observed economy (NOE) – which includes underground, informal and illegal activities – provides an indirect, though broader, indication of tax evasion. Tax evasion is a key motive (but by no means the only one) for economic agents to perform economic activities underground or informally. Laundering of proceeds from criminal activities and financing terrorism are other key reasons. Statistical offices in Member States take account of the NOE when calculating national account statistics. They use various statistical methods or adjustments to overcome the gaps in national accounts information that stem from the NOE, but not all of them publish data on the adjustments.

Moving from the whole economy to specific taxes, there are several estimates of how much tax remains uncollected. The VAT gap is the difference between the amount of VAT actually collected and the estimated amount that is theoretically collectable based on VAT rules. It measures the effectiveness of VAT compliance and enforcement measures in the country in question. It estimates revenue loss due to voluntary non-compliance (i.e. fraud, evasion and avoidance), but also due to bankruptcies, financial insolvencies and errors or miscalculations. The VAT gap in the EU was estimated at **EUR 134 billion** in 2019 (European Commission, 2021e). Graph 19 shows the VAT gap in EU Member States as a percentage of theoretical tax liability. In fact, the significant changes in the structures of the economies observed in 2020 – together with the impact of necessary interventions by national governments, in support of companies across all sectors, made it impossible to produce robust estimates even in terms of the direction of the impact of the COVID-19 pandemic. Only for a selection of Member States, the VAT gap report could prepare so-called fast estimates. For almost all of those countries, the changes in the VAT gap in 2020 appear to be within a range of +/-2 percentage points – where for half of the Member States, the VAT gap is expected to increase, and for the other half to decrease. In fact, it might take years until the impact of the COVID-19 pandemic will have been fully materialised also in official statistics.

GRAPH 19. VAT GAP AS SHARE OF THE THEORETICAL VAT LIABILITY, 2018-2019



⁽⁷⁷⁾ Also referred to as the 'macro' or 'indirect' method.

⁽⁷⁸⁾ Also referred to as the 'micro' or 'direct' method.

Source: (European Commission, 2021e)

Several Member States also estimate other tax gaps, e.g. the corporate income tax (CIT) gap. In response to a survey carried out by the Fiscalis Tax Gap Project Group (European Commission, 2018b), nine Member States provided estimates of their CIT gap or have taken steps to do so (Belgium, Bulgaria, Denmark, Greece, Italy, Romania, Slovakia, Finland and Sweden). Four others said that they were planning to do so (Czechia, Portugal, Latvia and Lithuania). Unfortunately, national estimates are not always publicly available and cross-country comparison is not possible due to the different methodologies used.

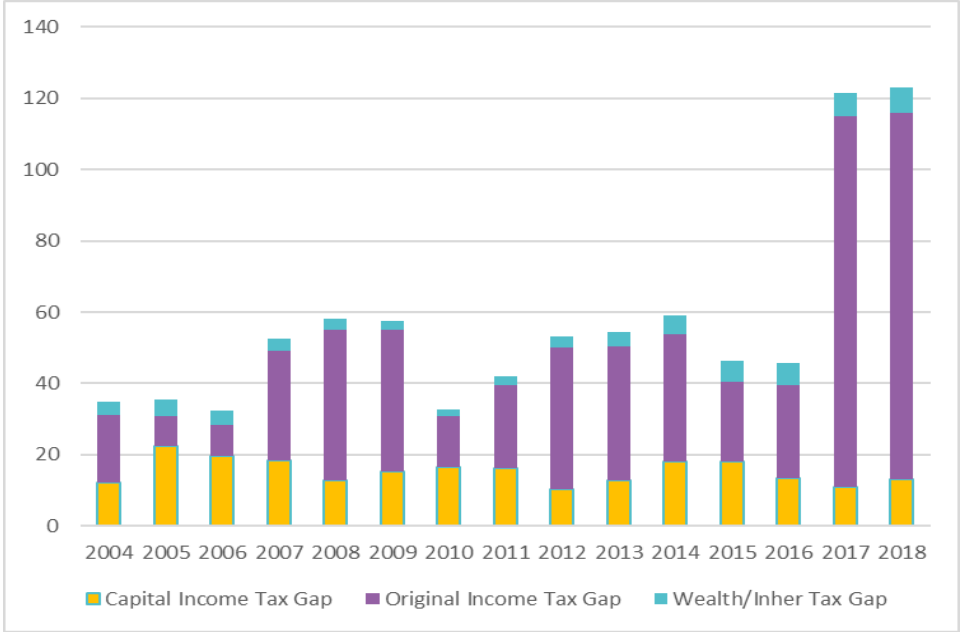
Moreover, an additional program under the umbrella of Tax Administration EU Summit (TADEUS, see 2.4.2) was set up in 2021 together with a number of Member States to enhance cooperation and alignment of methods to estimate the CIT and PIT gap. The main goals of each of these two programs include (i) enhanced information sharing and an improved knowledge base on methods to estimate the CIT and PIT gap, (ii) sharing best practices on methods and their use among Member States, (iii) achieve consensus in methods and strove for convergence of applied methods and (iv) increase the number of Member States that estimate CIT and PIT tax gaps on a regular basis. The program is expected to last between two and four years and is set up around meetings and workshops, as well as hands-on training in Member States. Reports on the results of the groups are expected by 2024.

Tax evasion through underreporting of income by self-employed people and by hiding of wealth through shell entities produces non-negligible budgetary losses (see section 6.3 on shell entities). A study by the Joint Research Centre quantified the loss at up to 1.6% of GDP (Joint Research Centre, 2019). The self-employed have more opportunity to underreport their income for tax purposes, since their income is typically not subject to third-party reporting. This tax evasion has negative distributional implications, due to the high concentration of self-employed in the higher income groups. OpenLux ⁽⁷⁹⁾ data as analysed by Transparency International and the Anti-Corruption Data Collective (ACDC) showed that approximately 80 % of private investment funds in Luxembourg did not declare who benefits from them and over 15% submitted conflicting information to the US and Luxembourg authorities about their beneficial owners.

While transparency requirements have increased, tax evasion by individuals in offshore financial centres still represents sizeable tax losses for Member States. A study (European Commission, 2021f) building on a previous methodology developed by the Commission (European Commission, 2019b) provides updates of estimates of offshore wealth held by individuals for the world's main economies and corresponding estimates of revenue lost by the EU and its Member States due to international tax evasion. Global offshore wealth is estimated at EUR 8.6 trillion in 2018 compared to EUR 7.3 trillion in 2016, with an estimated EUR 1.7 trillion held by EU residents (i.e. 12% of GDP up from 9.7% in 2016). Moreover, the study estimates new types of assets held offshore by European individuals, such as real estate (EUR 1.3 trillion in 2018), life insurance (EUR 5.3 billion), and cash (EUR 17.9 billion). EU revenue lost due to international tax evasion was estimated at EUR 124 billion in 2018 compared to 46 billion in 2016 (ECOPA, CASE, 2019). The significant rise in numbers between 2016 and 2018 can be mainly explained by the increase in equity security prices between 2016 and 2018. On average, France, Germany, Spain, and Italy accounted for two thirds of this amount. In 2018, the countries with the largest ratios of level of revenue lost to tax evasion as a share of GDP were Malta (2.9%), Cyprus (2.6%), and Portugal (2.0%).

⁽⁷⁹⁾ OpenLux is an international investigation initiated by Le Monde, in collaboration with the Organized Crime and Corruption Reporting Project, Miami Herald and Süddeutsche Zeitung, among others published in April 2021. Investigative journalists obtained around 3 million documents and records from Luxembourg's online business register platforms. These include corporate documents, financial statements and beneficial ownership declarations from more than 260,000 companies, covering a period from 1955 to December 2020.

GRAPH 20. TOTAL REVENUE LOST IN THE EU DUE TO INTERNATIONAL TAX EVASION (€ BILLION)



Source: (European Commission, 2021f)

2.3.8 Estimates of tax avoidance

Tax avoidance refers to taxpayers reducing their tax liability through arrangements that may be legal, but are against the spirit of the law. It can take various forms, e.g. debt shifting via intra-group loans, the location of intangible assets and the manipulation of transfer pricing.

Many studies demonstrate the existence of tax avoidance practices and, although these are hard to measure, existing estimates point to tens of billions of euro of revenue losses. It is hard to quantify what is *de facto* a hidden phenomenon. Nonetheless, several studies have tried to quantify revenue losses associated with tax avoidance practices (Alvarez-Martínez, et al., 2021) (Tørsløv, Wier, & Zucman, 2018) (Dover R. , et al., 2015), giving an estimate of EUR 36-37 billion ⁽⁸⁰⁾ of CIT revenue losses per year. Some micro level studies bring also useful quantification of the phenomenon of tax avoidance through certain channels. For instance, a study (Kerste, Baarsma, & Weda, 2019) uses firm level data to quantify interest and royalty flows towards zero or low tax jurisdiction to assess the amount of financial flow potentially leaving the Netherlands untaxed and not being properly taxed elsewhere. It represents on average EUR 9.7 to EUR 11.9 billion of outgoing royalty and interest flows per year between 2009 and 2013.

2.3.9 Financial activity

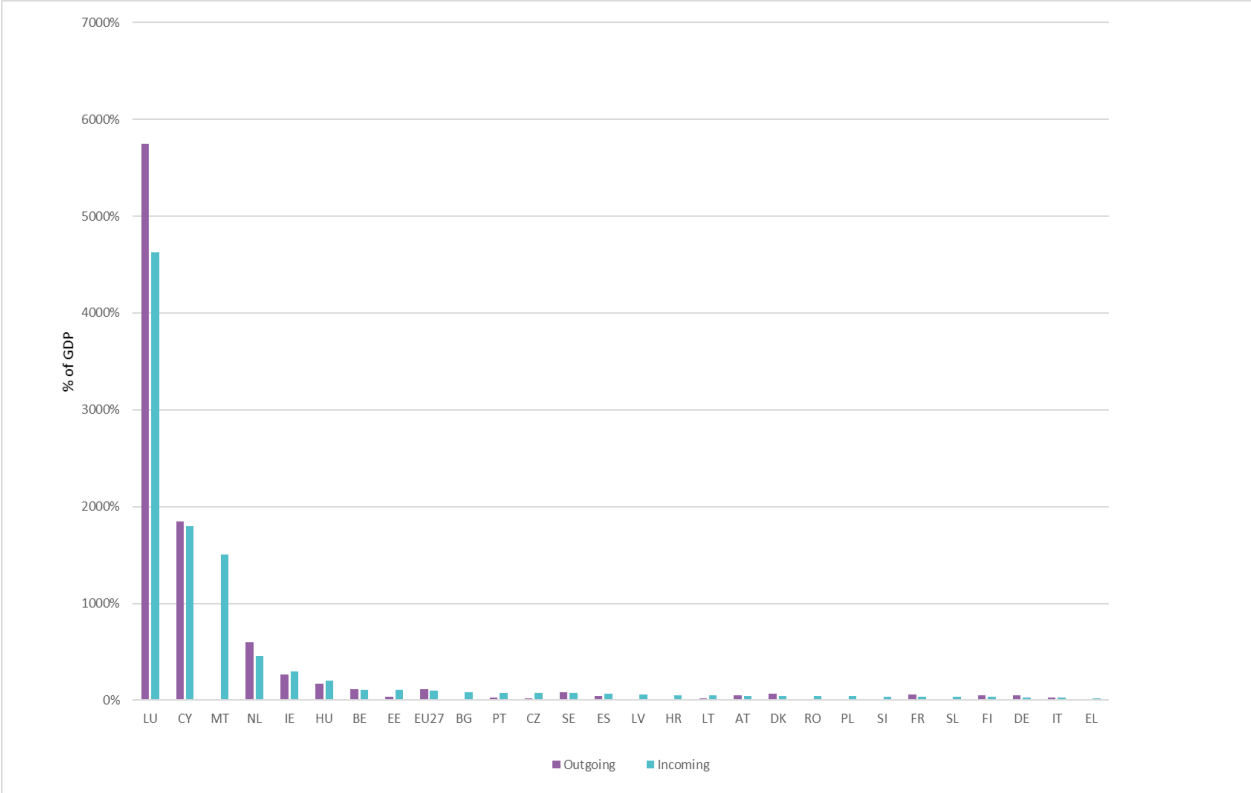
Very high financial activity, as compared to the size of the economy, may indicate that a country is being used for tax avoidance purposes. It is useful to look at financial activity

⁽⁸⁰⁾ Own calculations based on (Tørsløv, Wier, & Zucman, 2018).

indicators to see if these are in line with real economic activity or if they are a reflection of potential tax avoidance behaviour. High flows to offshore financial centres (OFCs) may be a further indication of tax avoidance, as these jurisdictions are likely to be used in ATP schemes. Furthermore, when transparency on financial activities is low, there is a risk that criminals may use OFCs for money laundering purposes.

a number of other indicators, such as legal indicators (i.e. the absence of withholding taxes), this forms a body of evidence that suggests a country may be a conduit for tax avoidance practices. Indicators looked at in isolation are typically not conclusive but taken together they can provide stronger indications that a country is being used for tax avoidance purposes. In particular, they provide circumstantial evidence and are useful in prompting further investigations into possible ATP in a given country. In this respect, it is useful to look at foreign direct investment (FDI), as one such indicators, as it captures cross border investments between related companies. Graph 21 compares FDI data with countries’ GDP. Certain Member States have an extremely high FDI-to-GDP ratio. For instance, the stock of Luxembourgish direct investment abroad represents nearly 58 times its GDP, while the stock of FDI in Luxembourg represents about 46 times its GDP. To a lesser extent, Cyprus, Malta, the Netherlands, and Ireland also display a stock of inward or outward foreign investment that is much larger than their respective domestic production.

GRAPH 21. FDI POSITIONS, 2020



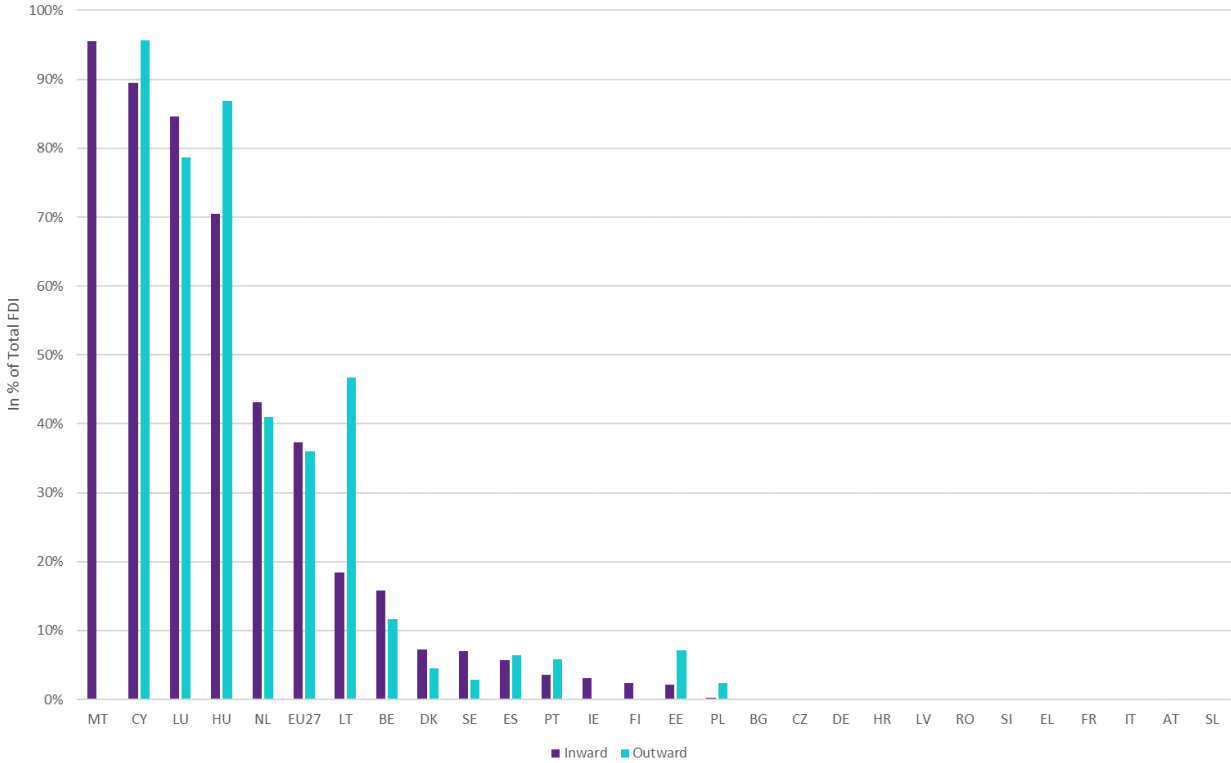
Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data codes: [bop_fdi6_pos](#) and [nama_10_gdp](#))

Notes:

- (1) FDI is the category of international investment in which an entity based in one country (the direct investor) acquires a lasting interest in an enterprise based in another (the direct investment enterprise), including through a special purpose entity (SPE), i.e. a legal entity created to fulfil narrow, specific or temporary objectives. A direct investment enterprise is one in which a direct investor owns 10% or more of the ordinary shares or voting rights (or the equivalent for an unincorporated enterprise).
- (2) Ingoing FDI or direct investment in the reporting economy (DIRE) denotes investment by foreigners in enterprises based in the reporting economy. Outgoing FDI or direct investment abroad (DIA) accounts for investment by domestic entities in affiliated enterprises abroad.
- (3) FDI stocks (or positions) denote the value of the investment at the end of the period.
- (4) Only 2019 data available for EL and SL.

In some instances, direct investment via special purpose entities (SPEs) may be a vehicle for tax planning. Although direct investment stock carried out through SPEs may have legitimate purposes (e.g. achieving a defined set of goals without putting the entire firm at risk), in some instances, SPEs may also be investment vehicles used for tax planning (e.g. 'round trip transactions'). Thus, a large proportion of direct investment stocks held through SPEs may be an indication of ATP. Here again, Graph 22 shows that in 2020 (latest available data), Malta, Cyprus, Luxembourg, Hungary and the Netherlands displayed a significant use of SPEs for both inward and outward FDI. A recent study (Demeré, Donohoe, & Lisowsky, 2020) has shown that in the United States the use of SPEs by companies has been correlated with a tax savings equivalent to 6% of the US federal corporate income tax collection.

GRAPH 22. PROPORTION OF OUTWARD AND INWARD DIRECT INVESTMENT STOCKS HELD THROUGH SPES, 2020

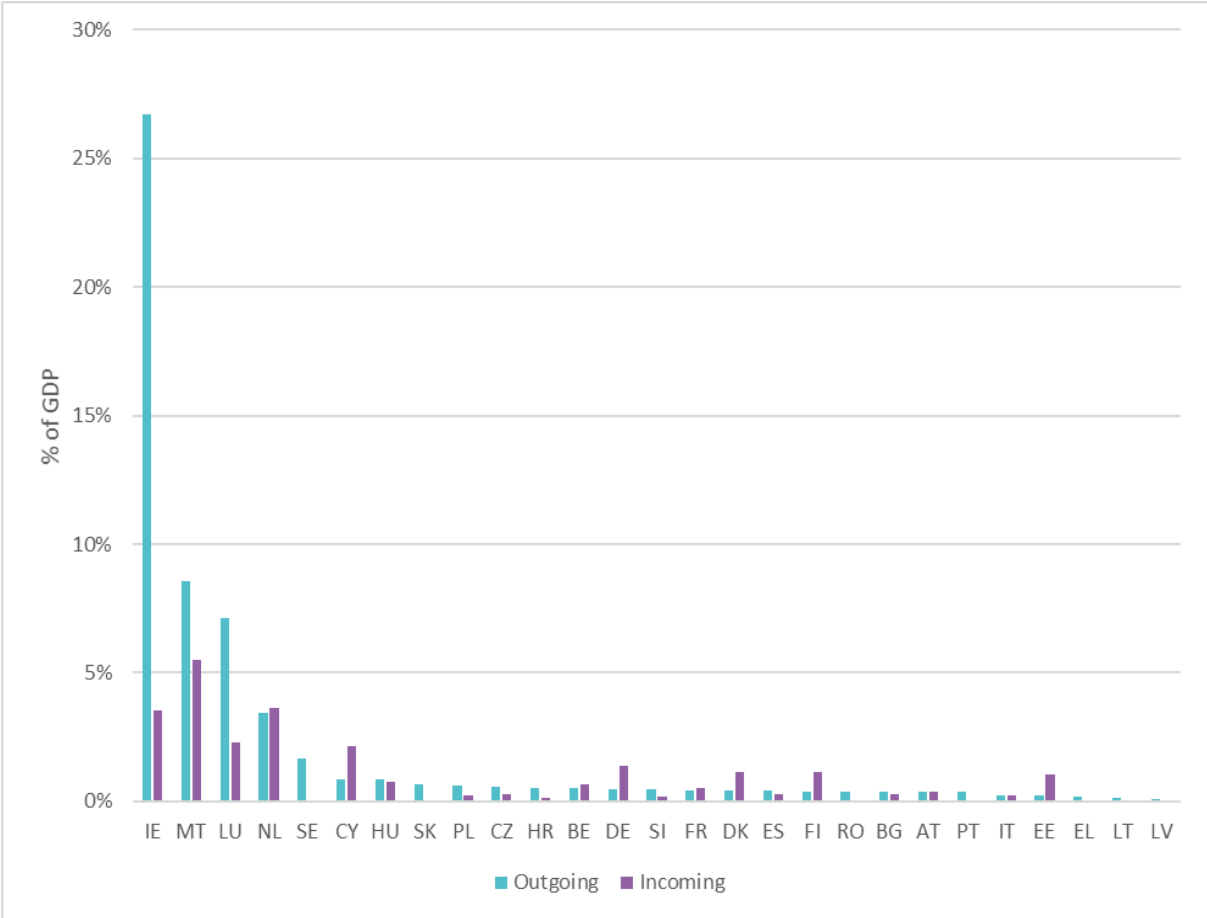


Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data codes:bop_fdi6_pos and nama_10_gdp).
 Note: Data on SPEs are unavailable for MT (outward), EL, AT and RO.

Some tax avoidance strategies involve (re)locating intangible assets (e.g. intellectual property) to jurisdictions offering favourable conditions. A high volume of royalty payments, particularly when relative to GDP, might be indicative of loopholes in tax legislation. If no withholding tax is applied by EU Member States to outgoing royalty flows towards non-EU countries, there is a risk that these payments may escape tax altogether or be taxed at a very low rate in the recipient non-EU country. As shown in Graph 23, in some countries a high proportion of these flows go to OFCs ⁽⁸¹⁾. Ireland is, by far, the country that displays the highest ratio of outgoing royalty flows relative to its GDP, with Malta, Luxembourg and the Netherlands also having high ratios. In terms of incoming royalties, Malta, the Netherlands and Ireland display the most significant flows relative to their respective GDP. Again, such indicators are not in themselves conclusive proof that a country is being used for tax avoidance purposes, but they can contribute to a body of evidence that indicates that ATP is occurring in a specific country.

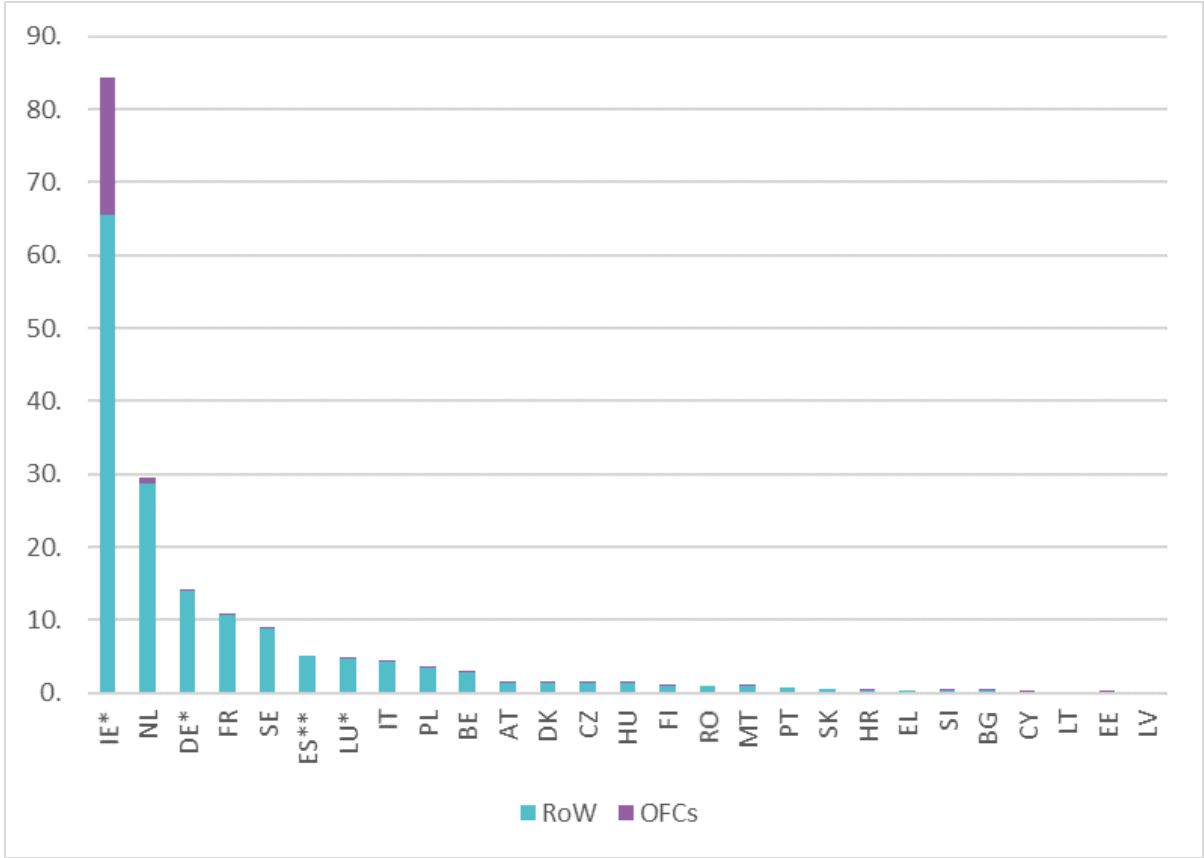
⁽⁸¹⁾ As defined by Eurostat in its Balance of payments vademecum, available at: <https://ec.europa.eu/eurostat/documents/39118/40189/BOP+Vademecum+-+December+2016/a5e89ad8-254b-485d-a9cd-521885c616e4>

GRAPH 23. CHARGES TO/FROM REST OF THE WORLD (ROW) FOR USE OF INTELLECTUAL PROPERTY (% OF GDP), 2021



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data codes:bop_its6_der and nama_10_gdp).

GRAPH 24. CHARGES PAID TO REST OF THE WORLD FOR USE OF INTELLECTUAL PROPERTY (EUR BILLION) AND PROPORTION GOING TO OFFSHORE FINANCIAL CENTRES, 2021



Source: ESTAT

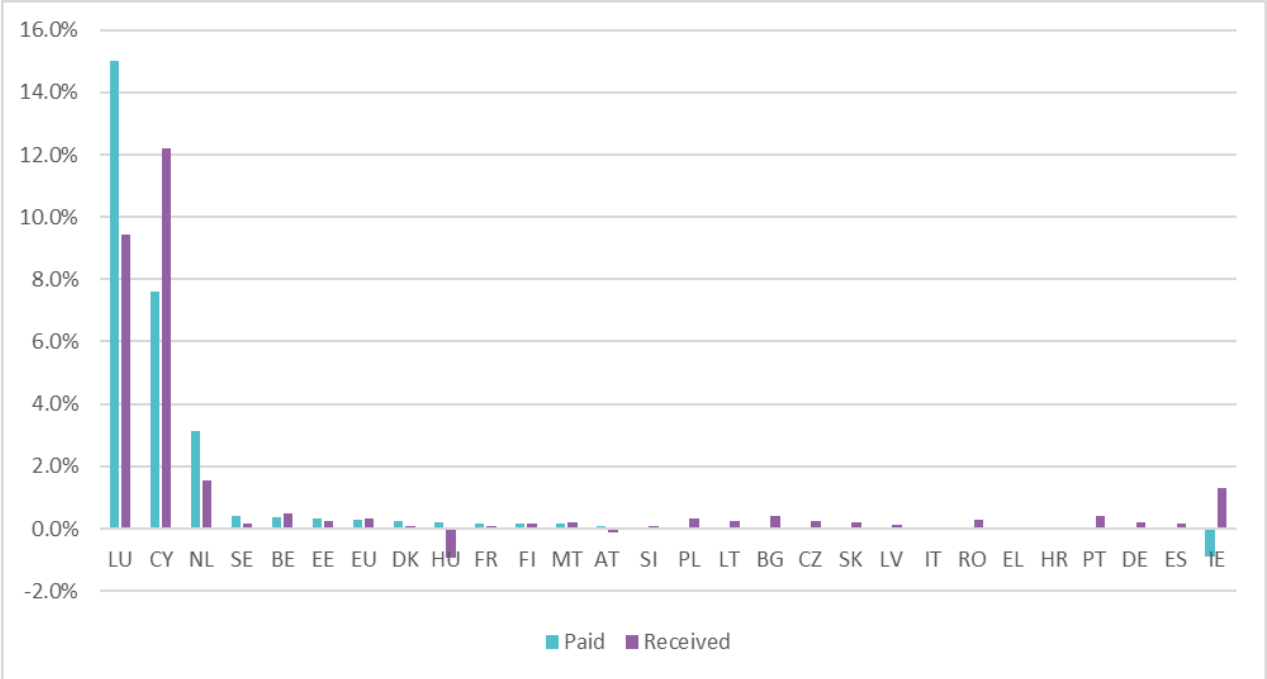
* 2020 data used as 2021 data on OFCs is confidential

** Data on OFCs is confidential for all years

Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data codes: [bop_its6_det](#) and [nama_10_gdp](#))

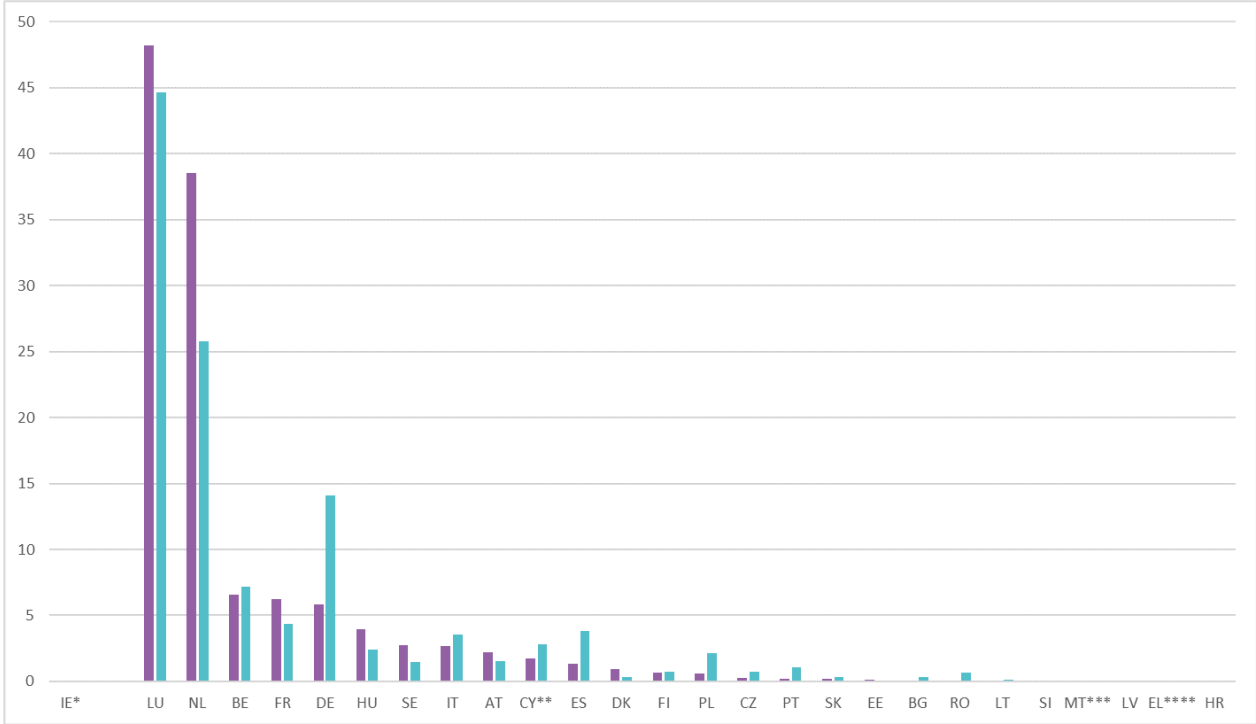
Other tax avoidance strategies involve intra-company loans from low-tax countries (where companies may benefit from low taxes on interest received) **to high-tax ones** (where they may benefit from tax deductibility on interest paid). Similar strategies may involve countries (including Member States) with high statutory tax rates but low effective tax rates on interest income, e.g. as a result of their interpretation of the transfer pricing or profit allocation rules. Graph 25 shows the inward and outward flows of interest payment in each Member States, relative to the size of their respective GDP. Once again, the ratios of incoming and ongoing interest flows to GDP for Luxembourg, Cyprus, and the Netherlands are much larger than for other Member States.

GRAPH 25. NET INCOME ON DEBT (INTERESTS) PAID/RECEIVED TO/FROM REST OF THE WORLD (% OF GDP), 2020



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data codes: bop_fdi6_inc and nama_10_gdp)

GRAPH 26. INTEREST ON DEBT PAID TO REST OF THE WORLD (EUR BILLION), 2020



Source: Commission calculation based on Eurostat data (online data code: bop_fdi6_inc)

* No data provided by the country

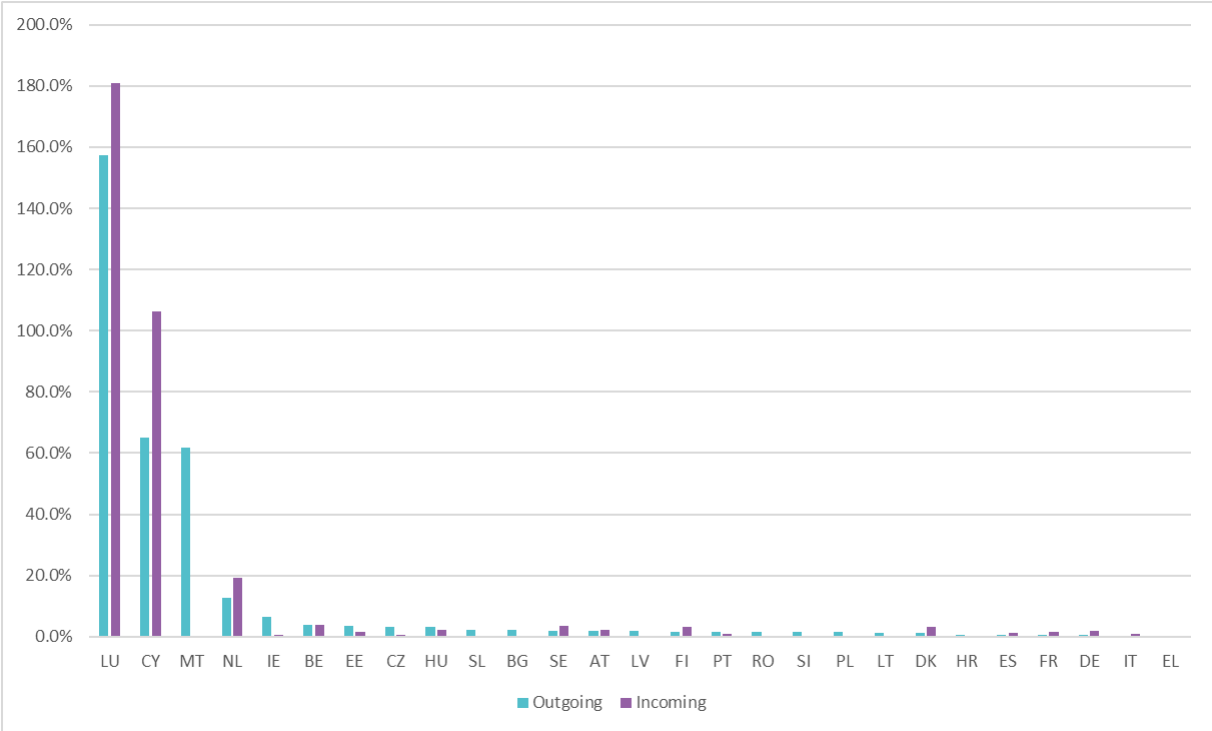
** underestimation given confidential data

*** 2019 data

**** 2018 data

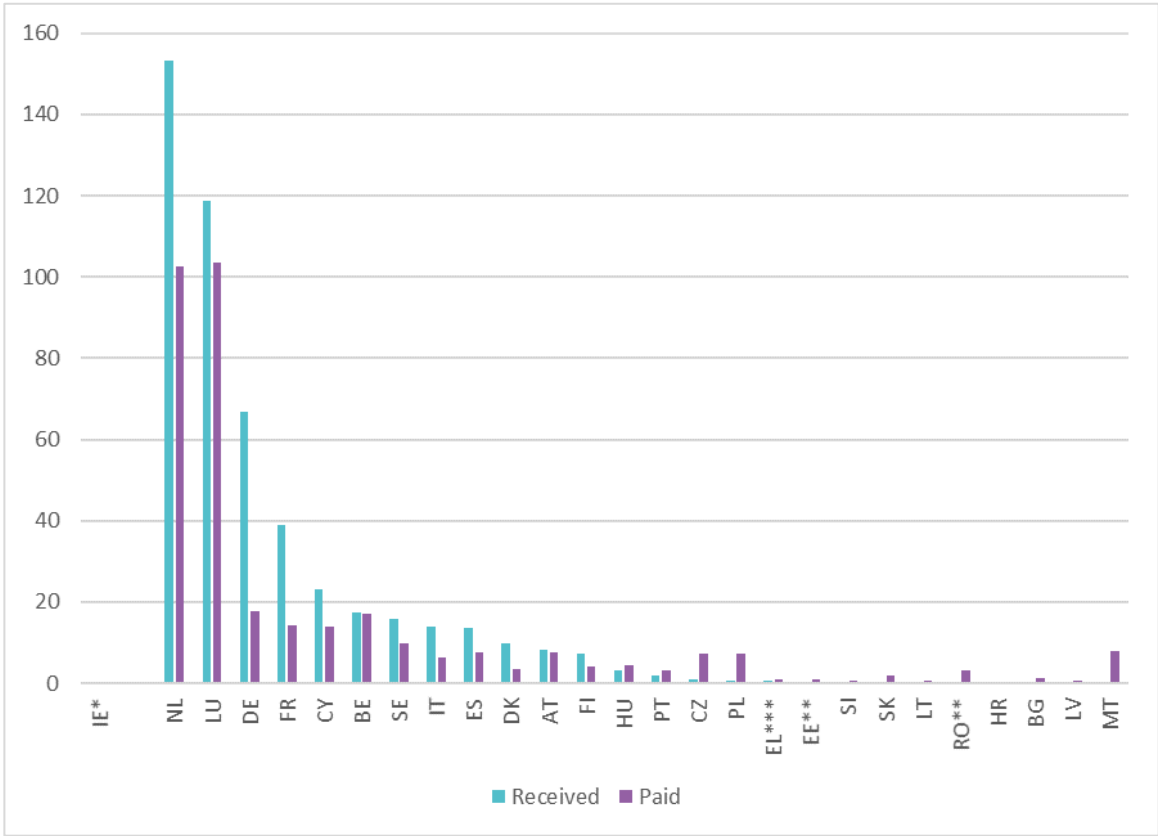
Some multinationals reroute their dividends to reduce taxation, e.g. through 'tax treaty shopping'. In the absence of withholding taxes, such payments can escape taxation if they are not taxed in the recipient jurisdiction. This results in disproportionately high flows of outgoing dividend payments. As shown in Graph 27, Luxembourg and, to a lesser extent, Malta, Cyprus and the Netherlands have a significantly high outgoing dividend-to-GDP ratio and, with the exception of Malta, incoming dividend-to-GDP ratio.

GRAPH 27. NET DIVIDEND INCOMES PAID/RECEIVED TO/FROM REST OF THE WORLD (% OF GDP), 2020



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data (online data code: [bop_fdi6_inc](#))

GRAPH 28. DIVIDEND PAYMENTS PAID TO AND RECEIVED FROM REST OF THE WORLD (EUR BILLION), 2020



Source: Commission calculation based on Eurostat data (online data code: bop_fdi6_inc)

* no data provided by the country
 ** dividend received underestimated given confidential data
 *** 2018 data

Box 4: The EU Tax Observatory

The abundance of money laundering, tax evasion and avoidance revelations over the last few years has significantly shaken the confidence of European citizens, businesses and trade unions in the robustness and fairness of EU rules against tax fraud, evasion and ATP. Therefore, the EU considers it is all the more important to ensure that stakeholders have a voice in designing initiatives aiming at strengthening European rules against tax evasion and tax avoidance.

Officially launched in June 2021, the EU Tax Observatory is an independent, research-oriented institute, whose purpose is to enhance the involvement of civil society in the advocacy, design and implementation of EU actions against tax fraud, tax avoidance, ATP and tax crimes. The Tax Observatory brings together European universities, civil society organisations, research centres, individual academics, economists, lawyers and journalists as a consortium, hosted by the Paris School of Economics and led by Professor Gabriel Zucman. It is a pilot project created by the European Commission, following the request of the European Parliament.

The Tax Observatory performs top-end research into tax fraud, evasion and avoidance, which can be used by policymakers, and stimulates discussion and debate amongst stakeholders and citizens on these topics via events and its website. Specifically, its objectives are:

- To create an independent, non-partisan, objective observatory of EU taxation, with a focus on corporate taxation.
- To perform cutting-edge research on tax avoidance, tax evasion, and ATP, at the highest

international level.

- To promote an inclusive, democratic, pluralistic debate on taxation policies across the EU.
- To inform policy-makers with the most current research findings and suggest initiatives to foster fair taxation in the EU.

Between December 2020 and June 2022, the Tax Observatory will produce 5 research papers, organise 8 events and develop a website to allow users to simulate the effect of ongoing and projected reforms of corporate taxation in user-friendly way. To date, the Tax Observatory has published 3 reports:

1. Revenue effects of collecting the tax deficits of multinational companies (i.e. defined as the difference between what multinationals currently pay in taxes, and what they would pay if they were subject to a minimum tax rate in each country).
2. Profit shifting by European banks: evidence from country-by-country data.
3. New Forms of Tax Competition in the European Union: An Empirical Investigation

Organised 3 events:

1. Online Conference – European Banks in Tax Havens: Evidence and Countermeasures (08 September).
2. Webinar with the Brussels Office of the Austrian Federal Chamber of Labour and the Brussels Office of the Austrian Trade Union Federation (13 October) on Effective Minimum Tax Implementation in the EU: What alternatives to unanimity.
3. 3-day online conference (27-29 September) on the fiscal and distributional consequences of global tax avoidance and tax evasion, with high level of participation from institutions and academics (co-organised with the JRC and TAXUD).

And set up a website containing a public repository on tax evasion, tax avoidance and ATP in the EU: <https://www.taxobservatory.eu>

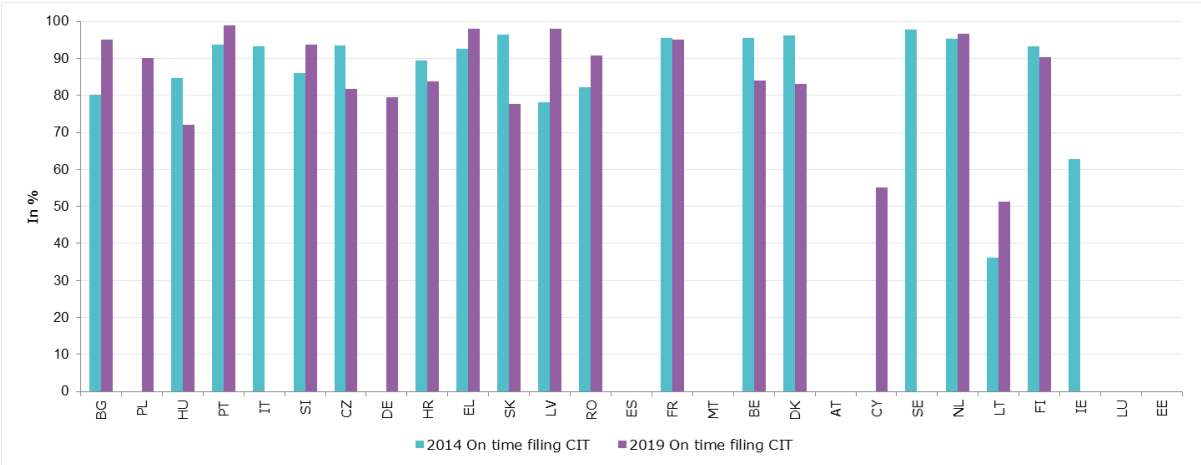
2.4 Stability and simplicity

2.4.1 Improving efficiency of tax administration

Effective and efficient tax administrations and a high degree of tax certainty for taxpayers are essential for encouraging compliance importantly investment and competitiveness. Taxpayers tend to have greater trust in tax administrations that are perceived to be efficient and effective. Well-functioning tax administrations provide tax certainty, which helps create a supportive business environment. This section looks at various indicators of Member States' scope to improve their tax administration and offer more tax certainty. It also presents several recent projects of the Tax Administration EU Summit (TADEUS), the forum for strategic dialogue and cooperation among heads of tax administrations (see box 5 for further information).

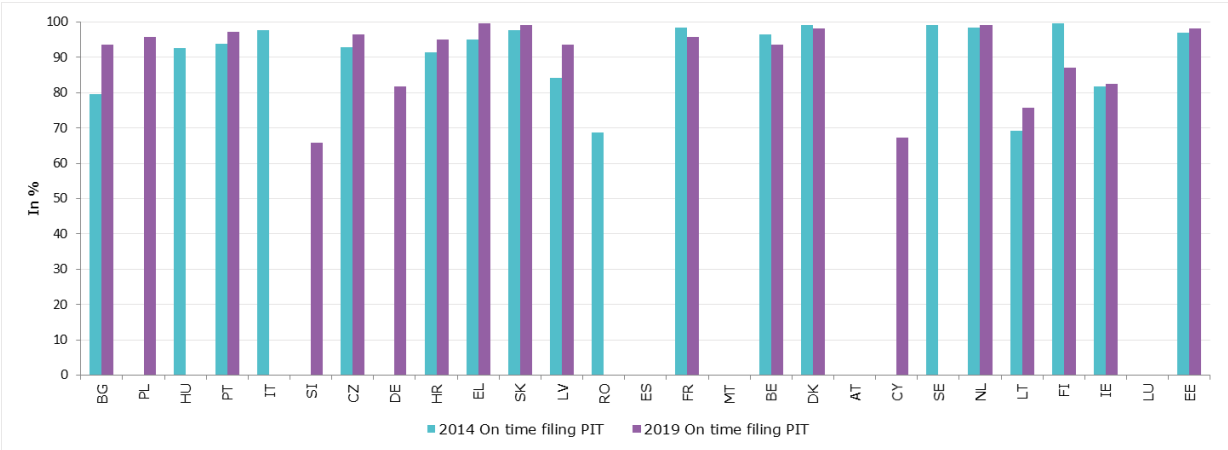
An indicator for the efficiency of a tax administration is the degree to which tax returns are duly filed. Graph 29 and 30 below shows the on-time filing rates of CIT returns and PIT returns across Member States over time. As can be seen, time spent filing tax returns has increased between 2014 and 2019 for most Member States with some exceptions. The graphs can also be interpreted in an alternative way: the extent of on time filing are also a reflection of compliance costs for taxpayers, the more businesses and individuals are able to file tax returns on time, the lower the compliance costs are as otherwise one would expect more late filings of returns.

GRAPH 29. ON TIME FILING OF CORPOPRATE INCOME TAX RETURNS (IN %) ACROSS MEMBER STATES 2014-2019



Source: OECD, Tax Administration 2021 and Tax Administration 2017, retrieved at https://www.oecd-ilibrary.org/taxation/tax-administration-2021_cef472b9-en and https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en-
 Note: No data is available for ES, MT, AT, LU and EE.

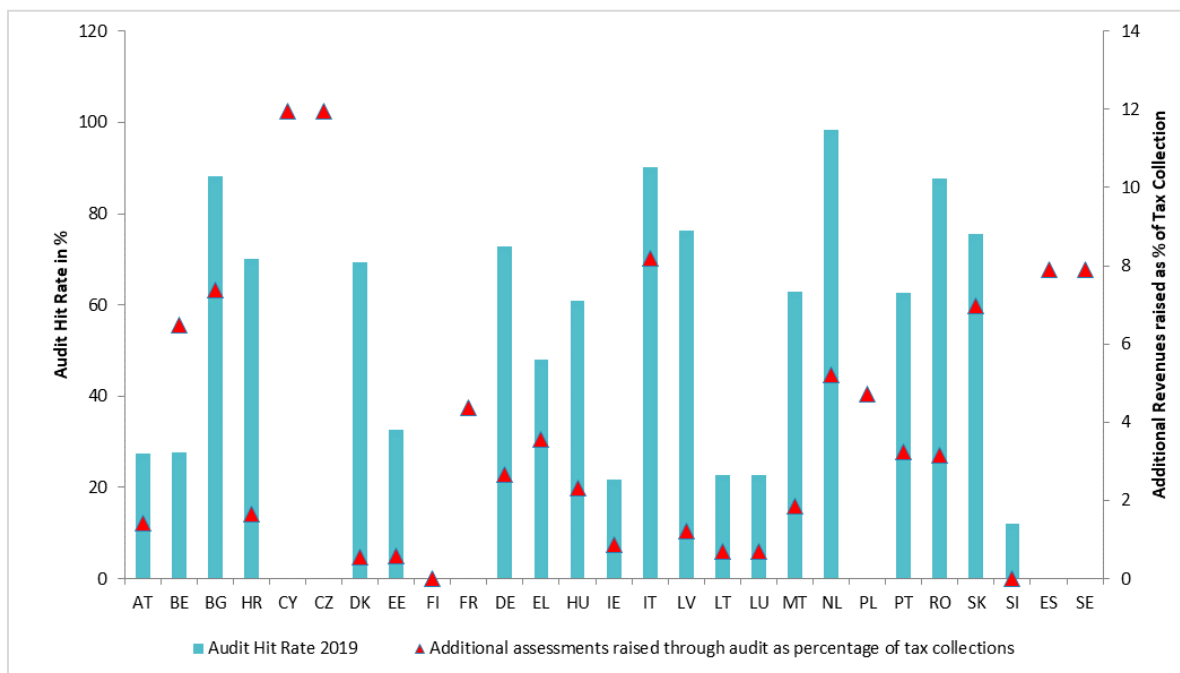
GRAPH 30. ON TIME FILING OF PERSONAL INCOME TAX RETURNS (IN %) ACROSS MEMBER STATES 2014-2019



Source: OECD, Tax Administration 2021 and Tax Administration 2017, retrieved at https://www.oecd-ilibrary.org/taxation/tax-administration-2021_cef472b9-en and https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en-

Another proxy for the efficiency and effectiveness of tax administrations are audit hit rates and the additional tax revenues generated through audits. These measures are displayed in Graph 31 below. The graph displays the share of successful audits (blue bar) and the additional revenue collected by tax authorities through their audit programs (purple triangle). A number of Member States have rather effective audit programs with audit hit rates above 60% such as Bulgaria, Croatia, Denmark, Netherlands, Italy, or Romania. Higher audit hit rates can of course also be indicative of higher amount of underlying propensity to evade taxes in the respective Member State. The additional revenue generated from audits is high for Cyprus, Czechia, Bulgaria and Italy. As for the audit hit rate, the high amount of additional taxes collected from tax audits can also be indicative of more tax evasion.

GRAPH 31. AUDIT HIT RATE AND ADDITIONAL REVENUES GENERATED THROUGH AUDITS, 2019



Source: OECD, Tax Administration 2021 and Tax Administration 2017, retrieved at https://www.oecd-ilibrary.org/taxation/tax-administration-2021_cef472b9-en and https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en

Moreover, the efficiency of a tax administration is increasingly also a function of the degree of digitalisation of tax collection services. Graph 32 and 33 illustrate the degree of digitalisation of tax administration services across Member States. Overall, the share of e-filing has increased between 2014 and 2019 in all Member States where such comparison is possible. The vast majority of Member States now fully rely on e-filing for corporate income tax returns.

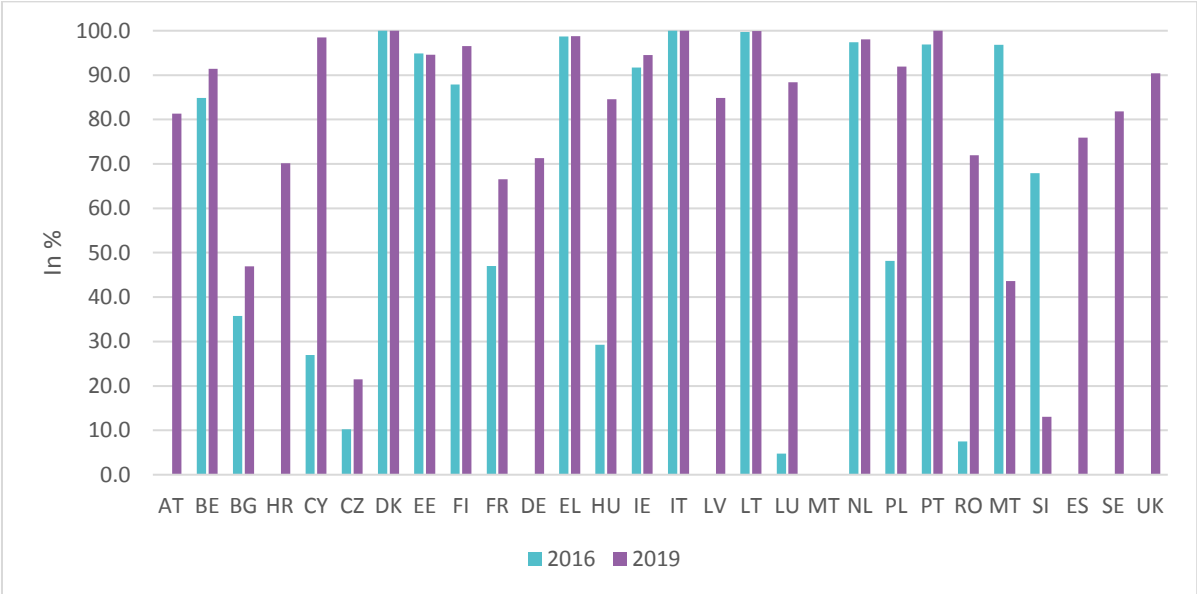
This trend is similar for e-filing rates of personal income taxes even though the degree of digitalisation is less pronounced here. Overall, however, e-filing rates of personal income taxes have also increased with many Member States having e-filing rates close or at one hundred percent. A more detailed discussion on the digitalisation of tax administrations and e-filing can be found in section 5.2.

GRAPH 32. SHARE OF E-FILING OF CORPORATE INCOME TAX RETURNS (% OF TOTAL), 2016-2019



Source: OECD, Tax Administration 2021 and Tax Administration 2017, retrieved at https://www.oecd-ilibrary.org/taxation/tax-administration-2021_cef472b9-en and https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en
 Note: No all the data is available for EE, LV, MT, ES, SE, UK.

GRAPH 33. SHARE OF E-FILING OF PERSONAL INCOME TAX RETURNS (% OF TOTAL), 2016-2019



Source: OECD, Tax Administration 2021 and Tax Administration 2017, retrieved at https://www.oecd-ilibrary.org/taxation/tax-administration-2021_cef472b9-en and https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en

2.4.2 Tax cooperation between tax administrations

The Tax Administration EU Summit (TADEUS) provides a new form of cooperation at senior management level. The cooperation network among heads of EU tax administrations and the Commission can better address common challenges faced by EU countries in today’s era of globalisation and digitalisation. Furthermore, through its Structural Reform Support Programme

2017-2020 ⁽⁸²⁾ and now the Technical Support Instrument 2021-2027 ⁽⁸³⁾, the Commission is in a strong position to provide targeted and tailor-made technical support to EU countries.

Box 5: TADEUS projects

The Tax Administration EU Summit (TADEUS) brings together the heads of Member States' tax administrations on a regular basis to develop their cooperation since 2018 ⁽⁸⁴⁾. TADEUS launch common projects to address their mutual challenges. The merit of these projects lies in producing results that can be achieved only, or more easily, through cooperation.

2021 saw the following achievements delivered, with the help of TADEUS:

- Amending the Directive on administrative cooperation in the field of taxation (DAC), to extend the EU tax transparency rules to the digital platforms [for further information about the so-called DAC7 rules, adopted by the Council in 2021, please consult Section 5.4.]. The TADEUS project on 'Digital and data' provided a sound technical basis regarding the mandatory automatic exchange of information reported by platform operators.
- Establishing a new governance and strategy accompanied with an Implementation Action Plan for Eurofisc, a network of Member States' anti-VAT fraud experts ⁽⁸⁵⁾, to ensure it meets its potential. One of the recommendations was implemented in 2021 by setting up an Advisory Board for Eurofisc. Among its members are TADEUS representatives who serve as a direct link between the senior management of Member States' tax administrations and Eurofisc, to accelerate and facilitate crucial decisions, thus helping more effectively to combat cross-border VAT fraud.

With the help of two finalised projects, EU tax administrations now have tailor-made tools at their disposal, to take better informed decisions in the following fields:

- Compliance risk management: the project on 'Enabling building trust and ensuring compliance' helps create and use trust in relation to taxpayers and explains what tools tax administrations should use to build trust and maintain tax compliance.
- Human resources management: the HR management agility and readiness model tool helps measure tax administrations' human resources capability by monitoring and testing the effectiveness of human resource functions. TADEUS encourages Member States' tax administrations to use this tool together with the EU tax competency framework ⁽⁸⁶⁾.

The following two TADEUS projects are ongoing:

- Monitoring the performance of administrative cooperation in the EU, to improve the identification of business results achieved thanks to administrative cooperation and draw lessons from it for future improvement in this area.
- Estimations of tax gaps (personal income tax/social security contributions, corporate income tax, missing-trader intra-community fraud and value added tax e-commerce) to get ultimately a better insight in the effects of different policy interventions on compliance.

⁽⁸²⁾ Regulation (EU) 2017/825 of the European Parliament and of the Council of 17 May 2017 on the establishment of the Structural Reform Support Programme for the period 2017 to 2020 and amending Regulations (EU) No 1303/2013 and (EU) No 1305/2013.

⁽⁸³⁾ Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument.

⁽⁸⁴⁾ See: https://ec.europa.eu/taxation_customs/taxation-1/tax-co-operation-and-control/tax-administration-eu-summit-tadeus_en

⁽⁸⁵⁾ See: https://ec.europa.eu/taxation_customs/taxation-1/vat-and-administrative-cooperation_en

⁽⁸⁶⁾ For more information, see: https://ec.europa.eu/taxation_customs/eu-training/taxcompeu-eu-competency-framework-taxation_en#:~:text=The%20EU%20competencies%20are%20further,Competencies%20and%20Tax%20Management%20Competencies.&text=The%20Management%20Competencies%20are%20targeted,set%20of%20Tax%20Core%20Values.

As far as **future work** is concerned, TADEUS intends to organise a workshop to allow for an exchange of experience and good practices as regards tax administrations' most pressing digitalisation challenges and requirements in the EU.

Box 6: Technical Support Instrument (TSI) projects

In designing and implementing the growth-enhancing and inclusive reforms required, Member States can count on support from the European Commission through the Technical Support Instrument ⁽⁸⁷⁾ in areas such as green transition, healthcare, public finances, digitalisation of education and public services, the business environment and financial sectors. Member States can also request support to prepare, implement and revise their national Recovery and Resilience Plans under the Recovery and Resilience Facility.

The TSI 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.

Smart, sustainable and socially responsible reforms help to strengthen the resilience of our economies and societies. The TSI offers Member States a service to help them tackle reform challenges. The support can take the form of, for example, strategic and legal advice, studies, training and expert visits on the ground. It can cover any phase in the reform process, from preparation and design to development and implementation of the reforms.

In the domain of taxation, an area of focus of TSI is tax compliance. Enhancing tax compliance is a key component of effective resource mobilisation. Tax authorities have been developing new approaches to increase voluntary compliance, manage non-compliance, minimise compliance costs and enhance overall trust in the tax system. TSI can help in the design and implementation of compliance management.

Examples of projects financed under TSI in the area of tax compliance include:

- 1. Enabling framework for implementation of behavioural economics in debt collection (Belgium).** The objective of the technical support project was to improve tax debt collection. The project aimed to share best practices to explore new testable approaches towards non-compliant taxpayers, provide expert consultancy and advice to set up, follow up and analyse the results of field experiments. In addition, the project carried out an expert workshop, innovation camp and training of officials. The technical support project resulted in a digital strategy and a communication awareness strategy, leading to new digital means to improve debt collection.
- 2. Support to the Latvian State Revenue Service in the Implementation of the Mid-Term Tax Strategy of the Government of Latvia.** The objective of the technical support project was to increase the collected tax revenues and reduce the tax gap. Through recommendations for a compliance risk management system, tax gap analysis and recommendations to strengthening the tax audit function, the technical support project resulted in an increase in tax compliance. This contributed to a reform-momentum to further improve tax compliance by strengthening the tax administration as stated in the Latvian RRP.
- 3. Implementation of the compliance risk management model (CRM) in the National Revenue Administration (Poland).** The objective of the technical support project was to

⁽⁸⁷⁾ See: https://ec.europa.eu/info/funding-tenders/find-funding/eu-funding-programmes/technical-support-instrument/technical-support-instrument-tsi_en

introduce an effective comprehensive risk management mechanism. The project included working visits to other Member States' under FISCALIS to identify and share best practices, as well as expert consultancy and advice to implement a modern CRM system at the level of the large taxpayer offices. The technical support project resulted in the development and adoption of a comprehensive CRM strategy.

Faced with climate change and environmental degradation, Member States need to design and implement reforms that support the green transition and contribute to achieving the goals of the European Green Deal. The TSI helps them to respond to these challenges where reforms are needed. Several projects in the area of environmental tax reforms are ongoing, notably in Cyprus, Italy, Hungary, Netherlands, Portugal and Spain.

Under TSI, a **new flagship initiative “Greening taxes - applying polluter pays principle in practice”** has been launched recently. This flagship will help to build capacity to design and implement green structural fiscal reforms that generate revenues and support implementation of environmental objectives. It will operationalise the implementation of ‘the polluter pays principle’ through a development of pricing instruments. The objective is to eliminate/reduce polluting behaviour or, if that is not fully achievable, to make sure that polluters pay for the damage they cause. The flagship will support the design of and recommendations for policy instruments in areas related to biodiversity, zero pollution and circular economy. This flagship identifies two phases: 1) Introduction to environmental taxation and 2) Tailored support to design environmental taxation measures/reforms and estimate their impacts. Member States can choose to sign up for both phases or for one of them. The specific actions to be financed include, for instance:

- Assessing and analysing the state-of-play.
- Recommendations and development of an economic estimation tool/methods to forecast simulations of the tax base and revenues, including economic behaviour (tax elasticities), and analysis regarding green taxation and other market based economic instruments.
- Policy recommendations for future reforms, including estimations of the social, economic and environmental impacts, and targeted workshop.
- Action plan for implementing a new reform/measures for green taxation and other market based economic instruments
- Trainings/workshops.

2.4.3 The Directive on administrative cooperation (DAC) in the field of taxation

During 2021, the first reporting under DAC6⁽⁸⁸⁾ took place. DAC6 is an amendment to Directive 2011/16 on administrative cooperation in the field of taxation and covers mandatory automatic exchange of information in relation to reportable cross-border arrangements. It provides for mandatory disclosure of potentially aggressive cross-border arrangements by intermediaries or taxpayers to the tax authorities and mandates automatic exchange of this information among the EU Member States. The purpose of DAC6 is to enhance transparency ideally before implementation of a new arrangement, reduce uncertainty over beneficial ownership and dissuade intermediaries from designing, marketing and implementing harmful tax structures. By 31 October 2021 approximately 32 000 reports had been submitted. It should be noted that the reports submitted were going back to 2018, which could explain the high number in this first year of reporting.

On 22 March 2021 Directive 2021/514, “DAC7”, was adopted. The Directive is an amendment to Directive 2011/16 and extends its scope to income derived from the growing platform economy. First exchanges of information are expected to take place in 2023. During 2021 the Commission has been preparing the implementing acts for the Directive and has worked on the necessary IT elements for the application of the Directive. These IT elements include XML schema that should be used to report information to tax authorities. Also covered is the design of a central

⁽⁸⁸⁾ See: Council Directive (EU) 2018/822

directory to be used by Member States for the registration of non-EU platforms in a common central point.

The Commission is preparing a proposal for an amendment to Directive 2011/16 (“DAC8”) which is intended to cover mainly the reporting and exchange of information for tax purposes related to transactions with crypto-assets. This initiative is designed to ensure consistency with ongoing work in other related policy areas at EU level, such as the anti-money laundering and terrorism financing package proposed in July 2021 and the proposal for a Regulation of Markets in Crypto-assets (MiCA) ⁽⁸⁹⁾, and with developments in this field at international and OECD level. For a more detailed discussion on crypto-assets, see Section 5.2.3.

In parallel to the work on proposing and implementing new legislation concerning the administrative cooperation in direct taxation, the Commission is working together with Member States in order to ensure a correct and effective application of the provisions of the Directives. This work is carried out at regular meetings in expert groups such as the Working Group on Administrative Cooperation in Direct Taxation, the Subgroup on Automatic Exchange of Information and the Small Subgroup Electronics Form for Direct Taxes. Projects financed under the Fiscalis 2020 program are carried out by Member States with the support of the Commission to find common solutions, exchange best practices or agree on guidance.

On 27 January 2021 the European Court of Auditors (ECA) published a report ⁽⁹⁰⁾ on the DAC and its implementation and use. The audit covered the period 2014 to 2019. ECA assessed the legislative framework that the Commission has proposed and put in place, and has examined how well it has monitored the implementation and performance of the information exchanged system. ECA also visited five Member States to assess how they are using the exchanged information and how they are measuring the effectiveness of the system. The overall conclusion of the ECA’s report was that the system for exchange of tax information has been well established, but more needs to be done in terms of monitoring, ensuring data quality and using the information received. Among other things, the ECA called on the Commission to improve monitoring by carrying out on the spot visits. It also recommended that measures should be introduced to ensure that Member States report all categories of income and all categories of information, such as the Tax Identification Number (TIN). The exchange of tax rulings should also be expanded to cover for instance cross-border rulings for natural persons. The ECA also highlighted that there is a need for an EU framework for monitoring the system’s performance and achievements. The deadlines set by the ECA for the implementation of the recommendations ranges from end of 2022 to the end of 2023.

The European Parliament adopted a non-legislative resolution on the implementation of EU requirements for exchange of tax information on 16 September 2021. The resolution refers to a number of points where improvements could be made that are essentially similar to those of the ECA report. In this vein, it calls on the Commission to expand the current scope of the information which is automatically exchanged, to address the lack of quality of data sent by the Member States, and asks for more harmonised and effective sanctions. It regrets that the Commission is not more proactively monitoring the implementation of the Directive. In addition, the resolution contains more detailed description of items that are considered as in need of further action. One such area is the reporting obligations of financial institutions where there are a number of proposals for widening these obligations. The report also addresses so-called “golden visa” schemes and urges the Commission to act. Another element of the report highlights the need to use the outcome of the work done in the context of the Global Forum on Transparency and Exchange of Information (Global Forum) ⁽⁹¹⁾ and the Financial Action Task Force (FATF) ⁽⁹²⁾ to

⁽⁸⁹⁾ See: Proposal for a Regulation of the European Parliament and the Council on markets in crypto-assets, COM(2020)593 final.

⁽⁹⁰⁾ See: European Court of Auditors, Special Report: Exchanging tax information in the EU: Solid foundation, cracks in the implementation, 2021.

⁽⁹¹⁾ The Global Forum on Transparency and Exchange of Information for Tax Purposes is an international body working on the implementation of global transparency and exchange of information standards around the world.

⁽⁹²⁾ FATF is the global money laundering and terrorist financing inter-governmental watchdog.

launch infringement procedures against Member States. The close link to all work on anti-money laundering is also emphasised.

Box 7: Administrative cooperation on VAT: international developments for administrative cooperation on VAT and recovery

The EU Member States benefit from a legal ⁽⁹³⁾ and operational framework for administrative cooperation to protect the internal market from VAT fraud. Recent global developments have shown that the internal market is also harmed by fraudsters established in non-EU countries.

As part of the “Action Plan for fair and simple taxation supporting the recovery strategy” ⁽⁹⁴⁾, the Commission commits to strengthen administrative cooperation with non-EU countries in the field of VAT. The objective is to provide Member States with the necessary tools to enforce the VAT due by suppliers established in non-EU countries but selling to EU customers.

In the field of e-commerce, the implementation of the VAT e-commerce package ⁽⁹⁵⁾ will help to make the EU VAT system more fraud-proof (e.g. abolition of the threshold for small consignments) and facilitate compliance. In addition, the recently introduced administrative cooperation tools in the field of VAT ⁽⁹⁶⁾ and the use of payment data through the Central Electronic System of Payment Information “CESOP” ⁽⁹⁷⁾ will help detect fraudsters.

Mutual administrative assistance with non-EU countries is the logical necessary step to complete the above range of tools **ensuring compliance**, antifraud measures and to enforce the **collection of the missing VAT**. Furthermore, cooperation with third countries is useful in order to learn about each other’s tax administration practices and keep each other informed of the respective relevant VAT policies and legal initiatives, thus facilitating mutual assistance.

The EU has already concluded international agreements to fight against fraud and for recovery assistance in the field of VAT with Norway and the United Kingdom. These international agreements are similar to the existing EU cooperation framework in the field of administrative cooperation for the exchange of information, fighting VAT fraud and recovery assistance. Exploratory talks are ongoing with China, Japan, New Zealand and Canada.

⁽⁹³⁾ Council Regulation (EU) No 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax OJ L 268, 12.10.2010, p. 1.

⁽⁹⁴⁾ Communication from the Commission to the European Parliament and the Council COM(2020) 312 final.

⁽⁹⁵⁾ Council Directive (EU) 2017/2455, Council Regulation (EU) 2017/2454, Council Implementing Regulation (EU) 2459/2017.

⁽⁹⁶⁾ Council Regulation (EU) 2018/1541, Commission Implementing Regulation (EU) 2020/194.

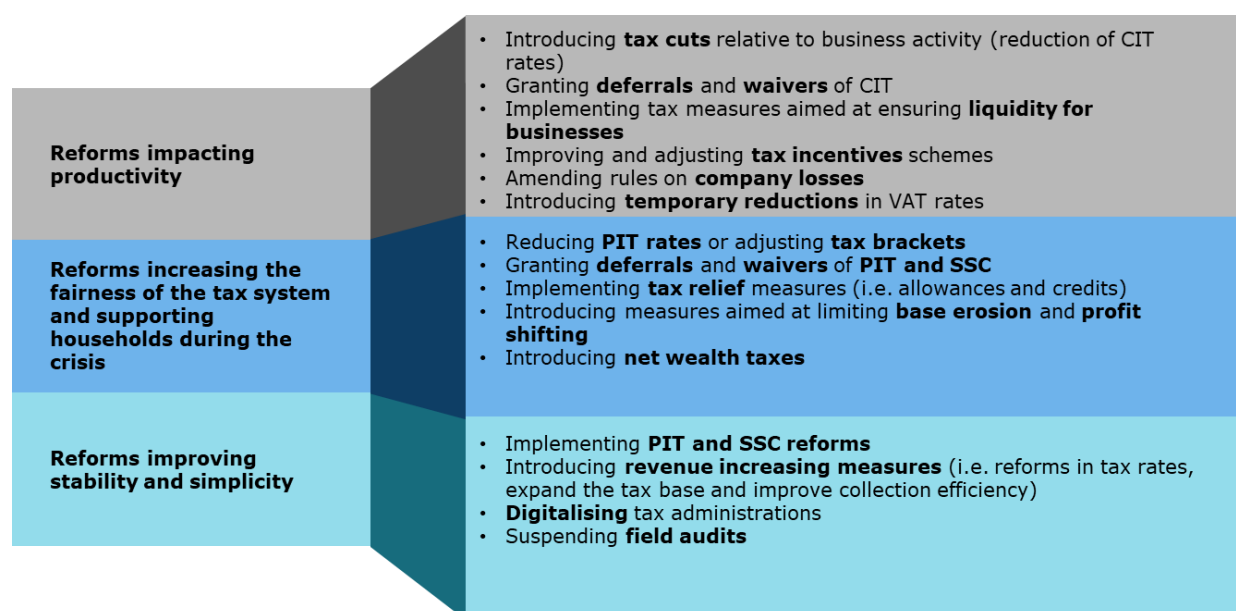
⁽⁹⁷⁾ Council Directive (EU) 2020/284, Council Regulation (EU) 2020/283, comes into force in January 2024.

3

RECENT TAX REFORMS IN THE EU

This chapter complements Chapter 2 by focusing on the most recent tax policy reforms and COVID-19 crisis measures. It presents the reforms Member States introduced or announced between March 2020 and March 2021⁽⁹⁸⁾. The information in this chapter is based on the tax reform tables included in the Taxation Trends Report (European Commission, 2021g). In some cases, this information is complemented with data from other sources, such as information provided by Member States in their national reform programmes and stability or convergence programmes⁽⁹⁹⁾. While comprehensive, the list of mostly COVID related reforms is non-exhaustive. The graph below provides an **overview of the recent tax reforms** in the EU which are explained in further detail in the paragraphs below.

GRAPH 34. OVERVIEW OF RECENT TAX REFORMS IN THE EU



3.1 Recent reforms in EU Member States

3.1.1 Reforms impacting productivity

Tax measures have played a substantial role in helping businesses alleviating the cost of the crisis and supporting their economic recovery. Tax measures have been key in providing liquidity support to businesses. Because of the crisis, many businesses have been forced to stop or significantly reduce their activity, triggering urgent liquidity issues. If not dealt with in time,

⁽⁹⁸⁾ Specifically, it covers reforms announced or implemented during this time period based on a joint questionnaire of the OECD and European Commission (OECD, 2021a). For an analysis of reforms in previous years, see previous editions of this report: (European Commission, 2016b); (European Commission, 2017b); (European Commission, 2018a), (European Commission, 2020b); (European Commission, 2021d).

⁽⁹⁹⁾ For more information, see: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/european-semester-timeline/national-reform-programmes-and-stability-or-convergence-programmes_en

liquidity issues may have transformed into a solvency crisis and eventually bankruptcies – which could have a possible domino effect. Even once government gradually started to ease lockdown measures imposed on businesses, their capacity to resume their activity has been severely constrained, notably because of the continuous physical distancing measures, the cautious behaviour that has kept some customers away and the damage to supply chains. A liquidity crisis also makes it harder for businesses to continue paying wages, putting many jobs at risk and creating financial hardship for households. According to Eurostat, the number of employed individuals fell by 5 million between the second quarter of 2019 and second quarter of 2020, before increasing by 3 million between the second quarter of 2020 and the second quarter of 2021. While the recovery is positive, the situation remains fragile and sectoral and partial lockdowns have been reinstalled at the end of 2021, with a possible impact on the rate of recovery.

Several Member States introduced tax cuts relative to business activity since March 2020. Croatia lowered its CIT rate from 12% to 10% on revenue up to HRK 7.5 million (approximately EUR 1 million). France increased the eligibility threshold for SMEs to benefit from the preferential 15% CIT rate and introduced a permanent reduction in production taxes for companies in the industrial sector. Hungary reduced its small business tax rate from 12% to 11% and increased the eligibility threshold to HUF 3 billion (EUR 8.2 million) for both turnover and total assets. Slovakia abolished its bank levy in 2020. To support the transport sector, Czechia reduced its road tax on trucks by 25%. Poland postponed the entry into force of a retail **SALES** tax.

Deferrals and waivers were also granted in some Member States. CIT deferrals granted in response to the health crisis were extended in Austria and Italy. Tax waivers were introduced in Italy and Portugal for SMEs, in Hungary for the tourism sector and in Italy for the shipping sector. In some cases property taxes for businesses were waived altogether (Czechia), while in others, the payments of these taxes were deferred (Bulgaria, Greece, and Spain).

Member STATES also introduced other tax related measures to ease the liquidity crisis and to support businesses' productivity. These included discounts for early or on time tax payments (Belgium and Greece), the waiving of prepayments for CIT and tax for incorporated business (Luxembourg, Portugal, Slovenia and Greece) ⁽¹⁰⁰⁾ and the relaxation of the requirements for tax relief for bad debt (Estonia). Ireland reduced the penalties on late payments of tax liabilities.

Many measures introduced in 2020 have been prolonged in 2021, but some have been adjusted to focus on businesses most affected by the crisis. As highlighted in the Annual Report on Taxation 2021, quick and large tax measures were needed at the start of the pandemic, but the lasting crisis and the significant costs call for more targeted measures as to maximise the impact while avoiding excessive fiscal costs. The length of the crisis also helped to better identify businesses and sectors in need of financial support and expand eligibility for relief to those not initially covered (e.g. in Italy, Lithuania) or increased the scale of initial reliefs where the initial relief was insufficient (e.g. Germany and Italy).

Member States also amended existing tax incentives and introduced new measures to incentivise investment. Several countries strengthened their tax incentives to support investment in new machinery and equipment (e.g. Portugal, Sweden). Sweden announced an Investment Tax Incentive that will enter into force in 2022. Lithuania introduced a tax holiday of up to 20 years for companies contracting significant investment in predominantly digital projects up until 2025. Portugal introduced a temporary special investment tax credit of up to 20% of investment expenses (up to EUR 5 million). Other Member States changed provisions related to depreciation and write-offs such as increasing thresholds for write-offs of low-value assets (Czechia and Finland), introducing new or modifying the existing provisions for the depreciation of assets (Austria, Belgium, Czechia, Germany, Denmark and Spain). The choice of depreciation mechanism (declining balance, enhanced or accelerated) varied across the countries. Some countries expanded their tax incentives schemes for R&D&I (Germany, Finland, Italy and Spain).

⁽¹⁰⁰⁾ Greece targeted this measures to the sectors affected the most by the pandemic.

Italy introduced a new tax credit for R&D and investment in innovative technology (available until 2022) and strengthened the existing R&D tax credit for firms operating in southern Italy.

At EU level, the European Commission, in its Communication on *Business Taxation in the 21st Century* ⁽¹⁰¹⁾ also put forward a recommendation on the treatment of losses to help businesses, and especially SMEs, to maintain sufficient cash flows. The Commission recommended that Member States allow businesses to carry back losses incurred in 2020 and 2021 to at least the previous fiscal year and up to 2017. Allowing businesses to offset losses against past profits enables them to address liquidity problems and has the advantage that most Member States have the necessary administrative framework already in place for tax authority to provide a refund to taxpayers, thus enabling them to act quickly. The recommendation limits the loss to EUR 3 million per year, to avoid abuse.

Rules regarding losses were changed by several Member States during this period. Austria, Belgium, Czechia, France, Germany and Poland introduced loss carry back provisions. A few Member States eased or extended existing loss carry-forward rules (Portugal, Slovakia).

Many countries introduced temporary VAT rate reductions to mitigate the economic effect of the pandemic. Germany and Ireland implemented reductions in their standard rate, and Germany in its reduced rate. Austria, Belgium, Germany and Hungary reduced VAT for restaurant meals and the beverages sector. Austria, Belgium, Czechia, Greece, Hungary and Ireland reduced the rate for the tourism industry. VAT reductions were introduced for cultural and sporting services in Austria, Czechia, Greece, Netherlands, Portugal; and for specific healthcare supplies in Austria, Belgium, Czechia, Finland, France, Greece, Ireland, Italy, Lithuania, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain. The extent to which certain sectors and products or services are covered by these reductions varies between Member States. Belgium and Greece, for example, implemented a temporary VAT zero rate of staff secondments to healthcare institutions and introduced safeguards to avoid potential triggering of any VAT liability on items donated by businesses to healthcare institutions. Germany reduced its standard VAT rate from 19% to 16% until the end of 2020 (for six months in total) and lowered its general reduced rate to 5% during the second half of 2020 (two percentage points lower).

Besides the cuts in VAT rates, countries introduced other measures as well. Croatia doubled the eligibility threshold for the application of the VAT cash accounting scheme, which allows businesses to account for the VAT on their sales on the basis of the payments they receive rather than on the invoices they issue (OECD, 2021a). Finland introduced measures to facilitate and/or accelerate VAT refund procedures.

Following an EU agreement in 2018, Member States were able to reduce VAT rates on digital publications to match the rates applied on physical publications. In 2021, these VAT changes were enacted in Austria, Greece, Lithuania and Spain.

3.1.2 Reforms increasing the fairness of the tax system and supporting households during the crisis

A number of countries opted for cutting rates or adjusting tax brackets to make their tax systems fairer. Czechia abandoned its flat PIT scheme making it more progressive, and improving the fairness of its tax system. It introduced a top PIT rate of 23% to income exceeding CZK 1 701 168 (approx. EUR 67 300) in 2021, while income below that threshold remained subject to a 15% rate. Austria reduced its lowest PIT rate from 25% to 20% and extended the application of the top PIT rate of 55% until 2025 for income above EUR 1 million. The Netherlands announced that it would decrease its PIT rate by 0.03 percentage points in 2022, and by 0.02 percentage points in 2023 and 2024 for the first bracket of the income class ⁽¹⁰²⁾. The government also increased the tax rate on deemed capital income on household savings to 31% and the

⁽¹⁰¹⁾ See: COM(2021) 251 final.

⁽¹⁰²⁾ There was no announced changes to the remaining tax rates (37.1% and 49.5%) for the second and the third tax bracket respectively.

minimum tax free threshold to EUR 50 000. In the last wave of a larger tax reform package (started in 2017), Croatia cut its PIT rates from 36% to 30% and from 24% to 20% for income above and below HRK 360 000 (EUR 49 000) respectively. This measure decreased the progressivity of the scheme, but at the same time it reduced the tax burden, hence indirectly supporting households during the pandemic. Moreover, Croatia reduced the tax rate on dividends from 12% to 10%.

Some countries offered PIT and SSC payment deferrals or waivers. In Italy, Latvia, Lithuania, Slovenia, and Sweden these concerned all liabilities, whereas Spain introduced caps on the amounts that could be deferred (contrary to measures introduced in other countries). In addition to these, Estonia introduced SSC waivers that are applied universally.

Many Member States provided tax relief (allowances and credits) to households, employers and self-employed. Austria introduced tax exemptions for extraordinary income from essential work during the pandemic. Belgium increased the generosity of its existing tax credits to 60% for charitable donations from private individuals (a similar measure applies in Spain and Slovenia), and by raising the threshold on eligible childcare expenses. In addition, Belgium offered loss carry-back provisions for the self-employed, similar to Germany, Czechia, Poland, and Ireland. Moreover, Czechia increased its tax credits for all employees and self-employed workers. Lithuania increased its basic personal allowance from EUR 350 to EUR 400 in 2020. It also implemented targeted deferrals and extensions for taxpayers unevenly affected by the health crisis and expanded the scope of the PIT allowance for studies to include all forms of studies (measures to boost skills) that will extend beyond 2020. Furthermore, Germany raised its basic personal allowance by EUR 336 (currently EUR 9 744) as of 2021, and raised the exemption threshold for in-kind benefits. In addition to this, it increased the tax allowance for single-parent income and the basic allowance for children (similar measures are applicable in Estonia), offered allowances for self-employed and unincorporated firms (e.g. depreciation allowance of movable assets), and provided tax relief for expenses resulting from teleworking. Sweden also introduced a temporary tax credit for costs of teleworking. Finland augmented tax credits for earned income to ease the tax burden on labour. The Netherlands increased its already existing general tax credit, employed persons tax credit, and old age tax credit, but decreased the tax credit for combining work and childcare. Italy introduced a non-refundable tax credit in the first half of 2020, which was later made permanent in the second half of 2020. Some Member States introduced or expanded tax reliefs for certain groups. These include Sweden for the elderly; and Lithuania and the Netherlands for students and teachers.

Several countries took steps to limit base erosion and profit shifting. Portugal introduced new provisions to deny tax deductions resulting from hybrid mismatches ⁽¹⁰³⁾ and expanded the definition of permanent establishment to combat the tax-driven fragmentation of the activities of multinationals. Poland implemented Council Directive (EU) 2017/952 ⁽¹⁰⁴⁾ to prevent hybrid mismatches. The Netherlands strengthened the limitation of interest deductions as part of the implementation of the EU Anti-Tax Avoidance Directive 1 (ATAD1) ⁽¹⁰⁵⁾ as of 2021. Spain reduced the full exemption of dividends and capital gains derived from resident and non-resident companies to 95% with certain exclusions.

Net wealth taxes, or recurrent taxes on movable and immovable property net of debt, were introduced in Belgium and Spain. Belgium levied the holdings of securities accounts exceeding EUR 1 million between 27 February and 30 September 2021 at 0.15%. Spain raised its net wealth tax rate to 3.5% applicable to the top wealth tax bracket (worldwide assets exceeding approximately EUR 10.7 million).

⁽¹⁰³⁾ Defined as arrangements that are used in aggressive tax planning to exploit differences in the tax treatment of an entity or instrument under the laws of two or more tax jurisdictions to achieve double non-taxation, including long-term taxation deferral (OECD definition), available at: [OECD website](#).

⁽¹⁰⁴⁾ Council Directive (EU) 2017/952 amending Directive (EU) 2016/1164 as regards hybrid mismatches with third countries

⁽¹⁰⁵⁾ Council Directive (EU) 2016/1164.

At EU level, the Commission published in April 2020 a Decision ⁽¹⁰⁶⁾ allowing Member States affected by the COVID-19 pandemic to temporarily suspend customs duties and VAT on importations of protective equipment, testing kits and medical devices such as ventilators. This Decision has been extended several times to continue to support Member States as new variants spread.

In July 2021, the Council agreed a retrospective amendment to the VAT Directive 2006/112/EC introducing a VAT exemption for certain goods and services acquired made by EU bodies with a view to their onward donation in response to the COVID-19 pandemic ⁽¹⁰⁷⁾. The new measure makes it easier for the Commission and EU agencies to buy goods and services in order to distribute them free of charge to Member States in the context of the ongoing public health crisis. It means that supplies of goods and services to an EU body to enable Member States to respond to the emergency caused by the COVID-19 pandemic are added to the list of exempted transactions in the VAT Directive. The new exemption allows for more donations to be made to Member States and their institutions, as it will relieve the EU bodies of the budgetary and administrative burdens hampering the process. Thanks to this amendment, the Commission and the EU agencies are able to make the best possible use of the EU budget in addressing the consequences of the COVID-19 pandemic. With its so-called “buy and donate” proposal, the Commission had initially suggested a permanent and future-proof solution addressing all types of future emergencies and crises, not just focussing on health threats. Member States however preferred a short-term temporary solution, which only applies to measures in response to the COVID-19 pandemic. The new exemption from VAT applies retroactively to transactions carried out from 1 January 2021.

More recently and outside the time period of the reforms highlighted above, three Member States consulted the VAT Committee since September 2021: Cyprus (on electricity), Latvia (on thermal energy), and Poland (on natural gas). This was due to the combination of the COVID-19 crisis and the energy crisis. A further consultation was made by Poland (on electricity and district heating) and by Spain (on electricity). Cyprus reduced the VAT rate (from 19 % to 5 %) on electricity consumption for vulnerable consumers for 6 months and intends to temporarily cut down VAT on household electricity bills from 19% to 9%. Latvia reduced the VAT rate (from 12% to 5%) for central heating and plans to reduce the payment of the mandatory procurement component for RES/cogeneration in electricity bills by 65% from 2022. Poland intends to reduce the rate (from 23% to 8%) to the supply of natural gas as of 1 January 2022 until 31 March 2022, with possible prolongation. The Polish consultation on electricity and district heating (from 23% to 5% or 8%) is still ongoing, so those measures have not been applied yet. Linked to this, the Council reached on 7 December 2021 an agreement on a proposal to update EU rules on rates of value added tax (VAT). The new rules reflect Member States’ current needs and the EU’s present policy objectives, which have changed considerably since the old rules were put in place. The updates ensure member states are treated equally and give them more flexibility to apply reduced and zero VAT rates. The rules will also phase out preferential treatments for environmentally harmful goods. A new provision in the VAT directive was also added to address possible future crises and to enable member states to respond swiftly to exceptional circumstances, like pandemics, humanitarian crises or natural disasters ⁽¹⁰⁸⁾.

3.1.3 Reforms improving stability and simplicity

A number of countries introduced measures aimed at reforming PIT and SSC systems to aid simplification and ensure stability. Czechia introduced a simplifying measure to allow those self-employed liable to VAT to choose a single flat rate payment covering PIT, SSCs and health insurance premiums. Germany abolished its solidarity tax for around 90% of those who paid it, while a further 6.5% will pay less. Spain opted to raise revenues by introducing a new top PIT

⁽¹⁰⁶⁾ Commission Decision (EU) 2020/491.

⁽¹⁰⁷⁾ Council Directive (EU) 2021/1159 amending Directive 2006/112/EC.

⁽¹⁰⁸⁾ See: <https://www.consilium.europa.eu/en/press/press-releases/2021/12/07/council-reaches-agreement-on-updated-rules-for-vat-rates/>

bracket taxed at 45.5% rate for income exceeding EUR 300 000. The government also enacted other revenue raising measures such as the increased tax burden on high-income households (a new top tax bracket applicable to income from savings) and a lowered tax deduction ceiling for annual pension contributions. This extra revenue has been earmarked for the health system.

In light of the increasing pressure on public finances, certain countries announced reforms in tax rates, expansions of the tax base and improvements in collection efficiency. The Netherlands reversed the intended decrease of the higher CIT rate from 25% to 21.7% and, at the same time, increased the higher tax bracket and the rate of its innovation box regime from 7% to 9%. Slovakia reduced the threshold for reduced CIT rate for micro-taxpayers (i.e. taxpayers with annual taxable revenue not exceeding the amount of EUR 49 790). Hungary introduced a one-off tax on banks and credit institutions and a special retail tax during the first half of 2020. France introduced a temporary tax on private healthcare providers to be levied in 2021. Luxembourg introduced a 20% withholding tax on income derived from real estate. Sweden announced the introduction of a new tax on the financial sector.

COVID-19 increased the speed of digitalisation for many tax administrations, namely in the areas of taxpayer services, IT systems and compliance. The Portuguese Tax and Customs Authority improved the assistance to taxpayers by developing e-Front Office help, telephone and virtual assistants, and using digital platforms for meetings and social media (OECD, 2021b). Other countries (Austria, Belgium, Croatia, Czechia, Cyprus, Denmark, Finland, France, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Romania, Spain, and Sweden) also used similar online means to interact with the taxpayers, including the setting-up of online portals for submitting tax-related requests (e.g. tax deferral or refunds). Some tax administration simplified procedures for refunds and international payments and eased customs procedures (Portugal), while other developed digital tax forms and certificates (Austria, France, Hungary, and Spain)⁽¹⁰⁹⁾.

The risk of tax evasion and fraud is likely to become greater during the COVID-19 crisis as a number of countries temporarily suspended field audits and recovery actions because of the crisis (Austria, Belgium, Cyprus, Denmark, Finland, France, Hungary, Greece, Ireland, Italy, Latvia, Lithuania, Poland, Romania, Spain, and Sweden), with only essential ones still being carried out (OECD, 2021b). Whereas most of the Member States have started to introduce e-invoicing and online cash registers to limit the aforesaid risks and improve compliance, some governments (Hungary, Italy, and Poland) postponed these reforms so as to minimise compliance costs.

⁽¹⁰⁹⁾ For more information see: (CIAT/IOTA/OECD, 2020).

4

TAXATION TO SUPPORT THE GREEN TRANSITION

This chapter describes how taxation can support the green transition. First, it provides an economic analysis and literature review of green taxation. Second, it describes how taxation can contribute to the European Green Deal. Third, it presents the reforms implemented by EU Member States in the field of environmental taxation, notably in the context of the recovery from the COVID-19 pandemic. It concludes by presenting examples of environmental tax measures across the EU.

4.1 Economic analysis on Green Taxation

4.1.1. Environmental and climate challenges in the EU

Like other advanced economies, most EU Member States have achieved high levels of human development ('living well') but they remain environmentally unsustainable. Currently, the EU is still far from achieving its 2050 vision of 'living within the limits of our planet'. The impact of climate change on biodiversity and ecosystems is expected to intensify, while the way activities such as agriculture, fisheries, transport, industry and energy production are conducted, continue to cause biodiversity loss, excessive resource extraction, harmful emissions and other environmental damage. For instance, air pollution is the single largest environmental risk to the health of Europeans and biodiversity loss and ecosystem collapse are one of the biggest threats facing humanity in the next decade (World Economic Forum, 2020). As a consequence of the increasing emissions of greenhouse gases, global temperatures increased 2-degrees since the pre-industrial era and the ten warmest years on record took place between 2005 and 2021 (Lindsey & Dahlman, 2021). Climate change could also lead to significant socio-economic implications, with the greater levels of climate change being associated with greater socio-economic impacts. While social and economic activities are the main drivers of climate change, the exposure to extreme weather events, the rise in temperature or the rising sea levels could reverse this link.

Reversing the situation calls for fundamental changes in lifestyles, production and consumption, knowledge and education. European environmental and climate policymaking is increasingly driven by long-term sustainability goals. This is embedded in the 2050 vision of the EU's seventh environment action programme (7th EAP) ⁽¹¹⁰⁾, the 2030 agenda for sustainable development ⁽¹¹¹⁾ and the Paris Agreement on climate change ⁽¹¹²⁾. President von der Leyen put forward the European Green Deal ⁽¹¹³⁾, a comprehensive strategy for the Union to become the first climate-neutral continent by 2050 and transform it into a sustainable, fairer and more prosperous society that respects the planetary boundaries. The European Climate Law sets out a binding EU-wide objective of climate neutrality by 2050 and a binding intermediate target of a net domestic reduction in greenhouse gas emissions of at least 55% by 2030 compared to 1990 levels. More recently, in the context of the COP26 summit, the Commission has agreed to take all necessary measures to cut emissions in a way that would limit global warming by 1.5 degrees.

⁽¹¹⁰⁾ See: Decision (EU) 2022/591.

⁽¹¹¹⁾ See: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

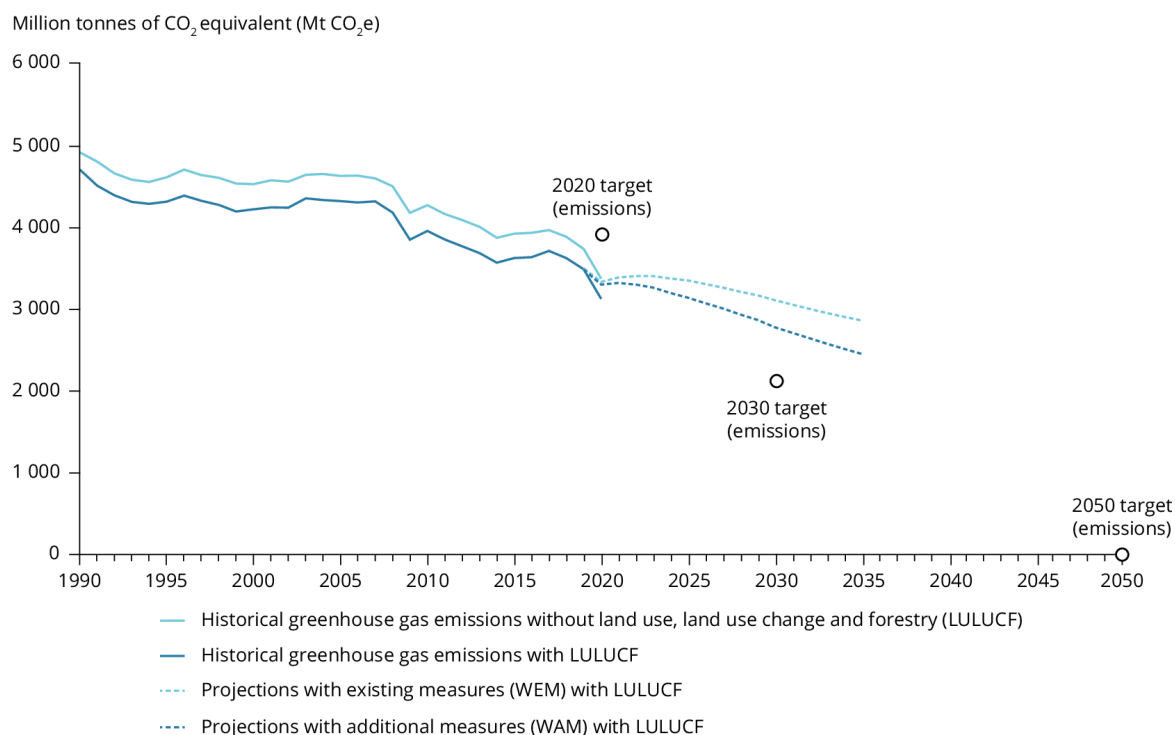
⁽¹¹²⁾ See: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

⁽¹¹³⁾ See: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

The Green Deal, highlighted that ‘well-designed tax reforms can boost economic growth and resilience to climate shocks and help contribute to a fairer society and to a just transition’. They play a direct role by sending the right price signals and providing the right incentives for sustainable behaviour by producers, users and consumers. At national level, the European Green Deal will create the context for broad-based tax reforms, removing subsidies for fossil fuels, shifting the tax burden from labour to pollution, and taking into account social distributional aspects, in particular by preventing and mitigating regressive impacts and preserving the progressive character of direct taxation. In this context, Member States have been encouraged to consider sustainable fiscal reforms in the context of their Recovery and Resilience Plans (RRP). In fact, Member States have allocated almost 40% of their RRP plans to climate measures ⁽¹¹⁴⁾.

The EU has already started to modernise and transform its economy to achieve climate neutrality and tackle environment-related challenges. Between 1990 and 2020, greenhouse gas emissions (including international aviation) have reduced by 34% ⁽¹¹⁵⁾, exceeding the EU’s targets by 11 percentage points. However, much remains to be done to put the EU firmly on track for climate neutrality by 2050, and for meeting commitments under the goals of the Paris Agreement. Current policies will not reduce greenhouse gas emissions sufficiently, as shown in the graph below. To reach the intermediate 2030 goal set by the European Climate Law, the Commission presented on the 14 of July 2021 the ‘Fit for 55’ ⁽¹¹⁶⁾ package (see section 4.2).

GRAPH 35. HISTORICAL TRENDS AND FUTURE PROJECTIONS OF GREENHOUSE GAS EMISSIONS



Source: (European Environmental Agency, 2021)

The transition to net-zero greenhouse gas emissions requires and offers the potential for an economic and societal transformation, engaging all sectors and actors of the economy and society. Energy will play a central role, as the production and consumption of

⁽¹¹⁴⁾ See: [Recovery and Resilience Facility | European Commission \(europa.eu\)](https://ec.europa.eu/economy_finance/recovery-and-resilience-facility/)

⁽¹¹⁵⁾ See : <https://www.eea.europa.eu/ims/total-greenhouse-gas-emission-trends>

⁽¹¹⁶⁾ See: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1940

energy (including transport) is currently responsible for more than 75% of the EU's greenhouse gas emissions.

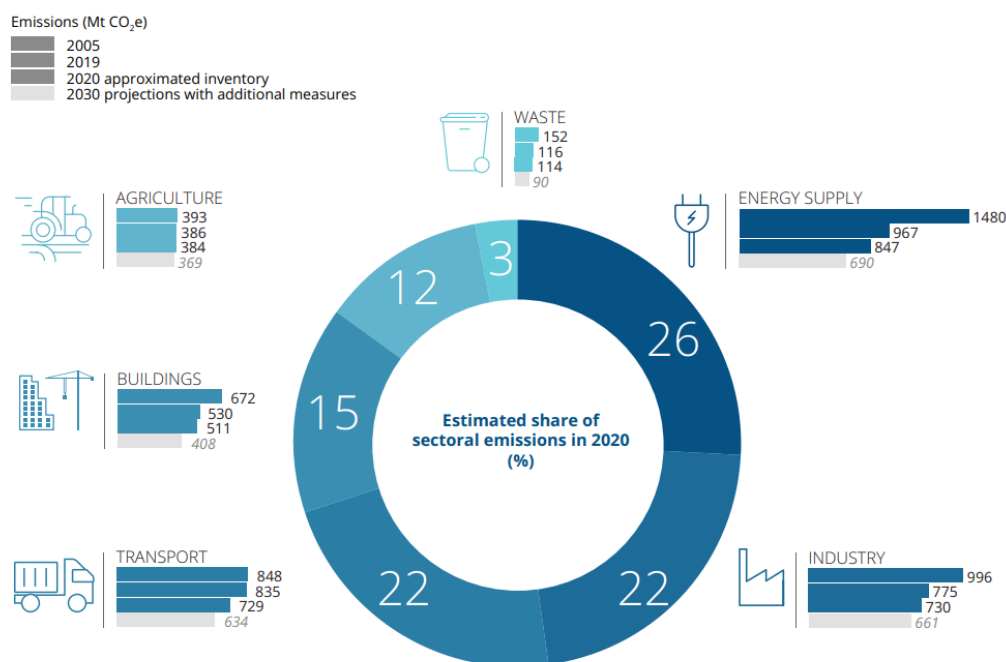
After a gradual decrease between 2007 and 2014, energy consumption indicators have increased steadily until now. Although data regarding energy efficiency and consumption until 2020 did not show a promising trend towards achieving the 2020 objectives, the COVID-19 pandemic and consequent slowdown in economic activity reversed the trend and resulted in the 2020 objectives being met. Targets for renewable energy have also showed a positive trend. The 2020 targets of 20% of total energy consumption were surpassed and hit a 21.3% share in 2020 ⁽¹¹⁷⁾.

However, the economic reboot after the initial outbreak of the COVID-19 pandemic has led to an increase in energy consumption, and additional policy efforts may be required to reach the primary and 2030 energy consumption objectives. The ongoing recovery from the COVID-19 pandemic has already led to a rebound in energy demand, which is likely to remain high in the near future. Also, the need to protect consumers and businesses in view of the current energy crisis and resulting high energy prices may result in the delayed implementation of policies announced in the national energy and climate plans (NECPs) and the national long-term renovation strategies ⁽¹¹⁸⁾. In this context, and to balance the two objectives, measures to tackle the increase in greenhouse gas (hereinafter "GHG") emissions, should take into consideration which sectors contribute the most to these emissions. The figure below shows each sector's contribution towards GHG emissions in Europe, and their evolution towards the 2030 objectives.

⁽¹¹⁷⁾ See: <https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2021>

⁽¹¹⁸⁾ COM(2020) 954 final.

GRAPH 36. SECTORAL TRENDS AND PROGRESS TOWARDS ACHIEVING THE 2020 AND 2030 TARGETS IN THE EU-27



Notes: The energy supply sector covers GHG inventory categories 1.A.1 and 1.B; industry covers categories 1.A.2 and 2; transport covers category 1.A.3; buildings covers categories 1.A.4 and 1.A.5; agriculture covers category 3; waste covers category 5; international transport is reported under memo items; and land use, land use change and forestry (LULUCF) is reported under category 4. MS, Member State; WAM, with additional measures; WEM, with existing measures.

Sources: EEA (2021b, 2021d, forthcoming_b); authors' own calculation.

Source: (European Environmental Agency, 2021)

4.1.2. The role of environmental taxation

Numerous policy instruments can be used to address environmental challenges and achieve the new 2030 and 2050 climate and environmental objectives. These policy instruments can be divided into two basic categories: (i) market-based instruments, including environmental taxes, and (ii) non-market-based instruments, encompassing regulatory measures (such as standards and limits) and other measures (such as awareness-raising measures or information campaigns). In practice, Member States use a combination of both types of instruments to meet their climate and environmental ambitions. The Commission's impact assessment of its 2030 Climate Target Plan also shows that both pricing and regulatory instruments are necessary in order for the EU to meet the increased 2030 target in the most cost-efficient way ⁽¹¹⁹⁾ and for achieving net zero greenhouse gas emissions by 2050.

At EU-level, the 'polluter pays' principle is enshrined in the Treaty on the Functioning of the EU ⁽¹²⁰⁾. This principle is respected by putting a price on negative consequences, with the tax rate in principle set to reflect the marginal social damage caused by consumers and producers. However, optimal pricing is hindered by the complexities of the relevant EU and national policy frameworks.

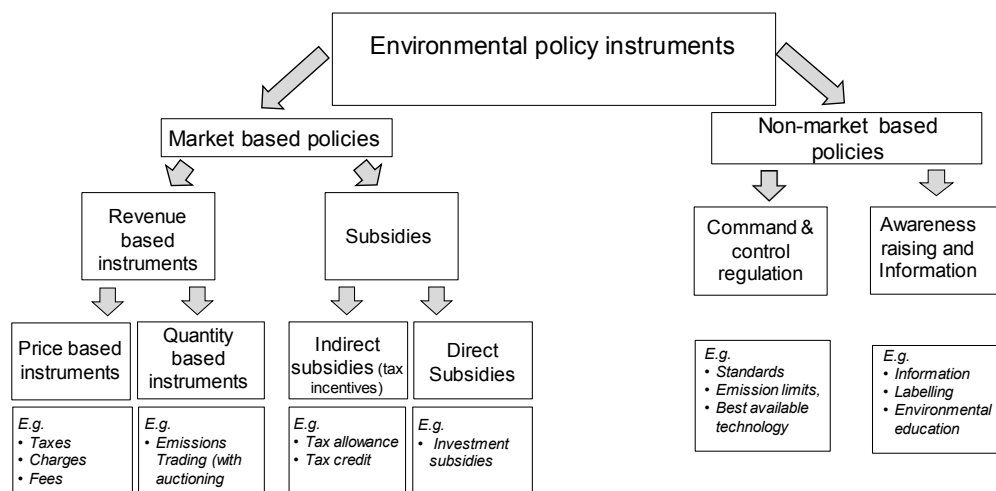
All EU Member States make use of environmental taxes, although there are substantial differences across Member States due to the absence of EU wide harmonised rules on

⁽¹¹⁹⁾ See: SWD (2020) 176 final.

⁽¹²⁰⁾ Article 191(2) TFEU.

such taxes. Article 2 of the Regulation on European environmental economic accounts ⁽¹²¹⁾ defines environmental taxation as “a tax whose tax base is a physical unit (or a proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified in ESA 95 (i.e. the conceptual reference framework, which aims to aid its application for calculation the government deficit and debt) as a tax ⁽¹²²⁾.” Depending on the tax base to which they apply, environmental taxes may be applied on energy, transport, pollution and/or resources ⁽¹²³⁾.

GRAPH 37. OVERVIEW OF ENVIRONMENTAL POLICY INSTRUMENTS



Source: (European Commission, 2021h)

Note: Some policies, such as feebates, are revenue-neutral and do not fit in this overview.

Environmental taxation can encourage behavioural change and help meet environmental targets, in addition to raising revenue. Environmental taxes are considered to be among the least economically distortive taxes (Porter, 1995). They are also cost-effective compared to non-tax measures, given their lower administrative cost, relative ease of management, and the strong price signals they send to consumers and businesses to incentivise them to change their behaviour.

The burden of environmental taxes could be regressive (i.e. impact more on low income households and reduce their disposable income and living standards), necessitating compensatory measures. This is for example the case for taxes on energy, as lower income households spend a larger share of their income or a higher share of their consumption expenditure on energy intensive products (Marron, Tax policy issues in designing a carbon tax, 2014). Energy poverty, resulting from a combination of low income, a high share of disposable income spent on energy and poor energy efficiency, has been a major challenge for the EU for some time. According to latest available data in EU-SILC for 2019/2020, energy poverty affected about 8% of the EU population, i.e. more than 35 million people, who were unable to keep their homes adequately warm, with significant differences between Member States and between income groups. Fuel taxes can be less regressive than other environmental taxes (European Commission, 2021h). This is due to the fact that the share of household transport expenditure rises with higher income in several countries whereas the share of household energy consumption for housing decreases with higher income. At the same time, certain groups, in particular people living in suburban and rural areas, tend to face higher transportation costs than those living in cities. Affordability challenges can affect access to transport and mobility, notably leading to ‘transport poverty’. Furthermore, groups of a lower socio-economic status (the unemployed, those on low

⁽¹²¹⁾ See: Regulation (EU) no 691/2011 of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts.

⁽¹²²⁾ See: <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-42-02-585>

⁽¹²³⁾ Areas covered by environmental taxation according to Eurostat classification: https://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_tax_statistics

incomes or with lower levels of education) tend to be more negatively affected by environmental health hazards, as a result of their greater exposure and higher vulnerability⁽¹²⁴⁾. Such evidence suggests that revenue collected from environmental taxes could therefore be used to provide lump-sum payments to lower income households, mitigating any regressive effects on living standards⁽¹²⁵⁾. Evidence (e.g. (European Commission, 2021i)) shows that if the revenue from environmental taxes were used to decrease social security contributions and taxes on labour income, this could generate positive employment effects.

Considerations of public acceptability may also influence the adoption of new environmental tax measures and their accompanying policies. Studies have showed that motivation of policy makers to introduce new environmental tax policies is strongly influenced by the acceptability of those measures amongst citizens, and that adopting such measures becomes more likely when they are considered beneficial by the public. However, the most relevant factor tends to be the introduction of compensatory measures to reduce regressive effects. According to (Bristow, Wardman, Zanni, & Chintakayala, 2021) and (Jagers, Martinsson, & Matti, 2019) environmental tax measures that seek to reduce harmful effects on low income households tend to be acceptable.

Tax incentives to support environmentally beneficial activities or to discourage environmentally harmful behaviour are much more diverse across countries than environmental taxes. They are also overall less prevalent than fiscal incentives (e.g. direct subsidies, preferential loans). They are frequently found to be barely cost effective and package solutions, combining several climate policies in general with carbon pricing and tax incentives, may be more effective than single measures.

The need to phase out environmentally harmful subsidies has long been recognised and has been a contentious point of discussion for several years⁽¹²⁶⁾. This includes both direct (e.g. grants) and indirect subsidies (e.g. tax exemptions⁽¹²⁷⁾). While the EU has a long-standing commitment to removing or phasing out environmentally harmful subsidies, several Member States still apply them. For example, fossil fuel subsidies, amounting to EUR 520 billion in 2020, remained relatively stable over the past decade after peaking at EUR 53 billion in 2012 (European Commission, 2020c). After falling between 2012 and 2015, they started to increase again, with an overall 6% increase by 2018. Tax expenditure designed to benefit specific income groups or sectors can sometimes have a detrimental effect on the environment and can run counter to energy, climate and environmental objectives. While the subsidies are often cited as serving an equity purpose, i.e. providing targeted relief to disadvantaged or vulnerable groups, they often appear to benefit only selected parts of the population. The tax-friendly treatment of private use of the company car is a frequently-cited example of the latter. Hence, the environmentally harmful subsidy's effectiveness to improve equity should be assessed on a case-by-case basis, with particular attention as to whether the subsidy still serves its stated equity purpose. Moreover, harmful subsidies slow down the shift to sustainable patterns of production and consumption. For instance, reduced VAT rates on energy, fertilisers and pesticides or favourable tax treatment of company cars are among many environmentally harmful subsidies that are still applied in the EU. Phasing out these harmful subsidies in the future, particularly when they involve fossil fuel subsidies, can increase revenue or reduce expenditure, contribute to the achievement of environmental policy objectives and improve the effectiveness of environmental taxation. In this context, it is important to anticipate and mitigate any direct or indirect social and distributional impacts of such a phase-out of subsidies. The issue of phasing out environmentally harmful subsidies will be addressed also through the revision of the Energy Taxation Directive (ETD) in 2021, as one of the objectives of the revision is to remove implicit tax subsidies on fossil fuels, while leaving no one behind during the transition.

⁽¹²⁴⁾ See: (European Environment Agency, 2018).

⁽¹²⁵⁾ Although in practice, lump-sums payments are hard to implement.

⁽¹²⁶⁾ For energy-related subsidies, see: https://ec.europa.eu/energy/sites/ener/files/progress_on_energy_subsidies_in_particular_for_fossil_fuels.pdf

⁽¹²⁷⁾ Tax exemptions are not considered as subsidies in National Accounts but simply lower tax revenue.

On top of the ETD revision, major steps have been taken to progress on the phase out of environmentally harmful subsidies, and in particular the fossil fuel subsidies. The Regulation on the Governance of the Energy Union and Climate Action ⁽¹²⁸⁾ states that the State of the Energy Union report must include an element on Member States' progress towards phasing out energy subsidies, in particular for fossil fuels. It also provides that the Commission, assisted by the Energy Union Committee, must adopt implementing acts, including a methodology for the reporting on the phasing out of energy subsidies, in particular for fossil fuels ⁽¹²⁹⁾. In addition, the 8th EAP considers as one of the enabling conditions for the achievement of environmental goals 'strengthening environmentally positive incentives as well as phasing out environmentally harmful subsidies, in particular fossil fuel subsidies, at EU, national, regional and local level, without delay, inter alia, by:

- a binding EU framework to monitor and report on Member States' progress towards phasing out fossil fuel subsidies, based on an agreed methodology;
- setting a deadline for the phasing out of fossil fuel subsidies consistent with the ambition of limiting global warming to 1,5 degrees;
- a methodology that is set out by the Commission, in consultation with Member States, by 2023, to identify other environmentally harmful subsidies. On the basis of that methodology Member States shall identify other environmentally harmful subsidies and report them regularly to the Commission, allowing for a Commission report on the level and type of such subsidies in the EU, and on progress made on phasing them out.' ⁽¹³⁰⁾

4.1.3 Analysis of the performance of national green tax systems

Environmental taxes (i.e. energy, transport, pollution and resource taxes) contributed to around 5.6% of total tax revenue in the EU-27 in 2020. For the EU-27 as a whole, the amount of environmental taxes in total tax revenue has steadily increased between 2002 and 2019, mainly driven by the increase in energy taxes. The slight decrease registered between 2019 and 2020 is most likely due to the effects of the pandemic confinements, which led to a reduction in pollution levels and consequently of tax base.

⁽¹²⁸⁾ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council ([OJ L 328, 21.12.2018, p. 1](#)).

⁽¹²⁹⁾ Ibid; Articles 35 and 17.

⁽¹³⁰⁾ See: Decision (EU) 2022/591 of the European Parliament and of the Council of 6 April 2022 on a General Union Environment Action Programme to 2030; PE/83/2021/REV/1; ([OJ L 114](#)).

GRAPH 38. ENVIRONMENTAL TAX REVENUE BY TYPE (1), AND TOTAL ENVIRONMENTAL TAXES AS SHARE OF TSC (TOTAL GOVERNMENT REVENUE FROM TAXES AND SOCIAL CONTRIBUTIONS) AND GDP (2), EU, 2002-2020 (MILLION EUR, %)



Source: Eurostat, 2021 (online data code: env_ac_tax)

- (1) Left hand scale
- (2) Right hand scale

The commitment of different Member States to environmental objectives should not be measured solely in terms of the tax revenues they raise via environment taxation. This is partly because taxes affect behaviour and reduce their own tax base. Therefore large environmental tax revenues can be equally generated by countries with low environmental tax rates and a large consumption base (i.e. high polluting countries) and by countries with high environmental tax rates and a small consumption base (i.e. less polluting countries). Moreover, environmental taxation often has behavioural change objectives, which can lead to uncertainty as regards revenue generation; if taxes are successful in changing behaviour, revenue will gradually decrease in the medium-long term, assuming that the tax base or tax rate is not adjusted (depending on price elasticity). Finally, Member States that have high levels of other taxes, such as labour taxes, might score lower on Graph 38 even though they have significant environmental taxes in place.

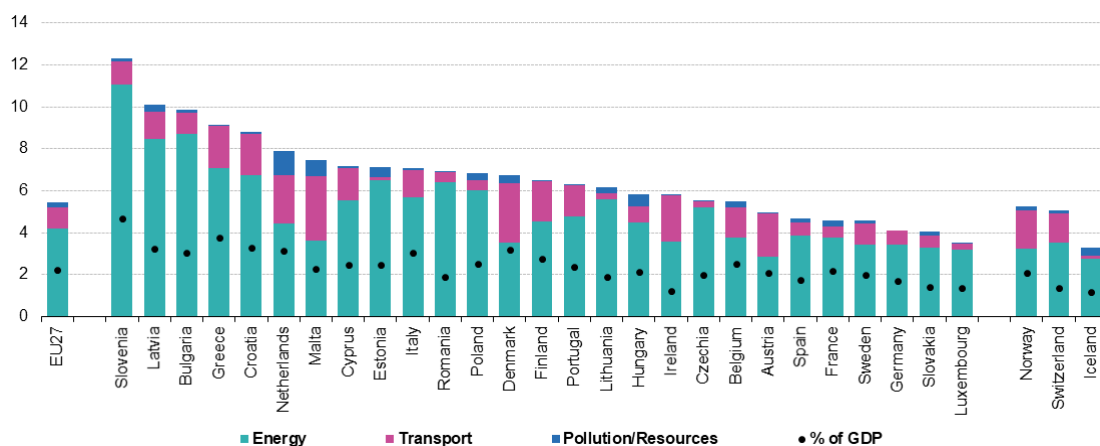
Therefore, a more tailored assessment is needed to consider additional parameters, like the country's actual tax rates, energy intensity, energy mix, and industrial structure (including the different weight of the sectors covered by exemptions). Energy taxes (including on transport fuel) account for the lion's share in almost all Member States, and in total for 77.2% of environmental tax revenue in the EU-27 in 2020 ⁽¹³¹⁾. This can be partly explained by the minimum levels set for energy taxation by the ETD, as well as by the larger tax base for energy taxes, given the high-energy intensity of key economic sectors (e.g. production of goods, heating and transport).

Transport taxes (excluding fuel) are the second most prevalent type of environmental taxes in the EU. Graph 39 shows in detail the structure of environmental tax revenue in the Member States in 2020. While the second most used environmental tax, transport taxes accounted for only 19.1% of the total environmental tax revenues collected in the EU. The small share of revenues from pollution and resources taxes shows they have been so far limited in terms of generation of revenue across the EU and illustrate the assessment of the European Court of Auditors that the polluter pays principle is 'reflected and applied to varying degrees in the different EU environmental policies and its coverage and application was incomplete' ⁽¹³²⁾.

⁽¹³¹⁾ See: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Environmental_tax_statistics#Environmental_taxes_in_the_EU

⁽¹³²⁾ ECA Special report 12: The Polluter Pays Principle: Inconsistent application across EU environmental policies and actions ; https://www.eca.europa.eu/Lists/ECADocuments/SR21_12/SR_polluter_pays_principle_EN.pdf

GRAPH 39. ENVIRONMENTAL TAX REVENUE BY CATEGORY AS % OF TSC AND GDP OF MEMBER STATES, 2020



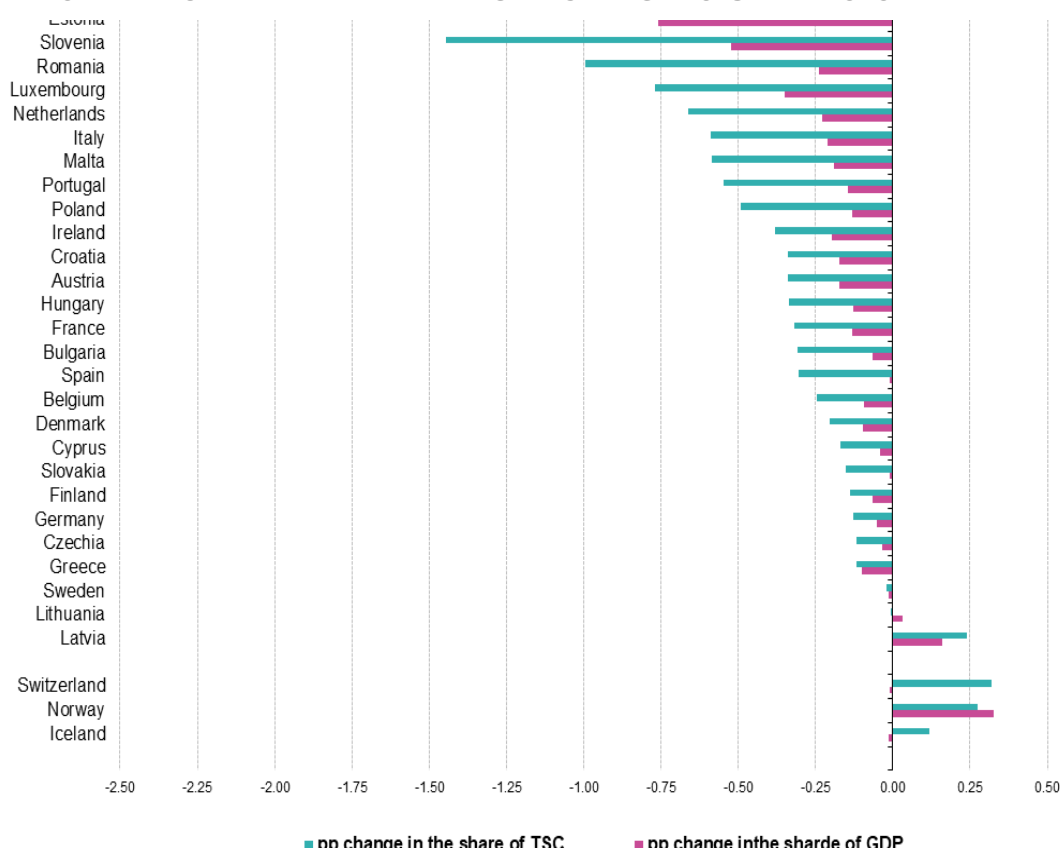
Source: Eurostat, 2021 (online data code : env_ac_tax)

Notes:

- Energy taxes include taxes on energy products and energy used for both transport and stationary purposes, including taxes on related CO₂ emissions and Member States' revenue from the EU emission trading system.
- Transport taxes include taxes relating to the ownership and use of motor vehicles, and taxes on other transport equipment (e.g. planes) and related transport services.
- Pollution taxes include taxes on measured or estimated emissions to air (except revenue relating to CO₂ emissions, which is included in energy taxes) and water, on the management of waste and on noise.
- Resource taxes include any taxes linked to the extraction or use of a natural resource.
- EU-27 values are weighted averages by GDP size.

Graph 40 shows that a decrease in environmental tax revenues has taken place from 2019 to 2020. Although, the revenue drop is residual in most Member States, it was especially relevant in Estonia, Slovenia, and Romania.

GRAPH 40. ENVIRONMENTAL TAX REVENUE – CHANGE 2019 AND 2020



Source: Eurostat (online data code: env_ac_tax)

In addition to environmental taxes the EU emissions trading system (EU ETS) is a cornerstone of the EU's policy to combat climate change. Under its cap and trade system, which introduced carbon pricing in the EU and Iceland, Liechtenstein and Norway, the average price of an EU ETS allowance hit a record EUR 66/tonne CO₂ in mid-November 2021⁽¹³³⁾. Within the cap, allowances are sold in the form of auctions with industrial sectors prone to the risk of carbon leakage receiving free allowances based on benchmarks. Companies covered by the system (in the industrial, power, and aviation sectors⁽¹³⁴⁾) can trade allowances as needed. After each year, a company must surrender enough allowances to cover all its emissions. To meet the increased 2030 target, the Commission, under the recently approved 'Fit for 55 package', is looking at how to increase the ambition in the existing EU ETS and is considering to extend the use of emissions trading to other sectors (such as maritime, road transport, and buildings). Extending carbon pricing can provide an extra incentive for change, together with sectoral legislation, such as a revision of the Energy Efficiency Directive, the Energy Performance of Buildings Directive and higher CO₂ standards for new cars and vans. These are all issues which are addressed under the 'Fit or 55' package.

The number of free allowances declines annually, which may raise the marginal price for allowances⁽¹³⁵⁾. An increase of the EU ETS allowance price raises the costs for GHG emissions generated by European producers, which could increase the risk that greenhouse gas emissions from carbon-intensive production are relocated to other regions rather than reduced or eliminated via a combination of climate neutral production processes, climate-friendly material use and

⁽¹³³⁾ An EU ETS allowance is valid for compliance of 1 t/CO₂ equivalent emissions by the sectors covered by the EU ETS; for more information, see https://ec.europa.eu/clima/policies/ets_en

⁽¹³⁴⁾ The EU ETS presently applies only to flights between airports located in the European Economic Area (EEA).

⁽¹³⁵⁾ For more information on the EU ETS revision, see: https://ec.europa.eu/clima/policies/ets/revision_en, https://ec.europa.eu/clima/policies/ets/revision_en

4.2. Taxation as part of the European Green Deal

The Fit for 55 package puts forward legislative tools to deliver on the European Climate Law targets and pave the way to a fair, green and prosperous future. Measures are ambitious and span from reforms in emissions trading, energy to land use and taxation, with each proposal consistent and complementary to the others. The Fit for 55 package includes the reinforcement and extension of the ETS, which will achieve substantial emission reductions (see Section 4.1.3). In addition, the package includes the Effort Sharing Regulation ⁽¹³⁶⁾, which aims at assigning strengthened emissions reduction targets to each Member State in certain sectors. In particular, the Regulation on Land Use, Forestry and Agriculture ⁽¹³⁷⁾, which sets an overall EU target for carbon removals by natural sinks, the Renewable Energy Directive ⁽¹³⁸⁾, which will set an increased target to produce 40% of our energy from renewable sources by 2030.

With these measures, the EU is assuming a role of frontrunner and is paving the way for the decarbonisation of the global economy. In this context, it is important that the EU's domestic efforts are not undermined by the risk of carbon leakage. This is why, as a complement to the domestic measures and to improve effectiveness globally, the Fit for 55 package includes a Carbon Border Adjustment Mechanism (see Section 4.2.3).

Fairness and solidarity are defining principles of the EU's policies towards green transition. In line with the principle of leaving nobody behind, the EU pursues a fair and just transition to support the people and regions facing the greatest challenges while developing a workforce necessary for delivering the green transition, for instance through the Just Transition Fund and the European Social Fund+ (ESF+). In addition, the Social Climate Fund, which was adopted as part of the Fit for 55 package, will finance temporary direct support for vulnerable households and will support measures and investments that reduce emissions in road transport and building sectors. As outlined in the Commission proposal for a Council Recommendation on ensuring a fair transition towards climate neutrality ⁽¹³⁹⁾, Member States are encouraged to use revenues from environmental taxation to address social and labour aspects, for instance through a shifting the tax burden and providing targeted income support, while also mobilising public and private investments for energy efficiency improvements and the switch to renewables in order to lower energy bills, in particular of people and households in vulnerable situations.

4.2.1. The revision of the Energy Taxation Directive (ETD) ⁽¹⁴⁰⁾

As a part of the Fit for 55 package, the Commission proposal of July 2021 for the recasting of the Energy Taxation Directive aims at altering the way in which energy products and electricity are taxed in the EU and encouraging the green transition for all. The new rules proposed seek also to address the possible distortions in the internal market and secure revenues for Member States from these taxes. They update the scope of the Directive as well as the minimum rates, remove outdated exemptions and reductions, resulting in incentives for the use of fossil fuels, for example in EU aviation and maritime transport sectors, while promoting clean technologies. Moreover, the updated rules intent to facilitate the transition away from fossil fuels towards clean fuels and support the EU's delivery of its ambitious targets on the reduction of greenhouse gas emissions and energy savings.

The EU ETD entered into force in 2003 and lays down minimum excise duty rates for the taxation of energy products used as motor fuel and heating fuel, and of electricity. The current ETD needs updating in view of technological changes, the recent ambitious climate targets

⁽¹³⁶⁾ See : COM(2021) 555 final.

⁽¹³⁷⁾ See COM(2021) 554 final.

⁽¹³⁸⁾ COM(2021) 557 final.

⁽¹³⁹⁾ See: COM (2021) 801 final.

⁽¹⁴⁰⁾ See: COM (2021) 563 final.

and the fact that the vast majority of Member States tax most energy products and, electricity, considerably above the ETD minimum rates. Furthermore, there is no link in the existing ETD between the minimum tax rates of fuels and their energy content or environmental impact. The rules have also not kept pace with the development of sustainable and alternative fuels. The design and structure of the rules laid down in the current ETD do not effectively promote energy efficiency, cleaner and sustainable alternative fuels, or investment and innovation in clean technologies and sustainable energy.

In addition, the wide range of national exemptions and reductions de facto favour the use of fossil fuels in the EU, while contributing to the fragmentation of the EU's Single Market. In that context, the proposal removes a number of possibilities for exemptions and reductions allowed under the current rules.

In that context, the update of the EU's ETD centres on two main areas of reform, which together would maximise their impact in driving forward our common green goals. First, 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 currently it is mostly the case. To that end, minimum rates are expressed in euros per gigajoules of each product. This would provide clearer price signals towards cleaner, more energy efficient and climate-friendly choices of businesses and consumers alike. For example, under the current rules, a lower minimum rate is applied to diesel used as motor fuel than petrol used for the same purpose. Under the new proposal, this would change. Second, it 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. In this way, the new system will ensure that the most polluting fuels are taxed at the highest rates. Member States must ensure this ranking is replicated domestically.

The existing minimum rates were set in 2003 and have never been updated to reflect current prices. The proposed minimum rates would be indexed annually, based on Eurostat consumer prices figures. As regards the taxable base laid out in the Directive, its scope would be enlarged to include energy products or uses that had previously been left out of the EU's energy taxation framework, such as mineralogical processes. At the same time, a number of exemptions and rate reductions would be removed, with much less margin for Member States to set rates below the minima for specific sectors. That said, certain reduced rates would remain possible, such as those for electricity produced from renewables and for primary sector industries such as farming.

Kerosene used as fuel in the aviation industry and heavy oil used in the maritime industry would no longer be fully exempt from energy taxation but rather taxed for intra-EU voyages. This is a crucial measure given the role of these sectors in energy consumption and pollution. For the aviation sector, the minimum tax rates would start from zero and gradually increase over a period of ten years while for both sectors sustainable and advanced products and electricity would benefit from a minimum rate of zero during a ten year period.

The distributional effects of the revision should be duly taken into account. In that context, the minimum tax rates applicable to households for heating fuels and electricity would start from zero and gradually increase over a period of ten years. Moreover, the ETD proposal includes the possibility for Member States to exempt from taxation the supply of heating fuels and electricity to vulnerable households over the same period of ten years. This targeted exemption could help support and protect vulnerable households during the transition to cleaner energy sources.

Europe has been facing increased energy prices for several months, but the uncertainty linked to the supply security after the Russian invasion of Ukraine is now exacerbating the problem. The worsening security outlook in recent weeks has underlined the need to drastically accelerate the implementation of the European Green Deal and the clean energy transition, thereby increasing Europe's energy independence.

The Commission's Communication on 'Energy Prices Toolbox' from October 2021 has helped Member States to mitigate the impact of high prices on vulnerable consumers and businesses and it remains an important framework for national measures. That Communication highlights, amongst others, the existing flexibility under the Energy Taxation Directive (ETD). Following the REPowerEU Communication of 8 March 2022, the Commission approved on 23 March 2022 a Communication on "Security of supply and affordable energy prices: Options for immediate measures and preparing for next winter." In that context, some Member States lowered taxation on energy, introducing reduced VAT rates or reduced excise duties on energy products and electricity, making use of the existing flexibility provided by the current EU legal framework. The Commission noted that higher revenues from energy taxes or from abnormal profits of energy companies could finance targeted support to vulnerable households and businesses or specific categories of transport users in a fairer and more sustainable way. Depending on national preferences, this can be implemented in the form of checks or refunds, bearing in mind the regressive impact of energy prices hikes.

4.2.3. The EU's Carbon Border Adjustment Mechanism (CBAM) ⁽¹⁴¹⁾

The EU's international leadership on climate must go hand in hand with bold domestic action. To deliver on its targets for greenhouse gas emissions reductions, the Commission announced as part of the European Green Deal the introduction of a carbon border adjustment mechanism (CBAM)⁽¹⁴²⁾. CBAM was adopted by the Commission as part of the Fit for 55 package and will serve as an essential element of the EU toolbox to meet the objective of a climate-neutral EU by 2050 by addressing the risks of carbon leakage as a result of the increased climate ambition of the EU.

This mechanism, which is compatible with World Trade Organization's rules (WTO), is an alternative to the measures that address the risk of carbon leakage in the EU's Emissions Trading System ('EU ETS'). It is as such not a regulatory measure. The objective of the mechanism is to avoid that the emissions reduction efforts of the EU are offset by increasing emissions outside the EU through relocation of production or increased imports of less carbon-intensive products. Without such a mechanism, carbon leakage could result in an overall increase in global emissions. Indeed, as long as significant numbers of the EU's international partners have policy approaches that do not result in the same level of climate ambition as the EU, and differences in the price applied to GHG emissions remain, there is a risk of carbon leakage.

In practice, the proposed CBAM will apply on imports mirroring the EU ETS that applies to domestic production. This system entails the surrendering of certificates ('CBAM certificates') by importers, or their representatives, based on embedded emission intensity of the products they import into the Union. The price of these certificates will be calculated depending on the weekly average auction price of EU ETS allowances. The CBAM is designed to take full account of the actual emissions embedded in imported goods. This will reward companies committed to decarbonisation and to investments in green technologies, as they would need to buy less CBAM certificates. Furthermore, the CBAM will take into account the carbon price paid in third countries, whether through market-based instruments like the ETS, or through carbon taxation.

Under the Commission's proposal, importers will have to report emissions embedded in their goods without paying a financial adjustment in a transitional phase. This transitional phase from 2023 until 2025, followed with the gradual phasing in of CBAM over time, will allow for a careful, predictable and proportionate transition for EU and non-EU businesses as well as authorities. Once the definitive system becomes fully operational in 2026, EU importers will have

⁽¹⁴¹⁾ See COM(2021) 564 final.

⁽¹⁴²⁾ COM(2019) 640 final, "Should differences in levels of ambition worldwide persist, as the EU increases its climate ambition, the Commission will propose a carbon border adjustment mechanism, for selected sectors, to reduce the risk of carbon leakage. This would ensure that the price of imports reflect more accurately their carbon content. This measure will be designed to comply with World Trade Organization rules and other international obligations of the EU", <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640>

to declare annually the amount of embedded emissions in the total goods they imported into the EU in the preceding year, and surrender the corresponding amount of CBAM certificates.

CBAM will initially apply to imports of cement, iron and steel, aluminium, fertilisers and electricity as these sectors have a high risk of carbon leakage and high carbon emissions. The administrative feasibility of covering all sectors in the CBAM from the start was also taken into account. The CBAM will apply to direct emissions of greenhouse gases emitted during the production process of the products covered. By the end of the transition period, the Commission will evaluate the CBAM and whether to extend its scope to more products and services - including down the value chain, and whether to cover so-called 'indirect' emissions (i.e. carbon emissions from the production of electricity used to produce the good).

4.3 Recent and planned reforms related to the environment in the Recovery and Resilience Plans (RRPs)

Well-designed tax reforms can boost economic growth and resilience to climate shocks and help contribute to a fairer society and to a just green transition. Some of the recent decisions by Member States regarding environmental taxation have been adopted within the framework of the Recovery and Resilience Plans (RRPs) approved by Council. They include, for instance, tax reforms linked to the challenges identified in the European Semester, particularly the country-specific recommendations of 2019 and 2020 adopted by the Council. Other reforms announced in the plans intend to accompany and increase the impact of the investments pursuing environment and climate objectives.

The measures affecting environmental taxation and for which Member States have defined specific milestones and targets linked to regular payments are the following.

TABLE 5. MEASURES AFFECTING ENVIRONMENTAL TAXATION

Country	Description of the measure
Austria	Eco-social tax reform with preferential tax treatment for low- or zero-emission technologies and products and introduction of pricing for CO ₂ emissions. The tax reform is expected to be revenue-neutral by providing tax relief to companies and private households through compensatory measures that have additional positive social and economic effects, such as reduced labour taxes or broadly distributed bonuses.
Belgium	Phasing-out of the existing company car tax scheme to conventional cars and limiting it as from 2026 to electric cars.
Cyprus	Green tax reform consisting of the introduction of a carbon tax for fuels used in sectors not covered by the EU Emission Trading System, the gradual introduction of a levy on water, as well as the introduction of a charge on household/landfill waste.
Denmark	Green tax Reform including the following actions: <ul style="list-style-type: none"> - Temporarily increased tax deduction for companies regarding investments to reduce greenhouse gas emissions. - Depreciation allowance for green investments (this is not strictly a tax action, but a compensating measures for those affected by the increase in energy taxes on fossils fuels) - Creation of an expert group to prepare proposals for a comprehensive tax reform with a higher and harmonised CO₂ tax on all emissions. - Increase of fossil energy taxation for all industries. The existing differentiations in the energy tax rates for companies will be maintained, but at a higher level for all industries. In addition, the Sustainable Transport Road component of the RRP includes reduced registration taxes for low-emission vehicles, and a reduction in the tax on electricity for zero and low-emission vehicles.
Finland	Reform of energy taxation to take account of technological developments and reduce industrial emissions. This includes reducing the electricity tax for industry, mines, agriculture and data centres of more than 5 megawatts, phasing out energy tax refunds

	<p>for energy-intensive industries by 2025, and increasing the taxation of fossil heating fuels, including peat, from 1 January 2021.</p> <p>Action plan to phase out fossil oil heating, including instruments like taxes and tax subsidies.</p> <p>Tax reform for sustainable transport, including lower tax rates for electric vehicles, simplified taxation schemes for commuter tickets and tax-free advantages on employee bicycles.</p>
Greece	Tax deductions for green investments undertaken by SMEs.
Germany	Tax exemption of ten years for the registration of purely electric vehicles.
Ireland	Implementation of successive annual increases in the current carbon tax rate, by EUR 7.50 per year between 2021 and 2025, following the trajectory that would lead to a rate of EUR 100 per tonne of CO2 emissions in 2030.
Italy	<p>Tax incentives to support the recycling activities and a revision of the taxation on waste in order to make recycling more convenient than landfilling and incineration across the national territory.</p> <p>Extension in time of the existing tax deduction for energy efficiency in residential buildings.</p>
Lithuania	<p>Abolition of tax exemptions and special tax regimes harmful for the environment.</p> <p>Study possibilities to broaden the tax base, including a possible enhanced use of excise duties on energy products and other green taxes.</p>
Portugal	Preparatory work for reviewing the green tax reform of 2014 (and following years) – analysis, recommendations and action plan.
Romania	<p>Introduction of a landfill tax as part of the actions to improve waste management governance.</p> <p>Implementation of a new distance-based charging system for heavy duty vehicles (trucks), and higher ownership taxes for most polluting passengers vehicles (cars/buses/coaches) based on the 'polluter pays' principle and green taxation principle.</p> <p>New legislation to increase the use of green taxation.</p>
Slovenia	Revision of the cost-effectiveness of the charges and levies on water use
Spain	<p>Reform of tax measures contributing to the ecological transition, including the following actions:</p> <ul style="list-style-type: none"> - The establishment of a tax on the deposit of waste in landfills and incineration plants - The introduction of a tax on non-reusable plastic packaging - The amendment of the tax on fluorinated greenhouse gases - Taxes or payments related to mobility such as road tolls and vehicle registration taxes - The revision of the subsidies for mineral oils used as fuel

Source: European Commission's assessment of the Recovery and Resilience Plans, https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en#national-recovery-and-resilience-plans

In addition, Member States adopted in 2021 other reforms regarding environmental taxation ⁽¹⁴³⁾. These reforms concerned, in most of the cases, energy taxes, followed by transport taxes. They were quite diverse in nature, with no identifiable overarching trend, pointing out to a strong influence of the national context and the policy choice of the responsible tax authorities. Some may run counter to the direction of internalising environmental costs but relate to the ongoing energy crisis and the need to minimise the impact of high energy prices.

⁽¹⁴³⁾ See: (European Commission 2021g).

Regarding **energy taxes**, Sweden decided to abolish reduced energy tax rates for agriculture, forestry and aquaculture and for heating fuels used in industry, and to remove tax exemptions on renewables in heat generation. Latvia also decided to abolish the reduced rates of excise duty on two types of fuel (E85 and B100) and on fuels containing bio-products, and to set a minimum rate of excise duty on biodiesel derived entirely from biomass and on paraffined diesel derived from biomass used as fuel. Luxembourg introduced a new CO₂ tax on energy products. By contrast, Czechia, Estonia and Malta reduced excise duties on fuel. Estonia also reduced excise duties on natural gas and electricity, while Latvia introduced a temporary reduction of the tax rate on natural gas used as propellant.

As far as **transport taxes** are concerned, Greece and Slovenia changed the calculation of vehicle registration fees and road taxes to take into account the European and global method of measuring CO₂ emissions. The Netherlands introduced stricter CO₂ requirements for motor vehicles and an increased tax rate. In Sweden, an enhanced and simplified environmental governance in the bonus-malus system ⁽¹⁴⁴⁾ for new light vehicles was adopted. Austria increased the tax on flight tickets, and Portugal introduced a new fee of EUR 2 per passenger for air and water travel.

Finally, regarding **other environmental taxes**, Latvia increased the tax rates on waste disposal and air pollution.

4.4. Examples of environmental tax measures across the EU

Environmental and climate challenges are putting pressure on governments to find ways to move towards more sustainable societies while preserving economic growth. Governments have a range of tools at their disposal, including environmental taxes and incentives (OECD, 2011a). Environmental taxes increase the cost of activities that generate pollution or harm the environment by adding in the relevant social costs (European Parliament, 2020). Environmental incentives favour less polluting consumption and investment activities that can be used to promote climate-friendly behaviour (Council of Economic Policies, 2021).

The paragraphs below present some examples of environmental tax measures across the EU. The taxes described cover different activities that lead to GHG emissions (e.g. energy, transport) while the tax incentives selected present a set of measures employed, including incentives for energy efficiency and innovation.

4.4.1 Environmental taxes

Carbon tax (Sweden)

The carbon tax was introduced in Sweden in 1991, along with an already existing energy tax, and it constitutes a cornerstone of the Swedish climate policy. The energy tax and carbon tax are to be seen in combination, as two tax components instead of two separate taxes. Sweden has been using these taxes to support several policy objectives. The main aim was to levy energy and carbon taxes on fossil fuels used as motor fuels or heating fuels (Hammar & Akerfeldt, 2011). The carbon tax is levied on all fossil fuels in proportion to their carbon content, as carbon dioxide emissions released in burning any fossil fuel are proportional to the carbon content of the fuel.

The carbon tax in Sweden was part of the key initiative “grön skatteväxling”, whose aim was to increase environmental taxes (Jonsson, Ydstedt, & Asen, 2020). Since 1994, the carbon tax is adjusted to changes in the consumer price index (CPI), to take into consideration inflation (Government Offices of Sweden, 2017). The carbon tax has gradually been raised since its implementation, from SEK 250 (EUR 24) to SEK 1200 (EUR 114) per tonne of fossil CO₂ emitted in 2021 (Ministry of Finance Sweden, 2021).

⁽¹⁴⁴⁾ The bonus malus system rewards vehicles that emit relatively small amounts (up to 60 grams per kilometre) of carbon dioxide (CO₂), while burdening vehicles that emit relatively large amounts of CO₂ with higher vehicle taxes.

In Sweden, as in other EU countries, the carbon tax is complementary to the EU ETS scheme. Enterprises subject to the EU ETS are exempt from the carbon tax, while sectors and enterprises not covered by the ETS scheme have a reduced CO₂ tax rate (World Bank Group, 2017). However, an exception to this is fuels used for heat production in combined heat and power plants and other heating plants within the ETS are subject to 91% of the carbon tax and the full rate of energy tax (The Ministry of Infrastructure, 2020).

The Swedish carbon tax provided incentives to reduce energy consumption, improve energy efficiency and increase the use of renewable energy alternatives. By increasing the tax level progressively, interested parties have been given time to adjust, improving the political acceptance of tax increases over time. The Swedish carbon tax has been a highly effective instrument in reducing emissions. During the 1990-2017 period, Sweden's GDP increased by 78%, while domestic greenhouse gas emissions decreased by 26% in the same period, making Sweden the 8th country on the Global Competitive Index (Official Journal of the European Union, 2020). However, it should be noted that the tax base of the Swedish carbon tax is not extensive, leading to an effective carbon price which could be further strengthened.

The Bonus-Malus system (France)

The Bonus-Malus system was introduced in France in 2008 to encourage the purchase of environmentally friendly cars. The Bonus-Malus system had a twofold objective. Firstly, it aimed to amend consumers' behaviour and to encourage the purchase of low-emitting cars, thus discouraging the purchase of the high-emitting vehicles. Secondly, it aimed to foster technological innovation in new vehicles (Institute for European Environmental Policy, 2014). The Bonus-Malus System includes both fees and rebates for new vehicle purchases. In particular, during the registration of vehicles that have been purchased or rented, a fee (malus) applies to those vehicles that have CO₂ emissions above certain levels or that have an administrative power that exceeds a certain threshold. If the vehicles' CO₂ emissions are below certain limits, car owners are entitled to receive a rebate (bonus) (Ecofys, 2018).

The fee (malus) applies to private vehicles, passenger cars and "pick-up trucks" with at least five seats. Moreover, it applies to those vehicles that have had a technical modification and have not been taxed when they were first registered in France. Since 2021, there are three different categories depending on the characteristics of the vehicles: a) vehicles covered by the new registration system; b) vehicles approved by the EU and not covered by the new registration system; c) vehicles not approved by the EU and not covered by the new resignation system. These categories define a minimum and a maximum threshold for CO₂ emissions per km, which correspond to a tax. In addition, the fee (malus) provides reductions and exemptions depending on the characteristics of the vehicle or the personal situation of the owner of the vehicle (e.g. large families with at least 3 children, vehicles equipped to run on E85 superethanol, etc.) (Ministere d'Economie des Finances et de la Relance, 2021).

The ecological bonus is a financial assistance that is granted to buyers of vehicles with CO₂ emission rate of less than or equal to 20 g/km (electric, hydrogen or plug-in hybrid). Specifically, the ecological bonus for the purchases of electric vehicles is as follows:

- EUR 6 000 for a new electric vehicle priced EUR 45 000 or less, EUR 2 000 for a new electric vehicle priced between EUR 45 000 and EUR 60 000 and EUR 2 000 for a new electric vehicle priced more than EUR 60 000 (hydrogen-powered vehicles);
- EUR 7 000 for a new electric van;
- EUR 1 000 for a new plug-in hybrid vehicle of less than EUR 50 000 with a range of more than 50 km;
- EUR 1 000 for a used electric vehicle (Ministere de l'Economie des Finances et de la Relance, 2021).

The ecological bonus can be combined with the conversion premium, which is a financial support for the purchase or lease of a low-emission vehicle, in exchange for the disposal of a diesel vehicle first registered before 2011 or petrol first registered before 2006. The amount of the premium depends on the type of vehicle purchased or leased and the applicant's financial situation (Ministere de l'Economie des Finances et de la Relance, 2021).

The Bonus-Malus system appears to have had a positive environmental impact in its first years of implementation (2008-2012). There has been a noteworthy drop in unit emissions from new car registrations. The reduction in emissions that can be attributed to the system between 2008 and 2012 was estimated to be 14.6 MtCO₂ (Bonnet, 2013). However, since 2016, the effectiveness of the Bonus-Malus system on the purchase of vehicles is more limited as CO₂ emissions from new vehicles have been surging. Between 2007 and beginning of 2016, CO₂ emissions from new vehicles decreased by 3.5 % per year, while since 2016 they have been increasing by 1 % every year (Association NegaWatt, 2019). Therefore, and while it has proven its effectiveness, the Bonus-Malus system should be integrated into a wider policy context.

4.4.2 An example of environmental tax incentive

Energy investment allowance (Netherlands)

The Energy Investment Allowance (EIA) was introduced in 1997 and was originally part of a broader energy tax policy package that was initiated in the Netherlands following the failure to implement a European-wide carbon tax in the early 1990s. During the past 15 years, the EIA has been one of the pivotal instruments of Dutch energy policy (Ruijs & Vollebergh, 2013). EIA allows companies and entrepreneurs to deduct targeted investments in energy saving and sustainable energy from the taxable profit of their business.

Two main conditions need to be fulfilled to be eligible for the EIA: eligible candidates have to be liable for income tax or corporation tax and to conduct a business for their own account in the Netherlands; eligible candidates needs to invest in equipment that complies with the Energy List requirements and costs at least EUR 2 500 (Netherlands Enterprise Agency, 2021). The EIA allows a deduction of 45% of the investment costs of energy-saving assets from the taxable profit, in addition to the usual depreciation. Therefore, reducing eligible candidates' corporate or income taxes ⁽¹⁴⁵⁾. The assets that are eligible for EIA are equipment that promote the efficient use of energy and complies with specific energy performance requirements and are included on the annual updated Energy List. . Companies may contribute to the review of the list and can suggest technologies to be included (Ryan, Rozite, & Jessula, 2012).**The scheme contributes to the energy saving targets for 2020 and it is evaluated every five years.** A review of EIA that covers the period 2012-2017 found that the measure has been beneficial for the Netherlands. In total, over 38,000 TJ of energy have been saved with assets that are supported by the EIA, which led to avoided annual CO₂ emissions of over 2 million tons (CE Delt, 2018).

⁽¹⁴⁵⁾ See: <https://english.rvo.nl/subsidies-programmes/energy-investment-allowance-eia>

5

TAXATION AND THE DIGITAL TRANSITION

Digitalisation has transformed, and continues to transform, our everyday lives and the way societies and businesses interact and function. Rapid digitalisation can also have a profound impact on international and national taxation systems and on tax administrations. This chapter discusses a subset of important developments resulting from digitalisation and their influence on taxation systems, both in terms of tax rules and in term of tax revenue collection and tax administration.

We can identify several broad developments associated with digitalisation, which we group as follows:

1) Increasing virtual versus physical presence and increasing cross-border nature of activities, including

- a) **Increased number of globally-active businesses:** with digitalisation, business in a country can be conducted without any physical presence. This puts a strain on the notion of brick-and-mortar permanent establishment rules which have been traditionally used for taxation, making it difficult to determine the jurisdiction eligible for taxation under existing rules. In turn, all this makes tax collection, enforcement, and identification of business tax functions difficult, especially concerning cross-border trade in services and intangibles. This chapter discusses some of the challenges linked to tax rules in the presence of cross-border business in services and products. Chapter 6 will also have a special focus on global businesses and some of the challenges they pose to taxation.
- b) **Increased use of teleworking and work mobility:** digitalisation allows us to log on to work from home and/or from a different country. The use of telework has vastly increased since the COVID-19 pandemic and more and more employees work at least partially from home and even from more than one place/country. The growth in remote work / teleworking can have important ramifications for income taxation and the taxation of cross-border work as it challenges the current rules on residency for tax purposes, which are out of sync with the new digital and global realities. Section 5.1 below will discuss the challenges regarding telework and residency in more detail.
- c) **Disappearance of traditional value creation and transaction chains and increased digital transactions of good and services, including through platforms:** with digitalisation allowing for more global economic supply chains, the final touch to a product may be done where the buyer is, even though the design and many stages of production took place elsewhere. This makes it hard to determine the location of value creation. Expanding e-commerce and remote selling, including through digital platforms, questions the traditional model of indirect tax revenues. Non-residents fall outside the typical consumption tax system, making it more challenging to determine the responsible jurisdiction for taxation. Questions arising include where the value is derived from, who owns the IP, and how to capture the full value given the global and sometimes intangible nature of the products. Questions and issues arising from these challenges are discussed in more detail throughout this Chapter, including in Section 5.1.2 and Section 5.3.

2) The rise of multisided platforms, intangibles assets including cryptocurrencies:

- a) **A rapid rise of electronic multisided platforms and network effects.** In addition to facilitating cross border online trade, platforms pose additional difficulties for current tax rules and administrations. Multisided platforms play an intermediary role to two or more distinct user groups that provide each other with network benefits, i.e. each group derives more value from being active on the platform the more users of the other group are active. This raises the question of whether users contribute to value creation by providing their data to platforms in exchange for free access (data that is then sold to online advertisers by platforms), creating network and reputational effects. This value creation is monetised by the platform itself but raises several tax challenges about how we value such intangible

assets, the role of data and user participation in the creation of value and how it should be taxed (Lucas- Mas & Junquera-Varela, 2021). In this context, income earned through digital platforms has often gone unreported and potential tax due gone unpaid. These issues are further discussed in Section 5.2.1.

- b) **Digitalised enterprises are characterised by the growing importance of investment in intangibles, especially intellectual property (IP) assets** which could either be owned by the business or leased from a third party. For many digitalised enterprises, the extensive use of IP assets - such as software and algorithms, websites and many other crucial functions - are central to their business models. The OECD identified this as one of the three main challenges from the digitalisation of businesses. The question is how these assets are valued and taxed, especially as they can cross borders more easily. Indeed, reliance on intangibles increases the ability of companies to structure themselves to minimise their tax liabilities. It also makes it more cumbersome for tax authorities to assess how income from such assets should be identified, valued and allocated amongst different parts of multinational groups. These challenges are further discussed in Section 5.2.2.
 - c) **Crypto-assets, particularly virtual currencies, are developing rapidly and have seen tremendous uptake in the last few years.** The lack of centralised control for crypto-assets, their hybrid characteristics, and the form and rapid evolution of the underlying technology present tax policy challenges. This includes the questions of how to value and tax such assets and the value generated with related transactions. These questions are further illustrated in Section 5.2.3.
- 3) **Digitalisation of tax services and collection and use of data and administrative cooperation**
- a) **The improved uptake of technology by tax administrations could improve taxpayer services and alleviate compliance burdens.** Digitalisation holds the promise of improving tax enforcement technology and thus tax collection. It allows authorities to process more information about taxpayers, such as their earnings, capital incomes, consumption expenditures, gifts, and bequests. Information from various sources can thus be used to more easily identify taxpayers who evade taxes. It also can allow for easier filling of tax forms for businesses and individuals and allow for faster tax returns. The benefit digitalisation can bring to tax authorities is further discussed in Section 5.3.1.
 - b) **As digitalisation generates a large pool of data,** it is also important to make use of that data through the development of risk assessment and analysis, information exchange and administrative cooperation.

5.1 Increasing virtual versus physical presence and increasing cross-border nature of activities

5.1.1 Residency versus new ways of working (teleworking) and their impact on taxation

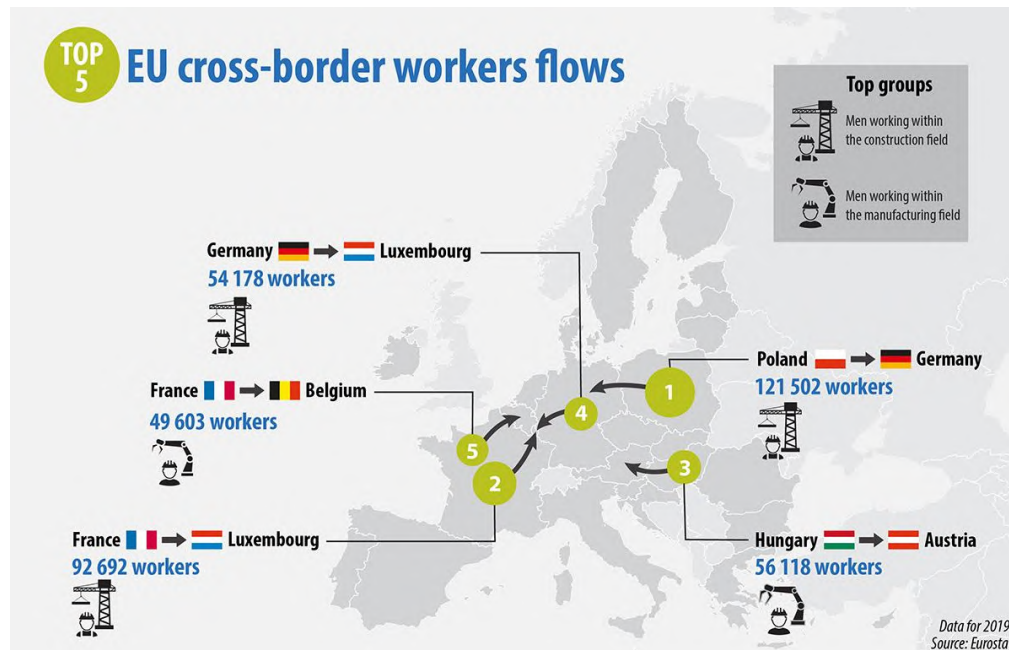
Digitalisation and increased globalisation, including an increasingly integrated EU internal market, have significantly increased the opportunities to work in one or several country(ies) while residing in a different one. These new ways of working and living have repercussions for the income tax situation of citizens who are active cross-border.

Today, many individuals cross borders within the EU daily to go to work, or move to live in another country as a posted worker, mobile worker, seasonal worker, artist, lecturer etc., and may be either employed or self-employed. The latest developments confirm that intra-EU mobility continued to grow. According to Eurostat, in 2019, there were 17.9 million EU-28 movers in the EU-28, of which 13 million were of working age (20-64 years). The total grew by 1.2% in 2019, and 3.4% in 2018⁽¹⁴⁶⁾. Graph 42 below highlights the scope of cross-border working arrangements on the basis of five illustrative country pairs in the construction and manufacturing

⁽¹⁴⁶⁾ (European Commission, 2021j).

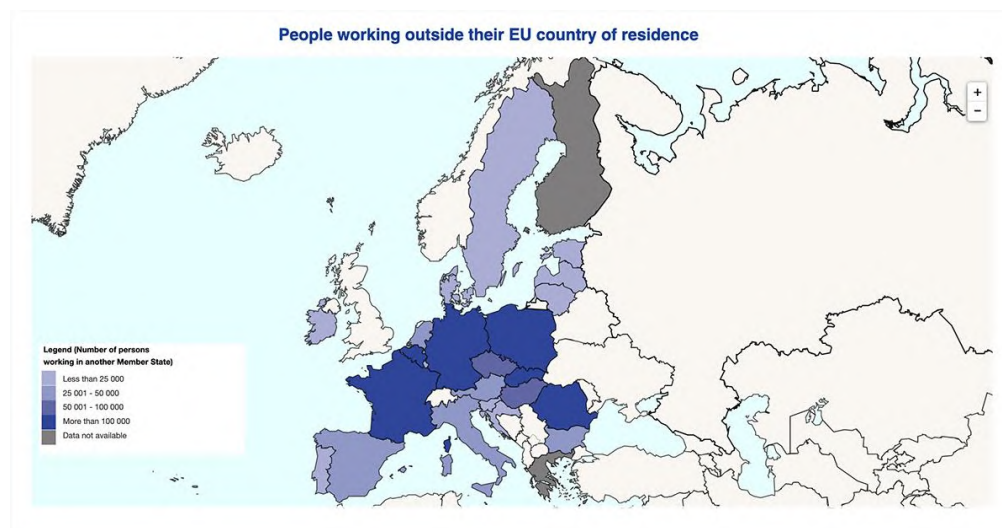
sectors. It shows that cross-border work is particularly prevalent between Poland and Germany, with over 120 000 Polish citizens working in Germany in the construction and manufacturing sectors. Graphs 42 and 43 below shows the scope of cross-border working arrangements across the EU.

GRAPH 42. FLOWS OF CROSS –BORDER WORKERS WITHIN THE EU, 2019



Source: Eurostat, available at: <https://ec.europa.eu/eurostat/cache/digpub/eumove/bloc-2c.html?lang=e>

GRAPH 43. PEOPLE WORKING OUTSIDE THEIR EU COUNTRY OF RESIDENCE, 2019



Source: Eurostat, available at: <https://ec.europa.eu/eurostat/cache/digpub/eumove/bloc-2c.html?lang=e>

The COVID-19 crisis forced governments to restrict travel and implement strict quarantine and teleworking requirements. As a result of these restrictions, many cross-border workers were unable to perform their duties in their country of employment. This raised cross-border tax issues. On one hand, home-offices and teleworking became more widespread and some of these workers worked increasingly from the country of residency. Graph 44 shows the percentage of workers doing telework/remote work or ICT-based mobile work in 2020 in the EU.

As the graph shows, this type of working is most common in Nordic countries such as Denmark and Sweden as well as The Netherlands and Luxembourg, but is much less pronounced in Italy, Greece and Portugal. Moreover, it is much more common among the employed than the self-employed.

At the same time, the analysis done to prepare a Recommendation to improve the situation of EU taxpayers ⁽¹⁴⁷⁾ revealed that many employers formally prohibited their cross-border workers from teleworking from abroad. This was because they perceived the associated increased compliance burdens for both income tax and social security as too high.

GRAPH 44. PERCENTAGE OF WORKERS DOING TELEWORK AND ICT-BASED MOBILE WORK, 2020

Percentage of workers doing telework and ICT-based mobile work

30 April 2020

By employment status, data for EU Member States and United Kingdom, 2015

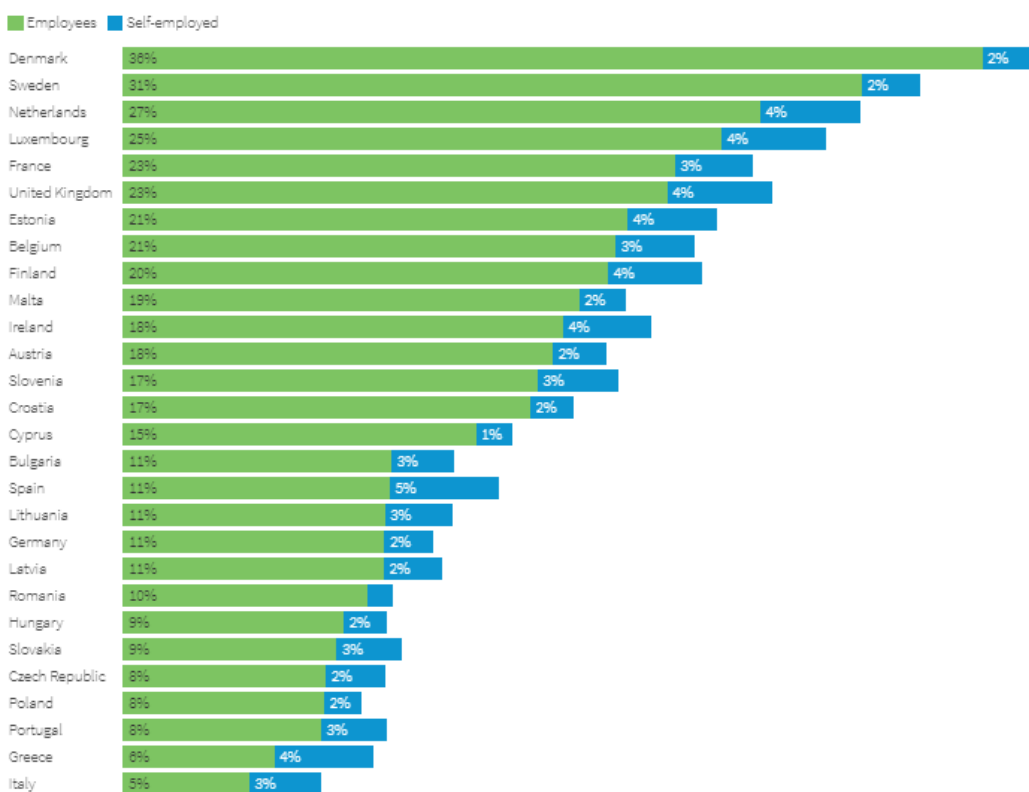


Chart: Eurofound - Source: European Working Conditions Survey 2015

Source: EUROFOUND, available at: <https://www.eurofound.europa.eu/data/percentage-of-workers-doing-telework-and-ict-based-mobile-work>

Member States can use different and various criteria to determine tax residence status, resulting in risks of double taxation or double non-taxation ⁽¹⁴⁸⁾. The definition of tax residence is important as it links each citizen to a tax jurisdiction and the scope of taxation. As a resident, a citizen is normally taxed on his or her worldwide income, as a non-resident only on income from sources in that Member State. For tax residency, Member States tend to use a set of

⁽¹⁴⁷⁾ See Action Point 17 of the Action Plan for Fair and Simple Taxation Supporting the Recovery Strategy, COM (2020) 312. The Recommendation has not yet been adopted by the Commission.

⁽¹⁴⁸⁾ See: COM(2020) 312 final.

criteria (connecting factors), such as: personal criteria (e.g. habitual abode, physical presence, permanent home); economic criteria (e.g. centre of economic interests); and professional criteria (i.e. where a person performs his professional activity). These criteria can result in a citizen being resident in two or even more Member States. This in turn can result in full double taxation if no Double Taxation Convention (DTC) applies, or leave them subject to double non-taxation (see below).

The growth in remote working and teleworking challenges the traditional concept of tax residency. Such developments have tax implications for such cross-border and mobile workers in the EU. Expatriates, highly mobile individuals / workers and most recently digital nomads ⁽¹⁴⁹⁾ can be most affected. The latter potentially merit a special focus, since this category of individuals are not properly covered by the existing domestic criteria and DTCs.

Cross-border workers could be subject to income taxation in the place of work (state of source of income) and in the place where they live (state of residence). To avoid double taxation, Member States have typically concluded DTCs attributing taxing rights to the residence state and the source state, and providing rules for the elimination of potential double taxation. **The OECD Model Convention provides a principle that employment income is taxable in the country where the individual resides (i.e. state of residence). However, it also provides in Art. 15(2) for important exceptions to this principle, allocating a taxing right to the state of source if the following conditions are fulfilled:**

- The employee is present in the source state for more than 183 days, or
- The remuneration is paid by, or on behalf, of an employer who is resident in the state of source, or
- The remuneration is borne by a permanent establishment which the employer has in the other state.

These exceptions cater, for example, for frontier workers, who are typically present in the source state for work, while they reside in another country (i.e. state of residence). However, when at least part of the activity is performed in a home-office through teleworking, the state of residence becomes a new, additional place of activity. This would mean for taxation purposes that the employment income of the citizen who is cross-border teleworking would have to be apportioned between the source state and the residence state on a pro-rata basis by the principle above. Both states may then subject their respective share in the employment income to their national personal income tax.

Member States have concluded bilateral exceptions to the principle of residency. Some Member States agreed on **de-minimis limits**, according to which a certain number of days of absence from the usual place of activity in the other Member State does not lead to an apportionment. There are such de-minimis limits in the DTCs between Luxembourg and its neighbouring countries (Germany, France, and Belgium), ranging between 19 days per year (with Germany) to 34 days per year (with Belgium and France).

A few Member States have concluded specific provisions to facilitate cross-border work in the border zone. If certain requirements are fulfilled, mostly the distance of the place of activity and place of residence within the border zone of the two Member States, then the state of residence will retain the full taxing rights for the employment income of the citizen (in contrast with the OECD Model Convention).

As teleworking increases, the possible tax repercussions increase too. For cases that fall outside the de-minimis-limits, there may be tax repercussions for both employees and employers linked to telework, as set out below.

For the citizen:

⁽¹⁴⁹⁾ Digital nomads can be described as individuals who conduct their life in a nomadic manner while engaging in remote work using digital telecommunications technology.

- The citizen will be subject to additional compliance obligations as he or she would need to declare the employment income in two Member States. The citizen will also have to allocate his expenses between the income generated in each of the two Member States.
- The fact of being subject to income taxation by both Member States increases the risk of disputes on the appropriate apportionment of the income generated in each of the countries, ultimately culminating in effective double taxation.
- Being subject to taxation in both Member States may result in a loss of eligibility for certain deductions and tax benefits, for example, those which take into account the overall personal and family circumstances.

For the employer: if the income is subject to a pro-rata apportionment for income tax purposes between the state of activity and state of residence, this will also represent additional compliance cost for the company. The employer would have to adjust the taxable income by deducting the share of the income attributable to the state of residence. The employer might also need to comply with the withholding tax obligations (if any) in the state of residence.

Member States quickly reacted to the new situation caused by the COVID-19 pandemic. The measures taken by various Member States included lock-downs or closure of frontiers, which made it impossible for cross-border workers to carry out their work at the usual place of activity. Depending on the measures taken in the respective Member States, employees were either obliged to telework or the health services recommended the use of home-offices and teleworking.

In parallel, Member States identified the possible repercussions of the increased use of home offices and teleworking on the tax situation of cross-border workers. Due to the impossibility for some workers to reach their normal place of activity, the taxing right for the employment income would have switched under the existing DTC to the state of residence, as explained above.

Some Member States proceeded with bilateral memoranda of understanding which introduced the notion that the days spent in a home office would be deemed, for purposes of the application of the respective DTC, as working days spent at the usual place of activity in the other Member State. Such memoranda of understanding take into account the exceptional circumstances of the COVID as a force majeure, limited to persons who telework due to obligations or recommendation from public health organisations. Other persons teleworking (in the absence of COVID-19 rules or recommendations) do not benefit from the scheme. The memoranda of understanding mitigated the risk of tax repercussions due to pandemic-related home offices and teleworking. The memoranda have been prolonged several times with the current and possibly last prolongation ending on 30 June 2022.

As labour mobility and the use of teleworking become more widespread, such agreements may not be sufficient to withstand the effects of digital change. We need to assess and prepare the way forward. The Commission services have engaged with Member States and run a fact-finding exercise, gathering information to achieve a comprehensive and accurate overview of the state of play on the issue of cross-country labour mobility. The purpose of the exercise is to identify and eliminate tax obstacles to cross-border activities of citizens. The issue is of particular importance in frontier areas with many cross-border commuters, for example the Grande Region around Luxembourg, Germany's border with neighbouring Member States and the Greater Copenhagen area.

5.1.2 The increase in digital transactions of goods and services and the impact on VAT

5.1.2.1 VAT in the Digital Age

Advancements in technology have had a profound, lasting effect on commercial activity. Consumers' spending habits shifted heavily towards online shopping. Affordable access to technology has been one of the key drivers in initiating a global electronic ('e') revolution, affecting how consumers buy goods and services, breaking down market barriers and creating new opportunities for traders to gain access to a globalised market. The pace of technological advance and the associated impacts on commercial behaviour could not have been anticipated when the VAT system was established.

In 2017, global revenues from e-commerce sales were in the region of EUR ⁽¹⁵⁰⁾ 2.1 trillion. At that time, projections indicated that this figure would more than double over the next 4 years, reaching EUR 4.3 trillion by 2021 ⁽¹⁵¹⁾. At that time, in the EU, the total value of the e-commerce economy was estimated to be in the region of EUR 530 billion ⁽¹⁵²⁾. By 2019, studies showed that the e-commerce sector in Europe had grown to EUR 636 billion, up 14.2% from 2018 ⁽¹⁵³⁾. The value of the e-commerce economy in Europe was expected to be in the region of EUR 717 billion by 2020. In fact, those original expectations were exceeded and the value of European e-commerce grew to EUR 757 billion in 2020 ⁽¹⁵⁴⁾.

At the same time, it was estimated that EUR 5 billion a year of VAT was lost due both to differences in certain VAT rules, including exemptions, and to fraud on cross-border supplies of goods across Member States ⁽¹⁵⁵⁾. Prior to July 2021, certain VAT rules were not harmonised across Member States. This facilitated non-compliance and caused distortions in competition. Differences in tax rules related to areas such as distance sales thresholds or the taxation of low value imports of goods. The latter provided a VAT exemption to supplies of low value goods imported into the EU with a customs value not exceeding EUR 22. This created favourable conditions for non-EU businesses to sell low value imported goods to consumers in the EU, but was detrimental to EU-established businesses that were selling goods within the EU and did not enjoy the same relief on their low value supplies. In other words, this led to a distortion of competition within the e-commerce marketplace. Of the estimated EUR 5 billion VAT revenue loss on cross-border supplies of goods each year, about EUR 1 billion was a direct result of the application of the VAT exemption itself. Digital transactions of goods and services also posed a direct risk to tax administrations' responsibility for managing indirect taxes and notably fighting fraud. The estimated loss was significant, necessitating action to combat e-commerce related VAT fraud.

The Commission adopted the VAT Action Plan in response to this new commercial landscape and its associated risks for VAT collection⁽¹⁵⁶⁾. These legislative proposals were designed to reshape, update and modernise the VAT system to ensure its relevance and effective application to the new realities of the e-commerce market. At the same time, the reforms sought to make VAT compliance easier for legitimate businesses who carry out cross-border online commercial activity by taking a new approach to tax collection. The main aim was to create a fairer, simpler and more harmonised system of taxation by: a) removing legislation that created distortions of competition; b) improving administrative co-operation; and c) introducing new simplifications to increase compliance.

On 1 July 2021, the European Commission introduced an ambitious and far-reaching set of reforms to the taxation of e-commerce activity in Europe. This built on the VAT e-commerce package adopted by the Council on 5 December 2017, as part of the VAT Action Plan⁽¹⁵⁷⁾, which focussed on reforming the taxation of e-commerce activity⁽¹⁵⁸⁾. These measures

⁽¹⁵⁰⁾ The 2017 average US dollar to Euro exchange rate of 0.8865 was used for 2017 figures and for projections.

⁽¹⁵¹⁾ See worldwide retail e-commerce sales 2014 -2024 taken from Statista, <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

⁽¹⁵²⁾ See Ecommercenews.eu – The total value of e-commerce in Europe was EUR 530 billion in 2016, <https://ecommercenews.eu/e-commerce-europe-e602-billion-2017/>

⁽¹⁵³⁾ See Eurocommerce.eu – e-commerce activity in Europe was estimated was up 14.2% in 2019 from 2018's figures, : <https://www.eurocommerce.eu/search.aspx?q=e-commerce&tag=1>

⁽¹⁵⁴⁾ See Eurocommerce.eu – the value of European e-commerce reached EUR 757 billion in 2020, [https://ecommercenews.eu/european-com\(2016\)-757-e-commerce-was-worth-757-billion-euros-in-2020/](https://ecommercenews.eu/european-com(2016)-757-e-commerce-was-worth-757-billion-euros-in-2020/)

⁽¹⁵⁵⁾ See COM(2016) 757 final, p.2.

⁽¹⁵⁶⁾ See COM(2016) 148 final.

⁽¹⁵⁷⁾ COM(2016) 148 final.

were introduced to help navigate the challenges presented by the modern global economy and to modernise and simplify the collection of tax on e-commerce transactions. To ensure that the legislative framework governing the taxation of e-commerce activities is robust enough to keep pace with the challenges of the e-commerce market, the Commission sought to overhaul the outdated legislation that previously applied to e-commerce activity. Measures included in the 2021 e-commerce package built on the success of existing simplifications, such as the Mini One Stop Shop (MOSS). In fact, the MOSS infrastructure was used as the blueprint for the design of a number of new simplifications, such as the expanded One Stop Shop (OSS) and newly-introduced concept of the Import One Stop Shop (IOSS).

5.1.2.2 Building on the success of the MOSS

In January 2015, the Commission introduced a simplified system to declare and pay VAT on business-to-consumer (B2C) supplies of Telecommunications Broadcasting and Electronic (TBE) services in the EU ⁽¹⁵⁹⁾. These changes introduced new place of supply rules for supplies of TBE services, aligning the place of taxation with the place of actual consumption or destination principle. As a result, EU companies supplying such services to customers in the EU were put at equal footing with non-EU established suppliers. The new rules also introduced the Mini One Stop Shop (MOSS), a simplification that allowed suppliers of TBE services to declare and pay VAT due in all Member States where they have customers via a MOSS registration in one single Member State.

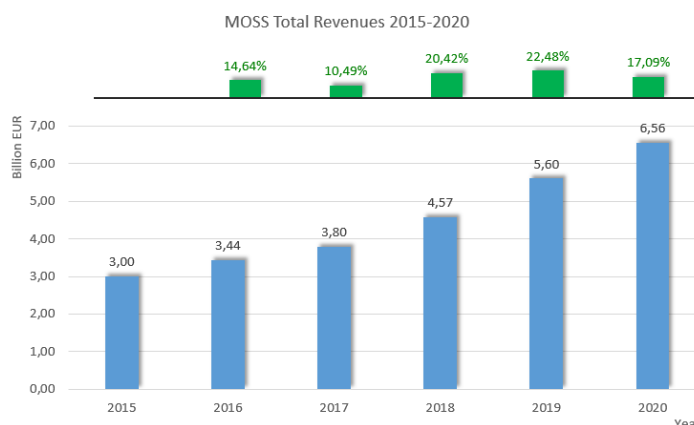
The 2015 TBE measures represented a significant move on the Commission's part to address the taxation of electronic supplies of services, which include, among others, the general supply of digitalised products, accessing or downloading software, music, films and games etc. The MOSS incorporated two schemes; the Union MOSS, which was used by EU established suppliers and the non-Union MOSS, which was designed for non-EU established suppliers.

The MOSS offered an attractive solution to many traders who wished to simplify their VAT obligations arising from their supplies of TBE services to customers in the EU. By the end of 2021, there were over 11 500 traders registered to use the MOSS. As Graph 45 illustrates, EUR 6.56 billion in VAT revenue was collected via the MOSS in 2020, which was more than double the 2015 figure of EUR 3 billion. The upper (green) chart of Graph 45 shows the percentage increase of MOSS revenues year-on-year which ranged between 10.5% and 22.5% between 2016 and 2020.

⁽¹⁵⁸⁾ On 5 December 2017, the Council adopted the VAT e-commerce package consisting of: [Council Directive \(EU\) 2017/2455](#), [Council Regulation \(EU\) 2017/2454](#), [Council Implementing Regulation \(EU\) 2017/2459](#)

⁽¹⁵⁹⁾ TBE services include telephone services provided through the internet, radio or television programmes transmitted over a radio or television network, and the supply of digitised products including software.

GRAPH 45. MOSS TOTAL REVENUES 2015-2020



Source: European Commission Internal Calculations based on data derived from Member States' replies to EU Survey

Generally, the pre 1 July 2021 VAT rules were burdensome and expensive for business to monitor and comply with. The implementation of the 2015 MOSS initiative was the first step towards increasing the fairness and efficiency of the VAT collection system, but it only applied to the taxation of supplies of TBE services. Through the implementation of a threshold, the Commission also recognised the need to reduce the compliance burden for micro businesses. New simplification measures, which took effect on 1st January 2019, included the introduction of a EUR 10 000 calendar-based threshold, below which EU established suppliers of cross-border Business to Consumer (B2C) TBE services, established in only one Member State, could tax such supplies in the Member State in which their business is established. Alternatively, they could opt for taxation in the Member State of the customer and declare and pay the VAT due via the MOSS portal.

The MOSS system has significantly reduced the costly registration burden that suppliers of TBE services would have otherwise faced. Building on the strength and success of the MOSS simplification, the July 2021 amendments extended the scope of the MOSS to become an expanded, broader, One Stop Shop (OSS). The new rules also introduced another new simplification for imports called the Import One Stop Shop (IOSS), whose construction and implementation was again directly influenced by the design of the MOSS.

Box 8: the E-Commerce Package

On 1 July 2021, the e-commerce package came into application and introduced a number of amendments to the VAT rules governing the taxation of B2C cross-border e-commerce activity in Europe. These measures were designed to take action against e-commerce related VAT fraud, and to enhance legitimate e-commerce trade.

The package levelled the playing field for EU established suppliers by addressing existing distortive rules that led to competition issues in the e-commerce market. The VAT exemption for the importation of small consignments not exceeding EUR 22 was abolished under the new rules. As a result, VAT is now due on all commercial goods imported into Europe from a third country or third territory, irrespective of their value.

It reduced the burden and complexity of VAT compliance for micro businesses by introducing a new harmonised EU-wide annual threshold for intra-Community distance sales of goods and cross-border supplies of TBE services. The pre-July 2021 thresholds for intra-Community distance sales of goods were removed and included in the EU-wide threshold of EUR 10 000. As a result, supplies of TBE services and intra-Community distance sales of goods below this threshold may remain subject to VAT in the Member State where the taxable person supplying those TBE services is established, or where those goods are located at the time when their dispatch or transport begins. Where this threshold is exceeded, the destination principle applies to ensure that the place of supply is where the non-taxable recipient of the TBE services is established or where the goods are located at the time when their transport ends.

The e-commerce package also expanded the scope of supplies that could avail of optional simplifications for the collection, declaration and payment of VAT. As such, the non-Union OSS, which is a special scheme for taxable persons not established in the EU, now covers, since 1 July 2021, all services supplied to non-taxable persons established in the EU.

The new VAT e-commerce rules extended the scope of the Union OSS scheme to cover all cross-border supplies of services to non-taxable persons taking place in the EU and all intra-Community distance sales of goods. Exceptionally Electronic Interfaces (EIs), who become 'deemed' suppliers for certain supplies of goods within the EU, can also declare certain domestic supplies of goods in the Union scheme.

With these expanded schemes, businesses do not need to register for VAT in each Member State in which their eligible supplies of goods and services to consumers take place. Instead, the VAT due on those supplies can be declared and paid in one single Member State (the Member State of identification) via the expanded OSS schemes. The VAT due on all these supplies of goods and services can be declared in a single quarterly electronic VAT OSS return, accompanied by a single payment to the Member State of Identification. Traders who opt to register in an OSS scheme can deal with their VAT compliance obligations in one language via the tax administration of the Member State in which they are registered, even though their sales are EU-wide.

The e-commerce package also introduced two simplification measures to reduce the VAT compliance burden associated with the importation of low value goods. Two additional measures were specifically designed to help support the import side of e-commerce activity following the abolition of the EUR 22 low value import VAT exemption, the Import One Stop Shop (IOSS) and Special Arrangements. Both of these import simplifications are optional and they apply to distance sales of goods imported into the EU with an intrinsic value not exceeding EUR 150, excluding excise goods⁽¹⁶⁰⁾. Suppliers and electronic interfaces who are not established in the EU need to appoint an intermediary to be able to use the import scheme, unless they are established in a third country with which the EU has concluded a VAT mutual assistance agreement⁽¹⁶¹⁾.

Customers who purchase from IOSS registered suppliers pay the VAT-inclusive price at the time of their online purchase. The customer has certainty and transparency about the total price of the transaction and is not confronted with unexpected VAT costs when goods are imported into the EU and delivered to their home address. IOSS goods are, therefore, exempt from VAT upon importation into the EU as the VAT has already been paid at the time of the purchase. The use of the IOSS further simplifies logistics as the goods can enter the EU and be released more flexibly for free circulation in any Member State, regardless of where the transport of those goods to the customer ends. Where the IOSS is used, the VAT due on eligible supplies of low value imported goods can be declared and paid via a single monthly electronic IOSS VAT return, accompanied by a single payment to the Member State of identification.

Special arrangements were introduced as an alternative simplification for the collection of import VAT in cases where neither the IOSS nor the standard VAT collection mechanism on importation are being used. The special arrangements provide an optional simplification that applies to distances sales of good imported into the EU with an intrinsic value not exceeding EUR 150, excluding excisable goods. This specific simplification is designed in particular for postal operators, express carriers and other customs agents who normally fulfil the customs import declarations on behalf of the customer. Where the special arrangements are used, the customer pays the VAT to the declarant/person presenting the goods to customs. The person presenting the goods to customs will remit to the tax/customs authorities only the VAT he actually collected from the customer during a calendar month.

Finally, the e-commerce package also provides for the deemed liability of marketplaces

⁽¹⁶⁰⁾ Excise goods include tobacco products and alcohol beverages.

⁽¹⁶¹⁾ At the date of publication, only Norway has concluded such an agreement with the EU.

and platforms, where they facilitate distance sales of goods imported into the EU with an intrinsic value not exceeding EUR 150. This new 'deeming' provision is crucial to mitigate the risk of non-payment of VAT. Where the deeming provision applies, individual sellers on marketplaces do not have to register for VAT as the platforms will be responsible for paying the VAT due on supplies of goods made by underlying suppliers, where those supplies are facilitated by the platform. This particular measure bolsters compliance as it streamlines the VAT obligations of thousands of underlying sellers by deeming the marketplace as the person liable to declare and pay the VAT due on those supplies.

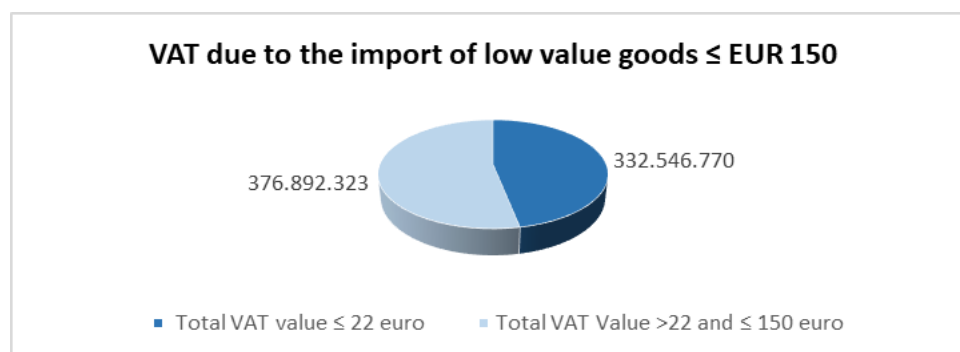
5.1.2.3 The first results of the e-commerce package (IOSS)

The VAT e-commerce package was launched on 1 July 2021. Overall, the implementation of the package went smoothly, without major operational problems. The preliminary first results of the import side of the e-commerce package, which represents only one facet of the package, are available. These results, which represent VAT levied on low value imported goods below EUR 150, are promising and exceeded expectations.

EUR 710 million VAT was collected in the first 3 months of implementation of the new rules, which equates to at least EUR 2.84 billion on an annual basis. These first results regarding imports of low value consignments are depicted in Graph 46. The abolition of the EUR 22 exemption threshold accounted for EUR 333 million of this amount or an estimated EUR 1.4 billion on an annual basis.

The balance was generated from imported goods with a value between EUR 22 and EUR 150, for which studies showed that the level of fraud was very high before the reform (65%). This represents EU VAT that would not otherwise have been collected.

GRAPH 46. VAT DUE TO THE IMPORT OF LOW VALUE GOODS ≤ EUR 150

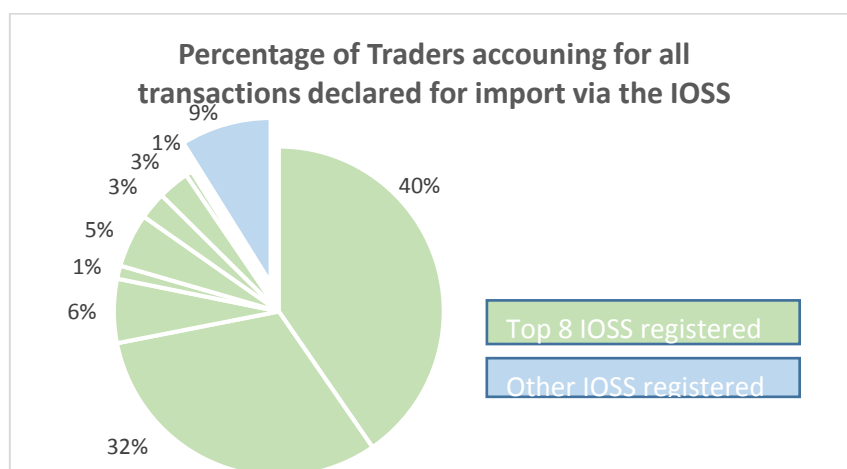


Source: European Commission Internal Calculations based on EU Customs Surveillance System Database

In terms of registration numbers, there are currently 7 614⁽¹⁶²⁾ traders registered to use the Import One Stop Shop. Analysis of data from the first quarter of application of the e-commerce package indicates that the top 8 IOSS registered traders accounted for approximately 90% of all transactions declared for import into the EU via the IOSS. This is a very encouraging statistic as it shows the impact the new 'deeming' provision for marketplaces has had on compliance. As a result, the critical compliance effort is now focussed on a much smaller number of large players in the market, who account for the majority of low value imported goods into the EU.

⁽¹⁶²⁾ IOSS registration figures as of 19 November 2021.

GRAPH 47. PERCENTAGE OF TRADERS ACCOUNTING FOR ALL TRANSACTIONS DECLARED FOR IMPORT VIA THE IOSS



Source: European Commission Internal Calculations based on EU Customs Surveillance System Database

5.1.2.4 Going forward – the next steps

A comprehensive evaluation of the VAT e-commerce package is being carried out in 2022. This evaluation will feed into the VAT in the Digital Age initiative announced in the Tax Action Plan ⁽¹⁶³⁾ and the Commission Work Programme ⁽¹⁶⁴⁾, which may further extend the scope of the One Stop Shop and propose amendments to the Import One Stop Shop. The VAT in the Digital Age initiative will also reflect the growing importance of technologies and its impact on business and tax authorities.

The smooth functioning of the internal market and ensuring effective and fair taxation of the digital economy requires VAT rules to keep up with technological change. It is complex to adapt the current VAT rules to the digitalisation of the economy, while taking into account the opportunities offered by digital technologies to fight tax fraud and benefit businesses. Both harmonisation and simplification of rules together and new technological tools to report and exchange tax data can support cross-border sales in the single market and improve tax collection. In turn, this can contribute to ensuring sustainable more revenues during the post COVID-19 recovery.

Work on the customs side is ongoing as well, even after the entry into force of the new VAT and customs rules on 1 July 2021. The aim is to overhaul the EU’s customs policy on e-commerce and give platforms enhanced roles and responsibilities under the revised legal framework. The Wise Persons Group (WPG) was created by the Commission as an external expert group to provide innovative proposals for the modernisation of the customs system of the EU. The WPG will also provide important guidance for the design of the new policy on e-commerce customs policy. The Group will reflect on how to improve customs control capabilities and effectiveness in relation to the importation of small parcels. In parallel, an e-commerce study was launched in November 2021, the results of which aim to feed into the revision of the legal framework. The study will focus on all import duties and taxes, along with a review of the duty relief system.

The VAT in the Digital Age initiative is on his way for adoption this year. The initiative will cover three main areas driven by technological changes: 1) VAT digital reporting requirements and e-invoicing, 2) VAT treatment of the platform economy, and 3) single VAT registration in the EU.

⁽¹⁶³⁾ See: https://ec.europa.eu/taxation_customs/package-fair-and-simple-taxation_en

⁽¹⁶⁴⁾ See: https://ec.europa.eu/info/publications/2022-commission-work-programme-key-documents_en

The initiative will be accompanied by an impact assessment ⁽¹⁶⁵⁾ which will include a **comprehensive evaluation of the VAT e-commerce package** ⁽¹⁶⁶⁾. Under the third part of the initiative, a further extension of the scope of the One Stop Shop and improvements to the Import One Stop Shop are envisaged based on the results of the e-commerce evaluation.

5.2 The Rise of Multisided Platforms, intangibles assets including cryptocurrencies and the role of administrative cooperation

5.2.1 Platforms and the Role of Administrative Cooperation in Direct Taxation

Digital platforms have played an important role in increasing the digital exchange of goods and services. Globally, digitally deliverable services went from below 52% of services exports in 2019 to almost 64% in 2020, while ICT services grew from 10% to almost 14%, a marked acceleration of the long-term trend ⁽¹⁶⁷⁾. At the same time these platforms may have contributed to higher underreporting income and tax evasion as shown in Graph 48 below. A large and growing number of individuals and businesses use digital platforms to sell goods or provide services, supporting consumers across the globe. A challenge to tax authorities is that oftentimes income earned through digital platform is not reported and consequently taxes due are not paid.

This form of tax evasion is exacerbated if a digital platform is active across jurisdictions as it is often the case. It is difficult to precisely estimate the level of income underreporting and tax evasion. However, it is clearly a significant issue. If one assumes that the percentage of income not reported is 50%, the introduction of reporting obligations for transactions on goods as well as all services have been estimated to produce a potential yield between EUR 2.7 billion and EUR 7.1 billion ⁽¹⁶⁸⁾ per year in the EU. Similarly, within the “Digital and Data” project, the tax gap for services performed on digital platforms was estimated in a range from EUR 1.1 to EUR 2.7 billion for the tax year 2015. Graph 48 below illustrates these findings ⁽¹⁶⁹⁾.

⁽¹⁶⁵⁾ A study covering the three areas was launched by an independent contractor.

⁽¹⁶⁶⁾ On 1 July 2021, the e-commerce package was adopted which provided for a One Stop Shop and Import One Stop Shop to allow businesses to pay and register for VAT in a single Member State.

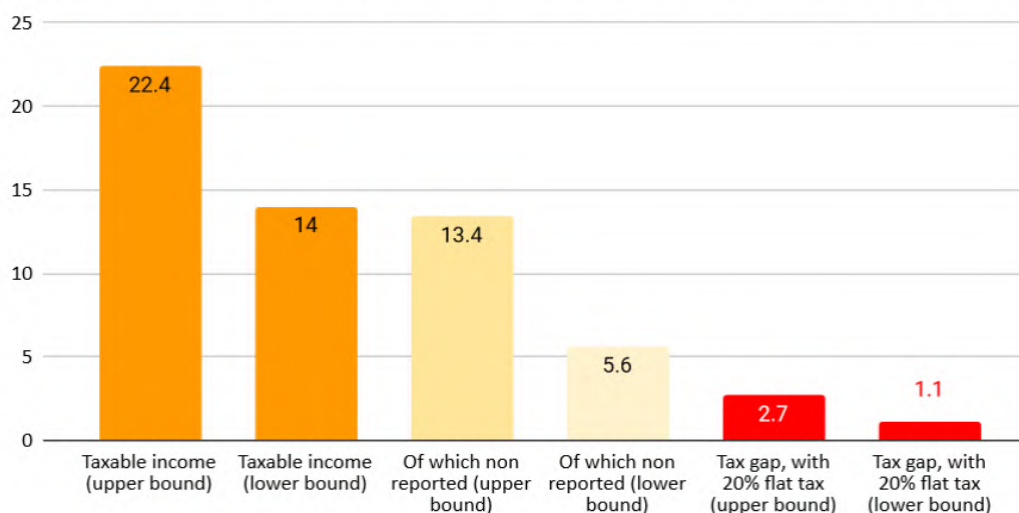
⁽¹⁶⁷⁾ See UNCTAD (2021), <https://unctad.org/news/trade-data-2020-confirm-growing-importance-digital-technologies-during-covid-19>.

⁽¹⁶⁸⁾ These are estimates based on a number of assumptions. It includes peer-to-peer financial services. See also European Commission (2020), Commission Staff Working Document Impact Assessment: Tax fraud and evasion-better cooperation between national tax authorities on exchange of information. See: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD%3A2020%3A131%3AFIN>

⁽¹⁶⁹⁾ The project FPG/097 “Digital and data” was a DG TAXUD TADEUS project which gathered the Heads of tax administrations from across the EU. The project group brought together 18 Member States, from February until September 2019. Participants mapped their respective legislation in the area of reporting by digital platform operators, and found considerable difficulties especially for extending the national rules to actors abroad. Therefore the project group suggested the Commission to look into a common format for reporting nationally and thereafter applying administrative cooperation via a swift and safe automatic exchange of the reported tax information towards the relevant Member State.

GRAPH 48. ESTIMATE OF TAXABLE INCOME, UNREPORTED INCOME AND TAX GAP FOR 2015 FOR THE DIGITAL PLATFORM ECONOMY

Estimates (€ billion) of taxable income, unreported income and tax gap (upper and lower bound) for a total value of transactions of €28 billion



Source: Figure based on the 'Digital and data' project – on reporting requirements for the sharing and gig economy

Following the rapid development of the use of digital platforms a number of initiatives have been launched by the Commission to ensure tax transparency rules remain up-to-date. These include amendments to the Directive on administrative cooperation in the field of taxation (referred to as DAC7) adopted in March 2021. The new rules will apply from 1 January 2023. **DAC7 creates an obligation for digital platform operators to report the income earned by sellers on their platforms.** The information to be reported should allow authorities to identify individual sellers (name, address, date of birth, TIN and possibly VAT number) and income earned. They shall report once a year, by 31 January in the year following the calendar year to be covered by the report.

Platform operators, which facilitate the sale of good or provision of services by EU sellers, should report under DAC7 regardless of where they are located. This means that both EU and non-EU platforms should report income earned by EU sellers through these platforms. This wide scope is important as digital platforms do not need to be located within the EU in order to provide their services digitally in the EU. However, in cases where third countries have agreements with EU Member States that are considered equivalent to DAC7, foreign platforms will report to the tax authorities in their own jurisdiction, instead of directly to an EU Member State.

Digital platform operators only need to report in one Member State, which will ensure that the information is further exchanged with the other EU Member States. Foreign platforms need to register in a Member State. The platforms can choose the Member State in which they register. If they are registered for VAT purposes in one Member State they should register in that Member State.

Common technical standards to allow for reports which are based on - XML schema ⁽¹⁷⁰⁾ - for the reporting are being developed in coordination with the OECD. These forms will allow operators to use one format of reporting for all EU Member States and participating OECD jurisdictions. The form contains information such as name, address, and country of residence on the platforms and on the sellers using the services of the platforms. The Commission will set up a central registry for registration of non-EU platforms that fall under the provisions of DAC7.

⁽¹⁷⁰⁾ XML stands for extensible Markup Language. XML is a software- and hardware-independent tool for storing and transporting data.

5.2.2 Intangible Assets

Intangible assets are assets that are not physical in nature owned by a person or a business (OECD, 2011b). **Intangible assets comprise among other things intellectual property, debt and equity, contracts and relationships.** Definitions of intangible assets may differ but they typically include various forms of intellectual property such as patents, copyrights, trademarks, know-how or trade secrets. As such it can also include software or other digital content such as e-books, mobile apps, social media, video or audio streaming, cryptocurrencies etc. One possible taxonomy of intangibles is the following:

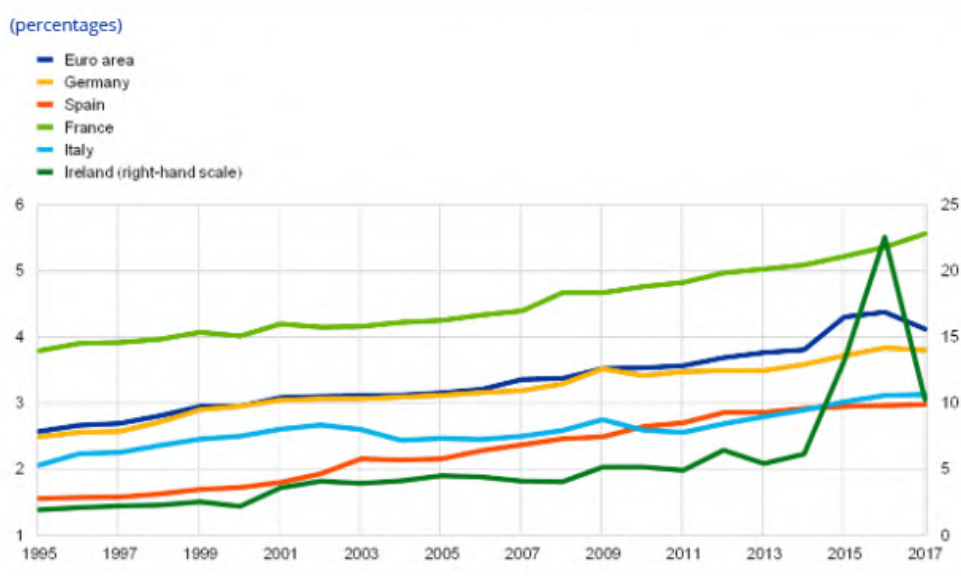
- computerised information (such as software and databases);
- innovative property (such as scientific and non-scientific R&D, copyrights, designs, models, trademarks);
- economic competencies (including brand equity, firm-specific human capital, networks joining people and institutions, organisational know-how that increases enterprise efficiency, and aspects of advertising and marketing

Intangible assets became increasingly important in the overall investment mix as illustrated in Graph 49 and Graph 50 both in the EU as well as in the US. Moreover, intangible assets are nowadays widely acknowledged as a major source of future growth. These strategic investments in the of investments in R&D, patents or software, which are key drivers of innovation, are at the heart of firms' competitiveness, largely due to their complementarity with digital technologies and their positive contribution to multifactor productivity (OECD, 2021c).

Intangible assets are of particular importance for the digital economy as most services and products on offer are intangible including digital video streaming, cloud service or cyber currencies to name just a few examples. Intangibles assets are therefore of larger importance in the digital economy compared to the traditional brick and mortar economy.

GRAPH 49. INTANGIBLE INVESTMENT AS A PERCENTAGE OF TOTAL INVESTMENT FOR A SELECTION OF MEMBER STATES

Intangible investment as a percentage of total investment



Sources: Eurostat and ECB calculations.

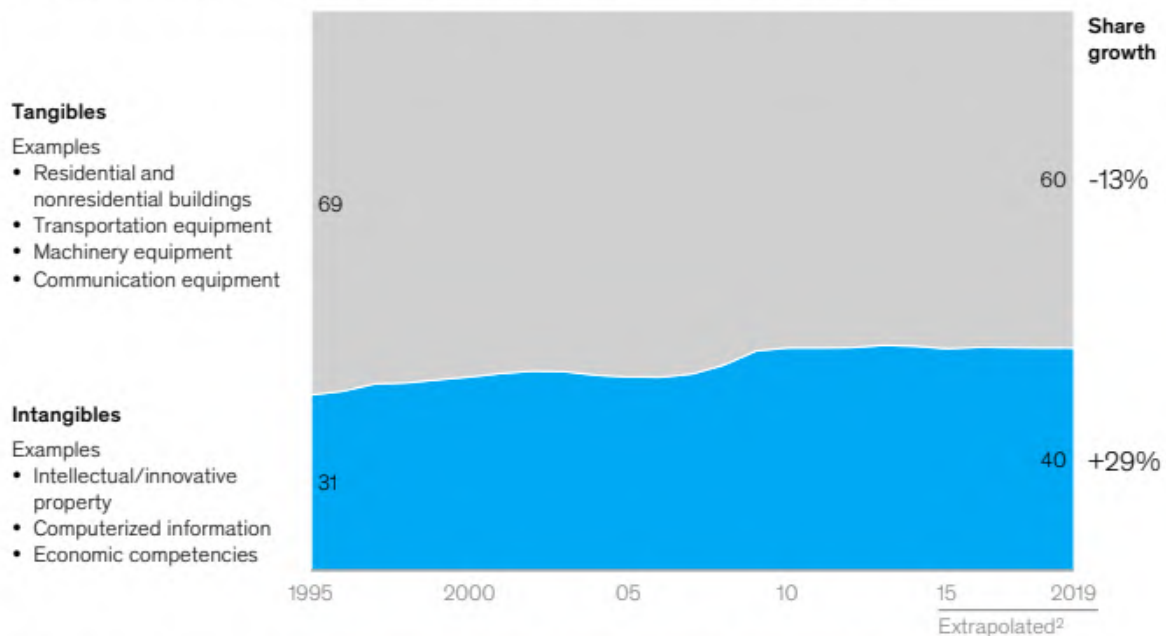
Notes: Here, "intangible investment" refers to intellectual property products included in the national accounts. Volatility in Irish and Dutch data, which is mainly due to intellectual property-related transactions conducted by large multinational companies, makes a significant contribution to fluctuations in euro area data.

Eurostat and ECB Calculations.

Source:

GRAPH 50. INTANGIBLE AND TANGIBLE ASSETS INVESTMENT MIX IN EUROPE AND THE US, 1995-2019

Intangible/tangible investment mix, United States and 10 European countries, 1995–2019, %¹



1. European countries are Austria, Denmark, Finland, France, Germany, Italy, Netherlands, Spain, Sweden, and United Kingdom.

2. Data extrapolated for 2015–19 based on 2010–15 average growth.

Source: EU-KLEMS; Eurostat; INTAN-Invest; McKinsey Global Institute analysis

Source: (McKinsey, 2021)

At the same time, the rise in importance of intangibles for businesses have also increased the scope for aggressive tax planning strategies. The presence of intangible assets in the portfolio of companies makes it easier for business to shift profits across jurisdiction. This is particularly an issue for digital companies that heavily rely and conduct their business based on intangible assets. There are two issues in particular that increase the scope for tax evasion for digital businesses. First intangible assets are mobile and can thus easily be shifted from one jurisdiction into another. Second, intangible assets such as intellectual property assets are notoriously hard to value, with often no unrelated third-party transaction to determine an arm's length price.

In the absence of tight rules against abuse, these features give leeway to aggressive tax planning allowing digital companies to benefit from certain tax regimes and substantially reduce their tax burden. This is typically done via intra-group payments for which an objective transfer price is difficult to establish. Another issue is that, corporate taxation, notably the preferential tax treatment of intellectual property, influences the location of research activities, of legal patent ownership, and of the number of patent applications.

A plethora of academic research has studied the link between aggressive tax planning and the role of intangibles in these schemes. A study that assesses the impact of aggressive tax planning schemes on the effective average tax rate shows that placing intellectual property in country with a generous intellectual property box allows lowering the effective average tax rate significantly, and more successfully compared to tax planning schemes relying on alternative mechanisms (European Commission, 2016a). Another study (OECD, 2017) establishes that 5 percentage point difference of preferential tax rate on patent income is associated with a 6% increase in patent applications. Other researchers (Böhm, Karkinsky, & Riedel, 2012) show in a study on the probability of patent relocation to tax havens and the effectiveness of controlled

foreign company legislation that an increase of one standard deviation of patent value increases the probability of patent relocation in a tax haven by about 16%. This probability of patent relocation in a tax haven is reduced by about one third by CFC legislation. Overall, the literature shows that increases in corporate tax rates do significantly reduce intangibles in the balance sheets (see (Dischinger & Riedel, 2011), for instance). The abovementioned literature showing the sensitivity of tax rules is just a subset of a larger literature evidencing how companies and in particular multinational enterprises use tax rules in their favour to engage in tax planning. Interestingly, a study on structures of aggressive tax planning and indicators (European Commission, 2017c) found that out of seven tax planning structures identified, three involved the use of intellectual property.

The European Commission currently is preparing a number of initiatives linked to tackling tax evasion and linked to addressing issues related to intangible assets in the field of cryptocurrencies in order to respond to the abovementioned challenges. This is further discussed in Chapter 6.

5.2.3 Taxing cryptocurrencies

The growing importance of crypto-assets poses several challenges for tax policy and compliance. The Commission has recently defined 'crypto-asset' as '[...] a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology' (European Commission, 2020d). Crypto-assets are traded all over the world through service providers that, in turn, can be located anywhere. Crypto-assets span a vast spectrum of heterogeneous forms and purposes, and have a number of inherent and unique characteristics that raise questions for policymakers. These characteristics include their lack of centralised control, (pseudo-)anonymity, and the rapid evolution of the underpinning technology as well as the form of these assets. Key tax questions raised by crypto-assets for governments may include:

- i. How should value created by crypto-assets be treated for direct and indirect tax purposes?
- ii. How can governments effectively detect and address risks of tax avoidance and evasion?
- iii. How to improve tax transparency, including what information tax administrations need to know and exchange about transactions for compliance and enforcement purposes?

The market value of crypto assets has grown substantially, though valuations are often highly volatile. The total number of crypto-asset users increased from EUR 5 million in 2016 to at least EUR 100 million in 2020, with the total market capitalisation of crypto-assets reaching a peak of around EUR 2.5 trillion in October 2021 before falling to around EUR 1.25 trillion in mid-May 2022. The most well-known crypto-assets (such as Bitcoin or Ethereum) are designed to serve as a general purpose store of value, medium of exchange or means of payment, and/or unit of account. However, the price of crypto-currencies (as opposed to the "stablecoins" discussed below) has to date been highly volatile. This poses difficulties in assessing the overall value of holdings and capital gains for tax purposes, as well as the treatment of losses.

There are over 18,000 different crypto-assets, and their scope and use are evolving rapidly. The biggest category are the "crypto currencies" referred to above. Another type of crypto-assets are "stablecoins". These seek to maintain a stable value against a reference asset or multiple assets. As such, these are more likely to be used as means of exchange.

Crypto-assets, like more traditional assets, are a stock of wealth and can be taxed as such. But more generally, it is the capital gains arising from the trading of crypto-assets that are in principle subject to taxation under the national law of Member States. Those capital gains arise either when crypto-assets are traded for other crypto-assets, or a fiat currency is traded for crypto-assets and back to a fiat currency. The trading can be carried out using crypto-asset service providers or between individuals or entities directly. The inherent cross-border nature of Internet-based products, services and applications, including crypto-assets, creates challenges in the field of direct taxation that only strong administrative cooperation can solve. Crypto-assets can also be used as a means of payment. Depending on the user's jurisdiction regulations, capital gains could also arise at its use as currency. These capital gains may arise because of the difference between the value of the crypto-asset when used to buy a good or service and the value of crypto-assets when users acquired them. Some jurisdictions do not currently tax derived capital gains from crypto-assets at all. This might facilitate aggressive tax planning. There is also a possibility to

derive personal income from other types of activities related to crypto-assets such as mining ⁽¹⁷¹⁾, airdrops or bounties.

The approach to taxing crypto-assets differs significantly from Member State to Member State. Some Member States have tax rules that specifically refer to crypto-assets (in particular to the taxation of capital gains derived from transactions with crypto-assets). Other Member States have administrative guidelines that may produce an equivalent effect to having a legal framework. A final group use the general tax regime to identify the capital gains created through crypto-assets and tax it accordingly. There are also differences between Member States regarding the taxonomy of crypto-assets, which leads to divergent tax treatment: some are classified as intangible assets, others as foreign currencies, financial instruments or even as inventory. Regarding other potential taxes that may apply, some Member States also tax crypto-assets through an exit tax. Ordinarily gift and inheritance taxes also apply to crypto-assets, although it is not always expressly stated in the legislation. While not all Member States have wealth taxes in force, those that do normally tax the possession of crypto-assets.

The management of crypto-assets is a growing business activity, the VAT treatment of which is not always fully certain. The guidance in relation to the VAT treatment of crypto-assets is currently very limited. The CJEU ruled in Hedqvist case¹⁷² that the exchange of Bitcoins for a traditional currency is a taxable service exempted from VAT pursuant to Article 135(1)(e) of the VAT Directive, therefore giving crypto-assets that are “bi-directional” the same VAT treatment as traditional currencies in regard to exchange services. From the judgment is also clear that when Bitcoin is exchanged for goods and services, no VAT will be due on the value of the Bitcoin itself. The VAT treatment of emerging services will be addressed in the context of the future update of the VAT rules for financial and insurance services announced in the Tax Action Plan.

Crypto-asset service providers are currently not in the scope of DAC and therefore not subject to reporting obligations. Nor are crypto-assets currently mentioned as a category of assets that should be reported to tax authorities. Therefore, tax authorities currently lack information to monitor the proceeds obtained using crypto-assets. Underreporting of data related to revenues and income gained by crypto-asset users severely limit tax administrations’ ability to ensure that due taxes are effectively paid. Their digital nature enables investments in crypto-assets as a means for tax evasion (Ecorys, 2021). While accurately estimating the potential tax revenue losses linked to underreporting in the crypto-assets sector is very difficult, a study by (Thiemann A. , 2021) estimated that, in 2020, the total realised capital gains by EU citizens amounted to EUR 3.6 billion, and the total unrealised capital gains to EUR 9.1 billion.

The Commission is currently working on a proposal for an amendment to the DAC, as announced in the 2020 Tax Action Plan, in order to ensure that information relative to crypto-assets is made available to tax authorities. Similar to the approach taken for digital platforms, considering the inherent cross-border nature of the crypto-asset market, it will be important to ensure reporting from all service providers that deal with EU users, including non-EU service providers. The initiative will take into account the work in the OECD on the same issues.

5.3 Digitalisation of tax services and collection and use of data and administrative cooperation

5.3.1 Impact of Digitalisation on Tax Administration

Tax administrations constantly have to adapt to the digitalisation of the economy, from meeting taxpayers’ expectations to adequately managing the emerging compliance risks. Digitalisation enables more efficient tax compliance, reduces administrative burden and is a

⁽¹⁷¹⁾ A process where blocks are added to a blockchain, verifying transactions. It is also the process through which new bitcoin or some altcoins are created.

⁽¹⁷²⁾ See Case C-264/14.

fundamental part of modern tax systems and administrations, as it also improves their administrative efficiency.

The trend towards e-administration has been ongoing for a while. However, the COVID-19 pandemic has considerably accelerated the digital transformation of tax administrations. As in many other aspects of everyday life, restrictions on movement and interactions forced various core tax administration services to be delivered digitally.

Digitalisation impacts various dimensions of tax administration: relations with taxpayers, internal processes and relations with other tax administrations or public services. The accelerating pace of the digitalisation has brought important implications on how tax administrations engage with taxpayers: supporting self-service has been a growing trend, from the ability to register, file and pay online to the increasing range of interactive tools. The increasing use of sophisticated technological approaches are actually encouraging “self-service” by taxpayers. This phenomenon is part of a more fundamental change, whereby non-compliance will be increasingly “designed out” which in turn helps reduce burdens.

Digital contact channels play a more and more important role in interactions with taxpayers, with a growing use of mobile applications. Mobile apps are becoming more and more transactional, allowing taxpayers to access relevant records and personal tax accounts, to communicate with the tax administration, to supply information and tax returns, and to make payments.

Another trend is integrating machine learning and artificial intelligence into tax administrations’ contacts with taxpayers. This allows services to run closer to a real-time, 24/7 communication, possibly driven by the use of digital assistants such as chatbots. This all helps to improve the accessibility of tax administrations. The growing use of innovative tools also allows communications to become more personalised to the taxpayers’ needs. Nevertheless, whilst digital can deliver a lot, an important aspect of meeting taxpayers’ preferences is getting the mix of channels right.

The increasing use of electronic services provides both for convenience and cost-efficiency purposes. A successful example for moving services online can be found in Spain. Originally configured to serve as the virtual regional tax offices of the Spanish Tax Agency, the Integral Digital Administration (ADI) has become a critical means of the entire tax service delivery in times of the COVID-19 pandemic (OECD, 2021d).

In the same vein, the impact of digitalisation can be seen as restrictions on paper-based communication and in-person interactions led to a greater demand on digital services channel. The Netherlands Tax Administration serve as an interesting example with their trusted online ecosystems (OECD, 2021d).

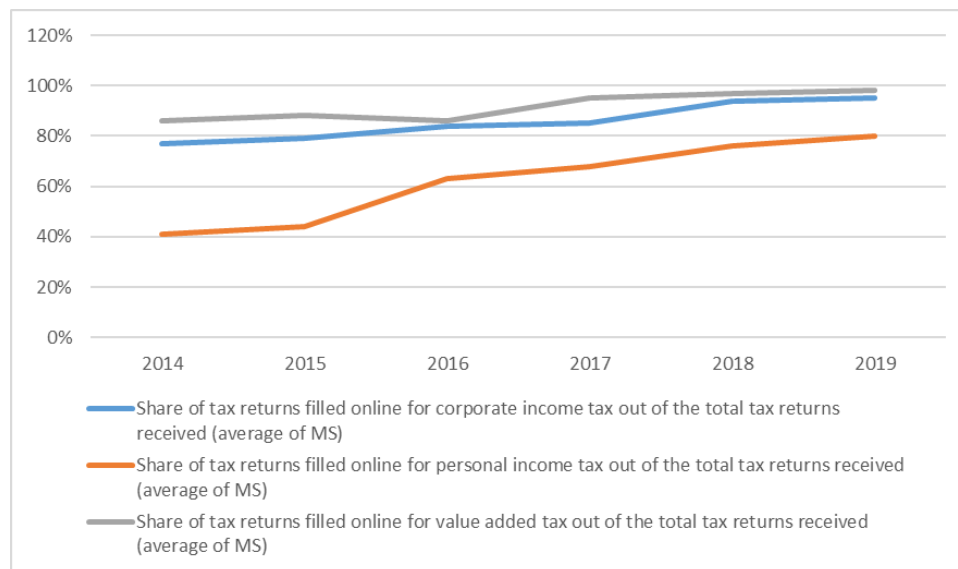
It would be difficult to name the tax administrations’ internal processes that were mostly affected by the digitalisation, as they all interlace. It is obvious however that online registration has become the most widely offered registration channel. It can also allow non-residents to register from abroad, as the Swedish TAIS project illustrates, and as such will facilitate voluntary compliance (OECD, 2021d). The growing importance of digital identity and verifications should be also highlighted, when tax administrations are delivering more and more of their services digitally.

It is also interesting to look at the evolution of the collaboration with third party service providers; more and more tax administrations allow access to their internal systems through application programming interfaces (APIs). By using them, revenue systems can digitally interact with other Digital Service Providers (DSPs) such as banks or accounting software providers. They can use APIs to send and receive information, to validate activities or to facilitate transactions, just to name a few possibilities. An important implementation issue is data protection to, thereby also ensuring careful management of these APIs playing a more and more significant role for tax administrations.

The growing use of e-filled and pre-filled returns can also be witnessed. An important trend on processing tax returns and payments is that e-filing rates have increased significantly. In

addition to their use with respect to PIT, the increasing availability of the electronic invoicing systems could allow tax administrations to go beyond by (fully) pre-filing corporate income tax, and value added tax returns. As electronic filing and taxpayer services, such as pre-filing, continue to grow, on-time filing rates are also expected to improve.

GRAPH 51. DEVELOPMENT IN SHARE OF E-FILING IN EU MEMBER STATES 2014-2019



Source: (OECD, 2021d)

Another important aspect is the verification and compliance management in the COVID-19 environment. Even though it is not a new phenomenon to shift more and more compliance activity to non-human interventions, the closure of tax offices and the move to remote working for a large number of tax officials has significantly affected how compliance interventions were conducted in the last years. The application of innovative technologies have certainly played a key role, be it the use of data science, analytics techniques, or the application of artificial intelligence. Tax administrations could not have delivered without and will continue to use increasingly automated electronic checks, validations and matching taxpayer information.

The increasing availability of data is a very indicative trend in itself, as tax administrations have access to a more and more diverse set of data from various sources. Data can come from banks or payment service providers, from the supplier or the customer, or simply from devices that register transactions. In this respect, the electronic invoicing and online cash register system of Hungary serves as a good example, as a useful systematic approach for managing compliance in the business sector (OECD, 2021e).

Thanks to ever-evolving digital techniques, tax administrations can take a more preventive approach to risk management in general. The increasing use of large and integrated data sets have led to the uptake in the use of analytics techniques and tools, to both improve the risk management itself and help the so-called design-in compliance. An illustrative example for useful data set is the big data project, serving as the core of the French Tax Administration's digital strategy, tailor-made to process a huge amount of data regardless of its original source (OECD, 2021d).

Digitalisation and technology ease the challenge for tax administrations of processing mass volumes of data efficiently and effectively. An illustrative example is that over the period 2016-2019, the top ten Member States investing more in technology registered significant better performance in both VAT revenue (81% higher increase) and VAT gap (2 times the decrease in percentage points) compared to other Member States ⁽¹⁷³⁾.

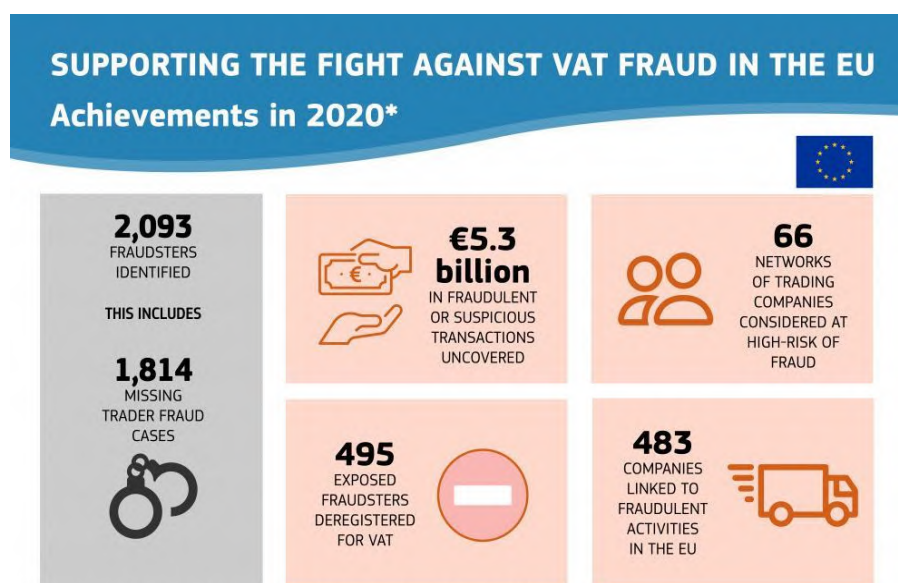
⁽¹⁷³⁾ See COM(2022) 137 final.

The impact of digitalisation is also reflected in increasing the IT expenditure of tax administrations and in the hiring of IT experts, an investment that usually pays off. The pandemic has often accelerated the implementation timeline of numerous digital solutions. It is expected that investing in interoperability, data automation and data exchange will bring further benefits to Member States' tax administration.

5.3.2 The benefits of digital transition for VAT

With the introduction of the Internal Market in 1993 the borders between Member States were abolished for the supply of goods within the European Union, but the tax jurisdictions remained unchanged. The control of the correct application of VAT on cross-border transactions was then shared between Member States making the cooperation between tax administrations crucial for the smooth functioning of the Internal Market and securing the VAT revenues. While at first this cooperation was limited to an exchange of information, it evolved into a more advanced sharing of data. A closer cooperation was necessary to curb the VAT fraud on cross-border transactions.

Currently, tax administrations are exchanging very large amount of data. Just VAT Information Exchange System ⁽¹⁷⁴⁾, containing VAT data on cross-border transactions, provides 8 million VAT number verifications on a daily basis to businesses. The digital transaction was necessary to accommodate the processing of the data in a more efficient way and assist tax administrations. In particular, in the framework of Eurofisc ⁽¹⁷⁵⁾, Member States use Transaction Network Analysis that processes data from different sources to identify connections between transactions and reproduce network of fraudsters. Such an approach is more effective and efficient compared to the manual process employed before. The benefits of using this tool for 2020 can be seen below ⁽¹⁷⁶⁾:



*Based on data from the EU Transaction Network Analysis (TNA) tool of Eurofisc, 17 February 2021

Source: European Commission, available at: https://ec.europa.eu/taxation_customs/vat-and-administrative-cooperation_en

This tool must still be operated by knowledgeable anti-VAT fraud experts, but it automates the part of the analysis where manual processing was creating bottlenecks.

⁽¹⁷⁴⁾ See: https://ec.europa.eu/taxation_customs/vies/vatRequest.html

⁽¹⁷⁵⁾ See: https://ec.europa.eu/taxation_customs/vat-and-administrative-cooperation_en

⁽¹⁷⁶⁾ Note that the statistics for 2021 are not yet available.

The results produced by Transaction Network Analysis are more accurate, complete and most importantly available almost immediately. The digital transition was crucial to prevent VAT fraud on cross-border transactions.

Similar new information technologies will be employed for processing payment data that will be collected as from 2024 to fight VAT fraud in particular in e-commerce ⁽¹⁷⁷⁾. The data collected from payment services providers will be retransmitted to an EU repository; the Central Electronic System of Payment information (CESOP) where it will be automatically processed, under the supervision of Eurofisc, to identify unreported VAT transactions. With the amount of data that will be collected, manual processing would not produce meaningful results.

In 2021, the Commission worked together with Payment Services Providers and tax administrations to prepare the entry into force of this new requirements for data collection by working on standardisation of data.

5.3.3 Digitalisation and greater administrative cooperation

Digital applications and the use of data are instrumental for tax administrations to cooperate with each other, and with other public services. During the COVID-19 crisis, a number of governments even used information maintained by tax administrations on large parts of the population and economy, be it taxpayer address or bank information, to contact citizens and businesses or to make direct benefit or support payments (OECD, 2021d). In the future, digital possibilities will continue to deeply affecting tax administrations' relationship with taxpayers and the implementation of their core services and processes.

Not surprisingly the impact of digitalisation in the area of administrative cooperation among tax administrations in the EU is ever-present, as its whole concept is around the use of digitalised data, from the use of e-forms to the access to the European car and driving licence information system (EUCARIS). Technology solutions are also fundamental for the upcoming "VAT in the Digital Age" initiatives discussed in Section 5.1.2.

Digitalisation, and in particular the use of data analytics, is also an opportunity for a better use of data received through the DAC. The analysis of the data received through the DAC and the quality of that analysis is of central importance to improving the effective use of DAC data by tax administrations. Better quality and more effective use of data is also key to creating an environment for Member States to achieve greater tax revenues by reducing the scope for tax fraud and tax evasion. One of the key initiatives of the 2020 Tax Action Plan is therefore to achieve better quality and use of tax data.

Data analysis involves the matching and risk analysis of the different sets of data that tax administrations receive from Member States. These procedures enable Member States to make informed decisions on further interventions including audits, to ensure that the correct amount of tax is paid in the Member State.

Currently, many Member States lack the right solutions, to efficiently and effectively analyse the DAC data that they receive. And in some instances this type of analysis is carried out manually. Taking into account the steady increase of information received as a result of the expansion of the scope of the DAC and through the agreements reached within the work of the OECD in the same area, it is no surprise that the manual processing of data is reaching its limits. These limitations can be overcome through the better use of data analysis tools.

Member States can use advanced data analytics to profile and risk assess information in a manner that better and more quickly identifies possible cases of tax evasion and tax fraud from large data sets. As more data is made available and data analysis tools developed, Member States can use these to better and more quickly allocate their compliance resources

⁽¹⁷⁷⁾ See: https://ec.europa.eu/taxation_customs/taxation-1/central-electronic-system-payment-information-cesop_en

towards such cases and thus potentially increasing tax revenues. More targeted monitoring should ultimately also lead to higher levels of compliance by taxpayers.

Member States that have utilised data analytics, have increased their ability to match information received through the DAC, to national tax data. This is a significant benefit, as it enables Member State to correctly identify the taxpayer and simultaneously integrate this new information, to support their risk evaluation and assessment procedures, leading to better selection of cases for tax audit and increased tax revenues.

The Commission has, together with Member States under the Fiscalis program, launched an Expert Team, which is to start work in 2022 to develop an IT tool and best practices for advanced data analytics. Two of the key objectives of the Expert Team are as follows:

- Identify best practice data analysis techniques and technologies that can be used to better prevent, detect and combat tax evasion and fraud across Member States;
- Develop a data analytics tool that can be used on direct taxation data, particularly data from the automatic exchange of information (AEOI), which supports Member States, to better detect potential tax evasion and fraud across Member States.

The work of the expert group supports the Commission's stated objectives in the Tax Action Plan to support improvements in the quality and use of information. This is expected to result in improvements in the effective functioning of the DAC. Better use of DAC data through the better identification of tax evasion and tax fraud will result, leading to increased tax revenues for Member States from DAC data. The work of the Expert Team is to be finalised in early 2024 at the latest.

6

BUSINESS TAXATION IN A GLOBAL ECONOMY

The context for EU business taxation policy has changed radically in recent years. The COVID-19 pandemic has further accelerated existing trends, such as digitalisation, and highlighted problems with the current corporate tax system:

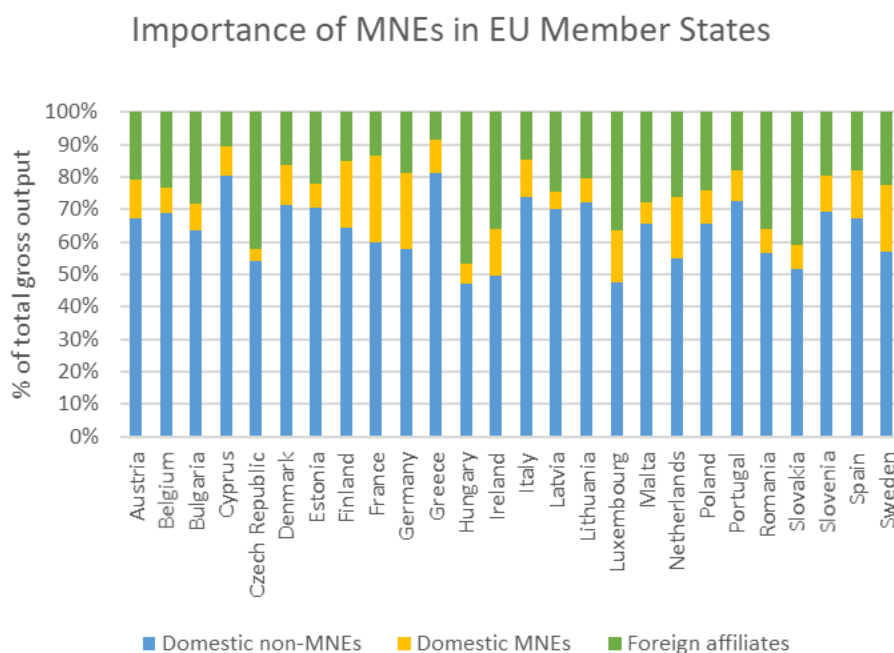
- **The current international corporate tax system was designed more than a century ago and is based on outdated principles of tax residence and source.** Developments in globalisation and digitalisation have left these principles increasingly out of synch with the economy of today and the existing tax rules increasingly difficult to apply to modern business realities. See chapter 5, which discusses digitalisation and its impact on tax systems and tax administrations.
- **In the EU, the national corporate tax rules creates complexities for businesses operating cross-border in the Single Market.** Grappling with up to 27 different national tax systems creates particular challenges for EU SMEs, start-ups and other businesses looking to grow, expand and trade cross-border. This hurts investment and growth, as well as the EU's competitiveness.
- **While corporate income is taxed at the national level, business models continue to become ever more international, complex and digital.** This creates high compliance costs for business and risks of double taxation. At the same time, some companies exploit loopholes between tax systems through aggressive tax planning strategies. This also makes it difficult for citizens to know how much companies are actually paying in tax, which risks undermining trust in the tax system as a whole.

The sections below elaborates on the context and principles for business taxation in the EU presented in the Communication on Business taxation adopted in May 2021 to promote a robust, efficient and fair business tax system in the EU. The Communication lays out a series of targeted initiatives to address the current problems in business taxation. This chapter discusses some topics that these initiatives refer to (i.e. UNSHELL; debt bias of corporate taxation) and tax incentives for SMEs.

6.1. A global framework for the taxation of multinational enterprises

Multinational enterprises (MNEs) are important contributors to the EU economy. On average, MNEs are at the origin of about one third of the EU's gross output (see graph 52). However, accurate and comprehensive data on MNEs' activity and profits is scarce, as national statistics differentiate between domestic and international companies on a limited basis.

GRAPH 52. IMPORTANCE OF MNEs IN EU MEMBER STATES IN 2016



Source: OECD

Source: European Tax Observatory, retrieved at: <https://www.taxobservatory.eu/fr/base-de-donn%C3%A9es/mnes-profits-and-activity/>

According to Eurostat’s 2018 data on foreign affiliates of EU enterprises ⁽¹⁷⁸⁾, there were about 85 000 affiliates of EU multinationals abroad, employing 13 million people with a turnover of about EUR 3 813 billion. Still in 2018, there were about 255 000 EU affiliates of non-EU controlling multinationals, employing 20 million people with a turnover of EUR 7 277 billion. As regards EU affiliates of EU multinationals, the figures reach 21 million affiliates, employing 127 million people with a turnover of EUR 25 416 billion.

Recent decades have seen an increased number of global businesses in what the OECD termed *scale without mass* (OECD, 2020b). With the globalisation and digitalisation of the economy, firms’ business models have changed in a way that businesses are now able to conduct their activity in a country without any physical presence there, i.e. firms do not need to be physically located in a country to operate there. This has put a strain on the notion of a brick-and-mortar permanent establishment which has been traditionally used for taxation, making it difficult to determine the jurisdiction eligible for taxing rights under existing rules.

Furthermore, firms’ global value chains have also evolved, with an increasing use of intangible assets. These assets, for e.g. intellectual property rights, are very mobile and can easily be located and relocated in jurisdictions across the world. This has intensify tax competition between countries to either retain or attract these increasingly mobile assets.

Taxing rights are based on the concept of value creation; they are attributed in the jurisdiction in which value is created. However, the nature of multinational businesses makes it sometimes difficult to determine where value creation takes place (e.g. when an algorithm is designed in a certain jurisdiction, then located in a second jurisdiction where profits are booked, while users and consumers providing data are located in a third jurisdiction). This issues around the new realities of value creation offer more tax arbitrage opportunities to MNEs than purely domestic companies. Certain MNEs can more easily relocate their activities to low-tax jurisdictions to avoid taxation, as well as artificially arrange intra-group payments to shift profits from high-tax

⁽¹⁷⁸⁾ See: https://ec.europa.eu/eurostat/databrowser/view/FATS_OUT2_R2_custom_1990292/default/table?lang=en

to low-tax countries without actually relocating much of their real economic activity ⁽¹⁷⁹⁾. As a result, some MNEs report extremely high profits in low tax jurisdictions, which seem disproportionate to the economic activity carried out there.

These considerations have pushed the global community to take action to update global corporate tax rules. Mandated by the G20, the OECD has been working, within an Inclusive Framework comprising 141 countries and jurisdictions, on a reform of the global corporate tax framework. The discussions are articulated around two pillars; a partial reallocation of taxing rights arising from the largest and most profitable multinational companies (Pillar 1), and the establishment of a global minimum effective tax rate on large multinational companies' profits (Pillar 2).

In October 2021, after years of negotiations, the majority of the Inclusive Framework members (137 out of 141) agreed on a statement for a two-pillar solution (OECD, 2021f). This statement was subsequently endorsed by G20 Finance Ministers during their meeting on 13 October, and by G20 Leaders during their Rome summit on 30 October. This tax agreement is unprecedented both on its scale and its ambition. Pillar 1 will reallocate to market jurisdictions 25% of the residual profits defined as profits in excess of 10% of revenue generated by multinational enterprises in scope, i.e. multinationals with a global turnover above EUR 20 billion and a profitability above 10%. Pillar 2 will establish a minimum effective corporate tax rate of 15% - calculated on a commonly agreed and transparent methodology - on the profits of multinationals with a global turnover above EUR 750 million, on a jurisdictional basis. Some work now remains to finalise the agreement.

This agreement marks an historic step in the modernisation of our corporate tax systems. Together, the two pillars of the agreement will generate additional tax revenues for our economies, allow for a fairer allocation of taxing rights arising on the profits of the largest multinationals, put a floor under excessive tax competition, provide a powerful tool against aggressive tax planning practices, and bring tax stability and predictability globally. In particular, under Pillar 1, taxing rights on more than USD 125 billion of profit are expected to be reallocated to market jurisdictions each year. Pillar 2 is estimated to generate around USD 150 billion in new tax revenues globally per year. Additional benefits will arise from the stabilisation of the international tax system and the increased tax certainty for taxpayers and tax administrations (OECD, 2021g).

As announced in the Communication for Business Taxation for the 21st Century, the Commission will table proposals to implement the global agreement into the EU. On 22 December 2021, the Commission adopted a Directive transposing Pillar 2 in the EU, following closely the OECD Model Rules (OECD, 2021f) and taking into account the specificities of the Single Market. Following the technical work on the design that is still on-going at the OECD Inclusive Framework on BEPS, the Commission will ⁽¹⁸⁰⁾ table a Directive implementing Pillar 1 in the EU, in line with the implementation roadmap for the global agreement endorsed by the Inclusive framework.

Box 9: Commission Communication on Business Taxation for the 21st Century

On 18 May 2021, the Commission adopted a Communication on Business Taxation for the 21st Century ⁽¹⁸¹⁾. The Communication sets out both a long-term vision to create a fair and sustainable EU business tax environment, and a tax agenda for the next two years, with targeted measures that promote productive investment and entrepreneurship and ensure effective taxation. This agenda complements the ongoing work on international corporate tax reform, and provides solutions to the most pressing problems for the EU in business taxation today, while also supporting the green and digital transitions. The Communication also indicates that the

⁽¹⁷⁹⁾ See: <https://www.taxobservatory.eu/repository/mnes-profits-and-activity/>

⁽¹⁸⁰⁾ See: COM(2021) 645 final.

⁽¹⁸¹⁾ See COM(2021) 251 final.

Commission will table proposals for Directives implementing Pillar 1 and Pillar 2 of the OECD/G20 agreement on the reform of the global corporate tax framework in the EU.

In the short term, the Communication sets out a series of targeted initiatives to address current problems in business taxation and create a more stable, supportive and fair corporate tax framework for the future:

- **Promote innovation by addressing the debt-equity bias in corporate taxation through an allowance system.** The current pro-debt bias of tax rules, where businesses can deduct interests attached to a debt financing, but not the costs related to equity financing, can encourage companies to accumulate debts. Especially young and innovative companies rely on equity financing and are disadvantaged by the debt-equity bias. The Commission proposal will try to redress the debt-equity bias and contribute to the finalisation of the capital markets union and the re-equitisation of financially vulnerable companies in the aftermath of the COVID-19 crisis (see section 6.2).
- **Tackle the abusive use of shell companies, through new anti-tax avoidance measures.** Shell companies are legal entities and arrangements that have little or no substance and economic activity, and in some cases may be used purely for aggressive tax planning. The Commission proposed in 2021 new monitoring and reporting requirements for shell companies, so that tax authorities have better oversight and can better respond to aggressive tax planning through these entities (see section 6.3).
- **Better support business in their recovery, with a Recommendation on the domestic treatment of losses.** The Recommendation prompts Member States to allow loss carry back for businesses to at least the previous fiscal year. Loss carry back has the advantage of benefitting only the businesses that were profitable in the years before the pandemic, so it supports healthy businesses. Companies that were making a profit and paying taxes in the years prior to 2020 would be able to offset their 2020 and 2021 losses against these taxes. This ensures that the measure is targeted at businesses suffering as a direct result of the pandemic, and that public money is not spent trying to help private businesses that are failing for reasons unrelated to the crisis. Member States will also have to limit the amount of losses to be carried back to EUR 3 million per loss making fiscal year. This will help level the playing field and better support business during the recovery, and will particularly benefit SMEs (see section 6.4).
- **Ensure greater public transparency on the taxes paid by businesses, by proposing that certain large companies operating in the EU should have to publish their effective tax rates.** The proposal will allow public scrutiny where aggressive tax planning strategies are used and will provide policy-makers with a better overview of the tax contribution made by large multinational companies in the EU.

In the long-term, the Communication will create a new framework for business taxation in the EU, which will reduce administrative burdens, remove tax obstacles and foster a more business-friendly environment in the Single Market. The “Business in Europe: Framework for Income Taxation” (or BEFIT) will provide a single corporate tax rulebook for the EU, based on a formulary apportionment and a common tax base. BEFIT will cut red tape, reduce compliance costs, reduce tax avoidance opportunities and support jobs, growth and investment in the EU. This new proposal will replace the proposal of a Common Consolidated Corporate Tax Base (CCCTB), which will be withdrawn.

6.2 Debt Bias of Corporate Taxation

The asymmetric treatment of debt and equity in most corporate tax systems in the EU creates incentives to finance investments with debt instead of equity, resulting in a debt-equity bias. Interest payments are treated as deductible expenses from the tax base while costs related to equity financing are generally non-tax deductible. This tax-induced debt-equity-bias, increases with the rate of corporate income taxation in a given country, since a given reduction of the tax base becomes more attractive with higher tax rates. The debt-bias also

increases with the interest rate, since a given amount of debt results in higher deductible interest payments, thus more strongly reducing the tax base.

The debt-bias in corporate tax systems leads to higher debt levels of companies and lower levels of equitisation. An extensive academic literature establishes the influence that national tax systems have on corporate capital structure (Huizinga & Laeven, 2008). The literature is condensed in two meta-studies, (DeMooij, 2011) and (Feld, Heckemeyer, & Overesch, 2013). They find that a typical impact coefficient of the CIT rate on the debt-asset ratio of about 0.27⁽¹⁸²⁾. This means that for a CIT rate of 26% (the weighted average rate in the EU), the debt-equity bias would be responsible for a 7 pp higher debt-to-equity ratio in an average corporation. The effect of the debt-equity bias appears to have increased over time and is likely not linear.

More equity would put EU firms on a structurally sound footing and help avoid overreliance on debt, which could cause financing issues for companies in the future. With corporate debt levels already high before the crisis, the COVID-19 pandemic resulted in revenue losses and led to further debt accumulation. Equity is particularly important for young and innovative companies in their early stages and scale-ups willing to compete globally. Equity is also central to foster the sustainable transition, as projects pursuing sustainable objectives require financing over a long duration.

Higher levels of corporate debt-leverage and associated insolvency risk can lead to economy-wide financial instability and result in lengthier recovery processes. A study finds that higher debt-equity ratios in the non-financial corporate sector are associated with a significantly higher probability of recession (Sutherland & Hoelleri, 2012). Previous research finds that the build-up of corporate debt during expansion periods increase the probability that subsequent recessions are deeper and longer lasting (Jorda, Schularick, & Taylor, When credit bites back, 2013). An example is the recovery from the 2008-2009 financial crisis (FSC Subgroup on Non-Performing Loans 2017)⁽¹⁸³⁾. The debt-bias thus creates allocative distortions, such as higher agency costs or bankruptcy costs that result in welfare losses (Gordon, 2010), (Kalemli-Ozcan, Luttini, & Sorensen, Debt Crises and Risk Sharing: The Role of Markets versus Sovereigns, 2014).

The COVID-19 pandemic has made it even more important to address the debt bias, as the economic downturn of 2020 mostly exacerbated the reliance on debt financing. Economic losses resulting from the COVID-19 crisis have significantly weakened the equity position of many companies. A drastic reduction in incoming cash flows has prompted many European companies to raise additional debt, to meet their short-term financial obligations. As a result, the capital structure of a number of companies has become more fragile (Ebeke, Jovanovic, Valderrama, & Zhou, 2021), (ECB, 2020). The situation is especially difficult for vulnerable companies with already high debt-to-equity ratios. Among the highest leveraged companies, the 90th percentile debt-to-equity ratios has increased from 220% at end-2019 to over 270% in the final quarter of 2020 (see Graph 53, left panel).

Graph 54 shows the debt-to equity ratio of financial and non-financial corporations in 2010 and 2020.

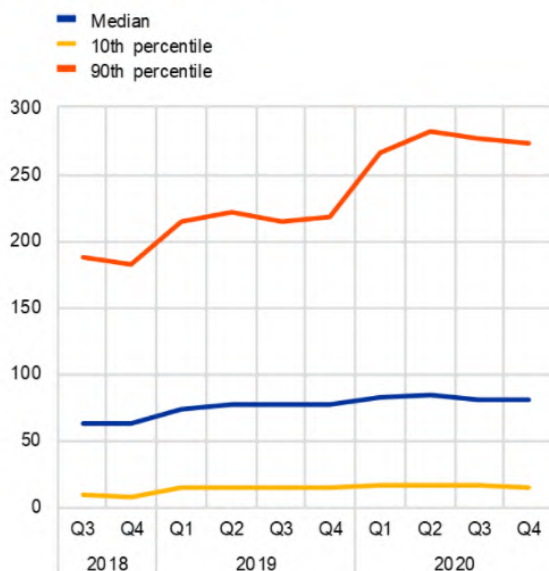
⁽¹⁸²⁾ (DeMooij, 2011) finds that a one percentage point higher tax rate increases the debt-asset ratio by between 0.17 and 0.28. (Feld, Heckemeyer, & Overesch, 2013) conclude a marginal tax effect on the debt ratio of 0.27.

⁽¹⁸³⁾ This relationship is further explained in <https://data.consilium.europa.eu/doc/document/ST-9854-2017-INIT/en/pdf>.

GRAPH 53. DEBT-TO-EQUITY RATIOS FOR NON-FINANCIAL COMPANIES AND EXPECTED INSOLVENCIES

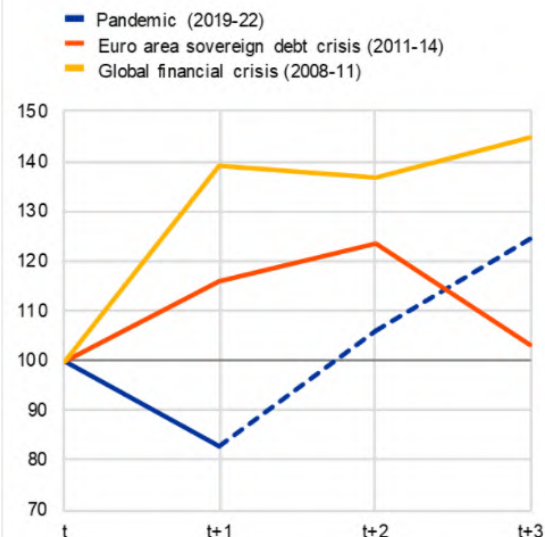
Distribution of debt-to-equity ratios across euro area firms

(Q3 2018-Q4 2020, percentages)



Developments in corporate insolvencies during different crisis episodes

(indices)



Source: ECB, Financial stability review May 2021, <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202105~757f727fe4.en.html>

GRAPH 54. DEBT-EQUITY RATIOS FOR FINANCIAL AND NON-FINANCIAL CORPORATIONS



Source: Eurostat, National financial account (online data code: NASA_10_F_BS, updated 13/01/2022)

Note: Consolidated accounts; debt is the sum of F2: currency and deposits, F3: debt securities, F4: loans and F7: Financial derivatives and employee stock options; equity is F5: Equity and investment fund shares.

Higher costs of equity finance are particularly problematic for young and innovative companies, which due to their risk profile often have limited access to external debt funding. This problem is aggravated by limited access to alternative sources of finance such as venture capital ⁽¹⁸⁴⁾. Consequently, innovative businesses might be at a particular disadvantage,

⁽¹⁸⁴⁾ See: E.g. (PWC, 2017).

despite their importance in generating future growth ⁽¹⁸⁵⁾. This problem also extends to companies in need of scale-up-financing (Aernoudt, 2017).

A reduction of the debt-equity bias can also support the green and digital transition by facilitating risky investments. The EIB provides evidence that “green investments are specific in nature. They enhance welfare but are risky for investors. [...] Hence, the transition is likelier to be financed by risk-taking and risk-absorbing instruments such as equity.” ⁽¹⁸⁶⁾ (EIB, 2021).

An allowance on equity can mitigate the debt-equity bias. Central policy parameters for an equity allowance are the definition of the scope, the allowance base, the notional interest rate applied and the duration for which an allowance would be granted.

Equity allowance schemes can be used for aggressive tax planning purposes, so any such measure needs to be supplemented with an appropriate set of anti-abuse rules. Safeguarding measures against the abuse of equity allowances are particularly important when dealing with (multinational) corporate structures. Such measures should for example prevent intra-firm cascading of multiple equity allowances, or intra-firm conversion of debt into equity for tax planning purposes ⁽¹⁸⁷⁾.

Currently, six Member States (Belgium, Cyprus, Italy, Malta, Poland and Portugal) have some form of tax allowance for equity in place in order to mitigate the debt-equity bias. Although all these measures provide for a tax allowance on equity, they differ in their specific design (e.g. interest rate of the allowance, calculation of the basis for the allowance, type and severity of anti-tax avoidance measures). Table 6 describes the respective measures in place. The existence of different measures can constitute a problem in itself from a Single Market perspective. A diversity of measures in Member States can distort investment decisions. The absence of a harmonised anti-tax avoidance framework can create loopholes and might result in measures being exploited for tax avoidance and evasion ⁽¹⁸⁸⁾. Finally, different country specific approaches to mitigate the debt-equity bias increase compliance costs for businesses active across borders.

The debt-equity bias can also be mitigated from the debt side. In the extreme case where the deduction of interest expenses from a company’s tax base would be fully disallowed, the tax treatment of debt and equity would be equalised ⁽¹⁸⁹⁾. No country has taken that approach but there are many countries, which have introduced interest limitation rules and other thin capitalisation rules ⁽¹⁹⁰⁾. Thin capitalisation rules aim to prevent excessive debt leverage of companies by limiting interest deductibility either through a prescribed debt-equity ratio or through a so-called earnings stripping rule. Earnings stripping rules limit the deductibility of net-interest payments to a level of before tax earnings (e.g. 30% of earnings before interests, taxes, depreciation and amortisation, (EBITDA)).

Interest limitation rules and other forms of thin capitalisation rules have however also been shown to successfully reduce indebtedness of companies ⁽¹⁹¹⁾. “Rules applying to all

⁽¹⁸⁵⁾ Problems of equity financing are further discussed in a recent study on equity investments in Europe (European Commission, 2021k).

⁽¹⁸⁶⁾ See (EIB, 2021), Chapter 6 where ample evidence is presented that market and equity based investments are more successful in greening the economy than debt finance investments.

⁽¹⁸⁷⁾ See (European Commission, 2014a) for a comparison of the anti-abuse provisions in Belgium’s and Italy’s ACE schemes at the time.

⁽¹⁸⁸⁾ (Hebous & Ruf, 2017) find indicative evidence “that a unilateral implementation of an ACE system generates a tax planning opportunity”.

⁽¹⁸⁹⁾ Interest received is generally taxable income for businesses and interest paid is mostly accepted as deductible expense. The full disallowance of the deductibility of interest paid would thus either lead to some form of double-taxation or require change the tax treatment of interest received.

⁽¹⁹⁰⁾ See: <https://qdd.oecd.org/subject.aspx?Subject=ILR>.

⁽¹⁹¹⁾ See: Ee.g. (De Mooij & Hebous, 2018) and (European Commission, 2014b).

debt, in contrast, turn out to be effective: the presence of such a rule reduces the debt-asset ratio in an average company by 5 percentage points; and they reduce the probability of a firm being in financial distress by 5 percent” (De Mooij & Hebous, 2018). In the EU, the Anti-Tax Avoidance Directive (ATAD 1) has introduced an interest limitation rule with a minimum requirement of limiting net-interest payments (i.e. interest paid-interest received) to the higher of 30% EBITDA or a safe harbour of EUR 3 million ⁽¹⁹²⁾. The main objective of the interest limitation rule in ATAD 1 is the limitation of profit-shifting in MNEs through internal loans.

An EU wide measure to mitigate the debt-equity bias with an appropriate anti-avoidance framework would promote re-equitisation of European companies and support the completion of the capital markets union in the EU. Such an initiative is part of a wider EU policy agenda and complements the European Green Deal ⁽¹⁹³⁾, the Commission’s digital agenda, the New Industrial Strategy for Europe ⁽¹⁹⁴⁾ and the Capital Markets Union ⁽¹⁹⁵⁾.

Against this background, the Commission adopted the Debt-Equity Bias Reduction Allowance (DEBRA) initiative on 11 May 2022 ⁽¹⁹⁶⁾, addressing the debt-equity bias. The DEBRA-initiative proposes a combination of equity allowance with a limitation of interest deductibility, mitigating the debt-equity bias from the debt and equity side simultaneously. On the equity side an allowance would be granted for notional interest on new equity for the duration of ten years. On the debt side, interest deductibility is limited to 85% of net interest payments. The initiative would apply to all companies of the non-financial sector and provide a rate top-up for SMEs. The financial sector would be carved out.

TABLE 6. ALLOWANCES FOR CORPORATE EQUITY (ACES)

Country	Period	Details	Notional interest rate (2020)	Tax base (2020)
Belgium	Since 2006	The notional interest deduction (NID) allows all businesses subject to Belgian corporate income tax to deduct a fictitious amount of interest, calculated based on their shareholders' equity (net assets) from their taxable income. In 2013, legislative changes ruled out the carrying-forward of unused allowances. The base rate for the NIR is the ten year linear treasury bond. Small firms receive an additional 0.5% risk premium on their notional rate. By law, the notional interest rate cannot exceed 3%. Since 2018, the deduction no longer applies to the full equity stock but on the incremental adjusted net accounting equity of a company over a period of 5 years. It includes anti-avoidance provisions to prevent the cascading of the tax benefit and the re-categorisation of old capital in new capital.	The reference rate is negative in 2021 (tax year 2022) which leads to a NIR 0.0% (0.5 p.p. higher for SMEs, i.e. 0.34%)	New equity

⁽¹⁹²⁾ See: COM/2020/383 final which details the heterogeneous implementation of ATAD1 across Member States.

⁽¹⁹³⁾ COM(2019) 640 final.

⁽¹⁹⁴⁾ COM(2020) 102 final.

⁽¹⁹⁵⁾ COM(2020) 590 final.

⁽¹⁹⁶⁾ COM (2022) 216 final.

Cyprus	Since 2015	Applicable new equity is calculated against 2015 as a base year. The notional interest deduction is limited to 80% of EBIT ⁽¹⁹⁷⁾ and applies only to fully-owned subsidiaries if their assets are used for business (non-financial) purposes. The notional interest rate is the 10-year government bond rate of the country where funds are invested, plus a 5% risk premium. The 10-year Cypriot government bond rate only applies if the country in which the new equity is invested has not issued any government bond up until December 31 of the previous year.	min. 4.5%; max. 18.5%	New equity
Italy	Since 2011	The NID is applicable on new equity compared to the end of 2010 situation. The considered new equity includes the equity contributions and retained earnings, excluding the profits allocated to a non-disposable reserve. The NID is corrected for reductions to the net equity with assignment to shareholders (especially dividend distributions), investment in controlled businesses, and certain intra-group business acquisitions and transactions. The notional interest rate is fixed annually by the authorities.	1.3%	New equity
Portugal	Since 2017	The notional return is deductible up to EUR 2 million and capped at 25% of EBITDA ⁽¹⁹⁸⁾ . It applies to capital increases for 6 years, provided equity capital is not reduced in that period. The notional rate is fixed by law.	7.0%	New equity
Malta	Since 2018	The NID is limited to 90% of chargeable income and can be carried forward indefinitely. The notional interest rate is set to the rate of 20 year Maltese government bonds (1.37% in Q3 2020), plus a risk premium of 5%.	6.47% (in Q3 2020)	Full equity stock
Poland	Since 2019	Incremental NID. The notional return is deductible up to approximately EUR 55 000. The notional interest rate is the National Bank of Poland's reference rate (as applicable on the last day of the preceding calendar year), plus 1 p.p. The allowance is applied for three years.	2.5%	Full equity stock

Source: Desk research carried out by the Commission based on publicly available data from national ministries of finance, KPMG and IBFD reports.

6.3 The use of shell entities for tax abuse

Shell entities serve various valid and fully legitimate business and commercial purposes.

To provide some examples, shell entities can be used to: ensure limitation of liability; protect investors and maintain the value of the portfolio; meet the requirements of third party lenders to ring-fence assets and liabilities; facilitate joint ventures between funds and other investors; streamline decision making by giving authority to the directors of holding entities; provide a convenient vehicle for sale or partial sale. However, there is also evidence that shell entities are sometimes used for avoiding and sometimes even evading tax. Shell entities with no or only minimal substance, performing little or no economic activity in the Member State of residence or establishment, continue to pose a risk of being used for tax avoidance or evasion.

Shell entities are, by nature, opaque vehicles; figures on the extent of their use for tax abuse is scarce.

However, investigative evidence suggests that high net-worth individuals and companies sometimes make use of shell entities to minimise their tax bill. For instance, Bloomberg reported that, in 2020, without any employee other than directors, an Irish subsidiary of Microsoft made a "tax-free" profit of USD 315 billion (Bloomberg, 2021). Australian based tax research institute CICTAR found that Uber shifted almost EUR 6 billion through about 50 shell companies in the Netherlands in 2019, after creating a massive tax shelter⁽¹⁹⁹⁾. Between 2011 and 2015,

⁽¹⁹⁷⁾ EBIT: earnings before interest and tax.

⁽¹⁹⁸⁾ EBITDA: earnings before interest, tax, depreciation and amortisation.

⁽¹⁹⁹⁾ See: <https://cictar.org/ministers-urged-to-act-on-ubers-50-company-dutch-tax-shelter/>

Walmart transferred ownership of more than USD 45 billion in assets to a network of shell companies in Luxembourg, where Walmart does not have stores (Americans for Tax Fairness, 2015). In 2017, when investigating tax rulings awarded to Amazon in Luxembourg, the Commission found that considerable income (royalties) was attributed to a holding company that was an empty shell with no employees, no offices and no business activity, and which was not subject to taxation ⁽²⁰⁰⁾.

The number of shell entities within the EU is unknown, but some estimates exist. The lack of concrete data is mainly due to the absence of a common definition of shell entities at EU level. Some studies estimate the number of shell entities using proxies. For instance, the European Parliament's 2018 study uses the number of foreign-owned companies as a proxy; a rather conservative estimation for the number of shell companies in the EU could be approximately 29 000 entities ⁽²⁰¹⁾. An upper-bound estimate, based on Irish data, estimates 75 000 shell companies in the EU ⁽²⁰²⁾.

Although there is no universally recognised definition of shell entities ⁽²⁰³⁾, there are a number of definitions available both at EU and at international level. The International Bureau of Fiscal Documentation (IBFD) refers to a letterbox company that 'lacks any further business substance' ⁽²⁰⁴⁾. The Guidance paper on transparency of beneficial ownership prepared by the Financial Action Task Force (FATF) lists several definitions of letterbox companies (shell, front or shelf companies) and defines shell companies as those companies that have 'no independent operations, significant assets, ongoing business activities, or employees' (FATF, 2018). The OECD describes a letter box company as: 'A paper company, shell company or money box company, i.e. a company which has complied only with the bare essentials for organisation and registration in a particular country. The actual commercial activities are carried out in another country' ⁽²⁰⁵⁾.

With respect to tax abuse, while some of these risk characteristics are common to both tax evasion and tax avoidance, there are essential differences depending on the type of tax abuse. For example, anonymity is the primary objective of shell entities used for tax evasion.

A shell entity can serve as an intermediate vehicle for so-called 'treaty shopping'. This is a case of abuse of double tax treaties, when a group wishes to make a payment between two countries that have no tax treaty between them, and sets up a shell entity in a third country, irrelevant to the transaction but with an attractive tax treaty network (e.g. no or lower withholding tax), for the purpose of rerouting the payment through the shell entity in this third country.

Another mechanism to avoid taxation via the use of shell entities involves establishing entities in Member States with a favourable withholding tax regime of outbound (out of the EU) dividend, interest and royalties. According to the IBFD ⁽²⁰⁶⁾, third-country based MNEs may take advantage of the interplay between the Parent-Subsidiary ⁽²⁰⁷⁾ and Interest-Royalty ⁽²⁰⁸⁾ Directives and the domestic laws of several EU Member States to repatriate profits tax

⁽²⁰⁰⁾ See: https://ec.europa.eu/commission/presscorner/detail/en/IP_17_3701

⁽²⁰¹⁾ In 2016, circa 200 000 companies within EU-27 were foreign-owned. See (European Parliamentary Research Service, 2018b).

⁽²⁰²⁾ See SWD(2022) 34 final. Only shell companies and trusts are considered here, not other forms of potential shell entities, for example partnerships.

⁽²⁰³⁾ See (European Commission, 2021).

⁽²⁰⁴⁾ See: <https://www.ibfd.org/IBFD-Products/IBFD-International-Tax-Glossary-7th-Edition>

⁽²⁰⁵⁾ See: <https://www.oecd.org/fr/ctp/glossaryoftaxterms.htm#L>

⁽²⁰⁶⁾ See: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12999-Tax-avoidance-fighting-the-use-of-shell-entities-and-arrangements-for-tax-purposes/F2930650_en, p. 37.

⁽²⁰⁷⁾ Council Directive (EU) 2011/96/EU.

⁽²⁰⁸⁾ Council Directive (EU) 2003/49/EC.

free. This is achieved by relying on the withholding tax exemption of the directives (from the Member State of origin to the Member State of the intermediary) and the lack of withholding tax in the Member State of the intermediary to the desired third-country, regardless of the existence of a tax treaty with that jurisdiction). Furthermore national tax systems can also grant exemptions to income received by resident entities from abroad. For example dividend income, irrespective of whether withholding taxes are levied on the payment of the dividend or whether the state of residence of the payee group company has a tax treaty with the state of residence of the shell entity.

Shell entities may also be used for tax evasion purposes. Due to the criminal nature of tax evasion, estimates on direct tax evasion caused by shell entities are not widely available. However, leaked data in recent years has pointed to the scale of the problem. For example, following revelations of the Panama Papers in 2016 which concerned more than 214 000 shell entities (Pacini & Stowell, 2020), tax authorities have recovered more than USD 1.3 billion. In such scenarios, shell entities are often established in jurisdictions (i) with tax systems that have zero or next to zero tax at the level of the entity, (ii) that exempt from tax income received from abroad, and/or (iii) have no withholding taxes on distributions of income made from the entity.

Recently, the European Parliament stressed the importance of tackling tax avoidance via shell entities. The European Parliament has put forward recommendations (European Parliament, 2019) and has explicitly called for EU intervention on the matter, inviting the Commission to exercise its right of initiative and act to neutralise the misuse of shell entities for tax purposes. The Pandora Papers leak has emphasised the problem of opaque offshore structures often composed of shell entities to minimise taxes.

Against this background, the Commission tabled on 22 December 2021 a key initiative to fight against the misuse of shell entities for improper tax purposes: UNSHELL⁽²⁰⁹⁾. The UNSHELL Directive will introduce new EU rules to facilitate Member States' tax administrations in identifying entities without a minimum economic substance and a high risk of being used in tax avoidance or evasion. If an entity is found to be a 'shell', it will face tax consequences; it will no longer be possible for that entity to access tax benefits under double tax treaties and relevant tax directives (namely, the parent-subsidiary Directive). Essentially, the shell will be ignored for tax purposes. Tax will be "shifted" onto the shareholders of the entity.

6.4 Tax incentives for SMEs

Small and mid-size enterprises (SMEs) are companies, which employ fewer than 250 persons and have an annual turnover up to EUR 50 million, and/or an annual balance sheet up to EUR 43 million. SMEs can be broken down into medium-sized, small and micro companies as can be seen in the table below.

TABLE 7. DEFINITION OF SMES

Company category	Staff headcount	Turnover	or	Balance sheet
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small	< 50	≤ € 10 m		≤ € 10 m
Micro	< 10	≤ € 2 m		≤ € 2 m

Source: (European Commission, 2003)

SMEs are the backbone of Europe's economy. They play an important role in the 'non-financial business economy' of the EU. In 2020, 22.5 million SMEs (or 99.8% of all enterprises) employed around 83 million people (or 65.2% of all persons employed) and they generated EUR 3.3 billion in value added (or 53% of total value added) (European Commission, 2021m). SMEs create innovative solutions to challenges such as climate change, resource efficiency and social cohesion and help in disseminating this innovation in Europe's regions. They play a key role to the EU's twin transitions to a sustainable and digital economy. They are crucial

⁽²⁰⁹⁾ See COM(2021) 565 final.

to Europe’s competitiveness and prosperity as well as economic and technological sovereignty (European Commission, 2021n).

To support and further develop the SME sector, a number of countries provide tax incentives. Tax incentives are any kind of special tax treatment that is advantageous for enterprises within the SME spectrum (Bergner, Bräutigam, Evers, & Spengel, 2017). Type of tax incentives may include tax holidays, decrease in the tax rates, special procedure of accruing tax amortisation, use of a method of taxation accounting that is more acceptable for taxpayers, increase in the duration of the tax period, special tax discounts and tax credits, and simplified procedure of administering, accounting and reporting (Ordynskaya, Silina, Karpenko, & Divina, Tax Incentives for Small and Medium Businesses in European Union Countries in the Crisis Period, 2016).

The table below provides some examples of tax incentives that exist in certain Member States (i.e. they are presented only for informative purposes) and these do not constitute best practices ⁽²¹⁰⁾.

TABLE 8. EXAMPLES OF TAX INCENTIVES FOR SMES

Country	Example of tax incentive
Belgium	<p>Notional interest deduction (NID):</p> <p>In Belgium, payers of a CIT can claim NID for tax reasons, reflecting the economic cost of the use of capital, equal to the cost of long-term, risk-free financing. The NID for tax year 2022 is -0.16% (0.34% for SMEs). The NID is put at zero in case of a negative rate (PWC, 2021).</p>
Hungary	<p>Tax incentive for SMEs:</p> <p>SMEs that have a loan from a financial institution for the acquisition or production of tangible assets may deduct the total amount of the interest paid on the loan from their tax due without any cap; though, some limitations should be taken into account as per EU law (PWC, 2022).</p>
Ireland	<p>Tax relief for new start-up companies:</p> <p>There is a reduction from corporation tax for the first three years of trading of a new start-up company in certain instances. Start-up companies are entitled to a tax relief if their corporate income is maximum EUR 40 000 in a tax year. The amount of relief also depends on the total amount of employer’s social insurance paid, subject to a maximum EUR 40 000 overall (Irish Tax and Customs Administration, 2022).</p>
Malta	<p>Seed investment scheme:</p> <p>The Seed Investment Scheme (SIS) provides incentives in the form of tax credits to investors’ resident or operating in Malta, who invest in a qualifying Maltese start-up or early stage enterprises. The scheme offers entrepreneurs funding in the initial stages of their project by minimising the risk to investors. SIS investors can receive a maximum of EUR 250,000 tax credit in a single tax year and they can receive up to 35% tax relief in the tax year the investment is made (Seed Investment Scheme, 2022). Such tax credit would be set off against the tax due by the investors regarding any income or gains brought to charge to tax in the year of assessment following the basis year when the investments are made. The tax credit may be carried forward until it is fully absorbed</p>

⁽²¹⁰⁾ For more information on the tax incentives for other EU countries please refer to the following study: (ZEW, 2017).

	(PWC, 2016).
Spain	<p>Tax credit for Business Angels:</p> <p>Business Angels can deduct a 30% of the amount invested in a fiscal year with the maximum contribution entitled to a deduction of EUR 60,000. That means that the maximum amount that can be deducted in each year is EUR 18,000. To benefit from this deduction it is necessary that the entity and the investor meet a series of requirements (GM Tax , 2021)</p>

6.4.1 Arguments in favour and against tax incentives for SMEs

There are two main rationales put forward in support of providing tax incentives to SMEs. The first rationale is that there are market failures that affect SMEs. The second rationale is that the tax system has a disproportionately negative impact on SMEs affecting them more compared to bigger enterprises (OECD, 2015). These rationales are explained in more detail in the paragraphs below.

In particular, one market failure argument in favour of SMEs tax incentives is that SMEs generate positive spillover benefits for the economy. These benefits could include innovation that can be applied elsewhere and can have a positive impact in the growth of the economy. Other possible benefits could include labour training and the upgrading of skills that can be applied afterwards to other businesses. Therefore, SMEs tax incentives could encourage higher levels of investment in these activities (OECD, 2009).

Due to market failures affecting SMEs find it more difficult than larger enterprises to obtain external finance (Beck, Demirgüç-Kunt, & Maksimovic, 2008). For instance, the survey on the access to finance of enterprises (SAFE) found that between 2009-2019, the percentage of firms that perceived access to finance as their main problem was consistently higher for SMEs than for large companies (ECB, 2021). SME financial needs are significant, especially for fixed investments and working capital, though the costs for such finance are still high (European Committee of the Regions, 2019). Among SMEs, characteristics that could explain the differences across firms in having access to finance are their ages and the degree of innovation. Small and young firms face difficulties in accessing external finance (Ferrando & Mulier, 2015). This could be explained by the fact that SMEs are affected by asymmetric information. Against this background, tax incentives could reduce the need for SMEs to receive external finance by helping them maintain a higher proportion of their earnings. However, apart from where information asymmetries affect access to finance, the more restricted access to finance, of SMEs may not be because of market failures but it might be related to the riskier and less profitable nature of some SMEs.

The second reason used to provide tax incentives for SMEs is that the tax system poses disadvantages to SMEs. Examples of disadvantages caused by the tax system include:

- **High compliance costs:** The tax system comes with fixed costs, making it more expensive for SMEs than for larger enterprises (Marchese, 2021). SMEs spend approximately 2.5% of their turnover on compliance with tax obligations (e.g. CIT, VAT, and income taxes) while large enterprises spend only 0.7% of turnover on tax compliance obligations. One reason that can explain this difference is that large enterprises leverage their economies of scale when dealing with compliance obligations (European Commission, 2018c). Simplified tax accounts, less frequent filing of tax returns and fewer tax payments could help in reducing compliance costs.
- **Asymmetric treatment of profit and losses:** SMEs might be discouraged by the asymmetric treatment of profit and losses. Profits are taxed when they occur, while losses are normally not refunded when they occur, but carried forward to be used against future income (OECD, 2019). This might affect SMEs that often face liquidity problems especially in their early stages of development. For firms that do not recover the deferred loss cannot be used. Under this argument, the possibility to refund losses at the time they occur or to use them to offset other income may be justified; as are refunds for tax credits provided to SMEs (OECD, 2015).

Although these are the most common arguments in support of tax incentives for SMEs, they also face significant criticisms. For example, tax incentives can affect the growth of SMEs. In particular, they can entail a “business trap” for SMEs creating disincentives for them to grow beyond a certain size to remain eligible for special tax treatment (IMF, 2016). In addition, tax incentives might encourage companies to break-up into smaller ones to take advantage of tax benefits, which undermine the possibility of companies to grow in size and to take advantage of the economies of scale (Chen & Mintz, 2011).

Furthermore, SMEs do not respect the principle of tax equity and thus the provision of tax incentives for SMEs may result in misallocation of resources in the economy. More specifically, enterprises just under and just above the size threshold can have a different effective tax rate even though they have similar levels of income. Likewise, it is also possible that enterprises that are more profitable will pay fewer taxes than less profitable enterprises if the threshold is not based on income but on another variable such as turnover or employment (Marchese, 2021).

To sum up, there are arguments in favour and against tax incentives for SMEs. When the need for special SME tax treatment arises, the use of tax incentives to address market failures or size disadvantages needs to be carefully assessed against other options such as targeted intervention, wider changes to the tax system, etc. The different challenges faced by SMEs and the heterogeneity of the SME sector need to be considered in the design of the taxation rules as governments strive to promote the growth of SMEs.

6.5 Recent Developments on Country by Country Reporting

DAC4⁽²¹¹⁾ introduced country-by-country reporting (CbCR), a requirement for large multinational groups⁽²¹²⁾ to report key information to tax administrations including:

- aggregate information relating to revenue, profit, tax, and business activities by jurisdiction in which the MNE Group operates;
- an identification of the various entities of the MNE Group.

The information reported by MNEs is subsequently exchanged between tax administrations. The Directive is modelled on the agreement on CbCR under BEPS Action 13 agreed by the OECD.

There are currently on-going discussions in the OECD framework that are aimed at updating the requirements of the CbCR. These discussions are expected to be finalised in 2022. Any relevant amendments agreed in the OECD would be reflected in the DAC.

The first exchange of information on CbCR started in 2018 and were relative to the 2016 tax year. According to the Commission’s statistics on the exchanges under DAC, which also covers DAC4 and the CbCR more reports were sent and received in the EU.

- 22 427 CBCRs sent in 2020 compared to 26 852 in 2019
- 21 735 CBCRs received in 2020 compared to 29 667 in 2019

Beyond the sheer volume of data exchanged, it is important to understand what use and benefits have been derived from this data exchange. In terms of use of the data, ensuring a good matching of taxpayers with the national databases is, of course, key. Issues such lack/incorrect TIN of affected company/constituent entity in receiving Member State, and lack/incorrect name and address have been identified. Member States have indicated issues with receiving incorrect TINs from other Member States and also with the insufficient contents of the

⁽²¹¹⁾ See Council Directive (EU) 2016/881.

⁽²¹²⁾ The reporting applies to groups with a consolidated turnover exceeding EUR 750 million. For EU-headquartered groups, the obligation falls on the ultimate parent enterprise in the EU.

fields, definitions used and their interpretations. Some of these issues are being addressed by the 2020 OECD CbCR review.

However, overall the vast majority of Member States had good matching rates (with 16 Member States out of 21 having less than 10% of unmatched data). By a greater extent than for DAC1 and DAC2, Member States are using manual processes to match up DAC4 data, rather than through automatic processes. That may reflect the limited data received under DAC4 compared to DAC1 and DAC2 where bulk data is processed.

TABLE 9. AVERAGE MATCHING RATES DAC4 (%) FOR 2020 AND 2019 FOR COMPARATIVE PURPOSES

Category	Year	Matched Automatically	Matched Fuzzy	Manual	Not matched
DAC4	2020	43	21	29	9
DAC4	2019	25	20	16	13

The main issue is to encourage Member States to use the data, for example for risk assessment purposes. A project group made of representatives from Member States and Commission services is developing key performance indicators (KPI) for quality and additional tax and/or income/capital raised. The Commission will also consider developing with Member States a risk assessment guidance for the use of DAC4 data.

The European Court of Auditors' (ECA) special report ⁽²¹³⁾ highlighted the solid foundations for exchanging tax information in the EU but noted some implementation concerns. The ECA noted that tax authorities did insufficient checks to verify whether all the entities that should have reported in a given year had actually done so. This is in contrast to the confirmations by the majority of Member States that reporting entities have generally complied with their obligations under DAC4. Moreover, several Member States limit their checks to verifications against technical criteria provided by the OECD. The EU Commission and only few Member States run their own additional risk analysis on the data exchanged with other Member States. According to the ECA Report the Member States generally make little use of incoming DAC4 information with only some having established a rigorous risk analysis system.

⁽²¹³⁾ See: (European Court of Auditors, 2021).

CONCLUSIONS AND POLICY DISCUSSION

The Annual Report of Taxation gives a comprehensive overview of the status quo of tax systems, rules and policies both at Member State level and across the European Union as a whole. It assesses the performance of tax systems and outlines the main challenges ahead in the field of taxation.

This year's edition was organised around five focal points: (i) the aftermath of the COVID-19 pandemic and mega trends that may have an impact on taxation, (ii) a review on features of tax systems including efficiency and productivity, fairness, and stability and simplicity, (iii) taxation to support the green transition, (iv) taxation and the digital transition, and (v) business taxation in a global economy. These last three chapters reflect the Commission's as well as DG TAXUD's taxation priorities in these areas.

The analysis provided in the report suggests the following points.

The COVID-19 crisis triggered a sharp contraction of Member States economies, followed by a quick and strong recovery as a result of swift and unprecedented action, including taxation measures at national and EU level.

The health crisis associated with the COVID-19 pandemic outbreak at the end of 2019 has continued into 2021 and early 2022, with significant socio-economic consequences. Nevertheless, a number of swift policy actions including taxation measures were taken at national and EU level that supported businesses and households and facilitated the recovery. These included a Commission Decision ⁽²¹⁴⁾ allowing Member States affected by the COVID-19 pandemic to temporarily suspend customs duties and VAT on protective equipment, testing kits and medical devices such as ventilators. At national level, tax measures included corporate and personal income tax cuts, deferrals and waivers on corporate and personal income tax and social security contributions, PIT tax brackets adjustments to make systems more progressive, discounts on early payments and reduced penalties on late payments, various tax incentives to investment and temporary VAT reductions. In addition, on 21 July 2020, the European Council agreed on the Commission's proposal of a EUR 750 billion fund – the Recovery and Resilience Facility. This fund will help alleviate the cost of the COVID-19 pandemic and support the economic recovery, encouraging investment and reforms that build more resilient, fair and sustainable economies. As a result, the latest spring 2022 European Commission forecast projects that the EU economy grew by 5.4% in 2021, and will grow by around 2.7% in 2022 and 2.3% in 2023.

A growth-friendly composition of public finances and fair and efficient taxation will be instrumental to enhance investment and ensure a fair, sustainable and inclusive recovery. The tax mix will be important to face the mega-trends ahead.

Despite the bounce-back in growth, the crisis has placed strains on Member States' public finances and tax revenues saw the first decline since the 2009 recession. The EU economy has entered 2022 on a weaker footing than previously expected and the risk of inflation and supply chain disruptions is more persistent due to the energy crisis aggravated by the current war in Ukraine and related sanctions. Uncertainty remains high at the time of writing. The EU needs a fair, efficient and stable tax framework that meets public financing needs, while also creating an environment conducive to a fair and sustainable growth with high levels of investment. This is all the more important to address the COVID crisis and to ensure that there is sufficient government revenues to finance and support the programs, both at Member State level and at EU level, to

⁽²¹⁴⁾ See: Commission Decision (EU) 2020/491.

boost the European economy. The current tax mix in the EU countries, however, relies heavily on labour taxes, including social contributions, which account for more than 50% of the overall tax revenue in the EU-27. Various consumption taxes, primarily VAT (with more than 15% of total tax revenues), constitute the second biggest component. Other tax bases contribute relatively little. For example, environmental taxation accounts for about 6%, property taxes 5% and corporate income tax 7% of total tax revenues. Significantly, the overall composition of tax revenue in the EU countries has remained relatively stable over the last two decades. The question is whether the current tax mix can withstand the challenges ahead posed by population ageing, digitalisation, globalisation and climate change.

Tax rules should support R&D&I as a key driver of innovation and economic progress. They should not discourage labour market participation and should be fair, limiting income inequality, and contributing to reducing negative impact on social outcomes.

The tax wedge for single earners, for instance, though somewhat declining over the last ten years has remained high across the EU compared to the OECD average (40% EU average compared to 36% on OECD average for the year 2020). Moreover, those moving into work can incur implicit taxes that may perpetuate inactivity. This happens when net gains in disposable income on taking up work are small, due to costs brought about by the tax/benefit system largely offsetting the increase in gross labour income. It creates the so-called 'inactivity trap' acting as a disincentive to (re-)join the labour market. For income levels of 50% and 67% of average wage, the inactivity trap is above 50% across the EU-27. The inactivity trap has significant gender equality implications. The large majority of second earners in the EU are women. Joint progressive taxation systems can negatively impact second earners' entry into employment and hours worked by creating a high marginal tax burden and potentially contradicting the principle that more work should equal more pay. The tax wedge negatively influences labour market supply and demand decisions. Conversely, policies reducing the tax wedge of low and second-earners in particular have been proven to increase employment. Taxes and their design can go a long way to improve outcomes, not only income but health, through redistribution and future opportunities and social mobility via public services and goods (health care, education, infrastructure).

Moreover, fairness also entails curbing tax evasion and tax avoidance. The fight against tax evasion is of paramount importance in light of current estimates of tax evasion and avoidance.

The VAT gap in the EU, for instance, was estimated at EUR 134 billion in 2019. Moreover, tax evasion through underreporting of income by self-employed people and by hiding of wealth through shell entities produces non-negligible budgetary losses and is estimated at up to 1.6% of GDP. While transparency requirements are increased, tax evasion by individuals in OFCs still represents sizeable tax losses for EU Member States. Studies estimating offshore wealth held by individuals (for the world's main economies) indicate that global offshore wealth is estimated at EUR 8.6 trillion in 2018 compared to EUR 7.3 trillion in 2016, with an estimated EUR 1.7 trillion held by EU residents (i.e. 12% of GDP up from 9.7% in 2016). Improving the ability of tax administrations to collect tax revenues and fight evasion and avoidance can thus prove crucial in the current context and the coming years.

Like other advanced economies, most EU Member States have achieved high levels of human development but they remain environmentally unsustainable.

Currently, the EU is still far from achieving its 2050 vision of 'living within the limits of our planet'. For instance, while pollution has decreased and water quality has improved, the EU is a long way from achieving a good ecological status for all its water bodies. According to the 2020 European Environment State and Outlook Report ⁽²¹⁵⁾, the conservation status of 60% of species protected under the Habitats Directive⁽²¹⁶⁾ is considered unfavourable. Furthermore, air pollution continues to impact biodiversity and ecosystems, and is the single largest environmental risk to the health of

⁽²¹⁵⁾ See: <https://www.eea.europa.eu/soer/2020>

⁽²¹⁶⁾ See Council Directive 92/43/EEC.

Europeans. 95% of the EU's urban population is exposed to pollutant concentrations above World Health Organization air quality guidelines, which in turn results in preventable disease. Waste management in the EU is improving, though slowly, and the outlook for limiting waste generation is uncertain.

Tax policy is one of the instruments to address environmental challenges.

Currently however, environmental taxes (i.e. energy, transport, pollution and resource taxes) contributed only around 5.6% of total tax revenue in the EU-27 in 2020. Moreover, the share of environmental taxes in the overall tax mix has been decreasing in 2019 and 2020. Within the category environmental taxation (which include energy, transport and pollution/resource taxes), the lion share is taken up by energy taxation, followed by transport taxes and pollution resource taxes across the EU-27. Next to environmental taxes, the EU emissions trading (EU ETS) plays an important role in the EU's combat against climate change. Under its cap and trade system, which introduced carbon pricing in the EU and Iceland, Liechtenstein and Norway, the average price of an EU ETS allowance hit a record EUR 66/tonne CO₂ in mid-November 2021 ⁽²¹⁷⁾.

Digitalisation is an omnipresent phenomenon. It has transformed and continues to transform our everyday lives and the way societies and businesses interact and function. The rapid digitalisation can also have a profound impact on international and national taxation systems and on tax administrations.

Among the challenges of digitalisation in the tax arena are increasing virtual versus physical presence and increasing cross-border nature of activities. Digitalisation puts a strain on the notion of a brick-and-mortar permanent establishment rules which have been traditionally used for taxation, making it difficult to determine the jurisdiction eligible for taxation under existing rules. The growth in remote work / teleworking can have important ramifications for income taxation as it challenges the current rules on residency for tax purposes. A second challenge is the rise of multisided platforms, intangibles assets including cryptocurrencies that can give rise to tax evasion. Monetisation strategies of platforms raises several tax challenges such as the role of data and user participation in the creation of value. The extensive use of intangible assets by digital businesses raises important questions how these assets are valued and taxed as they can easily cross borders. Equally, the lack of centralised control for crypto-assets, their hybrid characteristics, and the rapid evolution present challenges from a taxation perspective. A third challenge is digitalisation of tax services and tax collection and the use of data and administrative cooperation which can improve compliance. Digitalisation holds the promise of improving the tax enforcement technology and thus improve tax collection. In particular, it allows authorities to process more information on the different economic outcomes of taxpayers.

The context for EU business taxation has changed radically in recent years. The current corporate tax system may not be fully adjusted to face the accelerating digitalisation and globalisation.

The current international corporate tax system was designed more than a century ago and is based on outdated principles of tax residence and source. Globalisation and digitalisation (as discussed above) have left these tax principles increasingly out of synch with the economy of today. In the EU, the patchwork of national corporate tax rules creates complexities for businesses operating cross-border in the Single Market. Grappling with up to 27 different national tax systems creates particular challenges for EU SMEs, start-ups and other businesses looking to grow, expand and trade cross-border. This hurts investment and growth, as well as the EU's competitiveness. While corporate income is taxed at the national level, business models continue to become ever more international, complex and digital. This creates high compliance costs for business and risks of double taxation. At the same time, some companies exploit loopholes between tax systems through aggressive tax planning strategies. This also makes it difficult for citizens to know how much companies are actually paying in tax, which risks undermining trust in the tax system as a whole.

⁽²¹⁷⁾ An EU ETS allowance is valid for compliance of 1 t/CO₂ eq. emissions by the sectors covered by the EU ETS; for more information, see https://ec.europa.eu/clima/policies/ets_en

The way ahead: Future-proof tax rules fit to address the megatrends

Tax systems need to be aligned with current social, economic, demographic and environmental realities. More importantly, tax systems should also be future-proofed, addressing social, economic, demographic and environmental developments that societies will face in the next 20 to 30 years. There are several on-going megatrends, i.e. substantial structural changes across global economies in the areas of (i) ageing societies and the implied labour market shifts, (ii) digitalisation, (iii) globalisation, and (iv) climate change.

Ageing Societies

Significant demographic changes have already been reducing the working-age population since 2010. This will continue during the next decades: by more than 0.4% every year on average between now and 2060. Even in the most optimistic scenarios for the labour market, this will imply that employment will start shrinking, in absolute terms, before the end of the current decade. This will put a strain on the welfare models of all EU Member States that primarily rely on labour taxation including social security contributions to maintain those welfare models in the future. Moreover, ageing translates into a fast increase in the population aged 65 and over, by 1.7% every year on average until the end of the decade. The increase in demographic and economic dependency will put further strain on available resources, including redistributive systems such as pension schemes, as well as healthcare and long-term care.

What does that mean in general and in particular to taxation? In general, the pressure to increase productivity growth will inevitably accelerate. Higher productivity is one important element in generating necessary resources. In addition, labour taxation reforms may be needed to minimise the impact labour taxes may have on employment and labour market participation, notably of second earners and low-income earners. Measures may also include broadening of the relevant tax bases and increasing the progressivity of labour taxation, to ensure sustainable revenues, contribute to the sustainability of social protection systems, and ensure intergenerational fairness.

Digitalisation and globalisation

The core of the current international corporate tax system was designed more than a century ago and has been based on now rather outdated principles of tax residence- and source-based taxation. The current use of residency for tax purposes has become impractical as people residing in one country can work for a company or (even several) companies in different countries. The same holds true for companies: they can be officially registered in one country but actually conduct a large part of their activity in various jurisdictions.

Moreover, digitalisation, platform competition and the increase reliance on intangible assets induced a shift from traditional brick and mortar business towards digital business. These operate across borders and jurisdictions that market products and services that are intangible and that can easily relocate assets across jurisdictions. As a result, tax competition between jurisdictions has increased, inducing jurisdictions to offer advantageous tax regimes to either attract or retain the increasingly mobile corporate tax bases. Moreover, the features of digital and global business have made it possible, especially for large multinational enterprises to engage in aggressive tax planning regimes avoiding paying taxes in any jurisdiction.

Important steps in fighting tax evasion and tax avoidance caused by loopholes in the international tax architecture have been taken in recent years in the EU. The project on Base Erosion and Profit Shifting (BEPS), established by the OECD in 2015, has been crucial in developing global policy to tackle tax avoidance at a global level. A large number of countries (141 countries) recognised that it was crucial to address not only tax evasion and fraud but also tax avoidance and especially aggressive tax planning (ATP) practices by multinationals. Going beyond the BEPS compulsory requirements the EU designed a set of anti-abuse rules with the Anti-Tax Avoidance Directive (ATAD), implemented since 1 January 2019 and increased tax transparency with the exchange of tax rulings and country by country reporting.

The recent two-pillar agreement of the OECD/G20 Inclusive Framework on BEPS is a further landmark and marks a historic step forward toward addressing various issues in 21st century corporate taxation. Pillar 1 will allow a partial reallocation of taxing rights from

the largest MNEs towards end market jurisdictions, taking better account of the current flaws of tax residence principles. Pillar 2 will establish a minimum effective corporate tax rate on large MNEs at 15%, setting a floor under harmful tax competition and limiting ATP opportunities. While very welcome, the scope of these reforms remains limited, provide for substantial sectoral and other carve-outs, thus allowing – inter alia – for non-negligible loopholes. This is particularly relevant in the context of the EU Single Market. Therefore, there is a case for going beyond the OECD/G20 agreement in the EU and the Commission has initiated a number of proposals.

The Commission published a Communication in May 2021, outlining its vision for Business Taxation in the 21st century. This communication also includes the tackling of the so-called debt equity bias, which aims at removing the current pro-debt bias of tax rules where businesses can deduct interests attached to a debt financing, but not the costs related to equity financing. This in turn can encourage companies to accumulate debts leading to high waves of insolvency, with a negative effect on the economic performance of the EU as a whole. Additional initiatives include a future tax rulebook for business taxation fit for the modern age which implement but also extend the OECD agreements made, and an initiative adopted in December 2021 for tackling shell companies in the EU and fighting against tax evasion and avoidance.

To address the challenges related to the digitalisation of business and the rise of platforms, the Commission has launched a number key initiatives such as extended rules on administrative cooperation both for direct and indirect taxes, a modernised VAT package for the digital age, and projects to harness the use of data for better compliance program and improved administrative performance of tax authorities. In particular, following the rapid expansion of digital platforms a number of initiatives have been launched by the Commission to ensure tax transparency rules remain up-to-date. These include amendments to the Directive on administrative cooperation in the field of taxation (DAC) adopted in March 2021, called DAC7. DAC7 creates an obligation for digital platform operators to report the income earned by sellers on their platforms. The information to be reported should allow authorities to identify individual sellers and income. This initiative aims to combat tax evasion and avoidance by electronic platforms, which is significant with estimates on unreported income ranging from EUR 2.7 and EUR 7.1 billion.

Climate Change and environmental degradation

Like other advanced economies, most EU Member States remain environmentally unsustainable. Human action and increasing emissions of greenhouse gases, have led to global temperatures increasing by 2 degree Celsius since the pre-industrial era and the ten warmest years on record took place between 2005 and today. The impact of climate change on biodiversity and ecosystems is expected to intensify, while the way activities such as agriculture, fisheries, transport, industry and energy production are conducted, continue to cause biodiversity loss, excessive resource extraction, harmful emissions and environmental damage. To reverse the situation our lifestyles and habits as well as production and consumption systems need to change.

Tax rules can play a vital role in changing environmentally harmful behaviour by putting a price on the social costs of non-sustainable activities, e.g. the application of the polluter-pays-principle. The EU's ambitious green agenda makes way to extend further the polluter pays principle across economies, while also ensuring fairness, revenue sustainability, and growth-friendliness. The European Commission President von der Leyen in 2019 called for and presented a European Green Deal, committing to make the EU the first climate-neutral continent. Core initiatives include an ongoing overhaul of the Energy Taxation Directive to support the green transition. The revision aims to align the taxation of energy products with the EU's energy and climate objectives, therefore promoting clean technologies and removing outdated exemptions and reduced rates that currently encourage the use of fossil fuels. The proposal introduces a new structure of tax rates based on the energy content and environmental performance of the fuels and electricity. It broadens the taxable base by including more products in the scope and by removing some of the current exemptions and reductions. In addition, the EU emissions trading system (EU ETS) will be a cornerstone of the EU's policy to combat climate change. Some states, including EU Member States also resort to carbon taxes to price carbon, especially from those sectors, which are not covered by the emissions trading system. In this context, in addition to the ETS, the Commission proposed the carbon border adjustment mechanism (CBAM), a measure that should prevent the risk of carbon leakage. Under the CBAM, EU importers will need to purchase

carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced in the EU. The EU Climate Law and 8th Environmental Action Plan also commit to the phase out of the environmentally harmful subsidies.

Glossary

Accelerated depreciation is the depreciation used for accounting or income tax purposes that enable 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.

Business angel is a knowledgeable private individual, usually with business experience, who directly invests part of their personal assets in new and growing unquoted businesses. Besides capital, business angels provide business management experience.

Controlled foreign companies attribute a proportion of their income to a resident controlling shareholder and tax that shareholder for that income if certain conditions are met (usually the tax rate in the foreign country must be lower than a set percentage of the tax rate in the country applying the 'CFC charge').

Direct taxes are defined as current taxes on income and wealth plus capital taxes including taxes such as inheritance, property or gift taxes. Income tax is a subcategory that includes personal income tax (PIT) and corporate income tax (CIT), along with capital gains taxes.

Effective average tax rate (EATR) is a tax rate calculated based on the nominal tax rate and the definition of the tax base. In particular, it is based on total investment income.

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.

Electronic Interfaces (EIs) allow the communication between systems. They could include a website, portal, gateway, marketplace, platform, application program interface (API), etc.

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). **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. **Pollution taxes** include taxes on measured or estimated emissions to air (except taxes on CO₂ emissions) and water, on the management of solid waste and on noise. **Resource taxes** include any taxes linked to the extraction or use of a natural resource (e.g. taxes on licence fees paid for hunting and fishing rights)⁽²¹⁸⁾.

European Semester is the annual cycle of economic policy coordination in the EU. The Commission analyses Member States' budgetary, structural and investment policies, provides proposals for Council recommendations to each Member State and monitors their implementation.

Feebates are a system of charges and rebates whereby energy-efficient or environmentally friendly practices are rewarded while failure to adhere to such practices is penalised.

Gini coefficient measures the inequality among values of a frequency distribution, such as levels of income. A Gini coefficient of 0 expresses perfect equality, while a Gini coefficient of 1 expresses maximal inequality.

⁽²¹⁸⁾ This definition is based on (European Commission, 2013).

Health taxes⁽²¹⁹⁾ are imposed on products that have a negative public health impact (e.g. taxes on tobacco, alcohol, sugar-sweetened beverages, fossil fuels). These taxes result in healthier populations and generate revenues for the budget even in the presence of illicit trade/evasion. These are progressive measures which benefit low-income populations relatively more, once health care costs and health burden are taken into account.

Inactivity trap measures the financial incentive for an inactive person not entitled to unemployment benefits (but potentially receiving other benefits, such as social assistance) to move from inactivity to paid employment. It is defined as the rate at which the additional gross income of such a transition is taxed.

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, other taxes on production.

Low-wage trap measures the financial incentive to increase a low level of earnings by working additional hours. It is defined as the rate at which the additional gross income of such a move is taxed.

Multisided platforms are technologies, products or services that allow direct interactions between two or more distinct types of costumers.

Offshore financial centre (OFC) is defined as a jurisdiction that provides financial services to non-residents on a scale that is incommensurate with the size and the financing of its domestic economy. But it is particularly known as jurisdiction that attracts financial activities from abroad through low taxation and lenient regulation (thus offshore refers to the fact that the jurisdiction's largest users are non-resident).

Patent box is a term used to describe regimes that apply a lower tax rates to any profits made from IP assets. It is used to support companies' research and development activities.

Pigouvian tax is a tax named after the British economist Arthur Pigou that is intended to correct market externalities. The environmental economic theory describes the concept of externality as a cost or benefit, not transmitted through prices. The benefit corresponds to a positive externality and the cost corresponds to a negative externality. Negative externalities or 'social costs' are related to the environmental consequences of production and consumption⁽²²⁰⁾.

Shell entities are entities that do not perform any actual economic activity, even if they are presumably engaged with one, and that can be misused for tax avoidance or evasion purposes⁽²²¹⁾.

Social security contributions are mandatory contributions paid by employers and employees into a social insurance scheme set up to cover pensions, healthcare and other welfare provisions.

Special Purpose Entities (SPEs) are legal entities that are formally registered with a national authority and subject to the legal and tax obligations of the country in which they are resident. They are ultimately controlled by a non-resident group and usually they have very few employees and little (or no) productive capacity or physical presence in the host country. Most of their assets and liabilities represent investments in or from other countries and their core business consists of holding/financing non-resident companies on behalf of their enterprise group, as well as channeling funds between affiliates⁽²²²⁾.

⁽²¹⁹⁾ This definition is based on: https://www.who.int/health-topics/health-taxes#tab=tab_1

⁽²²⁰⁾ This definition is based on (European Commission, 2013).

⁽²²¹⁾ This definition is based on COM(2021) 565 final.

⁽²²²⁾ This definition is based on Eurostat, available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Foreign_direct_investment_-_intensity_ratios&oidid=542738

Subsidies are financial assistance provided to organisations and companies as an incentive to promote 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 it purports to follow (OECD glossary of tax terms).

Tax credit is the amount of money tax payers can deduct from the taxes they owe.

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 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 incentive is a measure that governments provide to encourage activity in certain domains of the economy by offering a deduction, exclusion or exemption from tax liability. Tax incentives are selective in nature in the sense that they give preferential treatment to some kind of investments 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 debts.

Tax treaty shopping is when companies set up artificial structures to gain access to the most beneficial tax treatment under various tax agreements with other Member States or third countries.

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 SSCs.

Thin capitalisation rules restrict the deductibility of interest payments made by corporations with excessive debt to-equity ratios ⁽²²³⁾.

VAT gap is the difference between VAT revenue actually collected by the government and the theoretical net VAT liability for the economy as a whole, under the country's current VAT system. The latter is estimated by identifying the categories of expenditure that give rise to irrecoverable VAT and applying the appropriate VAT rates to estimated expenditure in the various categories.

Venture capital is investment in unquoted companies by firms who, acting as principals, manage individual, institutional or in-house money. In the EU, the main financing stages are early-stage (covering seed and start-up financing) and expansion. Strictly defined, venture capital is a subset of private equity. To offset the high risk involved, the investor expects a higher than average return on investment.

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 government. Withholding taxes are found in practically all tax systems and are widely used for dividends, interest, royalties and similar tax payments. The rates of withholding tax are frequently reduced by tax treaties.

⁽²²³⁾ Adapted from (Arnold & McIntyre, 2002).

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