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Tax Policies in the European Union: 2020 Survey

European Commission

Tax policies in the European Union

2020 survey

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Tax policies in the European Union 2020 survey

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Gaëtan Nicodème

European

Commission

Directorate-General for Taxation and Customs Union

Directorate for Direct Taxation, Tax Coordination, Economic Analysis and

Evaluation Office SPA3 6/017

1049

Brussels

BELGIUM

Email: TAXUD-UNIT-D4@ec.europa.eu

Foreword

The upcoming 5 years will be crucially important for tax policy. Changes in climate, technology and demography are transforming our societies and way of life, leaving EU citizens anxious about their own and their children's future. In the face of these challenges, tax policy plays a vital role in supporting a just transition to a sustainable and digital economy compatible with the principles of our social market economy. This transition will not happen overnight. Now, therefore, is the moment to set a course for a tax system that can solve our contemporary and future challenges. This will require action at all levels: international, EU and national.

Tax policies can create a better environment for our business. It is flourishing businesses that will advance European industrial and technological leadership in a changing world. Effective and efficient tax administration, as well as a high degree of tax certainty, can encourage investment and foster competitiveness. Tax administrations should make use of smart solutions to reduce compliance costs and the administrative burden of taxation.

We must work at EU and international level to reform the international corporate tax system. Tax rules today do not accurately reflect the realities of digital value creation, fomenting a growing disconnect between where value is created and tax is paid. Digitalisation and globalisation have intensified tax competition for more mobile resources, and seen new forms of tax competition emerge, undermining the ability of countries to design tax policies that meet the desires and needs of their citizens and economy.

At the same time, it is important that we intensify our fight against tax abuse. While much progress has been made in recent years, significant amounts of tax revenue are still lost due to tax fraud, evasion and avoidance. Such tax abuse threatens faith in tax systems, fair burden sharing between taxpayers and the level playing field between all businesses in the single market. Furthermore, it limits revenue generation — revenue that is needed to invest in smart, green and digital infrastructure and to support regions and workers hit hardest by contemporary challenges.

Our 21st century tax systems must also contribute directly to the transition towards a greener economy. Addressing climate change requires a broad policy package. Taxation can play a major role in this effort, both by increasing the cost of environmentally damaging actions and by encouraging smart and green investment.

To preserve our social market economy through these transitions, tax policies need to ensure the sustainability of tax revenues while preserving national tax policy choices and social justice. We need to ensure that the costs and benefits of the green and digital transition are fairly distributed amongst regions, businesses and citizens. We need to find ways to sustain existing tax bases as much as possible, while exploring new ones. This way, we can ensure that sovereign tax policies will be able to reflect the economic and social preferences of EU citizens.

This 2020 edition of the 'Tax policies in the European Union survey' can support these discussions. It presents an indicator-based analysis of the design and performance of Member States' tax systems. It has been prepared to provide policymakers across Europe with analyses and insights which can support the transition to a tax system that reflects the realities of the 21st century. By pursuing a new trajectory for tax policies, we can be confident that our social market economy will emerge from the challenges of today and tomorrow stronger, fairer, greener and more digital than ever before.

Stephen Quest
Director-General
Directorate-General for Taxation and Customs Union

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Abbreviations

Country abbreviations		Commonly used acronyms	
AT	Austria	**EU**	European Union
BE	Belgium	**EC**	European Commission
BG	Bulgaria	**EU-28**	European Union (BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK)
CY	Cyprus		
CZ	Czechia	**GDP**	Gross Domestic Product
DE	Germany	**R & D**	Research and Development
DK	Denmark		
EE	Estonia	**CIT**	Corporate Income Tax
EL	Greece	**PIT**	Personal Income Tax
ES	Spain	**VAT**	Value Added Tax
FI	Finland	**WHT**	Withholding Tax
FR	France	**SSC**	Social Security Contributions
HR	Croatia		
HU	Hungary	**STR**	Statutory Tax Rate
IE	Ireland	**EMTR**	Effective Marginal Tax Rate
IT	Italy	**EATR**	Effective Average Tax Rate
LT	Lithuania	**ETR**	Effective Tax Rate
LU	Luxembourg	**ITR**	Implicit Tax Rate
LV	Latvia		
MT	Malta	**ATP**	Aggressive Tax Planning
NL	Netherlands	**OFC**	Offshore Financial Centre
PL	Poland	**FDI**	Foreign Direct Investment
PT	Portugal	**SPE**	Special Purpose Entity
RO	Romania	**CFC**	Controlled Foreign Corporation
SE	Sweden	**NOE**	Non-Observed Economy
SI	Slovenia		
SK	Slovakia	**pp**	Percentage Points
UK	United Kingdom		

Executive summary

This report addresses *Tax policies in the European Union* in terms of the EU's five tax priorities (which also underpin the Commission's country-specific analysis in the context of the European Semester):

- stimulating investment and addressing positive and negative externalities;
- improving tax administration and tax certainty;
- boosting employment;
- reducing inequalities; and
- ensuring tax compliance.

With those priorities in mind, this report identifies relevant indicators and potential improvements of tax systems, in terms of tax design, implementation and compliance.

The world economy is changing faster than ever before. Major changes, such as climate change, ageing populations, increased digitalisation and ever-accelerating globalisation, are presenting our societies with new challenges. Policymakers need to rethink tax systems so that they are sustainable and future-proof, and redesign them to ensure they are efficient and fair.

Our indicator-based analysis shows that there is scope for Member States' tax systems to be fairer and more efficient. This can be done in various ways, including tax incentives, reduced tax burdens on low- income earners, tax policies to foster social mobility and creating effective tools to fight tax avoidance. One size does not fit all and tax policies need to take careful account of national specificities and circumstances.

There has been no major shift in terms of tax reforms implemented in Member States between June 2018 and June 2019. While, on average, all categories of tax revenue in the EU are increasing, headline corporate income tax (CIT) rates continued their downward trend in 2019. Member States continued to adopt measures to stimulate investment at home and attract it from abroad. While the entry into force of a number of provisions of EU directives and some national measures will contribute to fighting tax abuse, this remains an important issue.

Structure of the report

The report is structured as follows:

— **Chapter 1** sets out what makes a fair and efficient tax system and provides a brief overview of recent taxation trends;

— recognising that challenges are country-specific, **Chapter 2** provides an overview of how national taxation systems perform against the five tax priorities. It aims to help Member States find the best way of addressing their own specific tax challenges;

— **Chapter 3** reviews Member States' most recent tax reforms and outlines some general reform options; and

— **Chapter 4** presents the main recent (2014-2020) actions on tax matters at

EU level. The survey also contains text boxes highlighting certain topics.

1 General principles for fair and efficient tax systems

The EU is committed to creating a stronger, more sustainable and more inclusive economy. After difficulties in the wake of the financial crisis, it has experienced a period of significant economic growth. Its economy is forecast to have continued expanding for the 7th year in a row in 2019, with real GDP expected to have grown in all Member States. Global uncertainties continue to weigh, but domestic dynamics are set to support continued growth, which is expected to gather pace again this year (European Commission, 2019a). However, low productivity growth dampens the prospects for long-term prosperity. The EU's innovation and investment levels remain too low (relative to its major trading partners') to change this. Moreover, the fact that productivity growth is distributed increasingly unevenly across regions gives rise to risks of divergence and a loss of cohesion, at a time when social inequalities and regional disparities are of growing concern.

Tax policy has a role to play in shaping our economy and society. It can encourage investment, address positive and negative externalities (e.g. limiting environmentally harmful activities), support employment, mitigate inequality, and ensure that all taxpayers contribute their fair share. Optimal tax system design involves taking account of trade-offs and prioritising objectives according to national circumstances and policy choices. Public buy-in is crucial for the 'legitimacy' of tax reforms.

1.1. What makes a fair and efficient tax system?

The primary purpose of taxation is to fund public spending by re-allocating funds from taxpayers (citizens/businesses) to government. The general aim of public revenue collection and spending should be to maximise social welfare [1]. This involves securing funding for welfare improving public goods, in particular in areas that tend to see significant market failures [2] (e.g. education, healthcare, social protection, infrastructure, pollution, and climate change).

However, because taxation is costly in itself and in most cases affects people's decisionmaking (e.g. in taking up a job, buying a packet of cigarettes, buying a diesel or electric car, renting vs buying a house, investing money in x or y), it is pertinent to ask: how can we collect a certain level of tax revenue in a way that maximises social welfare?

There are four channels through which taxation can influence social welfare:

1. **distortion of economic decisions** – in the absence of market failure, most forms of taxation distort otherwise efficient economic decisions, leading to sub-optimal outcomes. The distortion can affect inter alia:

   (a) the scale, location and sector of investment;

   (b) how to finance investment, e.g. debt vs equity;

   (c) factors affecting the supply and demand of labour; and

   (d) the nature and timing of consumption.

Tax systems should minimise these distortions and the resultant 'deadweight loss';

2. **social preferences** – it is not only the level of overall income that matters, but also the extent to which it is shared among members of a society. Taxation can be a powerful instrument for redistribution. Depending on social preferences and policy goals, redistributive taxes can be welfare enhancing, despite distorting individually efficient decisions;

3. **market failures** – sometimes, economic decision-making in the absence of taxation is neither efficient nor fair. In such cases, taxation can play a role in correcting for economic inefficiencies to the benefit of the society as a whole, e.g. where there is:

   (a) too much activity that harms others, e.g. environmentally damaging behaviour (smoking, driving a car, production sites that pollute the environment, selling unhealthy products); this might also lead to unfair burden-sharing across generations; 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 upward social mobility [3]; and

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[1] 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.

[2] 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).

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

4. **administrative costs** – levying taxes is costly for administrations and taxpayers. Efficient tax administration minimises these costs.

Effective legislation is needed to ensure that taxation works as intended in the above areas. It is important to avoid loopholes, prevent abuse and enforce the law so that all taxpayers abide by common rules.

Because countries do not take account of crossborder spillovers, they sometimes make choices that are inefficient from a global perspective. For example, one country's taxing of greenhouse gas emissions provides environmental benefits for other countries as well. If a country does not take account of those benefits, its emissions taxes will be too low.

Crossborder spillovers also come with a risk of free-riding, leading to unfair burdensharing between countries. In such cases, a mechanism to ensure that all countries/regions tax the activity sufficiently could be overall welfare- improving.

The following five subsections set out key features to look at when assessing the fairness and efficiency of a tax system. While there are sometimes trade-offs between fairness and efficiency, they do not have to be mutually exclusive.

1.1.1. Stimulating investment and addressing positive and negative externalities

Taxation is an important element of a well-functioning business environment that supports investment and innovation. A tax system can encourage profitable investment by keeping the effective marginal tax rate low. This does not mean that tax rates have to be reduced: faster depreciation schedules or allowing for the deductibility of equity financing costs brings down effective marginal taxation, even if compensated by an offsetting change in tax rates. Distortions in the tax system can affect access to finance and discourage equity investment, in particular for young and innovative companies. Innovation and investment levels in the EU (relative to its major trading partners) are still too low in this respect.

Tax policies can play a role in reducing entrepreneurial risk and the costs of entrepreneurial activity. Taxation helps correct market failures, e.g. under-provision of R & D investment or risk finance, and externalities for the environment and public health. A well-designed tax system can improve living standards by providing incentives for smart and green investment.

1.1.2. Improving tax administration and tax certainty

Tax compliance costs can discourage business startups, incentivise the underground economy, increase non-compliance and damage firms' and countries' competitiveness. Compliance costs can be kept down through simple, stable tax systems and efficient, effective tax administrations. This means being organised in a way that encourages voluntary compliance and ensures that non-compliant behaviour is likely to be detected. The former involves making paying taxes as easy and simple as possible and requires high taxpayer 'morale' (willingness to pay taxes). This in turn is easier where people perceive the tax system as fair and have a high level of trust in government. Legal and tax certainty, stability, predictability and the simplicity of tax rules also affect businesses' and investors' decisions.

1.1.3. Developing a more employment-friendly environment

Labour tax cuts can be a tool for boosting employment, in particular where high labour costs discourage recruitment (i.e. labour demand) or incentives to work are low because it does not pay (i.e. labour supply). Targeted labour tax reductions coupled with the tapered withdrawal of benefit payments, jointly designed to avoid high marginal tax rates, can help to raise employment levels among those excluded from the labour market, as well as reducing poverty and social exclusion. Some groups, e.g. second earners, are more responsive to such changes than others.

1.1.4. Correcting inequalities and promoting social mobility

Taxation has a central role to play in shaping a fair society, e.g. by securing the right mix of revenues to finance public expenditure, mitigating inequalities and supporting social mobility and inter-generational fairness.

Mitigating inequality and promoting social mobility require well designed policy packages across a wide range of areas, from the way revenues are collected to the provision of public goods and targeted social spending. The overall structure of the tax system can play a role in reducing inequality and fostering social cohesion. Ensuring coherent and effective progressivity of the overall tax burden faced by citizens according to their income sources can at least avoid exacerbating market income inequalities and at best help to correct them.

1.1.5. Fighting tax fraud, evasion and avoidance

Tax fraud, tax evasion and tax avoidance limit Member States' capacity to raise revenue to implement their economic and social policies. Tax avoidance has clear negative spillover effects, as profits shifted to or through one Member State mean a tax base loss for another. This effect is even greater in the euro area. Furthermore, it weighs on tax morale, threatens the social contract and increases inequality. When connected to money laundering, it can pose serious threats to the stability of the financial system. It also creates an uneven playing field between companies. While it is difficult to quantify precisely the scale of tax evasion and avoidance, the consensus is that it is substantial, with tens of billions of euros lost each year.

Tackling tax evasion and fraud, and removing loopholes and mismatches that facilitate aggressive tax planning [4], are essential ways of securing tax revenues. Tax receipts can be used for public spending (on education, healthcare and welfare) and/or to reduce the tax burden on honest taxpayers. Effective collection also helps to level the playing field between companies. A solid taxation system also limits criminals' capacity to exploit the financial system to launder the proceeds of their illegal activities.

The cross-border nature of tax abuse and the integration of Member States' economies call for a coordinated approach through EU initiatives and the alignment of national policies. Member States can tackle tax abuse through greater transparency, cross-border cooperation, closing loopholes in their tax codes, modernising/digitalising tax administration, and promoting a culture of compliance that helps to protect the internal market from criminal infiltrations.

[4] Aggressive tax planning (ATP) consists of taxpayers reducing their tax liability through arrangements that may be legal but are in contradiction with the intent of the law.

1.2. Tax mix in support of fair and efficient taxation

In order to deliver on the five tax priorities [5], governments must design a tax mix carefully, taking account of efficiency, distributional considerations and aspects of tax administration and compliance. In 2008, the Organisation for Economic Cooperation and Development (OECD) published an influential working paper, *Taxation and growth* (Arnold, Brys, Heady, Johansson, & Vartia, 2008), which ranked taxes according to their detrimental effect on growth. It ranked income taxes above consumption, environmental and recurrent property taxes. 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, & Scabrosetti, 2017; Xing, 2012). It appears that the specific tax design is at least as important as the tax type. It is also important to consider distributional impacts and 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. This is discussed in more detail in chapter 2. In addition to the dimensions covered in the table, one should consider sustainability. 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, the emergence of non-standard employment and population ageing (see *Box 1.2: Sustainability of tax systems in a changing world*).

Table 1 has primarily a Member State focus and omits certain issues arising from increasing economic integration. For example, not only is the outdated international corporate tax framework unsustainable from a burden-sharing perspective, but it also distorts investment and hampers competition between companies (see section 4.1.2), ultimately restricting sustainable and inclusive economic growth.

[5] Stimulating investment and addressing positive and negative externalities, improving tax administration and tax certainty, encouraging job creation, mitigating inequalities and ensuring tax compliance.

Table 1: Overview assessment of tax categories

	Efficiency	Distributive effects	Administration/compliance
Labour income taxes	• 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.	• If designed progressively, represent the primary tax instrument for direct redistribution, taking into account the 'ability to pay' principle [6]. • 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 contributing to the gender pay gap	• Withholding taxes (WHTs) on labour substantially facilitate tax administration and compliance. • Non-standard employment and the rise of (online) platform work create challenges for efficient administration of earned income. • However, technology (in particular, platforms) may
Corporate income taxes (CITs)	• May distort capital formation, investment decisions and productivity in several ways. • Distortions may vary considerably with certain features, e.g. destinationbased cash-flow taxation does not distort behaviour (including investment decisions). • Economic integration and digitalisation pose particular problems for the international CIT	• CIT is often seen as an instrument for taxing corporations' shareholders, thereby contributing to fairer burdensharing among taxpayers. • The challenges of the international corporate tax framework contribute to a shift of the tax burden to less mobile tax bases (e.g. labour, consumption), with consequences in terms of inequality and burdensharing.	• Companies' compliance costs are high due to complex accounting standards and tax provisions (e.g. deduction rules) [7]. • In particular, compliance is increasingly complex for businesses operating across borders (different tax rules). • Loopholes in and mismatches between
Capital income taxes (house-holds)	• 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 saving and investment. • As dividends are often taxed both at company and shareholder level, the tax burden may be higher than in	• 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.	• Taxing capital income at source (WHT) eases the administrative and compliance burden. • WHT at source (e.g. through banks or companies issuing shares) reduces the risk of fraud or evasion.
Taxes on immovabl e property	• If designed as *recurrent* taxes, the distortive impact is limited compared to other taxes. • If designed as *transaction* taxes, they may create a lock-in	• Distributional implications depend on distribution of property ownership and specific design of the tax.	• Valuation can be complex, but is considered less costly than in the context of net wealth taxes. • Due to visibility and immobility, evasion and

[6] The 'ability to pay' principle maintains that taxes should be levied according to taxpayers' financial standing.

[7] See, for example, Graph 2.11 in last year's edition of this survey, which shows SMEs' compliance costs for direct and indirect tax (European Commission, 2018a).

	Efficiency	Distributive effects	Administration/compliance
Net wealth taxes [8]	• May discourage savings. • May decrease the level of investment.	• If designed with appropriate thresholds and (possibly) progressively, may make a significant contribution to reducing wealth inequality.	• 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
Inheritance/gift taxes [9]	• 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 saving by donors to pass on sufficient estate to next generation. • Incentives increase for heirs to work and save, in view of a lower inheritance	• Can help reduce wealth inequality. • Can support social mobility by reducing the extent to which wealth inequalities are transmitted from one generation to another.	• 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)	• Considered to be among the less distortive taxes, as it does not distort production decisions. • It may increase prices, reducing the purchasing power of real after-tax wages and thereby indirectly reducing labour supply.	• Generally, the distributional impact is either regressive or proportional. • Reduced rates are not effective in terms of redistribution, as they cannot target a specific (e.g. low-income) population.	• Compliance costs for companies are lower for indirect taxes (such as VAT) than for direct taxes [10]. • 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
Environmental taxes	• Considered to be among the less distortive taxes. • Primary objective is to correct behaviour 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.	• Many types of environmental taxes are typically regressive, so their increased use should be accompanied by mitigating policy measures However, environmental taxes can support intergenerational fairness, as behavioural change will probably reduce costs for future generations of mitigating impact of climate change.	• Administrative complexity shapes the options for implementing environmental taxes, e.g. a carbon tax. • Ideally, would take the form of a tax on each unit of measured emissions (e.g. CO2, NOx) 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

[8] 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.

[9] See footnote 8.

[10] See footnote 7.

Box 1.1: Distribution of overall tax mix

Tax policies should be designed holistically, taking account of efficiency, equity and sustainability. Table 1 sets out a theoretical assessment of tax categories on that basis.

Tax policy-making should also be evidence-based. This is particularly challenging when assessing distributional implications, because:

(a) distributional implications are typically assessed on the basis of survey data, which are not very reliable, particularly at the top of the income distribution. As a result, indicators based on such data may underestimate levels of inequality; and

(b) there is no EU-wide collection of data that would allow for holistic assessment of the distribution of the overall tax mix, including indirect and direct taxes [11]. Even at Member State level, such datasets are scarce (they would typically need to combine data points from various sources) and publicly available for only for a limited number of countries.

As a result, the indicators used in this report to assess the corrective power of the tax system are limited to some direct taxes, in particular income taxes and social contributions (see *Graph 40*).

Taking into account indirect taxes, in particular consumption taxes, would probably reduce progressivity and thus redistribution in the Member States as compared with what is presented in Graph 40. As consumption taxes represent up to 50 % of tax revenue in some Member States (see *Graph 6*), this is clearly a significant limitation.

To illustrate the distributional aspects in Table 1, one can use more granular datasets that are available for some Member States. The data used for Graph 1 are based on an integrated data sample, combining three different datasets for Germany (the *Socio-economic panel* [12], a survey on income, consumption and living conditions [13] and income tax statistics) as published in (Bach, Beznoska, & Steiner, 2016).

Graph 1 shows (for Germany) the composition and level of the overall tax burden across the income distribution as a percentage of gross income, including indirect taxes such as VAT and environmental taxes [14].

[11] Eurostat has launched an exercise matching micro-data from three surveys on income, consumption and wealth. It publishes, as experimental statistics, the indicators constructed in the exercise (https://ec.europa.eu/eurostat/web/ experimental-statistics/income-consumption-and-wealth), which include indicators for the distribution of the tax burden, including indirect taxes (notably VAT).

[12] The *Socio-economic panel* (SOEP) is a wide-ranging representative longitudinal study of private households, run by the German Institute for Economic Research (DIW Berlin). Every year, Kantar Public Germany interviews around 30 000 respondents (Germans, foreigners and recent immigrants) in nearly 11 000 households across the country; https://www.diw.de/en/diw_02.c.221178.en/about_soep.html

[13] https://www.destatis.de/EN/Themes/Society-Environment/Income-Consumption-Living-Conditions/Income-Receipts-Expenditure/_node.html;jsessionid=576EEAEF6801C4A3180C4DDBCBD413DC.internet712

[14] Similar datasets are available for France and the United Kingdom. Although the different tax mixes in the three countries translate into quantitative differences in the distribution of the overall tax burden, they are qualitatively similar, i.e. regressive indirect taxes, progressive income taxes and social contributions that are progressive for

lower incomes and regressive for higher incomes.

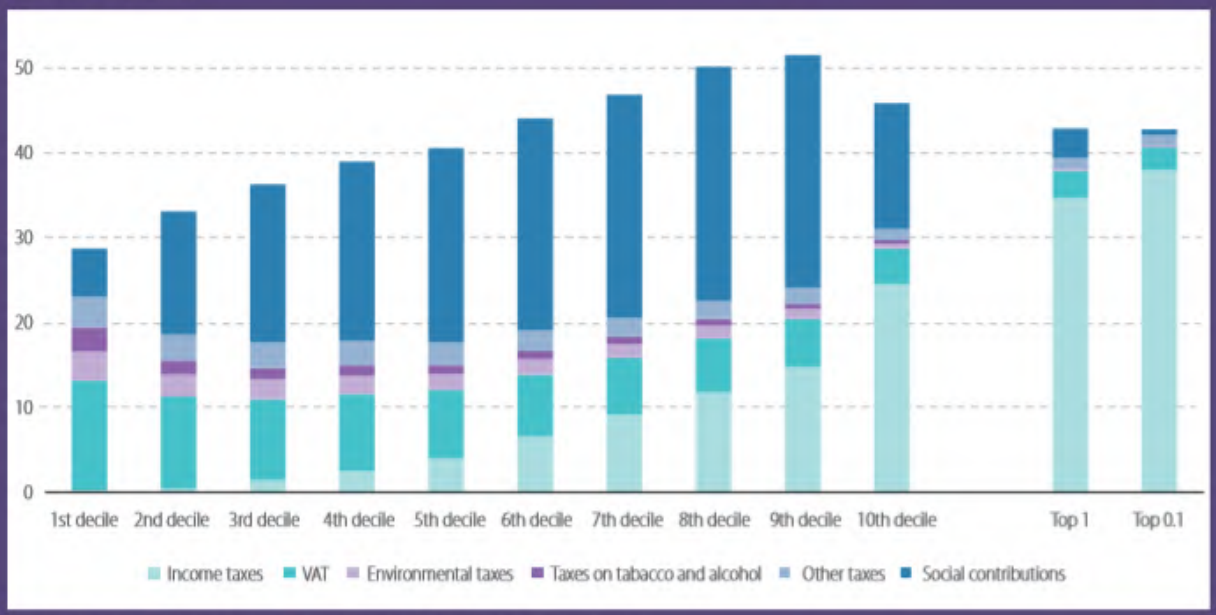
Some aspects are particularly interesting:

- up to the fifth decile, total taxes are regressive [15] if we exclude social contributions, which are the key driver of progressivity [16] for lower to middle incomes. As social contributions entail entitlements, a lower level of contributions might reproduce inequalities, e.g. pension benefits reflecting wage inequalities. The distributional implications of progressive social contributions as such are therefore unclear;
- from the composition of the tax burden, it is clear that VAT and environmental taxes are regressive. This is also true of tobacco and alcohol taxes. This largely explains the regressivity of all taxes excluding social contributions for the bottom half of the income distribution; and
- income (including business) taxes are progressive across the income distribution and the main driver of progressivity of all taxes excluding social contributions from the 5th to the 10th decile. Social contributions are more or less proportional from the 5th to the 9th decile and then fall sharply, explaining a lower tax burden (as % of gross income) for the 10th decile, the top 1 percentile and the top 0.1 percentile than for the 7th-9th deciles.

This underlines the importance of looking at the overall tax mix when assessing the distributional aspects of tax systems (see also *Box 2.5*) or tax reforms, in particular where they entail a shift from income taxes to consumption taxes.

Graph 1: Taxes and social contributions, different income levels (Germany, 2015)

(As a % of gross income)



Source: Own computations, based on data from Bach, Beznoska, & Steiner (2016).

[15] I.e. the tax burden as a percentage of gross income decreases with the level of gross income.

[16] I.e. the tax burden as a percentage of gross income increases with the level of gross income.

1.3. The tax mix in the EU — recent trends [17, 18]

Securing sufficient funds to finance public expenditure involves:

(a) the right mix of taxes, taking into account:

- investment and addressing positive and negative externalities (see *section 2.1*);
- tax administration and tax certainty (see *section 2.2*);
- employment (see *section 2.3*); and
- inequality (see *section 2.4*); and

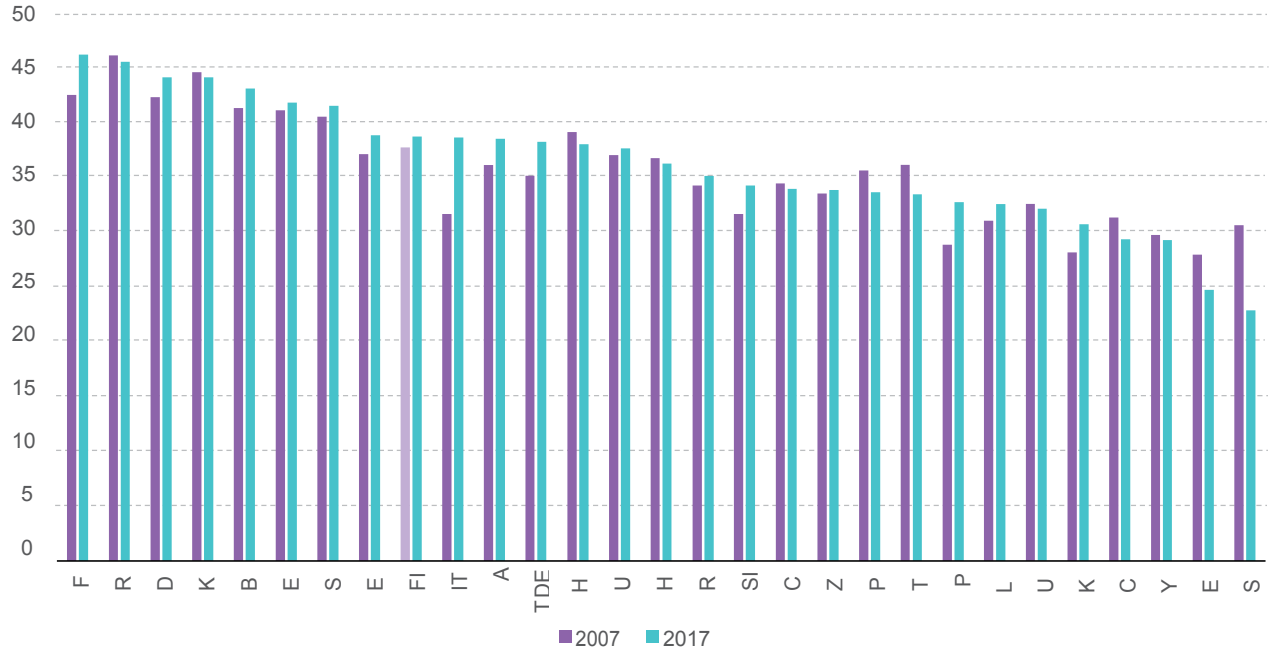
(b) ensuring that all members of society pay their fair share, be it through effective enforcement and/or increasing voluntary compliance (see *section 2.5*).

This section gives an overview of tax rates and revenue structures in the EU.

Since 2007, total tax revenue as a percentage of GDP has increased in most Member States. However, the level of total taxation differs considerably between countries: in 2017, the tax-to-GDP ratio varied between 46.3 % in France and 22.9 % in Ireland.

Graph 2: Total receipts from taxes and compulsory actual social contributions, 2007-2017

(% of GDP)



Source: Eurostat data: gov_10a_taxag, extracted on 7.10.2019.

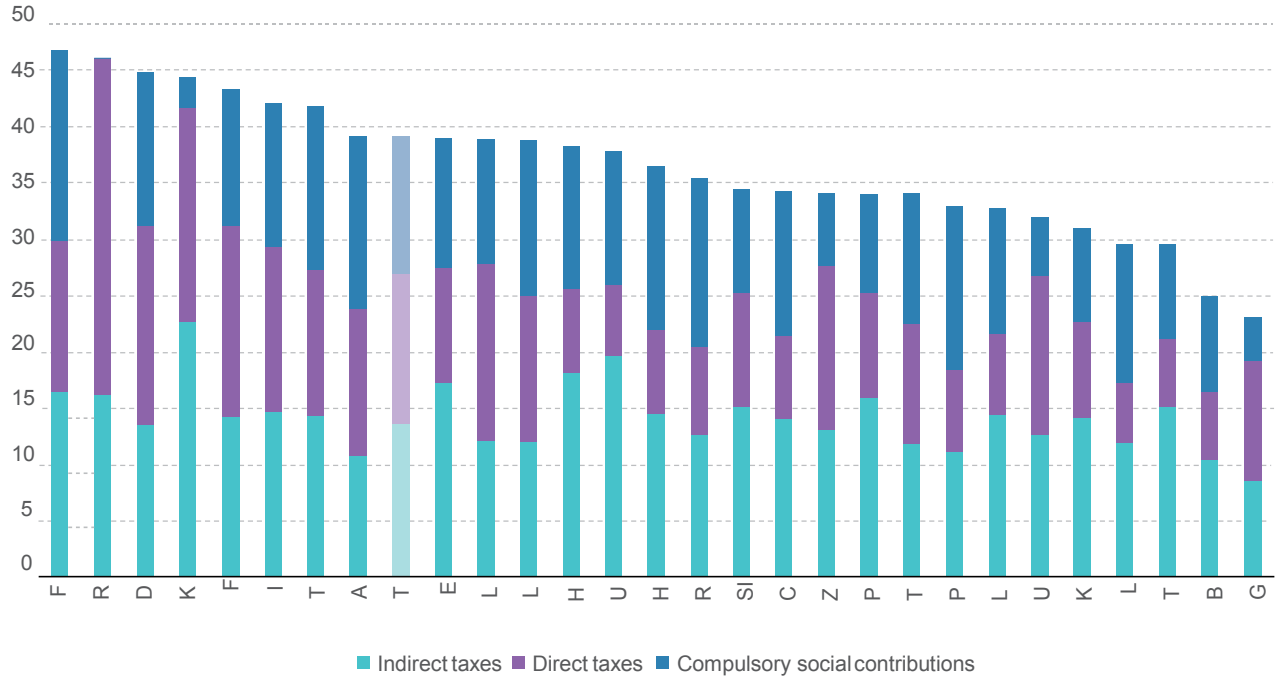
[17] For more information on taxation trends and figures, see *Taxation trends report 2019* (DG Taxation and Customs Union), which contains a detailed statistical and economic analysis of the tax systems of the 28 Member States, plus Iceland and Norway (European Commission, 2019b).

[18] For more extensive information from national finance ministries on their tax systems, see the Taxes in Europe database (TEDB).

Total tax revenues can be broken down into direct and indirect taxes and social contributions. On average, each account for around a third of the total in the EU. Denmark has the highest proportion of direct taxes [19], Croatia the highest proportion of indirect taxes and Slovakia the highest proportion of social contributions (see Graph 3).

Graph 3: Breakdown of tax revenues, 2017

(% of GDP)



Source: European Commission (2019b), based on Eurostat data.
Note: This graph excludes taxes assessed but unlikely to be collected.

Direct taxes can be further broken down into:

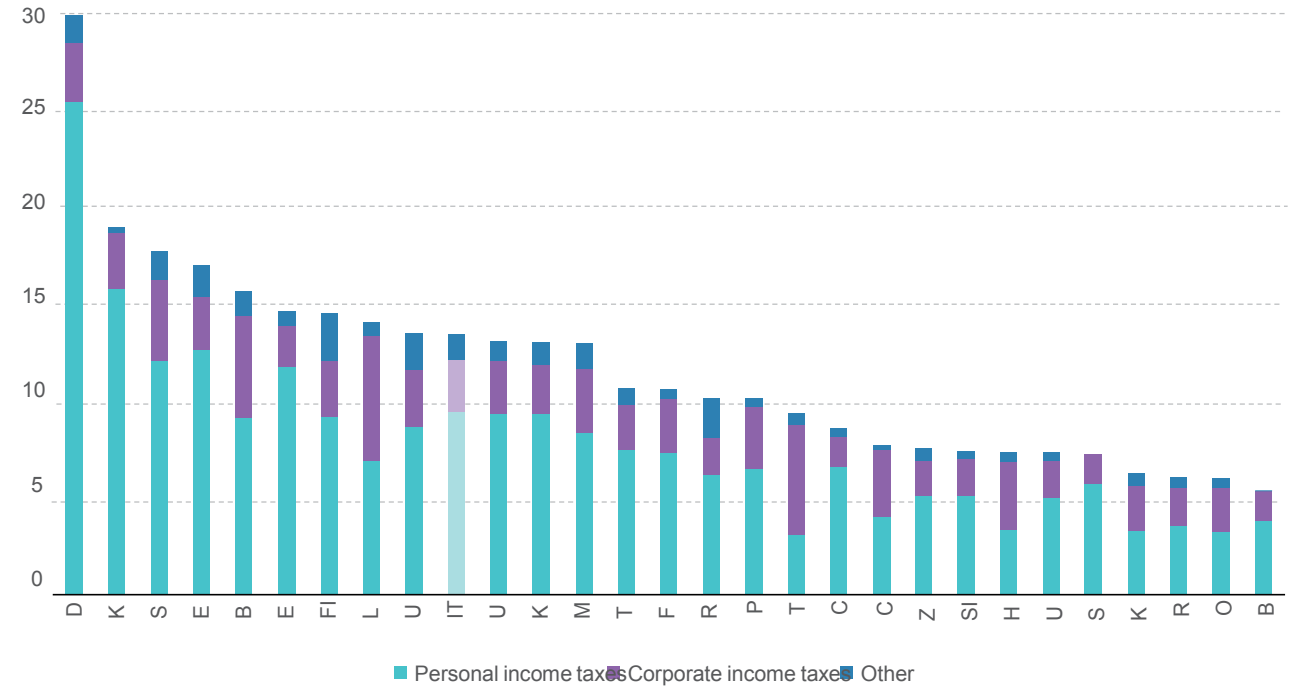
- personal income taxes;
- corporate income taxes; and
- other direct taxes.

A large proportion of revenue from direct taxes (over 70 % in the EU as a whole) comes from personal income taxes. Cyprus is the only Member State where revenue from corporate income taxes is higher than that from personal income taxes.

[19] Denmark finances social protection largely through personal income taxes rather than social contributions; this explains the relatively high level of revenue from personal income taxes and thus direct taxes.

Graph 4: Breakdown of revenue from direct taxes (EU-28), 2017

(% of GDP)



Source: European Commission (2019b), based on Eurostat data.

Indirect taxes can be further broken down into:

- VAT;
- taxes and duties on imports, excluding VAT;
- taxes on products, except VAT and import duties; and
- other taxes on production.

Over half of the revenue from indirect taxes in the EU (52 %) is from VAT.

Graph 5: Breakdown of revenue from indirect taxes (EU-28), 2017

(% of GDP)

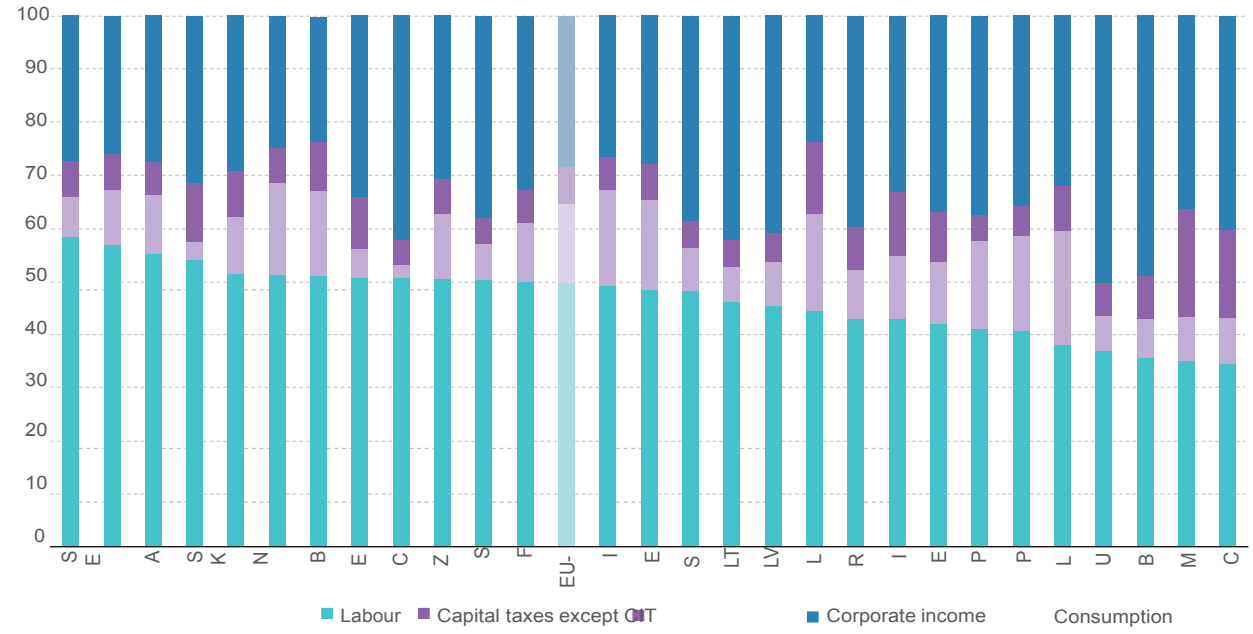
Source: European Commission (2019b), based on Eurostat data.

The tax structure can also be broken down by economic function of the tax base. The following graphs distinguish between taxes on labour (including social contributions), CIT, capital taxes other than CIT, and consumption taxes.

The design of Member States' tax systems differs according to tax rates and what activities are taxed. Graph 6 shows the structure of taxation by economic function, illustrating the variation between countries.

Graph 6: Structure of taxation by economic function of the tax base (EU-28), 2017

(% of total tax receipts)



Source: European Commission (2019b), based on Eurostat data.

Notes: (1) For the purpose of this graph, 'capital' taxes' includes all categories not classified as labour, corporate or consumption tax.

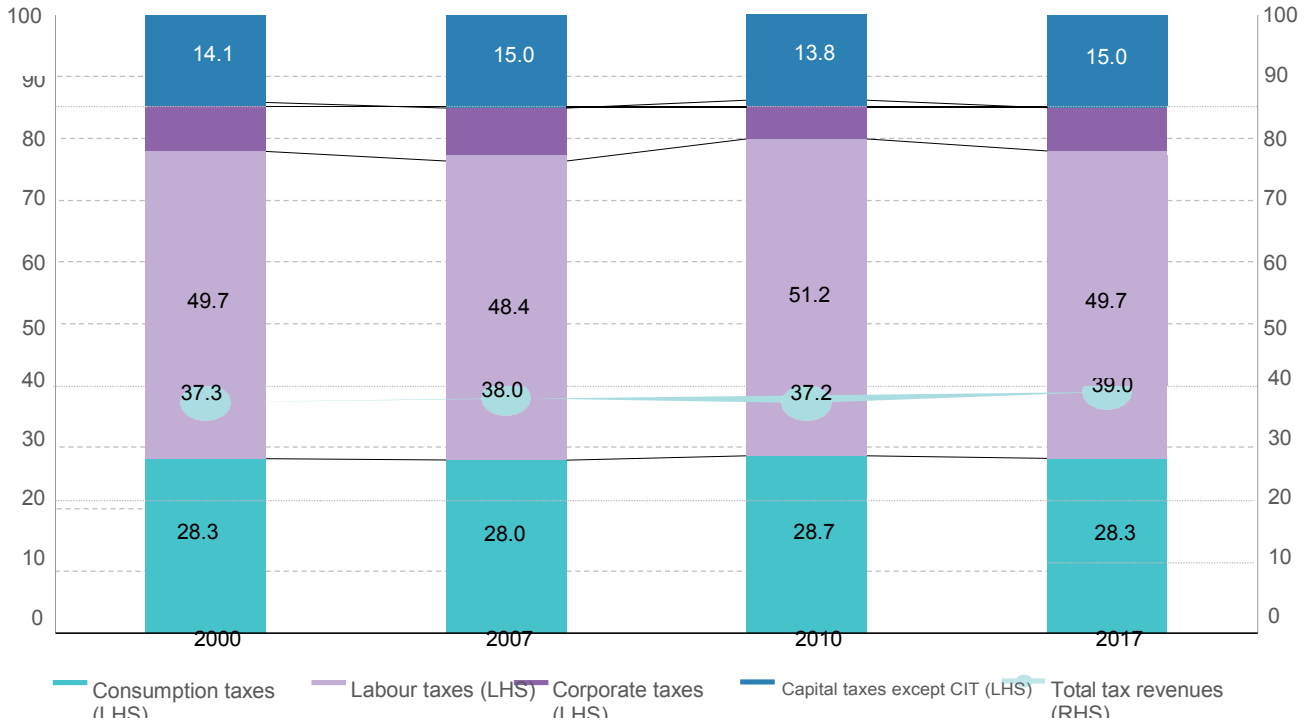
(2) Labour taxation includes employers' and employees' social contributions.
(3) This graph excludes taxes assessed but unlikely to be collected.

The proportion of total tax revenues that comes from consumption tax has remained more or less stable in the last 15 years (see Graph 7). Labour taxes accounted for a higher proportion in 2010 than in 2000 and 2007, but then fell to roughly the same level as in 2000. Capital (including corporate) taxation dropped in relative terms from 2007 to 2010 and then rose again.

Overall tax revenues as a percentage of GDP decreased from 2007 to 2010 during the years of the economic crisis; after a gradual increase in the period from 2000 to 2007. With the economic recovery, tax revenues as a percentage of GDP have been increasing again since 2011, reaching 39.0 % of GDP in 2017.

Graph 7: EU-28 tax revenues, 2000, 2007, 2010, 2017

(In % of total taxation) (% of GDP)



Source: European Commission (2019b; 2012), based on Eurostat data.

Notes: (1) For the purpose of this graph, 'capital taxes except CIT' includes other categories not classified as labour, corporate or consumption tax. Labour taxation includes employers' and employees' actual compulsory social contributions.
(2) This graph excludes taxes assessed but unlikely to be collected.

Total tax revenue can be broken down into three (direct, indirect and social contributions) or four (labour, consumption, corporate income taxes and capital taxes except CIT) categories, but there are additional categorisations such as environmental taxes, taxes on tobacco and alcohol, and taxes on property. Property taxes are largely direct/capital taxes, whereas environmental taxes, and taxes on tobacco and alcohol are largely indirect/consumption taxes.

Graph 8 shows property taxes as a percentage of total taxation, broken down into recurrent taxes on immovable property and other property taxes, including transaction taxes.

Graph 8: Revenue from taxes on property, 2017

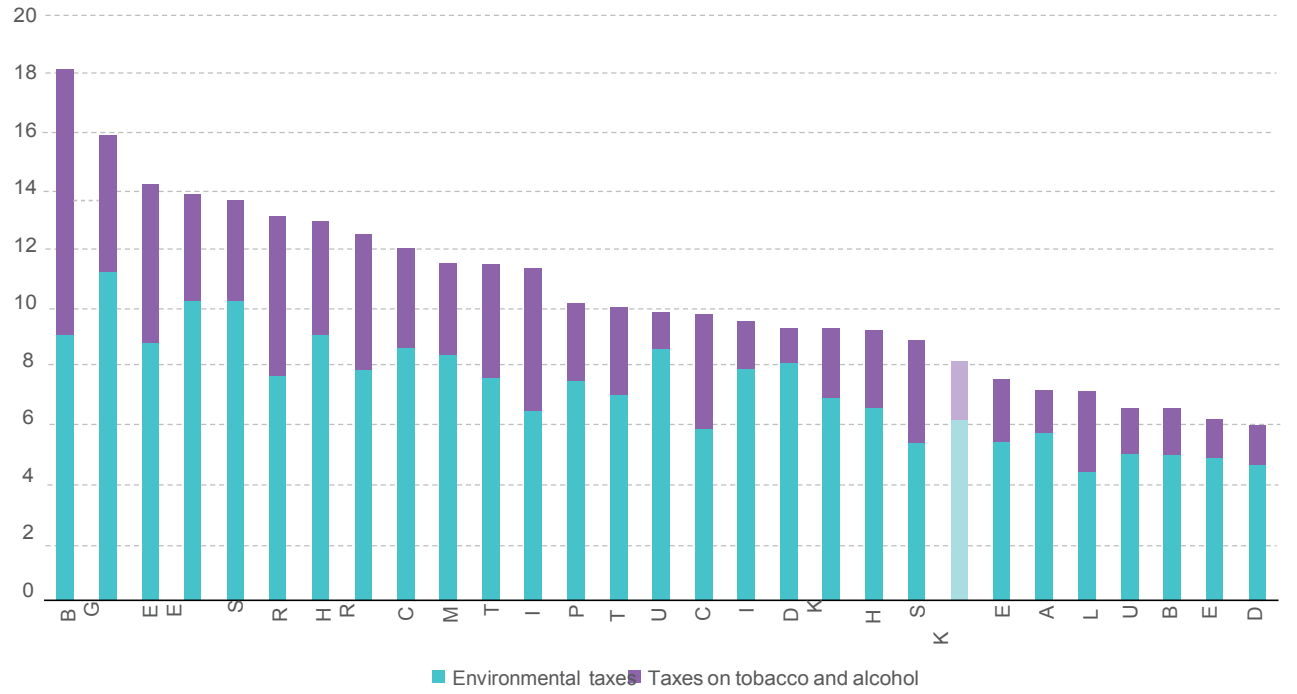
(In % of total taxation)

Source: European Commission (2019b), based on Eurostat data.

Environmental, tobacco and alcohol taxes are 'Pigouvian taxes', i.e. their primary objective is to change behaviour (see also section 1.1). A tax may be very effective in that respect, while generating relatively little revenue due to the erosion of the tax base as a result of behavioural changes. Accordingly, the revenue data for such taxes should be assessed somewhat differently than that for other taxes.

Graph 9: Revenue from Pigouvian taxes, 2017

(In % of total taxation)



Source: European Commission (2019b), based on Eurostat data.

Box 1.2: Sustainability of tax systems in a changing world

Sustainable tax *revenues* come from tax bases that do not erode [20] and secure sufficient funding for current spending and probably increased spending in the future. They are necessary, but not sufficient, for future-proof tax systems. Beyond sustainable tax *revenues*, sustainable tax *systems* are those that generate public consent and thereby legitimise the underlying social contract. This includes ensuring fair burden-sharing and tax compliance, and fostering innovation, competiveness, productivity growth and job creation.

Already today, striking amounts of tax revenues lost due to tax abuse (see *section 2.5 Fighting tax fraud, evasion and avoidance*) **and increased international tax competition** (see Boxes *2.2* and *2.5*) are limiting governments' scope for designing tax and other policies proactively in pursuit of social, economic and environmental goals. In addition, a number of 'megatrends' will challenge the sustainability of the current tax mix. The European Commission's Directorate-General for Taxation and Customs Union has commissioned a study into future trends and their possible tax implications. While the results are not yet available, this box provides a first outline of the trends and their tax relevance.

1. DIGITAL TRANSFORMATION OF LABOUR MARKETS

Technological change in the form of automation/robotisation will continue to transform labour markets [21], possibly reducing the labour income share and increasing wage polarisation. Simultaneously, new forms of work (e.g. the platform economy and the gig economy) are contributing to rising levels of non-standard employment [22], enriching the landscape of EU labour markets and contractual relationships. Physical labour mobility is already high in the single market [23], but labour may become even more mobile, as service-oriented tasks can often be performed remotely.

What does this mean for taxation?

A relative fall in labour income could lead to a decline in labour tax revenues, but may also reduce scope for redistribution through the personal income tax system. This would raise equity concerns, in particular in a context of increasing wage polarisation.

New forms of work may raise tax concerns on two fronts. On the one hand, ensuring social protection coverage for the workers in question will probably require additional financing, including through sources other than social contributions. On the other hand, new tax administration approaches may be needed to adapt to transformed labour markets. The traditional withholding of taxes by the employer might no longer be feasible (multiple employers,

[20] For example, changes in the way people travel or heat their homes could lead to drastic revenue losses from energy taxation.

[21] European Commission (2018b).

[22] 'Non-standard employment' is an umbrella term for arrangements that deviate from standard employment; it includes temporary employment, part-time/on-call work, disguised employment and dependent self-employment. It

features prominently in crowdwork and the gig economy.

[23] In 2017, 17 million EU citizens, including 12.4 million people of working age (20-64), were living in a Member State other than their country of citizenship, according to Eurostat population statistics (Fries-Tersch, Tugran, Markowska, & Jones, 2018).

2. GLOBALISATION AND DIGITALISATION

Technological change and globalisation have produced more complex, more cosmopolitan business structures. New digital business models serve customers/users globally, while keeping key functions and taxable activities in a few locations and often relying heavily on intangible assets.

Greater international economic integration has also generated more opportunities for tax avoidance, be it by wealthy individuals or through profit-shifting by multinationals. Furthermore, there are signs of increased international tax competition, primarily (but not only) as regards corporate taxation.

What does this mean for taxation?

The outdated international corporate tax framework does not cater for the new realities of value creation and economic presence (see *Section 4.1.2*). Together with still existing tax avoidance opportunities, this poses substantial challenges for the sustainability of tax revenues. The fact that avoidance opportunities can be exploited by a limited group of taxpayers (businesses and citizens) reduces tax morale and threatens the popular 'legitimacy' of the system.

3. POPULATION AGEING

The EU is an ageing society. Increases in the average life expectancy and a birth rate below replacement levels are expected to lead to significant demographic change in the population, including the labour force, in the coming decades.

What does this mean for taxation?

The ageing of our societies and the relative shrinking of the working-age population could generate substantial pressure on revenue from labour taxation and social contributions. The tax burden would fall on a reduced population of taxpayers, while ageing is likely to create additional public spending needs (e.g. care for the elderly). This could be mitigated by the increased use of alternative tax bases, such as consumption or capital taxes, with due consideration of its implications for economic growth and tax burden sharing.

4. CLIMATE CHANGE AND ENVIRONMENTAL TAXATION

Climate change and other environmental issues are expected to affect us in various ways, with consequences in terms of health, biodiversity, infrastructure and economic activity.

What does this mean for taxation?

Additional tax revenues will probably be needed to support mitigation and adaptation policies. Also, taxation may be used to internalise environmental costs and support the transition to a low carbon more resource efficient and circular economy. Climate change and environmental degradation can also affect tax revenue generated through income taxation due to their impact on health, biodiversity, infrastructure, and economic activity.

Tax policies in the 21st century need to be designed to effectively address current & emerging social, economic, and environmental challenges. The magnitude of the emerging challenges requires a holistic vision for tax policies, integrating various dimensions.

2 Performance of national tax systems

There can be no question of 'one size fits all' when it comes to national tax systems. Each Member State has to decide on the best policy response to its own specific circumstances. This chapter presents a range of indicators that can help them in this respect.

2.1. Encouraging investment and addressing positive and negative externalities

As outlined in section 1.1.1, taxation is one of the factors that influence companies' investment decisions. This section examines what features of national tax systems are relevant in this respect, looking at indicators on effective tax rates, the corporate debt bias, R & D tax incentives, environmental taxation and tobacco taxes.

2.1.1. Effective marginal tax rates on corporate income

The effective marginal tax rate (EMTR) on corporate income can influence decisions as to how much to invest. It is the (forward-looking) expected tax burden on the last euro invested in a project that just breaks even (the 'marginal' investment) [24]. It captures a wide range of factors in addition to statutory corporate tax rates, such as:

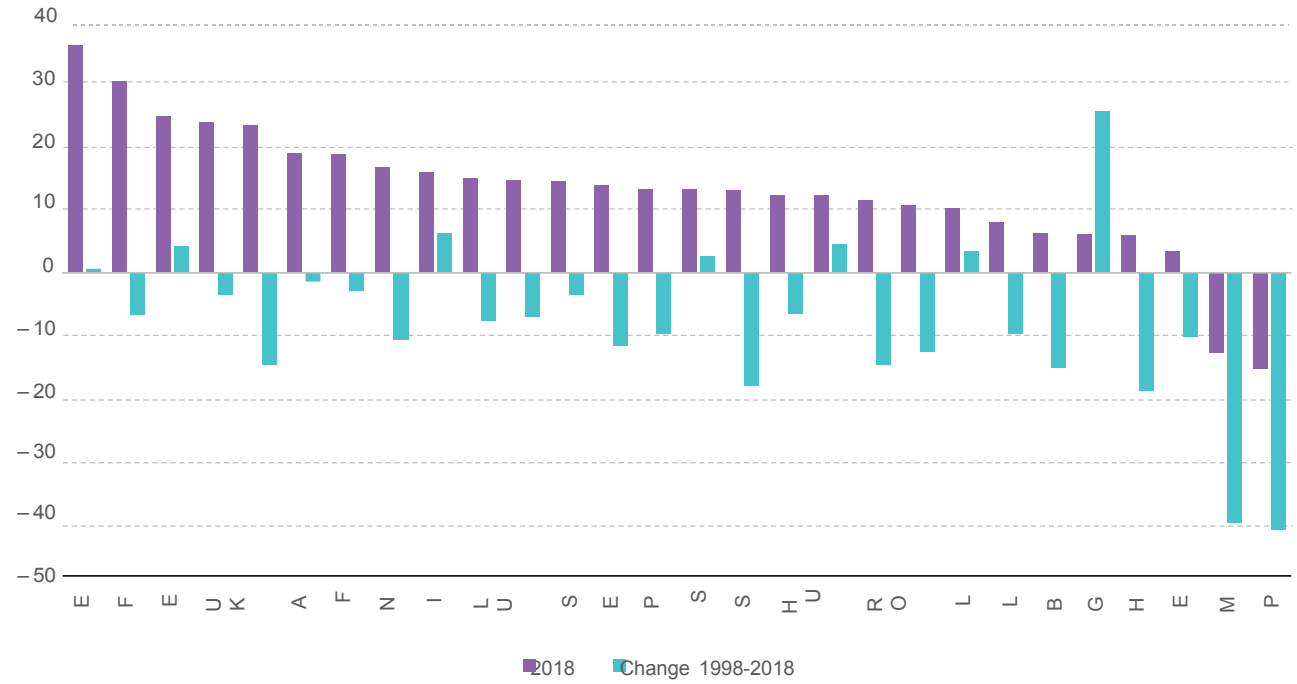
- the main elements of the tax code that will affect the determination of the corporate income tax (CIT) base;
- the source of financing for the investment (debt, retained earnings or new equity); and
- the type of asset to be invested in (machinery, buildings, intangibles, inventory or financial assets).

The EMTR is computed on the basis of a series of assumptions as to the pre-tax rate of return, interest and inflation rates, and asset and funding source compositions. It cannot reflect the impact of aggressive tax planning (ATP) or of tax rulings/special tax regimes. The lower the EMTR, the more conducive a tax system is to corporate investment.

There are several ways to lower the EMTR and design a tax system supportive of investment,
e.g. offering faster depreciation schedules, making equity costs deductible and improving conditions for carrying losses forward. Corporate taxes can be distortive and affect investment levels. They also affect business location, profit-shifting and the choice of company structure. Lowering the EMTRs on equity and R & D expenditure can increase investment, reduce the tax-induced corporate debt bias and increase R & D spending. Addressing the tax-induced corporate debt bias and R & D tax incentives can lower the EMTRs for equity and R & D investment respectively. For example, the reduction in the EMTRs for Belgium, Cyprus, Malta and Portugal in Graph 10 stems partly from the introduction of notional interest deductions in those countries.

Graph 10: (Forward-looking) EMTRs, 1998-2018

(In %)



Source: ZEW (2018).
Notes: The indicator is based on a version of the Devereux-Griffith model considering five types of asset and three sources of finance at corporate and shareholder level. This methodology has been applied to calculate (forward-looking) effective tax rates in the EU annually since 1998. The full dataset is available at: https://ec.europa.eu/taxation_customs/publications/studies-made-commission_en

[24] While (forward-looking) EMTRs are expected to determine the intensity of investment in a given location, (forward-

looking) effective average tax rates (EATRs) are expected to determine firms' decisions as to where to invest (Devereux, 2007; Devereux & Griffith, 2003).

Box 2.1: Measuring effective tax rates on corporate income

Effective tax rates (ETRs) are generally understood to be average tax rates paid on pretax profits. They are backward-looking and represent the actual (effective) *ex post* burden of a given tax. They are computed as the ratio of taxes paid to pre-tax profits [25] and reflect all elements that affect the determination of the CIT base (e.g. deductions and provisions on previous losses) and firm-specific tax rulings or non-firm-specific special tax regimes. Since they reflect loss carry-over provisions, they change with the business cycle, even in the absence of any change to tax provisions. **Statutory tax rates (STRs)**, on the other hand, are the legally established tax rates applied to a given tax base. Since the CIT base is (due to deductions, provisions and special tax rulings or regimes) usually smaller than pre-tax profits, backward-looking ETRs are generally lower than STRs.

Backward-looking ETRs are based on micro data and data limitations mean that they are often not available. **They can be approximated using implicit tax rates (ITRs) on corporate income, which are based on macro data and measure how much actual corporate tax revenue has been collected relative to the potential tax base (as estimated from national accounts data).** Like ETRs, ITRs are based on past data; unlike ETRs, however, they rely on publicly available tax collection information, in combination with a theoretical model. They are based on assumptions as to what combination of elements from national accounts better approximates total pre-tax profits. Also, while ETRs can be estimated at firm or country level (by adding up the values for each firm), ITRs can be computed only for a country. The Commission publishes ITRs on corporate income for each Member State in the annual *Taxation trends report* (European Commission, 2019b).

Further types of ETRs are forward-looking effective average tax rates (EATRs) and effective marginal tax rates (EMTRs) based on the Devereux-Griffith model (Devereux & Griffith, 2003). These are theory-driven and combine information about the main elements of the tax code in a country with assumptions as to asset composition, funding sources and economic variables. EATRs and EMTRs are forward-looking estimates of the effective tax rate per unit of investment made. Like STRs, they do not capture the impacts of firm-specific tax rulings or non-firm-specific special tax regimes and are (like ITRs, to an extent) approximations of ETRs. EMTRs capture incentives in the tax system for increasing investment at the margin, whereas EATRs capture incentives for an average investment [26].

[25] The computation of (backward-looking) ETRs requires (for the denominator) information about the pre-tax profits of all companies with tax obligations in a Member State. This information is included in the corporate tax returns received by the Member States' national tax authorities, but is not available to the Commission services, who therefore do not have access to all the information required to compute the ETRs.

[26] The EATR is a measure of the net present value of taxes that would be paid over the lifetime of an investment, in proportion to the net present value of the income stream from that investment (excluding the initial cost). The EMTR is a similar measure for the marginal unit of investment by the firm. A marginal investment generates a return after tax that is just sufficient to persuade the investor to make the outlay. This minimum return required by the shareholder is the cost of capital.

Forward-looking EATRs and EMTRs rely on a series of assumptions about the economic context and the characteristics of the tax system, with different assumptions causing estimates to vary widely. Two main datasets are commonly used: one produced for the Commission by the ZEW (we use the latest version, from 2018 [27], in this report) and the other produced by the OECD (the latest version is from 2018) [28]. While the OECD estimates are only available for 2017, the ZEW estimates are available for all years from 1998 onwards. For some countries, the estimates differ significantly between the series depending on assumptions as to the economic context (interest and inflation rates), how they treat local business taxes, how many asset classes they cover, the composition of funding sources used, and different treatment of inventory valuation, real estate taxes, net wealth taxes and limitations to interest deductibility. In order to isolate the impact of these assumptions, the OECD estimates separate forward-looking ETRs for country-specific inflation and interest rates, for low inflation and interest rates, and for high inflation and interest rates.

It is important to exercise caution when interpreting forward-looking EATR and EMTR estimates. While they are good at capturing some characteristics of country-specific tax systems, they are substantially affected by a series of assumptions.

STRs, ITRs, backward-looking ETRs and forward-looking EATRs/EMTRs **differ substantially in terms of magnitude and cross-country rankings.** The divergence in the latter highlights the importance of using each rate only for the purpose of measuring a specific aspect of corporate taxation.

Graph 11: Tax rates on corporate income (2017)
(in %)

Sources: STR and ITR from European Commission (2019b); EATR from ZEW (2018).
Note: EU-28 values refer to simple averages.

[27] Leibniz Centre for European Economic Research (ZEW), (2018).
[28] OECD (2018a) – OECD corporate tax statistics database: https://www.oecd.org/tax/beps/corporate-tax-statistics-database.htm

2.1.2. Debt bias in corporate taxation

Most corporate tax systems present companies with incentives to take on more debt by making interest payments deductible, but do not treat equity in the same way. Because debt-financed investment enjoys a preferential tax treatment, the minimum pre-tax return required to make an undertaking worthwhile (the 'cost of capital') will be lower than in the case of equity-financed investment. The extent of this 'corporate debt bias' differs across the EU (see *Graph 12*). It leads to higher debt levels, which make companies (both non-financial and financial) more fragile. The tax-induced corporate debt bias therefore contributes to financial stability risks, e.g. by increasing the probability of bankruptcy (Sutherland & Hoeller, 2012), making economies more prone to crisis.

The higher cost of equity finance is particularly problematic for young and innovative companies, which often have no access to external debt funding. This is compounded by limited access to alternative sources of finance, e.g. venture capital. Several Member States have introduced tax incentives to promote venture capital and business angel funding, but these types of finance represent only a small proportion of the total funding mix. Consequently, small and innovative businesses might be at a disadvantage, despite their importance in generating future growth.

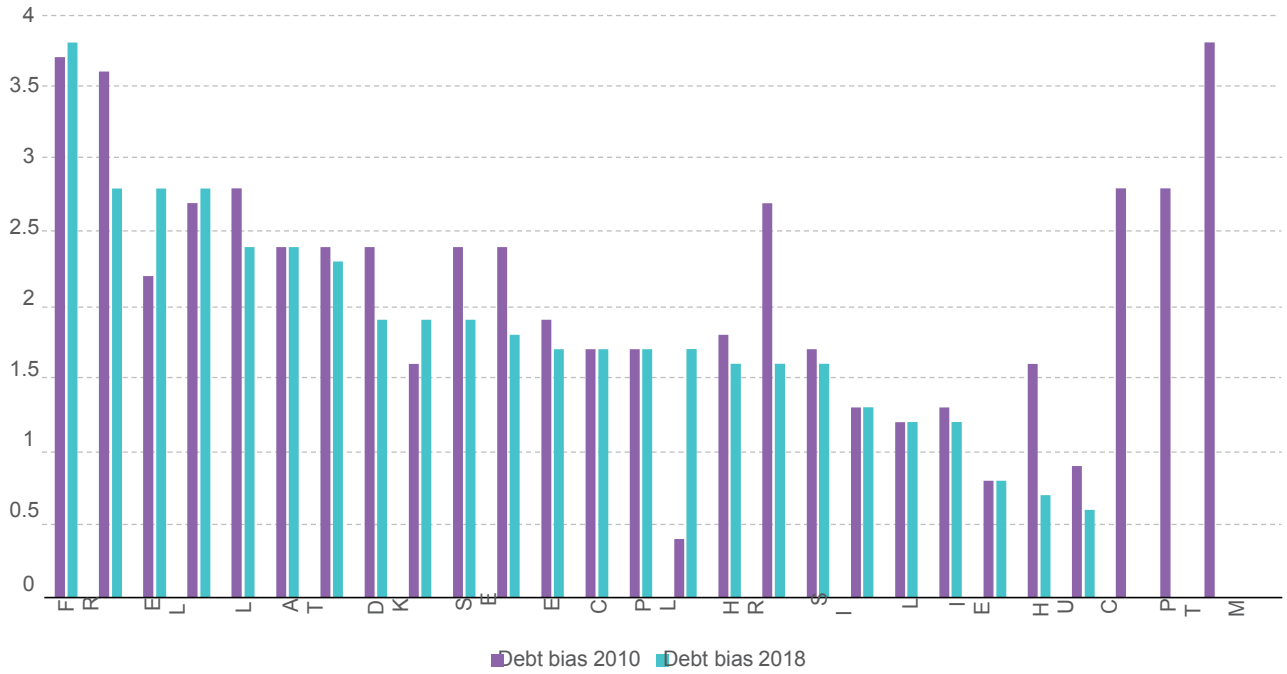
The corporate debt bias therefore presents an obstacle to the creation of a stronger equity base in European companies and may impede efficient capital market financing. This runs counter to the fundamental goals of the capital markets union. In addition, multinationals exploit the asymmetric tax treatment of debt and equity by organising their debt strategically and reducing their overall tax burden [29].

[29] This has been addressed by the Anti-Tax Avoidance Directive (ATAD) – see section 3.2.1.3 of last year's edition of this report (European Commission, 2018a).

Graph 12 shows the debt bias in corporate taxation measured as the difference in cost of capital for new equity and debt investment.

Graph 12: Debt-equity tax bias in corporate financing, 2010-2018

(In percentage points)



Source: ZEW (2018).

Notes: (1) The cost of capital measures the required minimum pre-tax return of a real investment (the 'marginal investment') to achieve the same after-tax return as a safe investment in the capital market. The assumption for the real return on the safe investment is 5 %.

(2) To reflect the allowance for corporate equity in BE, CY, IT, MT and PT, the assumption is that the rates of these allowances equal the market interest rate in the model. For CY, there remains a small bias, since the allowance does not apply to investments in financial assets.

Different types of reform can address the corporate debt bias. One possibility is to limit or abolish the deductibility of interest costs (e.g. comprehensive business income tax (CBIT) reform or thin capitalisation rules). Another is to extend tax deductibility to the return on equity (e.g. allowance for corporate equity (ACE) reform or 'notional interest deduction') or to grant tax deductions irrespective of the mode of financing (e.g. allowance for corporate capital ACC) and cashflow taxation) [30]. These reforms all address the corporate debt bias, but they affect the cost of capital differently. CBIT reforms increase the taxable base to the normal return (roughly, what an alternative safe investment would yield) for debt-financed investments. This in turn increases the EMTR and reduces investment, even if accompanied by budget-neutral changes in the STR. In contrast, tax exemptions for the cost of equity (ACE) reduce the EMTR and shift the tax burden towards above-normal returns. They therefore not only tackle the corporate debt bias, but also support investment activity.

[30] In a cash-flow tax system, investment is expensed immediately, rather than depreciated over time. In an R-base system, only 'real' operations count and financial flows (paid and received) are not part of the tax base. Estonia currently has a cash-flow system that taxes company profit only when distributed as dividends (S-base system). Initially, the United States considered a cash-flow system for its 2017 corporate tax reform, but the adopted proposal includes only a temporary cash-flow tax in the form of immediate expensing of investment.

In practice, the characteristics and rationales of ACE schemes tend to vary.

Table 2 shows ACE schemes currently in place in the EU [31]. While they can have economic advantages, the schemes can also act as ATP vehicles for multinationals (Hebous & Ruf, 2017) [32]. The factors driving their potential attractiveness in this respect are:

- the applied notional interest rate;
- how the deductible amount of equity is established; and
- the absence of comprehensive anti-abuse provisions.

As shown in Table 2, applied notional interest rates can vary substantially. Ideally, they should approximate the normal return to debt, i.e. the riskless interest rate. This rate could be supplemented with a risk premium. Given the different economic situations in Member States, this represents a first source of variation. In Cyprus, the notional interest rate depends on the domestic rate in the country from which the funds are invested.

Secondly, a broad distinction can be made as regards the equity base: either it covers the full amount of equity or only new equity can be deducted ('incremental' ACE schemes). While both types offer economic incentives to reduce debt and increase investment, the former also provides firms with windfall profits.

Thirdly, safeguard measures against the abuse of ACE schemes are especially important when dealing with (possibly multinational) corporate structures. Such measures should prevent intra-firm cascading of multiple ACE deductions, for example, or intra-firm conversion of debt into equity for tax planning purposes [33].

Any reform needs to be well designed, so as to prevent tax planning and distortions of competition. Empirical evidence from the evaluation of ACE schemes in Member States suggests that they have been largely effective in reducing the corporate debt bias [34]. However, it is important that schemes contain strong and comprehensive anti-abuse provisions to prevent companies using them for ATP. The Commission's proposal for a common corporate tax base (CCTB) [35] removes the corporate debt bias by offering an allowance for growth and investment (AGI). This is a tax deduction for companies that choose to finance new business activities through equity rather than debt. The AGI is calculated by multiplying the change in equity by a fixed rate composed of a risk-free interest rate and a risk premium. The CCTB proposal also includes anti-avoidance provisions.

[31] As from fiscal year 2019, Italy has repealed its ACE. The 2018 edition of this report (European Commission, 2018a) has a brief description of Italy's ACE scheme (p. 27).

[32] Hebous & Ruf (2017) show that the implementation of Belgium's ACE scheme in 2006 led to a substantial shift of (passive) equity by German multinationals, an indication of profit-shifting.

[33] See Zangari (2014) for a comparison of the anti-abuse provisions in Belgium's and Italy's ACE schemes at the time.

[34] See, for example, Branzoli & Caiumi (2018) and Princen (2012).

[35] COM(2016)683 final.

Table 2: Allowances for corporate equity (ACEs) [36, 37]

Country	Period	Details	Notional interest rate (2019)	Tax base (2019)
Belgium	Since 2006	The notional interest deduction allows all companies subject to Belgian corporate income tax to deduct a fictitious interest calculated on the basis of their shareholder's equity (net assets) from their taxable income. In 2013, legislative changes ruled out the carrying-forward of unused allowances. Small firms receive an additional 0.5 % risk premium on their notional rate. This was initially capped at 6.5 % and is now limited to 3 %. Since 2018, the deduction no longer applies to the full equity stock. It includes anti-avoidance	0.746 % (0.5 pp higher for SMEs, i.e. 1.246 %)	New equity
Cyprus	Since 2015	Applicable new equity is calculated over 2015 as a base year. The notional interest deduction is limited to 80 % of EBIT [36] and applies only to fully-owned subsidiaries if their assets are used for business (non-financial) purposes. The notional interest rate is the 10year government bond rate of the country where funds are invested, plus a 3 % risk premium. The minimum government bond rate is the 10-year Cypriot government bond rate.	min. 2.8 %; max. 13.8 %.	New equity
Portugal	Since 2017	The notional return is deductible up to EUR 2 million and capped at 25 % of a firm's EBITDA [37]. It applies to capital increases for 5 years, provided capital is not reduced in that period.	7.0 %	New equity
Malta	Since 2018	Notional interest deduction limited to 90 % of chargeable income, which can be carried forward indefinitely. The notional interest rate is set to the rate of 20-year Maltese government bonds (0.67 % in Q3-2019), plus a risk premium of 5 %.	5.67 % (in Q3-2019)	Full equity stock
Poland	Since 2019	The notional return is deductible up to around EUR 60 000. 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 pp.	2.5 %	Full equity stock

Source: Desk research by Commission services based on publicly available data from national ministries of finance, KPMG and IBFD reports.

[36] EBIT: earnings before interest and tax.

[37] EBITDA: earnings before interest, tax, depreciation and amortisation.

2.1.3. tax incentives

R & D investment is an important source of long-term productivity and economic growth (Romer, 1990)**.** R & D plays an important role in innovation, which improves long-term competitiveness. Since the transition to a sustainable economy requires new technologies, investment and innovation will likely become more important.

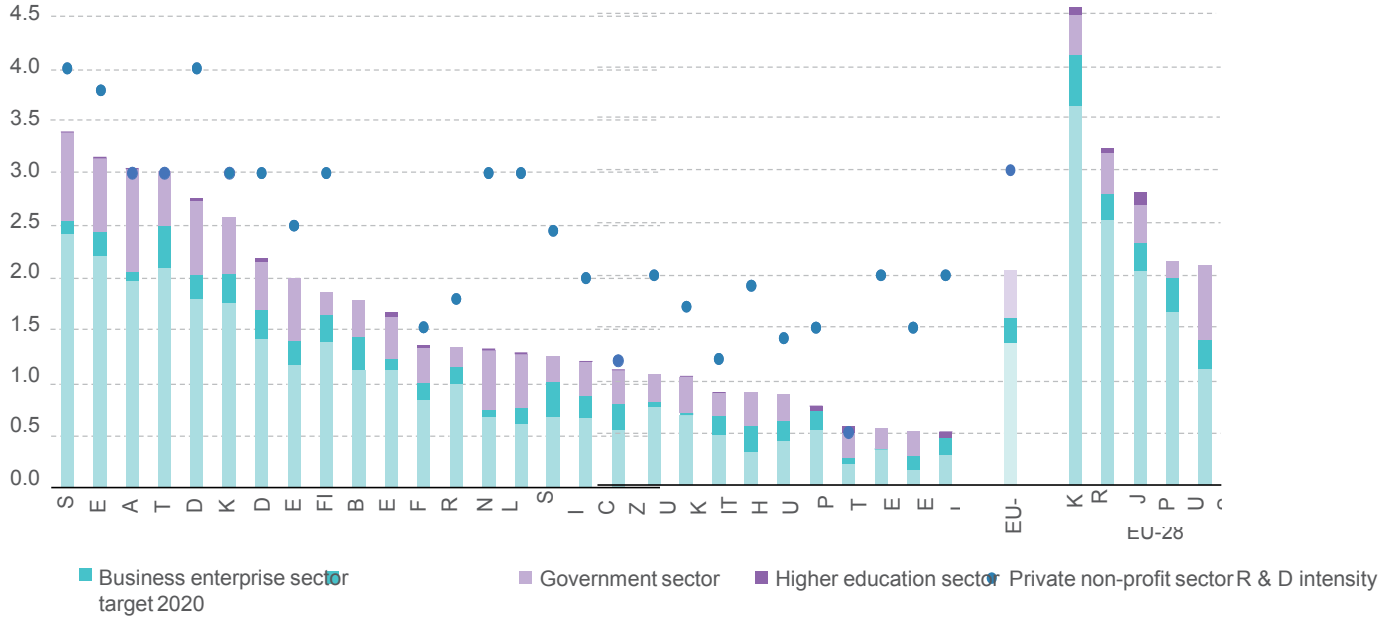
However, R & D investment tends to be sub-optimal. Knowledge creation can have positive externalities on other firms' activity or even the whole economy, as other actors can imitate knowledge almost without cost. However, when deciding how much to invest in R & D, firms tend to take account only of the private return from innovation, thus ignoring positive spillovers (Hall, 2019; Arrow, 1962). Since the private return from innovation is below the social return, there is too little R & D investment at the level of the whole economy. In general, basic research is more likely to generate positive spillovers than applied research (Hall, 2019; Akcigit, Hanley, & Serrano-Velarde, 2013), as the findings tend to be broadly applicable, whereas applied research usually targets a single sector, making spillovers less likely.

Another reason for the undersupply of innovation is the high cost of financing risky R & D activities. Since research results are uncertain and insurance markets usually incomplete, firms cannot fully insure their research activity (Arrow, 1962). This increases their financing costs, so there is less R & D investment. SMEs are particularly vulnerable in this respect, as innovation costs are paid up front, while benefits accrue only if a discovery is made and taken to market. This is one of the reasons many countries have policies to encourage young, innovative firms and help SMEs overcome liquidity constraints.

Business enterprise R & D (BERD) investment in the EU is significantly smaller than in large OECD countries (see Graph 13). This is a possible factor in the widening productivity gap between the EU and the United States (Ark, O'Mahoney, & Timmer, 2008; Roeger, Varga, & in't Veld, 2010). If the EU meets its Europe 2020 target of 3 % of GDP devoted to R & D by 2020, R & D intensity should increase by more than 13 % a year between 2017 and 2020. Given current and projected expenditure, it is highly unlikely that the EU will reach this target. The shortfall mainly reflects a deficit in BERD expenditure.

Graph 13: R & D intensity by sector, 2017 and R & D intensity targets for 2020

(In percentage points)



Source: DG Research and Innovation for targets, and Eurostat (rd_e_gerdtot). Notes: (1) CZ: an R & D intensity target is available only for the public sector (1%).
(2) DE: data for government and higher education imputed.
(3) IE: the national R & D intensity target of 2.5 % of GNP has been estimated to equal 2.0 % of GDP.
(4) LU: the R & D intensity target for 2020 is between 2.30 % and 2.60 %. A target of 2.45 % was assumed.

(5) PT: the R & D intensity target for 2020 is between 2.70 % and 3.30 %. A target of 3.00 % was assumed.
(6) UK: no R & D intensity target available for 2020.

Governments support private R & D mainly through direct grants and tax incentives. Although both types of measures aim at supporting private R & D, their specific objectives and modes of operation differ. The former can involve the government in all project decisions and tend to have high administrative costs, while the latter tend to leave the firm to choose and manage projects (Hall, 2019). Grants can give 'directionality' to R & D, which can prove more effective in supporting certain R & D outcomes (e.g. breakthrough innovations). Nevertheless, both types of measures are complementary measures to stimulate business R & D. Tax policy is increasingly used to incentivise R & D spending and spur innovation. In the EU, R & D tax incentives rose from 0.04 % of GDP in 2007 to 0.1 % in 2016 [38]. Such incentives can target the *inputs* of innovation through R & D tax credits, accelerated depreciation or enhanced allowances [39]. Alternatively, governments can target the *output* of innovation through a patent/intellectual property (IP) box, where IP-derived income is taxed below the statutory CIT rate. Graph 14 shows the types of tax incentive used in the EU. Besides supporting business R & D, R & D tax incentives can also be used to enhance public-private R & D cooperation (e.g. France), encourage the employment of researchers (e.g. Belgium, France, Hungary, Spain) or support SMEs' innovation potential (e.g. France).

Evidence suggests that patent/IP boxes do not necessarily stimulate R & D and can be used as a profit-shifting instrument. While nexus rules should eventually limit the scope of profit-shifting using patent boxes, old patent boxes might still allow ATP during the transition to the new rules [40]. Furthermore, IP boxes apply only to a limited set of innovations, e.g. they only provide incentives to invest in R & D projects that are expected to produce an IP right. In addition, they do not reduce *ex ante* risks of innovation, as they reward only successful projects. Lastly, they may also be used as an instrument of tax competition (Alstadsæter *et al.*, 2018). They are therefore most likely to be an ineffective, inefficient way of supporting R & D (CPB, 2014) [41].

Innovation happens in complex systems. To maximise the effects of tax support programmes, governments must mobilise a coherent range of direct and indirect support policies and engage in complementary intervention in the national R & I system (D'Andria *et al.*, 2017; European Commission, 2019h). For example, companies that want to invest more in R & D may lack access to external finance, a qualified workforce or other system-level inputs such as high-quality public research organisations and related public research infrastructure.

[38] Calculations by Commission services using Eurostat data.

[39] Evidence on R & D tax credits has been collected by the OECD through its work on the incidence and impact of public support for R & D, co-funded by Horizon 2020 through the TAX4INNO project, to quantify and compare countries Member States in terms of indirect public support to R & D.

[40] Some patent boxes do not require the IP income to be linked to underlying R & D activity, thus encouraging ATP. In response, the OECD and the EU have developed 'nexus' rules whereby, in order to qualify for the preferential regime, the IP income must be proved to be linked to the expenditure incurred in developing the IP asset. Member States have undertaken to comply with the nexus approach.

[41] In essence, they grant a tax advantage to income already protected via a patent.

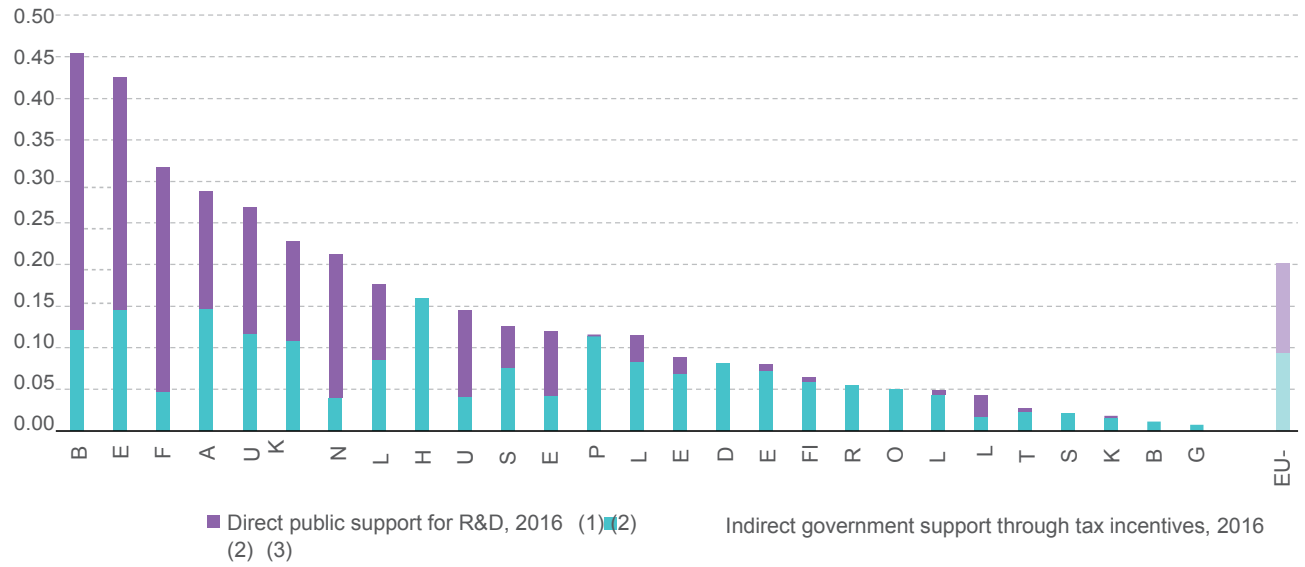
Graph 14: R & D tax incentives by Member State, 2018

	Patent box	Tax credits	Enhanced allowance	Accelerated depreciation
	15	14	14	13
BE	●	●	●	●
BG				
CZ			●	
DK		●	●	●
DE				
EE				
IE	●	●		●
EL			●	●
ES	●	●		●
FR	●	●		●
HR			●	
IT	●	●		
CY	●			
LV			●	●
LT	●		●	●
LU	●			●
HU	●	●	●	
MT	●	●	●	
NL	●	●		●
AT		●		
PL	●		●	
PT	●	●		
RO			●	●
SI			●	
SK	●	●	●	
FI				●
SE		●		
UK	●	●	●	●

Source: CPB (2014), updated by Commission services. Notes: (1) No R & D tax incentives in BG, DE and EE.
(2) The incentive can apply to corporate and personal income taxes, social security contributions and payroll taxes.
(3) The graph shows only tax incentives. Direct support is not included.
(4) RO is the only Member State with a temporary tax exemption for R & D (not shown in the graph).

Member States increasingly rely on tax incentives to stimulate R & D investment. Between 2006 and 2016, public support for R & D rose from 0.13 % of GDP to 0.18 % [42]. Tax incentives increased from 0.04 % of GDP in 2006 to 0.1 % of GDP in 2015. Graph 15 shows public support for R & D as a proportion of GDP, both direct (e.g. through grants and loans) and indirect (through tax incentives for business R & D). In 2016, 48 % of total public support in the 'EU-27' (All EU Member States except for Malta) came from tax incentives, with the other 52 % made up of direct measures. Most Member States employed a combination of direct and indirect measures. Three (Bulgaria, Estonia and Germany) had no tax incentives for R & D. In 2016, indirect measures accounted for a greater proportion of GDP than direct measures. The Netherlands relies most on tax incentives (87 % of total public support for R & D).

Graph 15: Direct government funding of BERD and tax incentives for R & D, 2016 (or latest available year)
(% of GDP)



Source: DG Research & Innovation, Unit 'Chief Economist – R&I Strategy & Foresight'. Data: OECD, Eurostat.
Notes: (1) Estimated direct public support for BERD includes direct government funding, funding by higher education and public sector funding from abroad.
Public sector funding from abroad is not included for DE and NL. (2) SE: 2013; FR, FI: 2014; AT, BE, DE, DK, EL, IE, LU, SI, UK: 2015.
(3) The EU-28 figure was estimated by DG Research and Innovation and does not include MT.
(4) No data for MT.
(5) Some estimates were made in the compilation of the data.
(6) No data on tax incentives for CY, HR and LU.

It is important to note that there is a time lag between the introduction of an R & D tax incentive and an increase in business R & D investment. The evidence [43] shows that, while such incentives can directly increase private R & D expenditure ('input additionality'), there are variations across countries, sectors and firms. The incentives' effectiveness depends on their design, implementation and administration, and on the structural characteristics of a Member State's economy [44]. Sectors with firms that focus on R & D as their main strategy to develop new technologies show an increase in R & D expenditures caused by a tax incentive scheme (Freitas et al., 2017). Also, the opportunity cost of business R & D investment will be affected by the design of other tax

[42] The 2006 average comes from European Commission (2018a) and includes all 28 Member States, while the 2016 figure represents an 'EU-26' average (excluding Malta and the UK).

[43] For a literature review, see Ognyanova (2017).

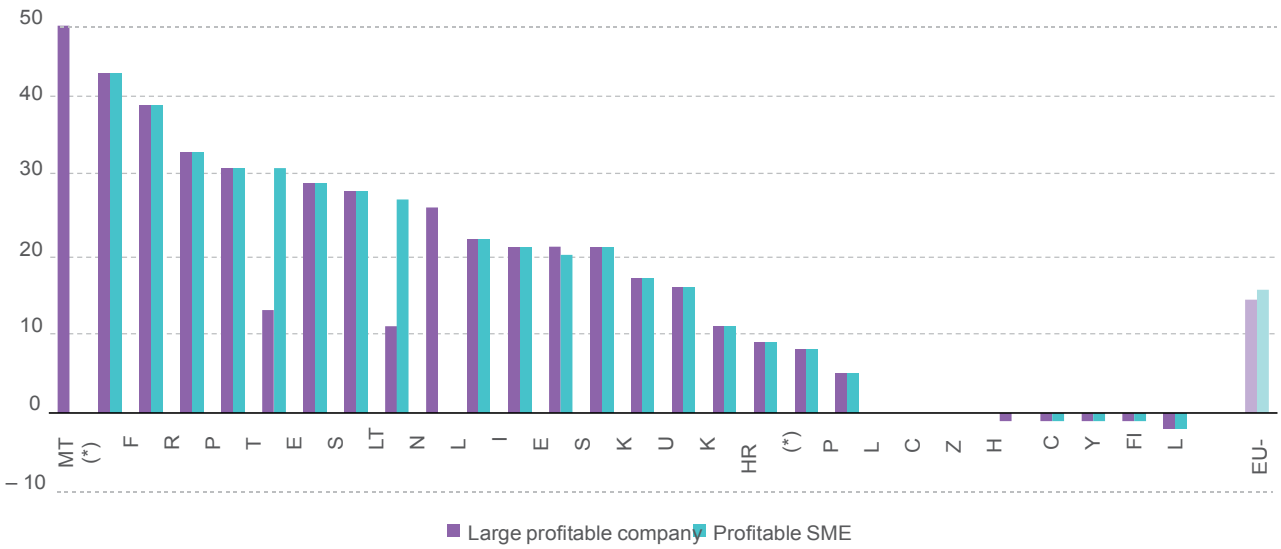
[44] In countries with a low proportion of medium-/high-tech sectors or a predominant services sector, the impact of tax incentives is likely to remain limited, since very few firms are R & D intensive (European Commission, 2018a).

provisions, e.g. full loss-offset, and capital gains/personal taxation affect risk-taking, venture capital, innovation- related investment and human capital formation.

Graph 16 presents implicit tax support across EU countries in 2018. The implicit R & D tax subsidy (the 'one minus B' index) shows the influence of R & D tax incentives on the price of conducting business R & D (user cost). A value of 10 % suggests that the price for a business to invest in R & D is 10 % lower than it would have been in the absence of any R & D taxation measures, whereas a value of -5 % suggests that the user cost is 5 % higher than it would have been. A value of 0 corresponds to no taxation, where all R & D expenses are immediately tax-deductible (Warda, 2001). The indicator combines the design features of tax incentives and characteristics of national tax systems.

Graph 16: Implicit tax subsidy rates for R & D, 2018 or latest available year

(In %)



Source: OECD, data for 2018 from R & D tax incentive indicators (http://oe.cd/rdtax), March 2019. For countries labelled (*), data from European Commission (2016a). Note: (1) For countries labelled with (*), data comes from European Commission (2016a). No data for SMEs for these countries.

(2) The bar for the EU-26 depicts a simple average for 26 EU Member States. Countries labelled with (*) were not included in this computation.

Evidence points to a number of good practices for R & D tax incentives [45]. They can be made more effective by ensuring that young and small companies can benefit, by simplifying them and regularly evaluating their impact. Good design features include carryforward provisions, cash refunds and relief from labour taxes (CPB, 2014; Ognyanova, 2017). The Commission's CCCTB proposals include an incentive to stimulate R & D investment.

As can be seen in Graph 16, the Netherlands [46] offers more generous implicit tax subsidy rates to SMEs than to large companies. The UK grants generous subsidies for R & D by small companies, in the form of a super- deduction of up to 230 % of the qualifying costs. France offers a tax credit [47] with a headline rate of 30 % for R & D expenditure below EUR 100 million and 5 % for R & D expenditure above EUR 100 million.

[45] An extensive overview was provided by Horizon 2020 Policy Support Facility on Administration and Monitoring of R & D tax incentives (Uhlíř, Straathof, & Hambro, 2017).

[46] The Netherlands also offers tax credits for wage costs of research staff.

[47] The calculations for the implicit tax subsidy rates in Graph 16 do not reflect the effects of thresholds and ceilings that may limit qualifying R & D expenditure or the value of R & D tax relief. The rate for large profitable companies and

SMEs is therefore the same.

Box 2.2: Tax competition (with a focus on corporate income taxes)

Globalisation and the growing importance of digitalisation and intangible assets in creating value have put increasing pressure on countries to compete for investment. The growing role of multinationals in the world economy, lower trade barriers and technological improvements are particularly important drivers in this context. Tax policies that promote investment, including by supporting R & D and entrepreneurship, are an important tool for making countries more competitive.

'Tax competition' takes place when countries take account of each other's tax policies when deciding on their own (this is interdependence in tax setting), with a view to attracting or retaining mobile tax bases (e.g. companies, investment and book profits). It is not a question of correlating tax policies in general, but rather setting policies that are intended to attract or retain mobile tax bases.

Tax competition affects all types of tax, including corporate income taxes (CITs), which we focus on in this box [48]. At least within the EU, it is less fierce in the context of highly regulated taxes. Nonetheless, even highly regulated taxes, such as VAT and excise duties in the EU, display patterns of tax competition (see PwC LLP (project leader) (2017) and Institute for Fiscal Studies (project leader) (2011)). As Member States design their tax systems in light of their economic structure, their size, the preferences of their citizens, and domestic and international developments, there will always be a degree of tax competition.

The EU Treaties do not directly refer to tax competition. Through the *Code of conduct for business taxation* Member States have given a political commitment to refrain from harmful tax practices and EU state aid rules prevent them from granting favourable tax treatment to certain businesses. However, neither the *Code* nor the state aid rules limit countries' ability to use their tax system as a whole to compete internationally. There are even fewer restrictions outside the EU, although the OECD/G20 inclusive framework on base erosion and profit-shifting (BEPS) and the EU list of non-cooperative jurisdictions may reduce the most harmful forms of tax competition.

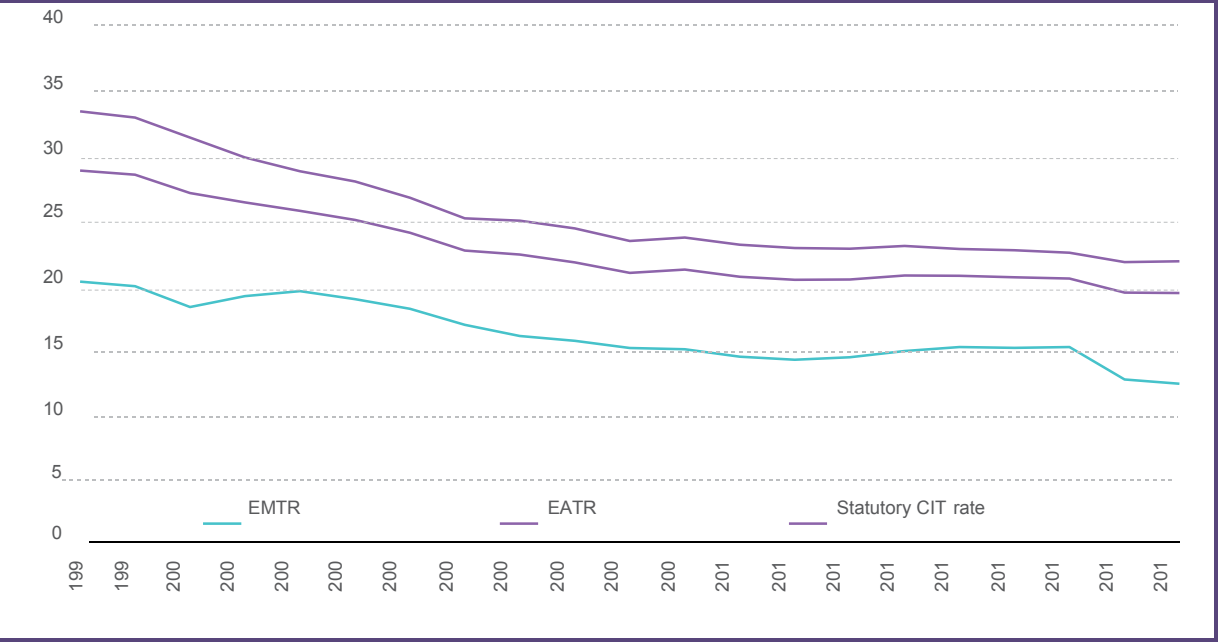
Much of the literature has focused on corporate tax competition, the most frequently reported example being CIT rate competition. Over the past 20 years, tax rates in the EU have decreased by an average of over 11 pp (see *Graph 17*). There has also been a tendency to introduce arrangements that attract particularly mobile profits, e.g. patent boxes, tax rulings and 'special purpose entity' status.

Taxes are an important determinant of asset allocation. Tax differentials and excessive tax competition distort the international allocation of capital and production. While firms should invest where their before-tax returns are highest, they tend to maximise their aftertax returns, thus making investment decisions less efficient (Barrios, Huizinga, Laeven, & Nicodème, 2012).

The cross-border spillovers of other countries' tax policies may limit *de facto* tax sovereignty. By engaging in tax competition, national policies may lead to distortions and undermine fair burdensharing. As a result, they increasingly appear to be less and less based on proactive policy choices, rather than circumstances and other countries' actions.

[48] Box 2.5 focuses on tax competition in personal income taxation.

Graph 17: EU average corporate income tax (CIT) rate developments [49, 50]
(% of GDP)



Another key concern associated with tax competition is the possible impact on the sustainability of public finances, especially through unfair burden sharing. Although in principle one would expect it to lead to lower corporate tax revenues, this is not reflected in the current figures and some countries may even benefit from higher revenues (at least in the short term). One reason tax revenues have remained stable is that rate cuts have been accompanied by measures to broaden the tax base [51]. It is not clear whether this will continue, in particular as there may be less and less scope for countries to broaden their base. Another reason is that the corporate sector now accounts for a greater proportion of the overall economy (Nicodème, Caiumi, & Majewski, 2018).

There are early signs of a shift towards taxation of less mobile tax bases, leading to changes in the tax mix, with potentially problematic distributional implications (see *Box 2.5*). Such shifts can also distort the level playing field in the market, disproportionately benefiting certain types of companies (e.g. mobile ones) and their employees. While taxing less mobile bases can be an efficient way of raising revenue, it might undermine the perceived fairness of the tax system, thus weakening its acceptance and sustainability.

In the absence of changes to the tax policy framework, tax competition seems likely to intensify in the future. Technological progress and economic integration are making the payers and bases of all types of tax increasingly mobile. Given the degree of economic integration in the single market, this has led to particularly intense tax competition in the EU. This could reinforce the tendency to rely on immobile tax bases to finance public budgets and/or lead to a possibly significant reallocation of mobile tax bases across jurisdictions.

It therefore appears important to continue the debate on striking a balance between ensuring fair tax competition and fostering the competitiveness of individual Member States and the EU as a whole.

[49] The EATR and EMTR figures are from ZEW (2018); statutory CIT rates are from European Commission (2019b).

[50] Standard tax competition economic theory considers that the EMTR drives the choice of how much to invest, the EATR drives the choice of where to invest and the statutory CIT rate drives choices in shifting profits.

[51] E.g. restrictions on loss relief and limitations to interest deductibility against taxable profits.

2.1.4. Correcting for economic inefficiencies: environment and health

'Environmental taxation' comprises taxes on energy, transport, pollution and resources [52]. In addition to raising revenue, it can contribute to the achievement of environment policy goals and incentivise behavioural change through the 'polluter pays' principle, which prices in the negative externalities of polluting or other damaging activities. All EU Member States make use of these taxes to some extent. While the Energy Tax Directive (ETD) sets minimum levels for energy taxation, there is very limited acquis in the area of other environmental taxes.

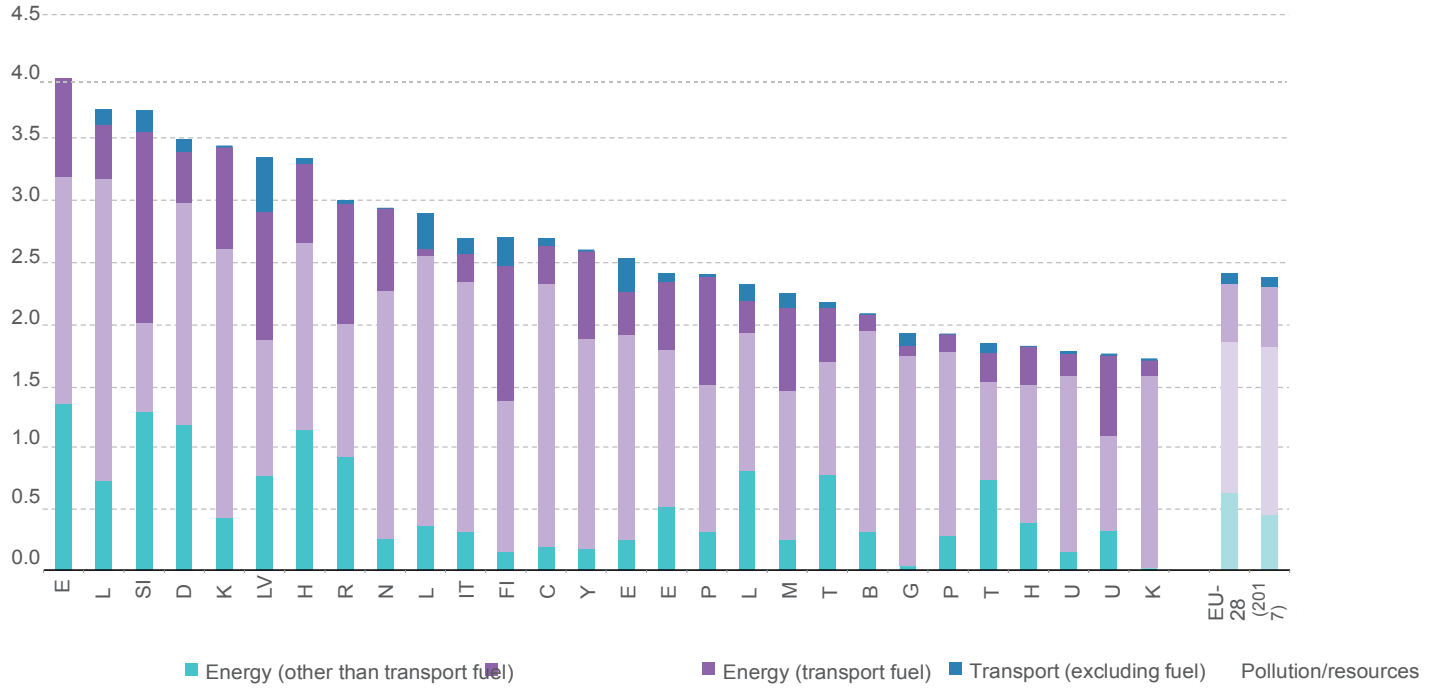
The design of a tax system influences investors' decisions and can create (dis)incentives for investment and consumption that provide wider societal benefits or reduce negative externalities. Tax provisions that favour polluting forms of technology or consumption can lead to negative environmental impacts and future foregone revenue. From an environmental policy point of view tax exemptions and incentives for environmentally harmful activities are considered environmentally harmful subsidies. Environmental tax (dis) incentives shift consumption and investment away from activities that generate negative impacts for the rest of the economy and towards consumption, investment and areas of employment that generate fewer negative, or more positive, spillovers to society as a whole. An outline of other relevant considerations on the use of environmental taxation, including its distributional impacts, can be found in section 1.2.

[52] See European Commission (2013).

Graph 18 shows the structure of environmental tax revenue in the Member States. Energy (including transport fuel) taxes account for the lion's share in almost all Member States, and for 77 % in the EU as a whole [53].

Graph 18: Structure of environmental taxes, 2017

(% of GDP)



Source: European Commission (2019b), based on Eurostat data.

Notes: (1) Energy taxes include taxes on energy products and energy used for both transport and stationary purposes, including taxes on related CO_2 emissions and Member States' revenues from the EU emission trading system.
(2) 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.
(3) Pollution taxes include taxes on measured or estimated emissions to air (except revenue relating to CO_2 emissions, which is included in energy taxes) and water, on the management of waste and on noise.
(4) Resource taxes include any taxes linked to the extraction or use of a natural resource.
(5) EU-28 values are weighted averages by GDP size.

The Energy Tax Directive (ETD) sets minimum levels for excise duties on energy products. Member States can and do apply rates above the minimum level. A number of exemptions and reductions apply at EU and/or national level, in line with the framework laid out by the ETD. The Commission recently conducted an evaluation of the ETD (for more details on the evaluation and its findings, see section 4.1.3).

[53] Further information on the composition and dynamics of environmental taxation in EU Member States can be found in *Taxation trends in the European Union* (European Commission, 2019b).

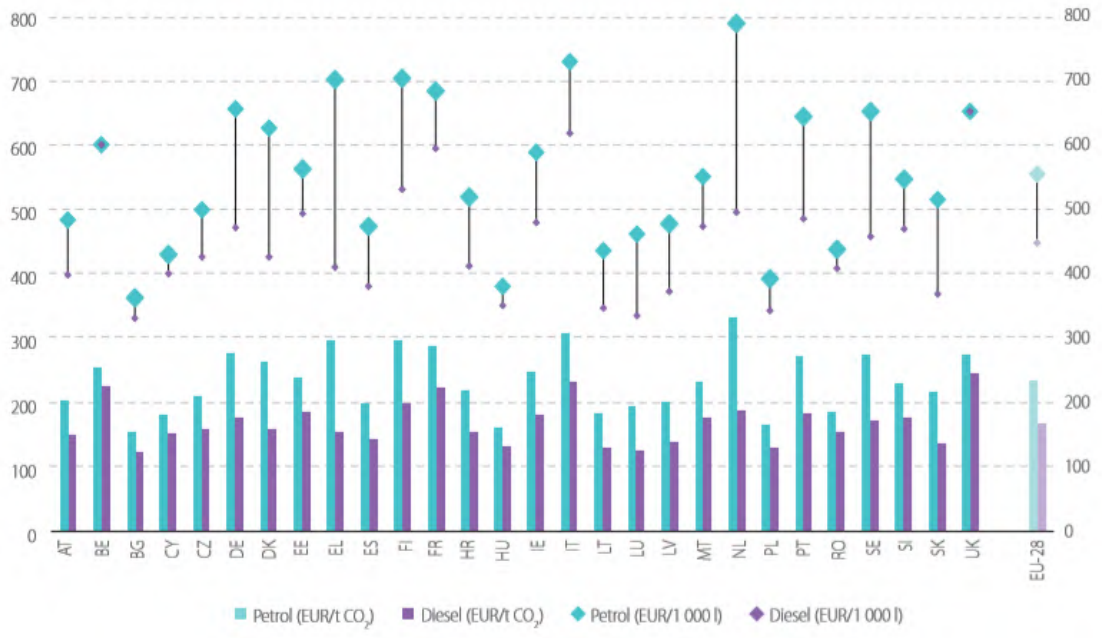
Graph 19 shows nominal marginal tax rates on (standard) petrol and diesel, per volume consumed and per CO2 emissions when used in private transport [54]. To align the taxes applied to fuels more closely with the environmental damage they cause, some Member States take account of the carbon emissions involved. This is reflected in the nominal tax rates in the graph.

In nearly all Member States, the nominal marginal tax rates on diesel for private road usage are lower than those on unleaded petrol [55], even though it has a higher carbon content and greater negative impact on ambient air quality [56]. This is true for both the tax per litre and the tax per tonne of CO_2 emissions. Some Member States offset this advantage (at least partially) via initial registration and/or annual circulation taxes. However, while the former affect a buyer's decision when purchasing a car and the latter add to the overall cost of ownership, neither affect the extent to which a car is actually used once it is owned and available (i.e. marginal cost of driving a car).

The average price of an EU emission allowance, as required by the industrial, power and aviation sectors for compliance with the EU emissions trading scheme [57], was around EUR 23/t CO_2 in January 2019, far below the implicit values per tonne of CO2 emissions from diesel and petrol use in private road transport in any of the Member States. However, while EU emission allowances deal exclusively with the CO2 emission externality, taxes on fuel for road transport may be designed to price in other externalities (e.g. managing infrastructure congestion or dealing with other pollutants). The prices of allowances are therefore not directly comparable.

Graph 19: Nominal tax rates on petrol and diesel used as propellants (private usage), 2019

(EUR/1 000 l) (EUR/t CO_2)



Source: TEDB for EUR/1 000 l; Commission services computations for conversion to EUR/t CO_2.

Notes: (1) Marginal tax rates show the excise duty rates applicable in Member States in January 2019; they exclude VAT, but include any applicable carbon taxes.

(2) EUR/t CO_2 emitted is computed on the basis of emissions per 1 000 l of fuel burnt (2 371 and 2 664 t CO_2 per 1 000 l of petrol and diesel, respectively) and therefore not well-to-wheel emissions (which also take account of the emissions from extracting and processing the fuel).

(3) Petrol and diesel consumption for private road usage account for different proportions of total fuel consumption across Member States.

[54] Some Member States apply several rates depending on fuel quality. Some tax biofuels or fuels with a given biofuel content at lower rates.

[55] With the exception of Belgium and the United Kingdom, where rates are equal per volume of fuel consumed.

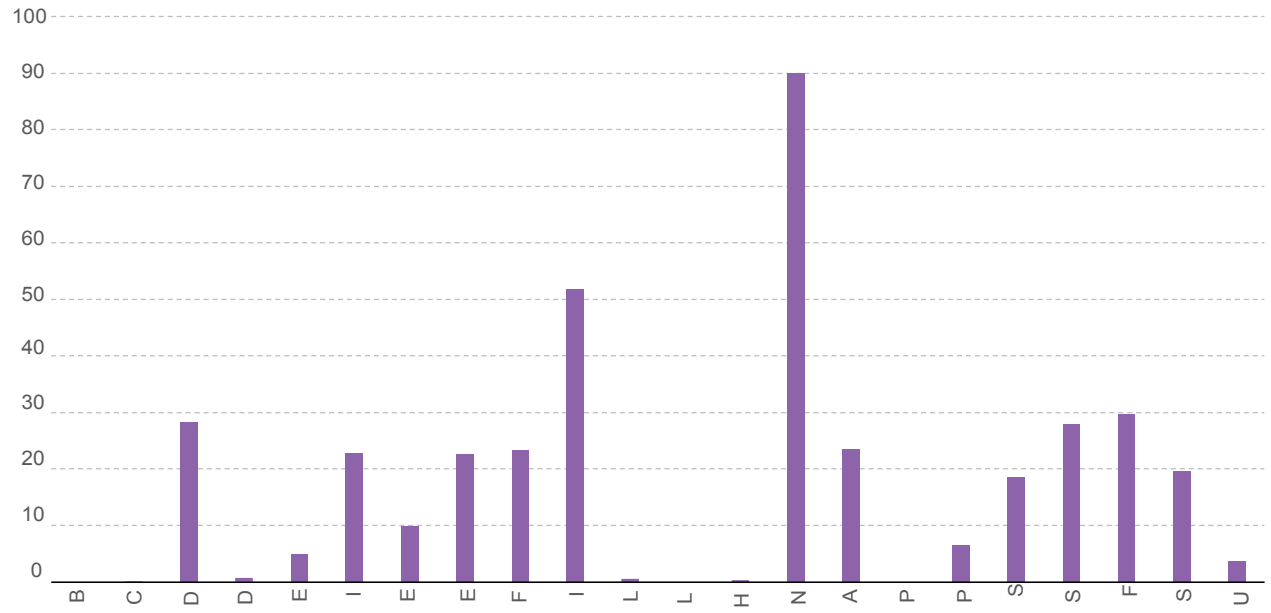
[56] It should be noted that diesel engines are on average more efficient than petrol engines.

[57] An EU emission allowance is valid for compliance of 1 t/CO_2 eq. emissions by the sectors covered by the EU emission

allowance scheme; for more information, see: https://ec.europa.eu/clima/policies/ets_en

The pricing of environmental externalities, such as carbon emissions, varies widely across sectors and countries. The 'effective carbon rate', as calculated by the OECD, shows how pricing policies overall (including specific taxes on fossil fuels, carbon taxes and tradable emission permit prices) interact to provide price signals for carbon emission reductions [58]. In the most recent data available (2015), most emissions from road transport were priced at or above EUR 30/t CO_2. However, with few exceptions, proportions in other sectors were much lower and in many cases 0 % or thereabouts [59] (see Graph 20).

Graph 20: Proportion of carbon emissions priced at EUR 30/t CO_2 or more, residential and commercial sectors (2015)
(In %)



Source: OECD (2018c).

Notes: (1) Emissions from the combustion of biomass are included in the emission base.
(2) No data available for BG, CY, HR, LT, MT and RO.

[58] For full details of the methodology, see OECD (2018c).

[59] There may be policy reasons to tax different sectors at different rates, e.g. different other externalities, price elasticities or the existence of other regulatory interventions.

Aside from energy and transport, Member States make more limited use of pricing instruments, including taxes, to tackle pollution and environmental degradation. As a policy tool to aim to achieve environmental objectives, some uses are observed in areas such as waste and resources policy. In these areas, EU action has traditionally focused on legislative action, including setting targets, e.g. for waste recycling. This is in line with the Commission's recognition of the role that taxation can play as a policy tool whereby Member States can achieve the objectives set at EU level.

Member States tax environmentally costly forms of waste disposal (e.g. landfill, incineration) and specific products (often to discourage the use of single-use items, such as plastic bags), as well as specific emissions, sources of pollution or the extraction of resources.

Table 3: Overview of pollution and resources taxes in EU Member States (2016/2017)

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Pollution																												
Measured or estimated emissions to air (a)			X	X		X			X	X	X			X	X	X	X		X		X	X	X	X	X			
Measured or estimated effluents to water (a)	X		X	X	X	X			X	X	X			X	X	X	X		X		X	X	X	X	X			
Waste management																												
Landfill tax (b)	X	X	X	X		X	X		X	X		X		X	X	X	X		X	X	X	X	X	X	X	X	X	X
Incineration tax (b)	X			X					X	X									X	X		X						
Individual products (a)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Non-point sources of water pollution																												
Pesticides (a)	X				X							X															X	
Fertilisers (a)					X																							
Resources																												
Water abstraction (a)	X	X	X	X	X	X			X	X	X	X		X	X	X	X		X		X	X	X	X				
Extraction of certain raw materials (c)	X	X	X	X	X	X				X	X	X	X	X	X		X	X		X	X		X	X			X	X

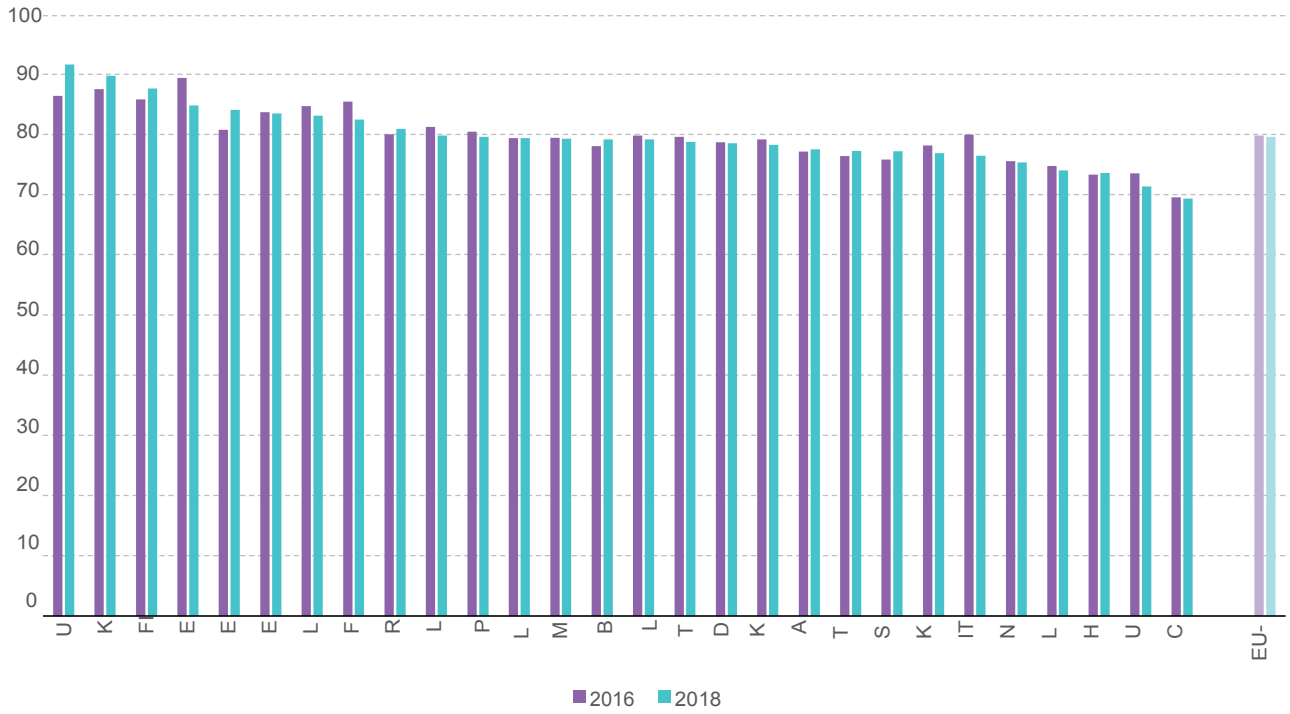
Source: (a) (European Environment Agency, 2016)*; Landfill taxes and bans overview 2017*; (b) (European Environment Agency, 2016)*;* and Confederation of European Wasteto-Energy Plants (CEWEP) — http://www.cewep.eu/wp-content/uploads/2017/12/Landfill-taxes-and-bans-overview.pdf

Notes: (1) Table includes taxes, charges, levies, duties.
(2) The category 'individual products' includes a very wide range of different market-based instruments. See the EEA report for full details.

Taxation is an effective tool for reducing tobacco use. Tobacco consumption is the single largest avoidable health risk and the most significant cause of premature death in the EU, responsible for nearly 700 000 deaths a year [60]. Member States have sought to limit tobacco consumption through legislation (including tobacco taxes), recommendations and information campaigns. The World Health Organisation notes that taxes are an effective way of lowering tobacco usage (WHO, 2019). As shown in Graph 21, in the EU [61] the total tax burden (including VAT) on cigarettes ranges from 69.3 % to 91.6 % of the weighted average price (WAP).

Graph 21: Total tax burden (including VAT) on cigarettes [62]

(As a % of the weighted average price)



Source: 'Taxes in Europe' database (TEDB).

Note: The EU-28 figure is a simple average.

[60] For more information on the Commission's tobacco policy, see: https://ec.europa.eu/health/tobacco/overview_en

[61] For more information on excise duties on tobacco in the EU, see: https://ec.europa.eu/taxation_customs/business/excise-duties-alcohol-tobacco-energy/excise-duties-tobacco_en

[62] Under Articles 8(2) and 14(2) of Council Directive 2011/64/EU, the WAP for cigarettes and fine-cut tobacco is to be calculated by reference to the total value of all cigarettes/fine-cut tobacco released for consumption, based on the retail price (including all taxes) divided by the total quantities released for consumption in the previous calendar year.

2.2. Improving tax administration and tax certainty

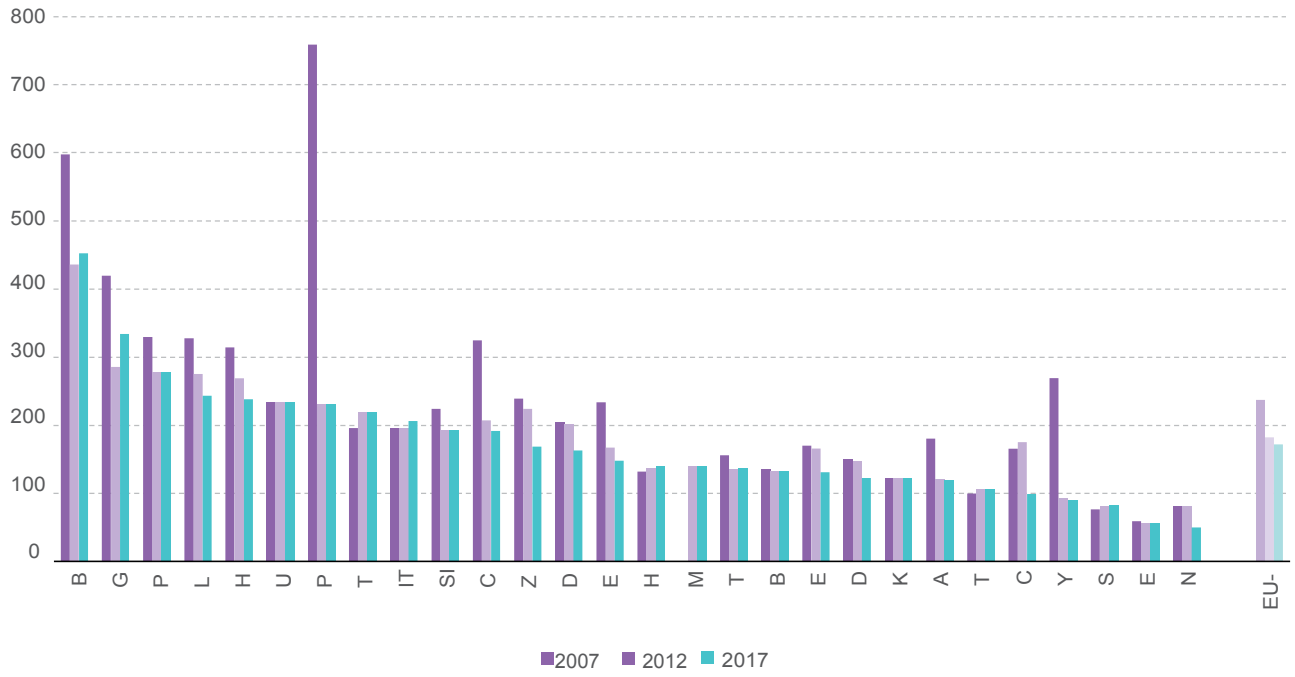
Effective, efficient tax administrations and a high degree of tax certainty for taxpayers are essential for encouraging investment, compliance and competitiveness. Taxpayers tend to have greater trust in tax administrations that are perceived to be efficient and effective. Well-functioning tax administrations are also an essential part of an environment that provides tax certainty. This section looks at various indicators of Member States' scope to improve their tax administration and offer more tax certainty. It also introduces the Tax Administration EU Summit (TADEUS), the new forum for strategic dialogue and cooperation among heads of tax administrations.

2.2.1. Improving tax administration

Tax systems impose compliance costs on taxpayers. The costs a company incurs are determined not only by the rules and obligations *per se*, but also by how easy it is to deal with the authorities. A simpler and more transparent tax system can reduce tax compliance costs and the time it takes to complete tax returns. Member States can help by improving the efficiency and effectiveness of the tax administrations that enforce tax policy. Graph 22 shows the number of hours that a medium-sized enterprise [63] spends each year in meeting its tax obligations, i.e. as regards CIT, VAT and employment taxes (wages and social contributions), etc. This can serve as a proxy for tax compliance costs. The Commission's proposal for a Common Consolidated Corporate Tax Base (CCCTB) would lower the compliance costs for corporate income taxation by providing for a single set of rules for calculating the tax base.

Graph 22: Hours per year needed to ensure tax compliance (medium-sized company), 2007-2017

(in hours)



Source: World Bank (2018).

[63] The World Bank focuses on a case study for a standardised medium-sized company. For more information on their methodology, see: https://www.doingbusiness.org/en/methodology/paying-taxes.

Companies also face compliance costs *after* they have filed their tax returns, e.g. in obtaining tax refunds or when being audited. The 'post-filing index' captures the amount of time a model company takes to comply with tax refunds and corporate income tax (CIT) audits, obtain a refund and complete a CIT audit. It is one of four sub-indicators that form the 'ease of paying taxes' indicator (part of the World Bank's series of indicators on the 'ease of doing business').

Graph 23: Post-filing index, 2017

(Time in hours) (Time in weeks)

Source: PwC/World Bank Group (2018).

Box 2.3: Simplifying withholding tax procedures in the EU

The *Code of conduct on withholding tax* (WHT) is a November 2017 initiative by the Commission that builds on its capital markets union action plan (September 2015) and recommendation on WHT relief procedures (October 2009).

The Code seeks to improve the efficiency of WHT procedures for EU cross-border securities income flows, under the assumption of compliance by taxpayers and intermediaries. It covers dividends, interest and royalties.

The Code is a non-binding document that calls for voluntary commitments by Member States. It is a compilation of approaches for improving the efficiency of WHT procedures (in particular for refunds), which Member States can supplement or adapt in the light of national needs or contexts. In 2018-2019, Commission and Member State tax experts are monitoring whether WHT procedures across the EU come into line with the Code.

At the end of 2018, on the basis of information from Member States, it appears that there were few barriers left preventing non-resident financial institutions from applying for 'relief at source' (or for refunds). Relief at source is a widespread practice available in almost all Member States. In most, the forms that non-resident investors need to fill in are considered user-friendly and available also in English, and the guidance on completing them is kept up to date. Most Member States provide refunds on average within 6 months. Tax residence certificates are accepted almost everywhere in the format provided by the residence country. Several EU countries have set up single points of contact to handle WHT procedures.

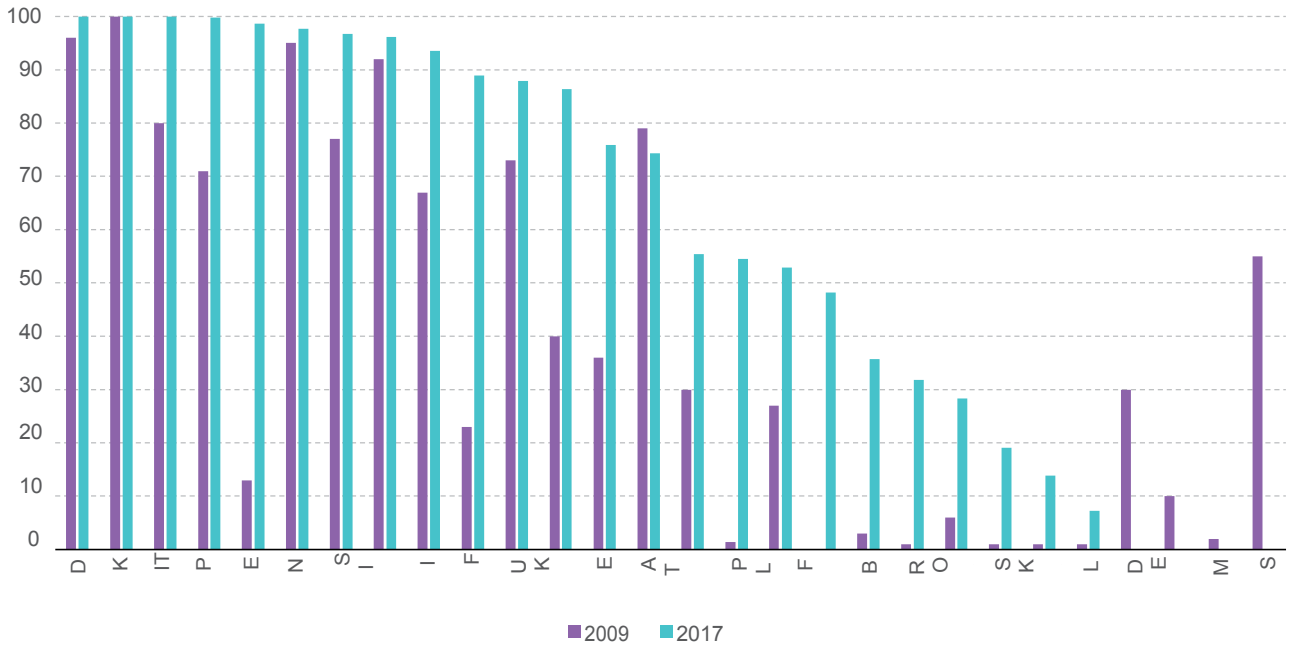
All these developments are in line with the Code, but there is still room for improvement in some areas. Digitalisation of refund transactions remains limited. In only a few countries is it possible to submit a claim in respect of multiple beneficial owners at once. There seems to be scope to simplify documentation requirements, allowing self-certification of tax residency and simpler requirements more generally for low-value claims. Any such measure should be designed carefully to avoid that it offers criminals new possibilities to conceal proceeds from their illegal activities.

In 2019, to follow up the Code, the Commission is organising two workshops with Member State tax experts and collecting information on WHT developments. The focus is on ensuring compliance with the procedures. It is essential that simplification measures do not lead to abuses, such as undue multiple WHT reclaim schemes.

A wide range of digital services for taxpayers, especially e-filing opportunities, can reduce compliance costs while making tax administration more efficient and improving compliance. The e-filing indicator shows what proportion of personal income tax returns are sent to tax authorities online (as opposed to being sent on paper). The latest data indicate improvements in all EU countries since 2009, but the level of e-filing is still relatively low in some countries.

Graph 24: E-filing of personal income tax returns, 2009-2017

(In %)



Source: (OECD, 2019).

Notes: (1) No 2017 data available for DE, LV, MT and SE.
(2) No 2009 data available for SK (2011 figures have been used instead).

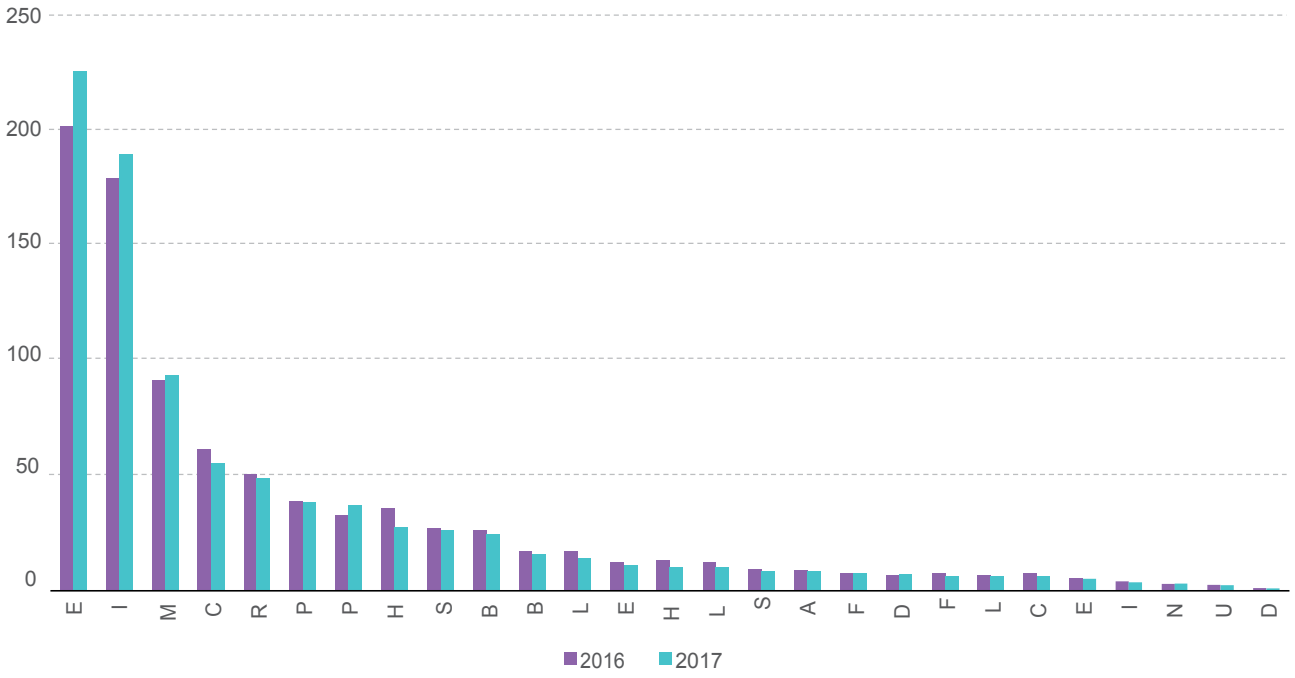
2.2.2. Tax debt as proportion of revenue collection

The level of tax debt (i.e. taxes not paid on time) can be an indirect indication of the tax compliance challenges in a country. OECD (2019) provides data on tax arrears, defined as the total amount of tax that is overdue for payment, including interest and penalties.

Graph 25 shows ratios of total year-end tax debt (excluding debt that is considered not collectable) to total net revenue in 2016 and 2017.

Graph 25: Total year-end tax debt/total net revenue, 2016-2017

(In % of net revenue collection)



Source: (OECD, 2019).

Notes: (1) No data available for SE.
(2) To improve comparability, VAT (gross imports) has been removed from total net revenue collected.
(3)) For EL and LU, arrears do not include interest and penalties.
(4)) For MT, interest and penalties are excluded from taxes other than VAT.

2.2.3. Increasing tax certainty

Tax certainty contributes to growth and trade, and has become an important priority for G20 and OECD governments and taxpayers [64]**.** From a business perspective, it stems from an environment where the risk associated with uncertainties in tax matters is manageable and the actual tax burden on economic activity is reasonably predictable [65]. Tax certainty is also a concern for governments that want predictable and stable revenues and, at the same time, an attractive business environment.

The concept of tax (un)certainty is multi-faceted. It concerns a range of tax parameters, e.g. the statutory tax rate, the tax base, the timing of a tax change, the expiry date of a temporary tax measure. The correct application of tax legislation adds another layer, in particular in evolving business models (e.g. digital companies and collaborative economy platforms). 'Tax audit uncertainty', i.e. the risk of being considered noncompliant when audited, is also a factor.

Tax uncertainty can arise from many sources. At domestic level, typical sources are complexity in tax legislation, unexpected and frequent tax changes, and inconsistency in the implementation of tax reforms. At international level, the co-existence of different tax systems inevitably generates uncertainty for cross-border investment. Significant tax obstacles to cross-border business activity include the possibility of unrelieved double taxation on cross-border income and capital, the inconsistent application of transfer pricing regulations across authorities, the lack of enforceability in dispute resolution mechanisms, and inconsistencies or conflicts in tax authorities' interpretation of tax standards. Issues can also arise from the interaction of taxes, such as VAT and direct tax, in international transactions.

Because tax uncertainty is very likely to dampen investment and trade, there is a concern that it could be a barrier to economic growth. High legal tax uncertainty is reflected in Member States' inventory of pending double-taxation disputes under the EU Arbitration Convention [66]. As shown in Graph 26, the number of pending mutual agreement procedures (MAPs) [67] has grown steadily in recent years, more than doubling between 2013 and 2018. There were nearly 2 000 pending cases in the EU at the end of 2018, with many lasting as long as 2 years and some even longer. A high number of pending cases feeds uncertainty in the international tax system and distorts economic decisions.

Policy initiatives can improve tax certainty at both domestic and international level. Domestically, simplifying the tax system, in terms of rules and compliance, may substantially enhance tax certainty. At international level, the best policy response is to improve cooperation on tax matters, not only by exchanging information, but also by taking common approaches on ATP and agreeing on a fair distribution of tax revenues from cross-border investment and more generally on transparent and fair tax competition.

[64] Uncertainty of corporate taxation has been discussed at G20 and OECD level since the Chinese presidency in 2016. Concerns regarding tax uncertainty have intensified at international level, with ongoing efforts to reduce tax avoidance, in particular through G20/OECD BEPS measures.

[65] Tax certainty may also be beneficial for overall welfare, as people tend to be risk-averse. For a literature review, see Zangari, Caiumi & Hemmelgarn (2017).

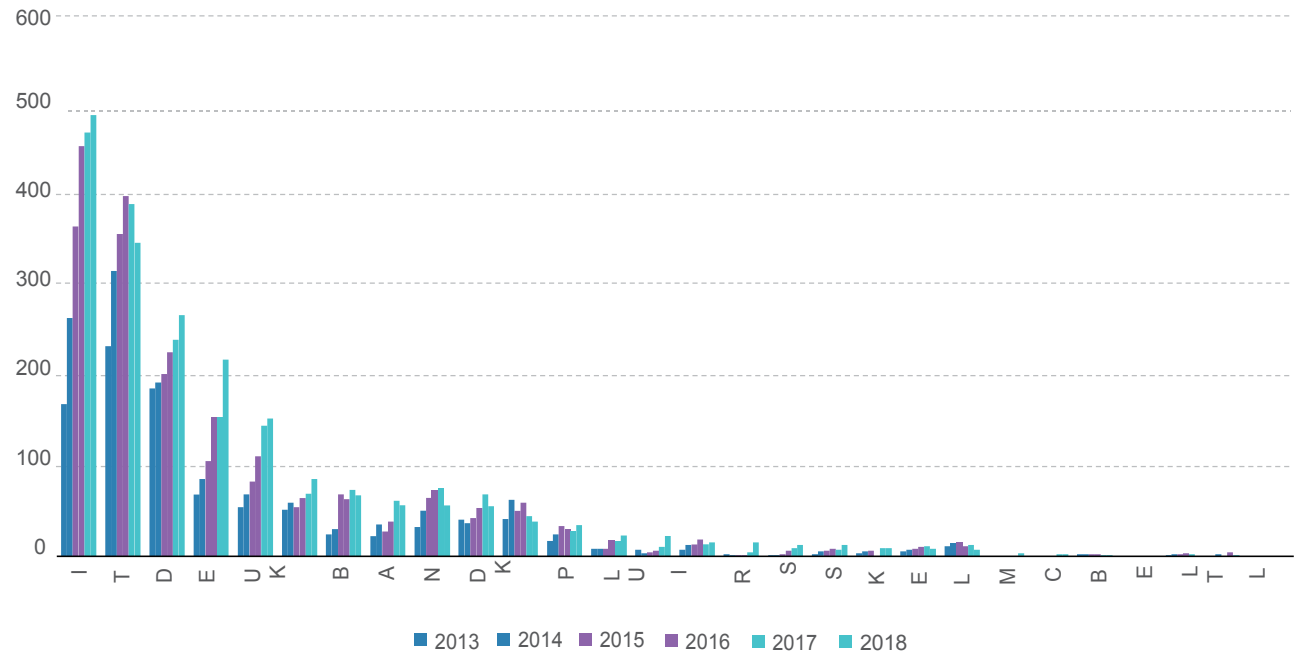
[66] Convention 90/436/EEC.

[67] MAPs bring together two or more countries' tax authorities to resolve tax-related disputes (mostly involving double taxation).

Commission tax initiatives have contributed to tax certainty [68]**.** Most recently, Member States agreed to improve the system for resolving disputes (e.g. on double taxation) in the context of tax treaties and conventions between Member States. The Dispute Resolution Mechanisms Directive [69], which entered into force on 1 July 2019, aims to expedite resolution and thus facilitate crossborder activity.

Graph 26: Pending MAPs, at end of year

(Number of pending cases)



Source: Member States' statistics (2013-2017) on pending MAPs under the Arbitration Convention, as reported to Joint Transfer Pricing Forum (JTPF) meetings (24.10.2014, 22.10.2015, 20.10.2016, 9.3.2017 and 24.10.2018). See section 3 (Member States' statistics) in: https://ec.europa.eu/taxation_customs/business/company-tax/transfer-pricing-eu-context/joint-transfer-pricing-forum_en
The 2018 figures can be found at: https://ec.europa.eu/taxation_customs/sites/taxation/files/apa-and-map-2019-1.pdf

Note: No Data for HR for 2013-2016.

[68] E.g. the Anti-Tax Avoidance Directive, the CCCTB proposal, the Dispute Resolution Mechanisms Directive and action on VAT.

[69] Council Directive (EU) 2017/1852.

Box 2.4: TADEUS

The Tax Administration EU Summit (TADEUS) [70] is the result of several meetings and discussions at European level since 2017. It will ensure close cooperation at the highest level and build trust between Member States' tax administrations, which is crucial to the implementation of EU tax policy and legislation, the functioning of the internal market and reinforcing the EU's position globally. It also facilitates the exchange of best practices.

Tax administrations across the EU face similar challenges. Discussions on cooperation at EU level have shed light on the need to do more to address common challenges and build trust among tax administrations and between them and the Commission. Common challenges include digitalisation, implementing EU legislation, managing IT systems, limited funding, human resources and skills, and improving operational performance and reporting. Trust is needed to implement EU tax legislation effectively, so as to improve national revenue collection. Better coordination should help to enhance citizens' confidence in tax systems and administrations.

The objectives of TADEUS can be summarised as follows:

1. **building mutual trust** in order to facilitate the implementation of EU tax policy, improve revenue collection and ensure the smooth functioning of the internal market;
2. **ensuring a better shared understanding of the objectives and actions** pursued under EU initiatives, e.g. Commission proposals, reports and communications;
3. **establishing a common agenda** for addressing shared challenges and priorities; and
4. **identifying administrations' main needs and workable solutions** for addressing common challenges while taking account of priorities, resources and feasibility.

In the TADEUS framework, the heads of tax administrations agreed on a multi-annual plan to cooperate on a number of subjects of high importance for their administrations and the Commission: digital and data, trust and compliance, implementing EU legislation, IT and resources, performance and reporting, and international cooperation.

The added value of TADEUS lies in that it is 'co-steered' by tax administrations and the Commission. All parties look for practical solutions in the areas that are important for tax administrations. The heads may decide to launch specific projects to generate practicable solutions to common problems for tax administrations across the EU. Member States are called upon to sponsor the projects and share the results. The Commission acts as the TADEUS secretariat and provides project support and financing through the FISCALIS programme [71]. All this is designed to ensure that project results can rapidly be made available to all Member States' tax administrations and/or fed into Commission policymaking, e.g. impact assessments and legislative proposals.

[70] https://ec.europa.eu/taxation_customs/news/tadeus—-tax-administration-eu-summit_en
[71] https://ec.europa.eu/taxation_customs/fiscalis-programme_en

TADEUS and FISCALIS should not be confused. The former relies purely on the commitment and diligence of the heads of administration. The latter is a financing programme with its own legal basis and management structure. In some cases, the heads of administration may decide (in the TADEUS context) on priorities that are later implemented through a FISCALIS activity (project, workshop, etc.), but the FISCALIS programme covers many other activities and has wider objectives.

In 2019, TADEUS is focusing on tax compliance in the digital economy. The tax administrations are working on an assessment tool (the 'tax HRM agility and readiness model') [72] for the human resources' dimension of tax administration. Improving the uptake of tools provided for by EU legislation on administrative cooperation in fighting tax fraud, both for direct and indirect taxation, is one of the most important areas of TADEUS' work.

[72] The project aims to tackle issues arising from demographic change/ageing staff, the effects of IT development and digitalisation in relation to HRM procedures. It also reflects on future recruitment procedures and training/education, retaining talented employees and career development. The aim is to develop an evaluation model that is inspired by the 'tax administration diagnostic assessment tool' (TADAT) methodology and would be used for HRM purposes only, in line with ongoing work on the tax competence framework, creating synergies and avoiding overlaps.

2.3. Supporting job creation and employment

As explained in section 1.1, the design of the tax system can have an influence on both labour demand and labour supply, in particular in the short term. Reducing the tax burden on labour can support job creation and employment. This is primarily the case for low-income and second earners, who have relatively high labour-supply elasticities. Tax cuts on labour should be assessed as part of:

- the tax-benefit system – taking account of the interplay of taxes and benefits when designing labour tax reforms can help in avoiding high marginal tax rates, particularly for low-income and second earners; and
- the overall tax mix – since only a few Member States have fiscal space to consider uncompensated labour-tax cuts, the financing of such cuts also has to be considered [73]. The efficiency and distributional effects of shifting the tax burden to other bases should be assessed carefully, as this may diminish the intended impact on growth and job creation.

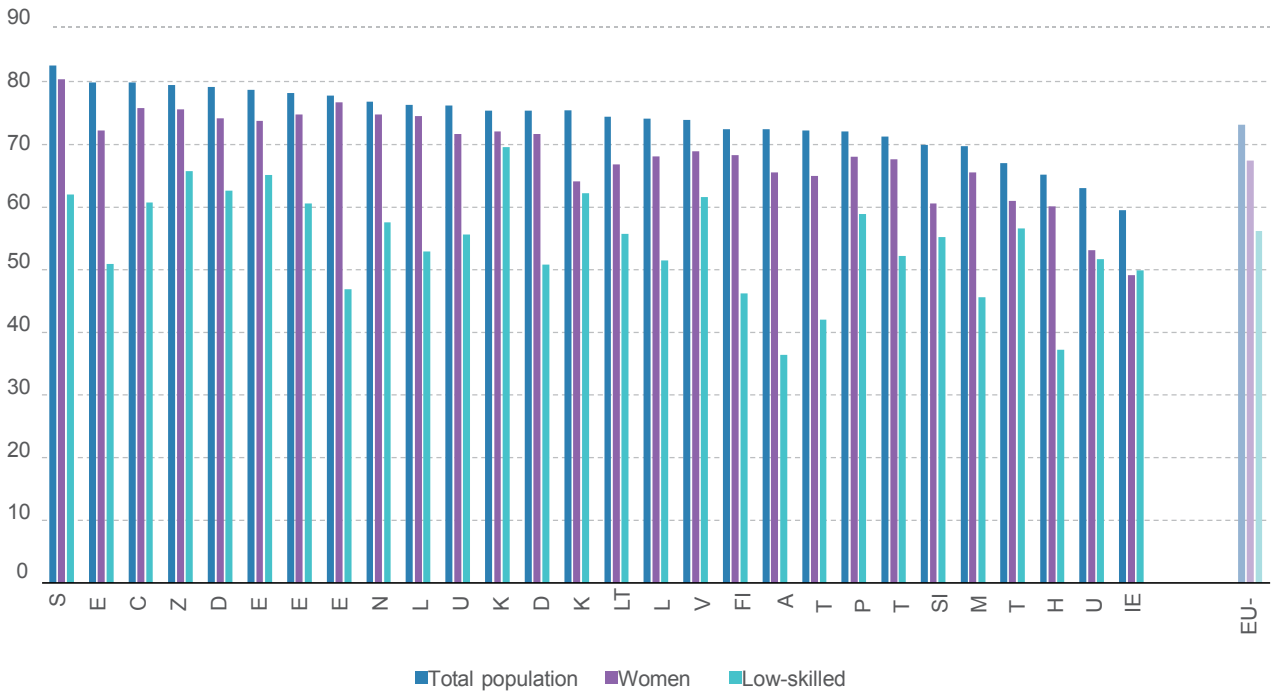
[73] Labour tax cuts can be financed by means of a tax shift, reducing the use of non-cost-efficient tax expenditures (e.g. housing- related tax expenditures) or improving the allocation of public expenditure.

Graph 27 shows employment rates for 20-64 year-olds in the total population, and among women and the low-skilled [74]**.** This indicates which Member States face a challenge in boosting employment, be it overall or for specific groups, but it does not account for part-time work. Other indicators, such as the full-time employment rate, can be used to provide a fuller picture of labour market conditions. The gender employment gap is wider when measured in full-time equivalent, as rates of part-time work are higher among women than among men.

While overall employment has risen in line with the recovery and is now at a record high (approaching the goal of 75 % employment by 2020), the situation varies across Member States. The gaps between total employment and employment among women or the low-skilled also differ. In Lithuania, employment among women is only 1.1 pp lower than total employment, while in Malta the gap is 11.6 pp. The biggest employment gap for the low-skilled can be found in Slovakia (36.0 pp) and the lowest in Portugal (5.8 pp).

Graph 27: Employment rates – total population, women and low-skilled, 2018

(In %)



Source: Eurostat, lfsi_emp_a (updated 9.10.2019) and lfsi_educ_a (updated 09.10.2019). Notes: (1) The age group is 20-64 year-olds.
(2) 'Low-skilled' refers to ISCED levels 0-2.
(3) The employment rate is not measured in full-time equivalents.

[74] Workers considered as 'low-skilled' have less than 'upper secondary' for educational attainment.

2.3.1. Overall tax burden on labour

Graph 28 shows three tax rates on personal/labour income. The diamonds show the top personal income tax (PIT) rates (including surcharges but excluding social contributions), the triangles show the implicit tax rate (ITR) on labour income [75] and the bars show average labour tax rates for a single worker on the average wage [76], broken down by income tax and social security contributions (SSCs).

The graph gives some indications of the differences in the structure of personal income and labour taxation, by shedding some light on the tax burden on labour and the extent to which individual segments of the labour tax base bear this burden:

- the level of the top PIT rate differs greatly between Member States, from 10 % in Bulgaria to 57.2 % in Sweden. However, this alone does not say a lot about the PIT structure, as the top rate may be applicable from different income levels in different Member States;
- the labour tax rate for a single person on the average wage is therefore an important complementary indicator. Again, labour income taxation differs substantially between Member States, from 10.8 % in Bulgaria to 39.8 % in Belgium. In addition, the gap between the top PIT rate and the average income tax rate (excluding social contributions) varies substantially, from zero in Hungary to 44.9 pp in Greece; and
- the ITR on labour gives an indication of overall tax burden on labour, taking into account the whole income distribution. It is highest in Greece (43.3 %) and lowest in Bulgaria (24.3 %).

Graph 28: Tax rates on personal/labour income, 2017, 2018 and 2019
(In %)

Source: Commission services based on Eurostat and OECD data.
Note: The average income tax rates and average rate of employees' SSCs are from 2018. Top PIT rates are from 2019. ITR on labour are from 2017.

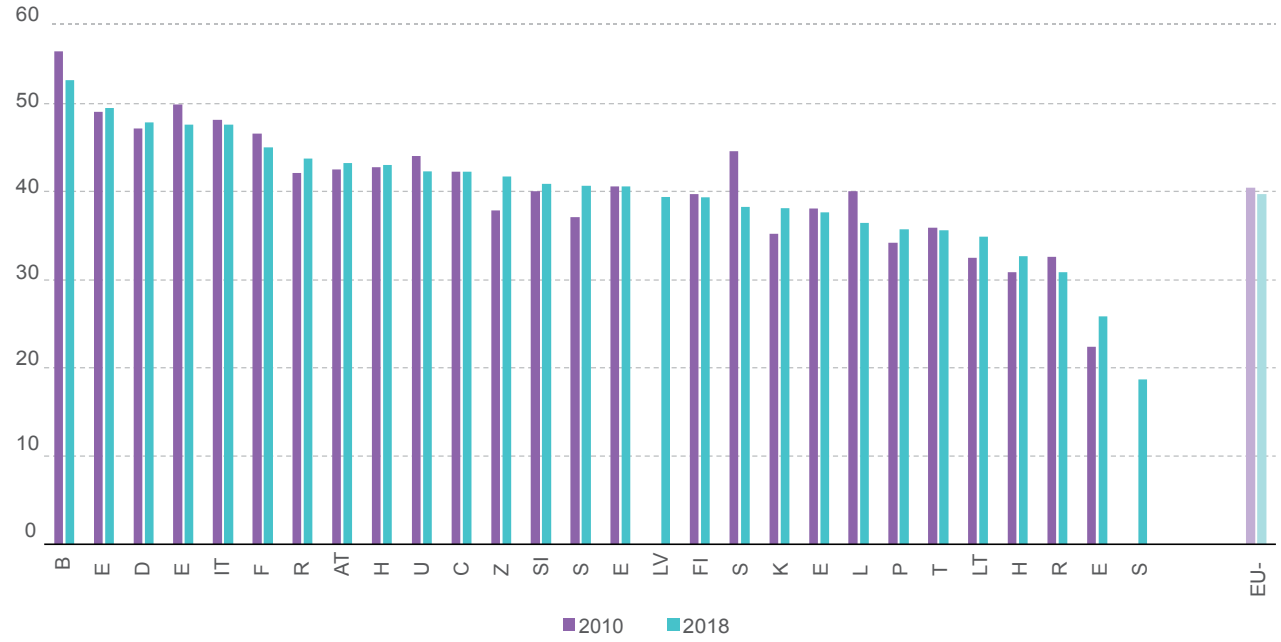
[75] The ITR on labour measures the overall tax burden on all employed labour by dividing taxes and SSCs on employed labour income by total compensation of employees and payroll taxes. It is an overall aggregate indicator based on macroeconomic variables in the national accounts.

[76] The average labour-tax rate is the sum of income taxes and employees' SSCs as a percentage of gross income. It differs from the tax wedge, which also includes employers' SSCs.

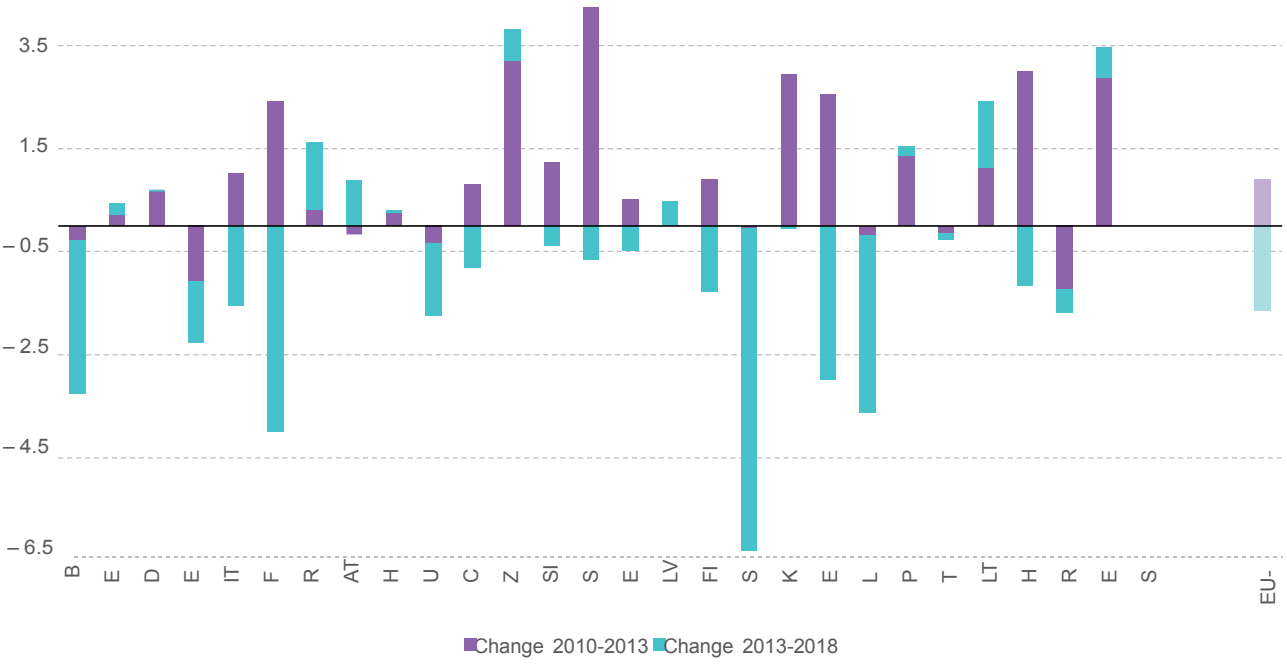
Graph 29 shows 'tax wedges' for a single person on the average wage. The tax wedge measures the proportional difference between the costs of a worker to their employer and the employee's net earnings. It therefore shows the incentives to work (labour supply side) and to hire employees (labour demand side).

Graph 29: Tax wedge for single person on average wage, 2010-2018

(In %)



(In percentage points)



Source: Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019). Notes: (1) Tax wedge data are for a single earner with no spouse or children, on average wage.

(2) 2010 data are not available for Croatia and Cyprus.

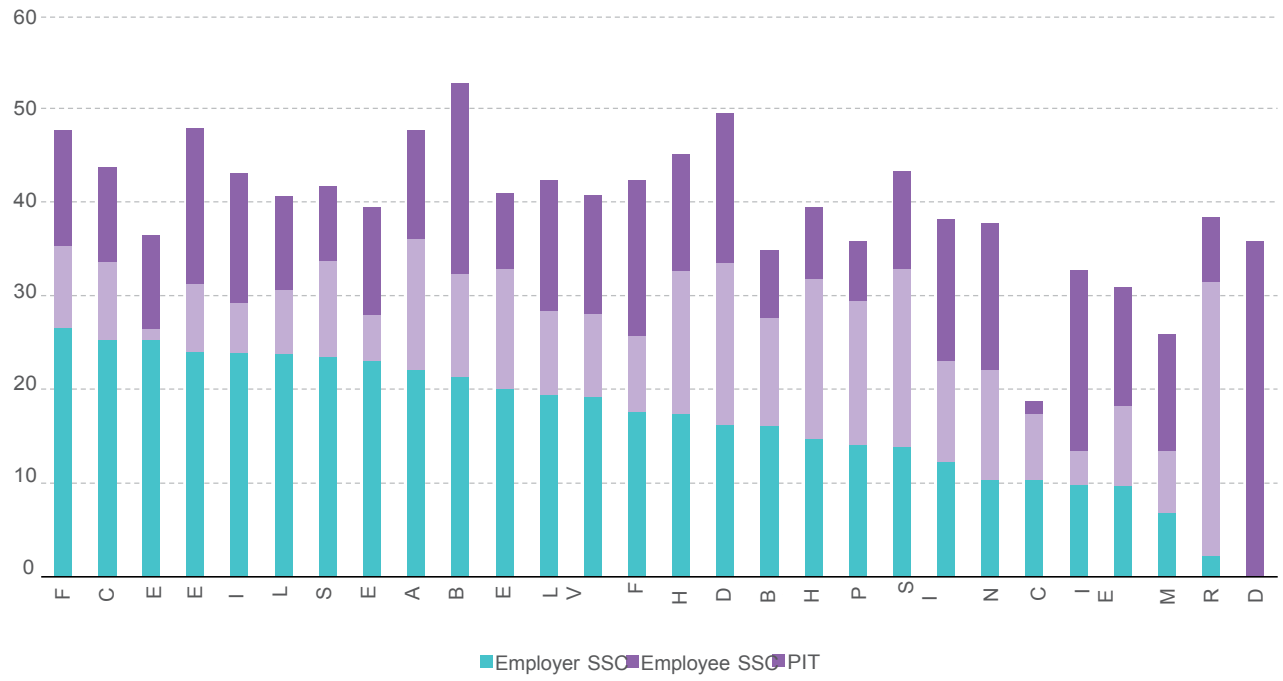
The tax wedge is defined as the sum of PIT and employee/employer SSCs net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and SSCs paid by the employer) [77]. Between 2010 and 2018, the average tax wedge decreased slightly in the EU as a whole (it grew in 15 Member States and shrank in 11). However, this hides diverging trends in several Member States where the tax wedge increased from 2010 to 2013 and decreased thereafter.

The composition of the tax wedge is important in the short term, as its components can have an impact either on labour demand or supply. Also, in many Member States, SSCs secure entitlement to social benefits (e.g. unemployment insurance, pensions), so reducing the tax wedge for low-income workers through cuts in SSCs might exacerbate other problems, such as the pension gap, if they subsequently enjoy lower pension benefits.

Graph 30 shows breakdowns of the tax wedge (for a single worker on the average wage) into PIT, employer SSCs and employee SSCs [78].

Graph 30: Composition of tax wedge, 2018

(In %)



Source: European Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019). Notes: (1) As the data are for a single earner with no spouse or children, family allowances do not influence the tax wedge.
(2) Member States are ranked in descending order by the level of the employer SSC.

[77] The tax wedge for a single person on the average wage is one of the indicators used by the Eurogroup for benchmarking the tax burden on labour (alongside that for a single person on 50 % of the average wage – see below), in line with its commitment to reducing the tax burden on labour;
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/

[78] In most Member States, SSCs also represent an input to the pension system and can thus be seen as a form of deferred income for workers. The strength of the link between contributions and pensions varies across Member States.

2.3.2. Tax burden on low-income earners

Certain groups, such as low-income earners, can be more responsive to changes in the tax burden on labour. Focusing labour-tax reductions on low-income earners can support other policy aims, such as reducing income inequality and poverty [79]. Depending on the structure of the tax system, options such as tax credits, tax-free allowances and changes to tax rates can affect the tax wedge for low-income earners. However, where measures such as differentiated allowances and tax credits target low-income earners and are withdrawn as earnings rise, marginal tax rates may also be higher at certain income levels. Such measures need to be designed with care.

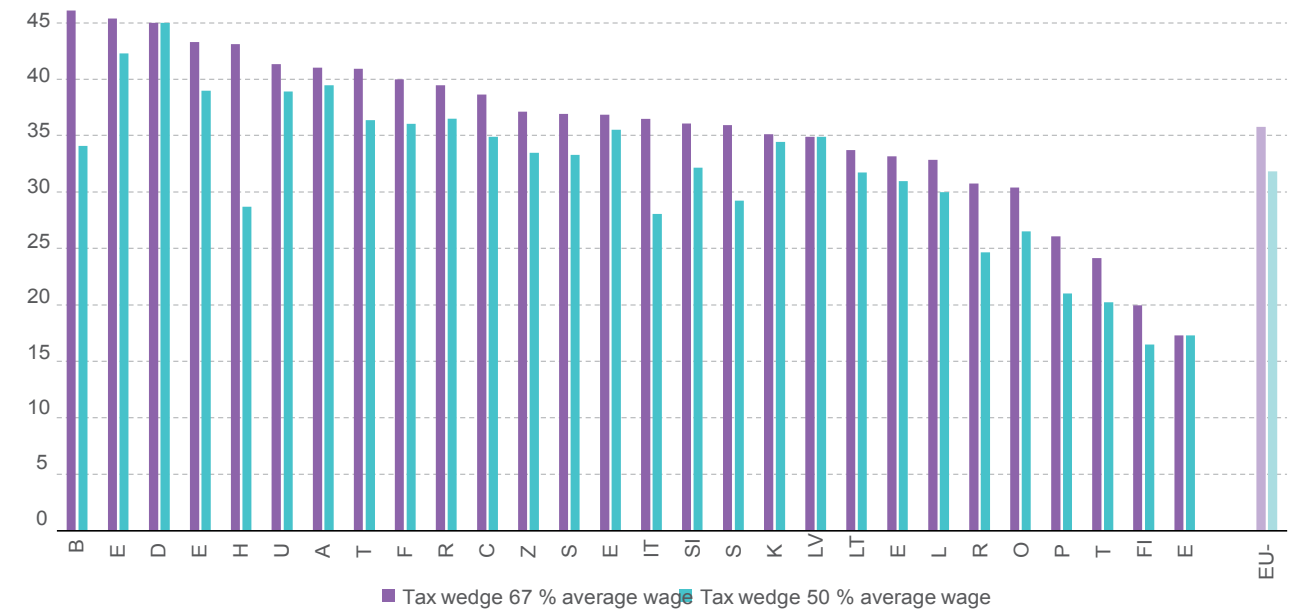
Graph 31 shows tax wedges for a single earner with no children, on 50 % and on 67 % of the average wage [80]. Between 2010 and 2018, the average tax wedge decreased slightly at both wage levels, with substantial reductions in some Member States, but increases in others. For workers on 50 % of the average wage, the tax wedge narrowed by over 5 pp in Romania, Belgium, France, Latvia, Estonia and the UK. For those on 67 %, the biggest reductions were in Romania (6.5 pp), Estonia (5.8 pp), Latvia (4.5 pp) and Belgium (4.3 pp).

[79] It might also help to sustain aggregate demand, as low-income earners have a higher average propensity to consume.

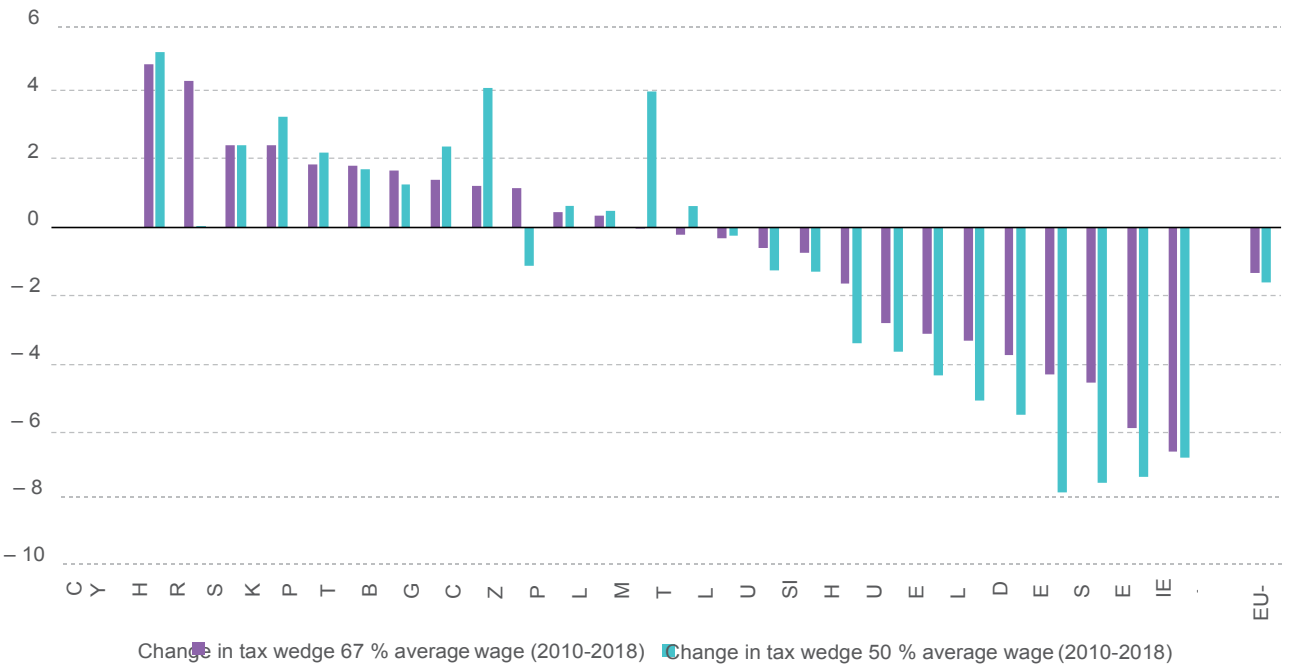
[80] The former is one of the indicators used by the Eurogroup in benchmarking the tax burden on labour (alongside the tax wedge for a single person on the average wage – see above).

Graph 31: Tax wedge for low-income earners, 2018

(In %)



(In percentage points)



Source: Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019). Notes: (1) The data are for a single earner with no spouse or children, on 50 % and 67 % of the average wage.
(2) 2010 data for CY and HR are not available.

The 'inactivity trap' is the implicit tax on inactive people returning to work. It measures the part of the additional gross wage that is taxed away where a previously inactive person [81] takes up a job, i.e. the financial incentive to move from inactivity (and social assistance) to employment. A 'trap' arises where the change in disposable income is small and the work-disincentive effect of the tax-benefit system is large. Taxation (including SSCs) is one cause; other factors include the withdrawal of benefits.

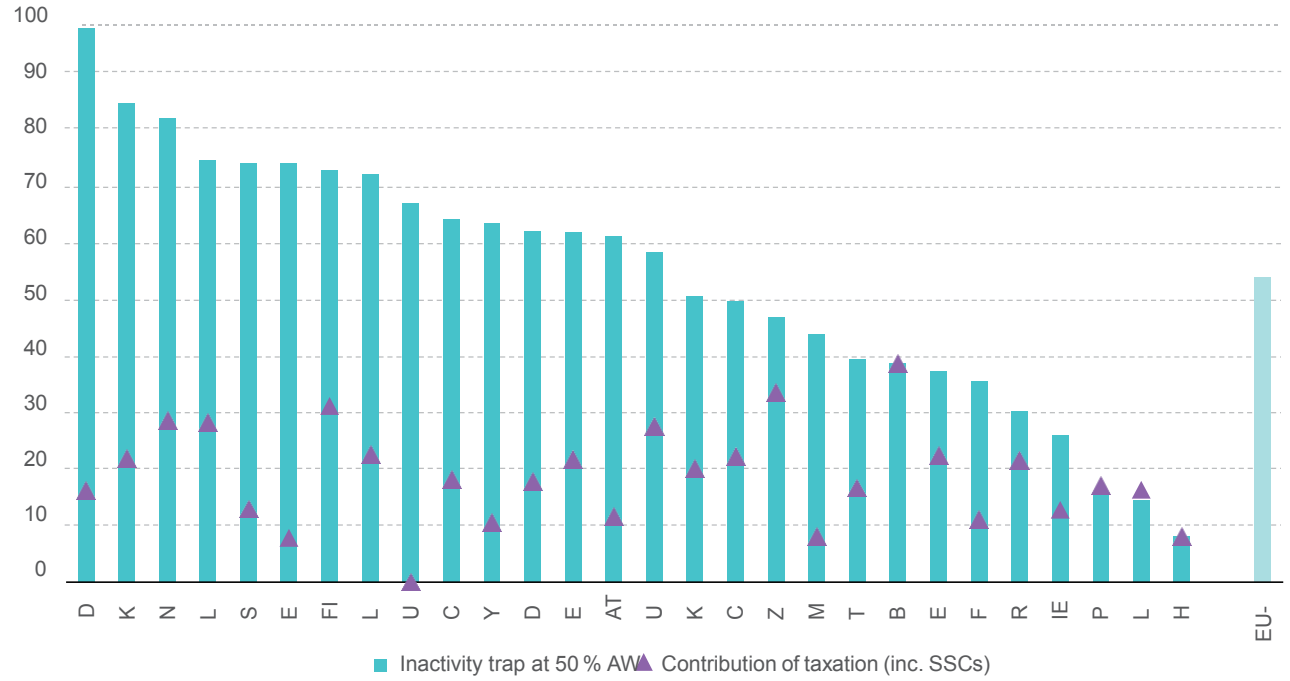
[81] A person not entitled to receive unemployment benefits, but eligible for income-tested social assistance.

The inactivity trap is most pronounced in Denmark and the Netherlands, for people on both 50 % and 67 % of the average wage, while the contribution of taxation (in absolute and relative terms) is greatest in Romania.

Graph 32: Inactivity trap for low-income earners, 2018

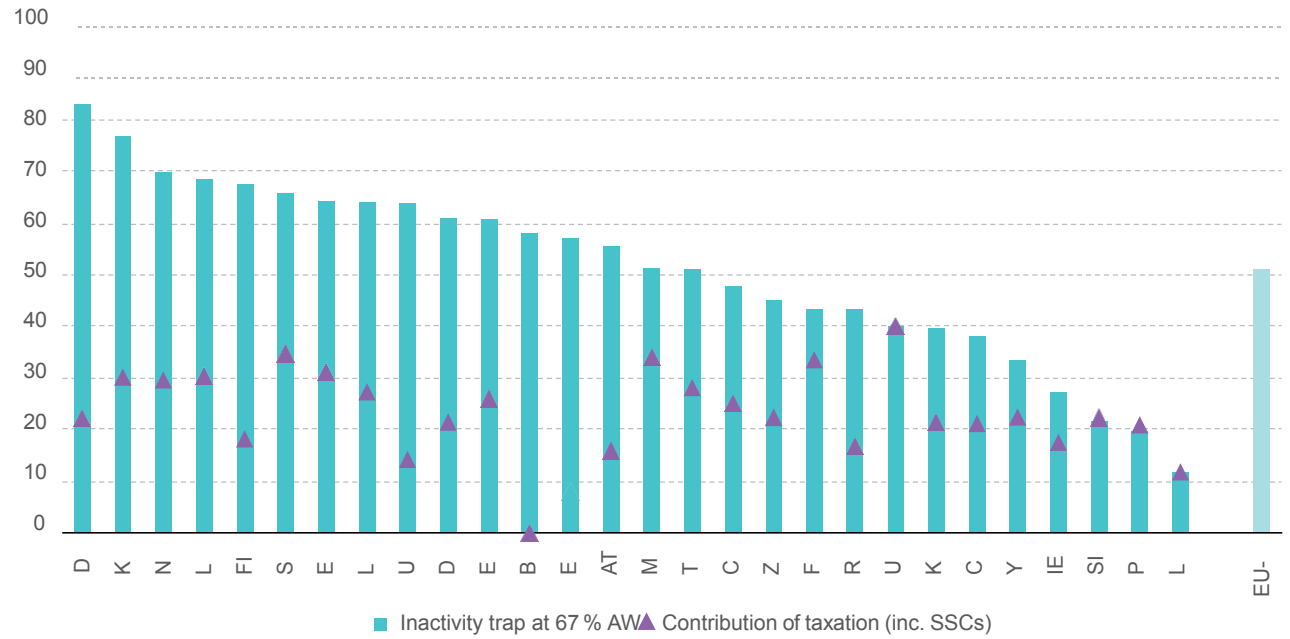
(a) 50 % of average wage (AW)

(In %)



(b) 67 % of average wage (AW)

(In %)



Source: Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019). Notes: (1) The data are for a single earner with no spouse or children, on 50 %/67 % of the average wage.

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

2.3.3. Tax burden on second earners

Tax system features such as transferable tax credits and the degree of joint taxation contribute to variations in the level of the inactivity trap for second earners, alongside features of the benefit system, such as the withdrawal of means-tested benefits. Joint taxation can lower the tax burden for single-earner couples, or dual-earner couples where earnings are distributed unevenly between the partners. However, it can inflate marginal tax rates for the non-earning partner or lower earner, as they are effectively taxed at the same marginal rate as their higher-earning partner. This can consolidate the gender employment gap and thus also the gender pay gap.

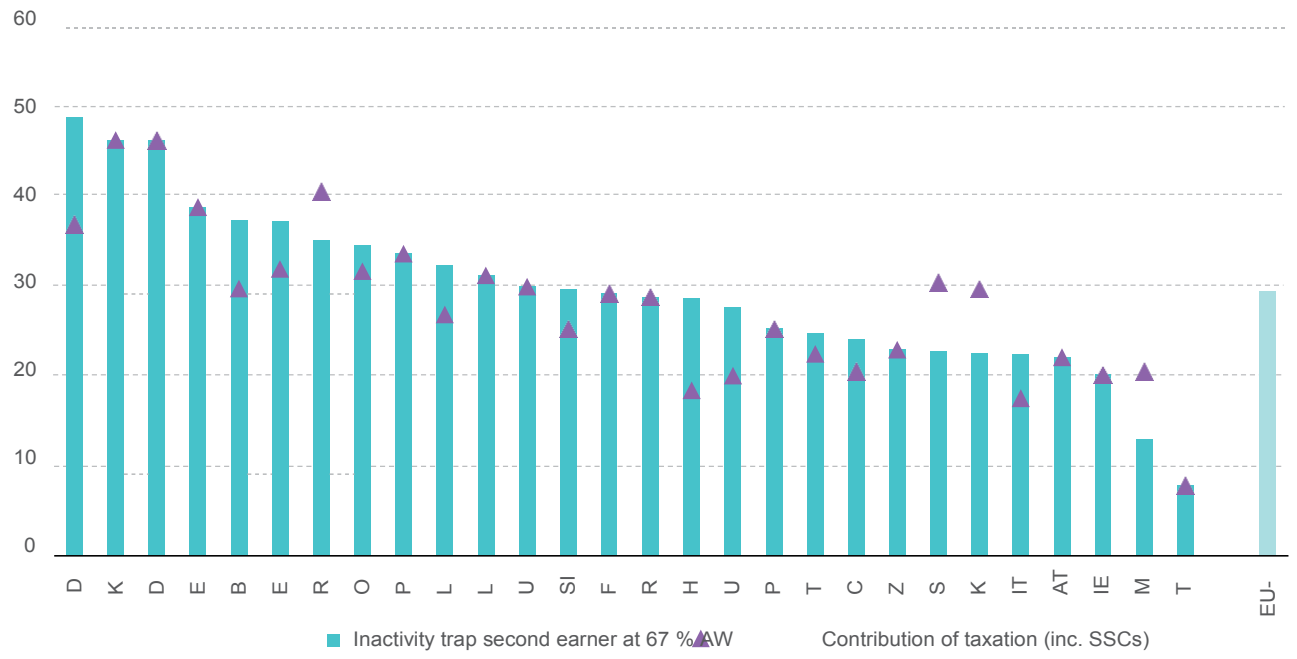
In most Member States, taxation makes a relatively big contribution to the inactivity trap for second earners in cases where the principal earner is on the average wage. Where the contribution of taxation is bigger than the trap itself, other measures (e.g. inwork benefits) are compensating for the level of taxation.

Other factors, such as the availability of affordable, high-quality formal care services (including childcare) and well- designed work-life balance policies, can influence people's decisions as to whether to enter the labour market, return to work or work longer hours.

The inactivity trap for second earners is highest in Denmark, Germany and Belgium. The contribution of taxation is most pronounced in Belgium and Germany.

Graph 33: Inactivity trap for second earners, 2018

(In %)



Source: Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019).

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 ele- ments contributing to the low wage trap are withdrawn unemployment benefits, social assistance and housing benefits).

A 'low-wage trap' can arise from the rate at which taxes are increased and benefits withdrawn as 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. Many low-wage second earners are women working part-time. Graph 34 shows the percentage of additional earnings 'taxed away' when second earners increase their earnings from one third to two thirds of average wage, e.g. by working longer hours.

As noted above, other factors, such as the availability of affordable, high-quality formal care services (including childcare) and well-designed work-life balance policies, can influence people's decisions as to whether to work longer hours.

The low-wage trap for second earners is highest in Belgium, Slovenia and Portugal. The contribution of taxation is most pronounced in Belgium and Germany.

Graph 34: Low-wage trap for second earners, 2018

(In %)

Source: Commission tax and benefits indicator database based on OECD tax-benefit model (updated 17.6.2019).

Notes: (1) The data are for a second earner whose wages increase from 33 % to 66 % 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 ele- ments contributing to the low wage trap are withdrawn unemployment benefits, social assistance and housing benefits).
(3) The negative values are explained by the level of additional inwork benefits outweighing additional taxes and SSCs.

2.4. Mitigating inequality and fostering social mobility

This section focuses on the role of taxation in mitigating inequality and fostering social mobility. It sets out how equal EU societies are and the extent to which they allow for social mobility. It also addresses the impact on inequality of different Member States' tax systems.

2.4.1. Inequalities and social mobility in the EU

Global inequality has declined substantially over the past three decades [82]. However, at national level, the picture is much more nuanced. Some countries have experienced a reduction in inequality, while others (particularly advanced economies) have seen a significant uptick since the 1980s.

While the EU is faring relatively well compared with other parts of the world in terms of equality of disposable income, there is no denying that there is significant income and wealth inequality in our societies. In the past decade, after years of increase, disposable income inequality in the EU has remained broadly stable, thanks partly to the effects of automatic stabilisers in times of financial and economic crisis.

Graph 35 shows complementary indicators of income inequality. The left-hand scale shows income inequality according to the Gini index (based on disposable income after taxes and transfers). The righthand scale shows the percentage of the population at risk of monetary poverty. While the former reflects income inequality across the income distribution, the latter emphasises inequalities among lower-income groups and thus reflects social challenges in the Member States.

Graph 35: Income inequality, 2017

(Gini index) (% of total population)

Source: Eurostat, EU-SILC 2017 ilc_li02 and ilc_di12. Extracted on 3.10.2019.

Notes: (1) LHS: Gini coefficients (scale from 0 to 100). A value of 0 corresponds to perfect equality (same income for everybody), while 100 corresponds to maxi- mum inequality (all income distributed to one person and the others have nothing).
(2) RHS: 'at risk of monetary poverty rate' as a percentage of the total population. The indicator shows the proportion of the population earning less than 60 % of the median equivalised income after transfers and taxes.
(3) The EU-28 average is calculated as the population-weighted average of individual national figures.
(4) EU-SILC 2017 data are based on income generated in 2016 (except IE and UK, where they are based on income generated in 2017).

[82] This was largely due to substantial income growth in countries that had been among the poorer, particularly China in 1985-2000 and India since 2000 (Milanovic, 2016).

The increasing accumulation of private wealth in Europe over the past 40 years and the rise in inequality has sparked intense public debate on the fairness of tax systems. All inequality can erode social cohesion, hamper growth (Ostry, Berg, & Tsangarides, 2014) and lead to political polarisation, but this is particularly true of wealth inequality, which exceeds income inequality (OECD, 2015) [83], as:

- unequal distribution of wealth tends to exacerbate income inequality, due to the income it generates (OECD, 2017). Recent research suggests that greater wealth is strongly correlated with larger returns to capital, even controlling for portfolio choice (Fagereng, Guiso, Malacrino, & Pistaferri, 2019);
- wealth (particularly when inherited) is an important factor determining the opportunities available to individuals (Palomino, Marrero, & Rodriguez, 2017). The unequal distribution of wealth thus has a negative impact on social mobility (Oxfam, 2018);
- while labour income is the result of activity that generally benefits other market participants and society at large, it is more rare for wealth accruing from capital gains or inheritance to improve the productive capacity of the economy;
- wealthy individuals often have more access to tax relief and more opportunities to avoid taxes [84]. Alstadsæter *et al.* (2017) provide empirical evidence suggesting that tax evasion rises sharply with wealth; and
- some studies suggest that wealth bestows personal independence, power and influence (Braga, McKernan, Ratcliffe, & Baum, 2017). This may lead to biased policy choices favouring the wealthy, which could concentrate wealth yet further [85].

Some inequality is inevitable in market-based economies and it may even be considered fair if it is the outcome of different levels of effort. That said, the adverse consequences of excessive wealth inequality have led to the recognition that inequality needs to be addressed from a joint income and wealth perspective (Ostry, Berg, & Tsangarides, 2014).

[83] The level of wealth inequality is probably underestimated. This is partly because top wealth is probably under-represented in household surveys (Bach, Thiemann, & Zucco, 2018), which in turn affects apparent income inequality; however, it is also due to tax evasion by the top earners (Aldstadsæter, Johannesen, & Zucman, 2017).

[84] For instance, since households with high incomes are more likely to be homeowners, they benefit more from deductions for mortgage interest, where applicable. In addition, the wealthier have more resources to dedicate to tax planning, as well as greater incentives to engage in it.

[85] A (perceived) lack of influence of the 'non-wealthy' might also increase disenchantment with politics in general. Unequal distribution of wealth could thus affect the level of political participation.

Graph 36: Income equality (2017) and wealth inequality (2014)

(Gini index)

Source: Commission services; computations based on ECB (2016b) and Eurostat, EU-SILC 2017 ilc_di12 and extracted on 10.10.2019. Notes: (1) Net wealth is defined as the difference between households' total assets and their total liabilities.
(2) No comparable data available for BG, CZ, DK, HR, LT, SE, RO and,UK.
(3) EU-SILC 2017 data are based on income generated in 2016 (except IE, where they are based on income generated in 2017).

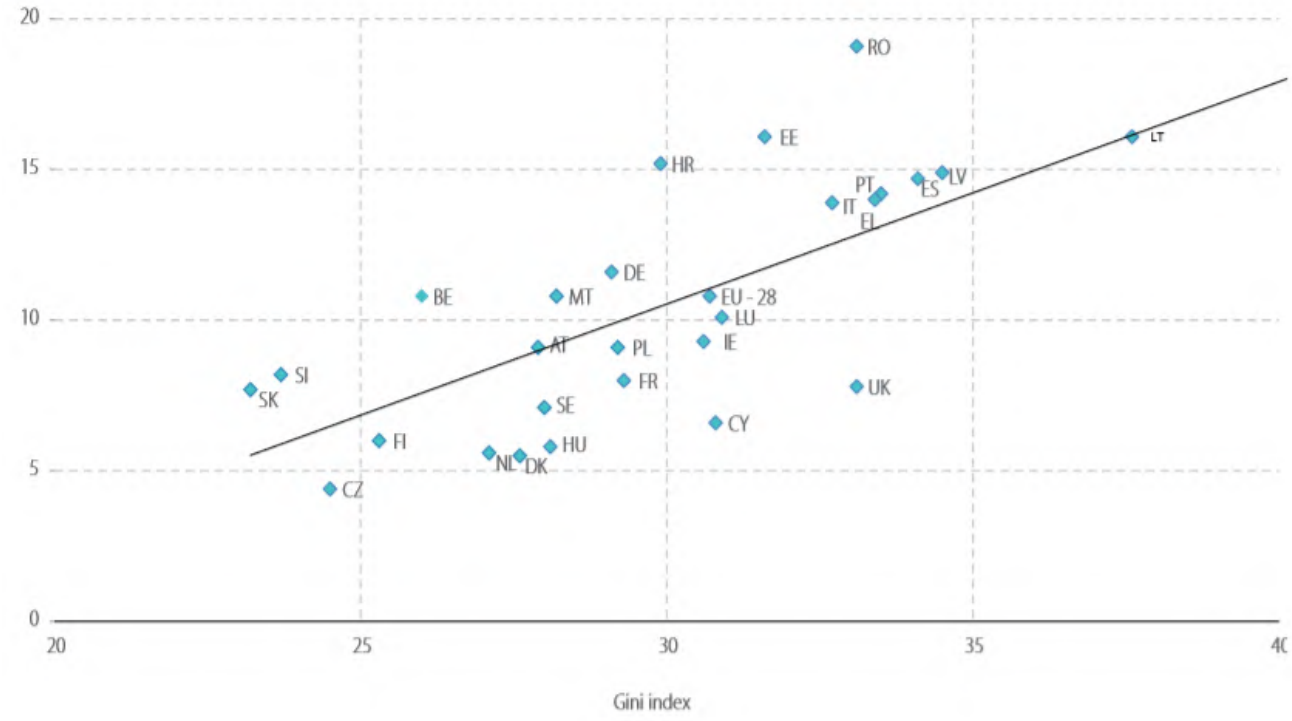
Fairness and social mobility build on prospects for a brighter future, in which everyone has the same opportunities to make their own choices and move up the income scale. Greater inequality is associated with less social mobility across generations (Corak, 2013), but social mobility can also be *intra*-generational (European Commission, 2017b), i.e. reflected in the chances of movement (e.g. on the income ladder) over a lifetime. *Inter*-generational mobility refers to the extent to which an individual's chances are determined by their parents' education, class or income [86].

One useful indicator of *intra*-generational mobility is the persistence of the risk of poverty. Graph 37 links this with a measure of inequality (the Gini index of disposable income). It appears that there is a positive correlation between the two: the more unequal a society, the lower the level of *intra*-generational mobility.

Graph 37: Correlation between inequality and persistent risk of poverty, 2017

Correlation coefficient: 0.72 (significant at 5 %)

(At persistent risk - of - poverty) (In %)



Source: Eurostat, EU-SILC, 2016, ilc_di12 and ilc_li21 extracted on 10.10.2019.

Notes: (1) The scale of Gini coefficients ranges from 0 to 100. A value of 0 corresponds to perfect equality, while 100 corresponds to maximum inequality.
(2) The 'at persistent risk of poverty' rate is defined as the percentage of the population living in households where the equivalised disposable income was below the 'at risk of poverty' threshold for the current year and at least 2 of the preceding 3 years.
(3)) For SK, 2017 data for the 'at persistent risk of poverty' indicator are not yet available. For this graph, we used 2016 data for both the 'at persistent risk of poverty' indicator and the Gini index.
(4) The EU-28 average is calculated as the population-weighted average of individual national figures.
(5) EU-SILC 2017 data are based on income generated in 2016 (except for IE and UK).

[86] One could also look at absolute social mobility, which measures whether living standards have increased overall from one generation to the next, but that is not the focus of this analysis.

Furthermore, global developments, such as climate change, automation or population aging, tend to affect certain regions, business sectors and populations more than others and may exacerbate existing socio-economic issues. For example, groups of lower socio-economic status tend to be more negatively affected by environmental health hazards (e.g. air pollution, noise), as a result of their greater exposure and higher socio-economic vulnerability [87]. Therefore, policies addressing environmental degradation (including environmental taxation) may be benefit those groups in the mid- to long-term, despite bearing the risk of an immediate regressive impact (see *Chapter 1.2. A taxmix in support of fair andefficient taxation* and *Box 1.1: Distribution of overall tax mix*).

This implies a growing need for holistic and sustainable policy packages that respond to economic, social, and environmental challenges by taking account of spillovers between challenges and between policies responding to them.

[87] EEA (2018).

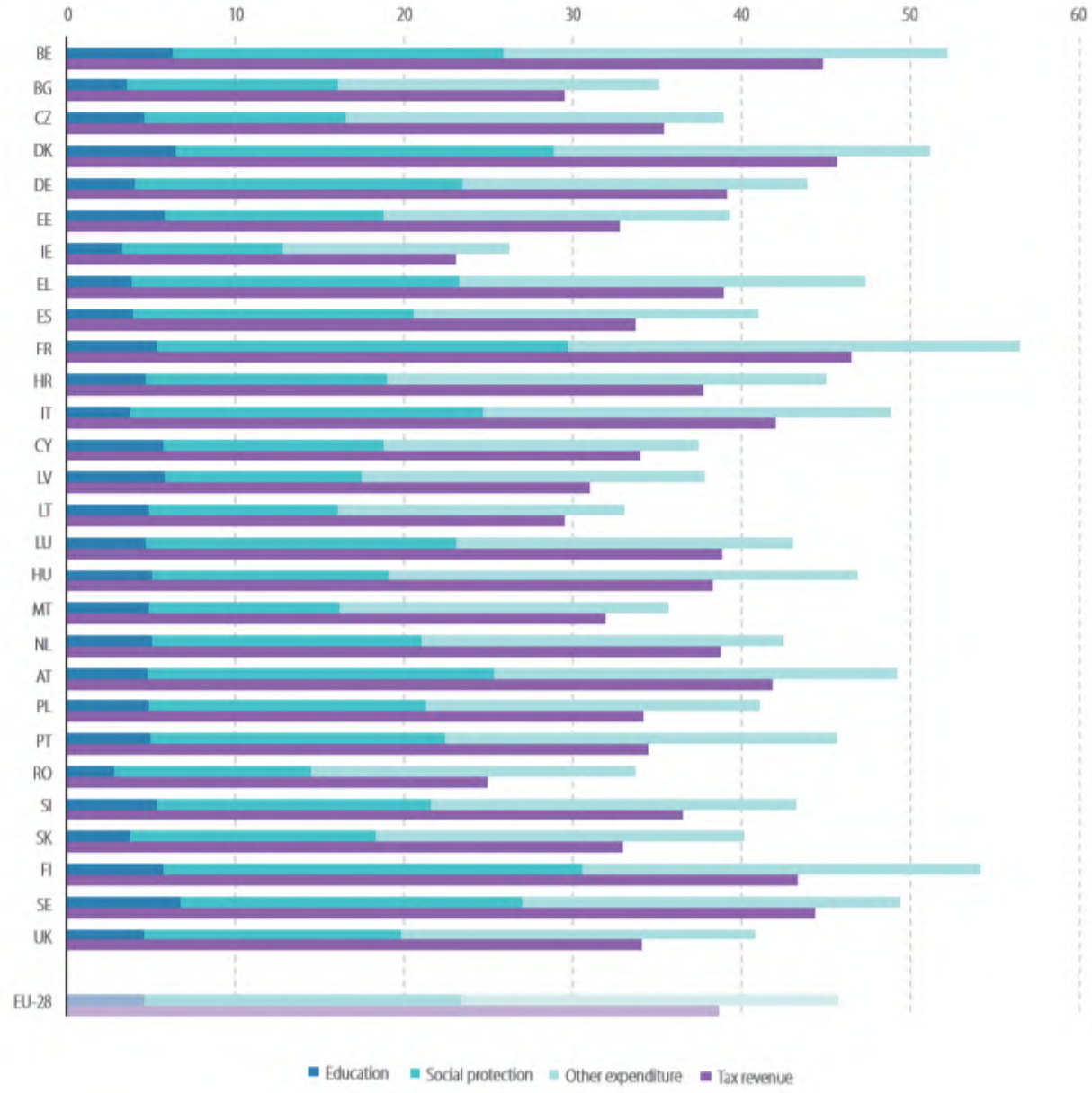
2.4.2. The role of taxation in mitigating inequalities

Taxation has a role to play in mitigating inequality and supporting social mobility, be it through pre-distribution, redistribution or correcting/incentivising certain behaviours. There are different social models in the EU and the amount of public money needed to finance them varies.

Graph 38 shows education, social protection and other spending in Member States as a proportion of GDP. Access to quality education and healthcare is crucial for equal opportunities.

Graph 38: Government expenditure and tax revenue, 2017

(% of GDP)



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

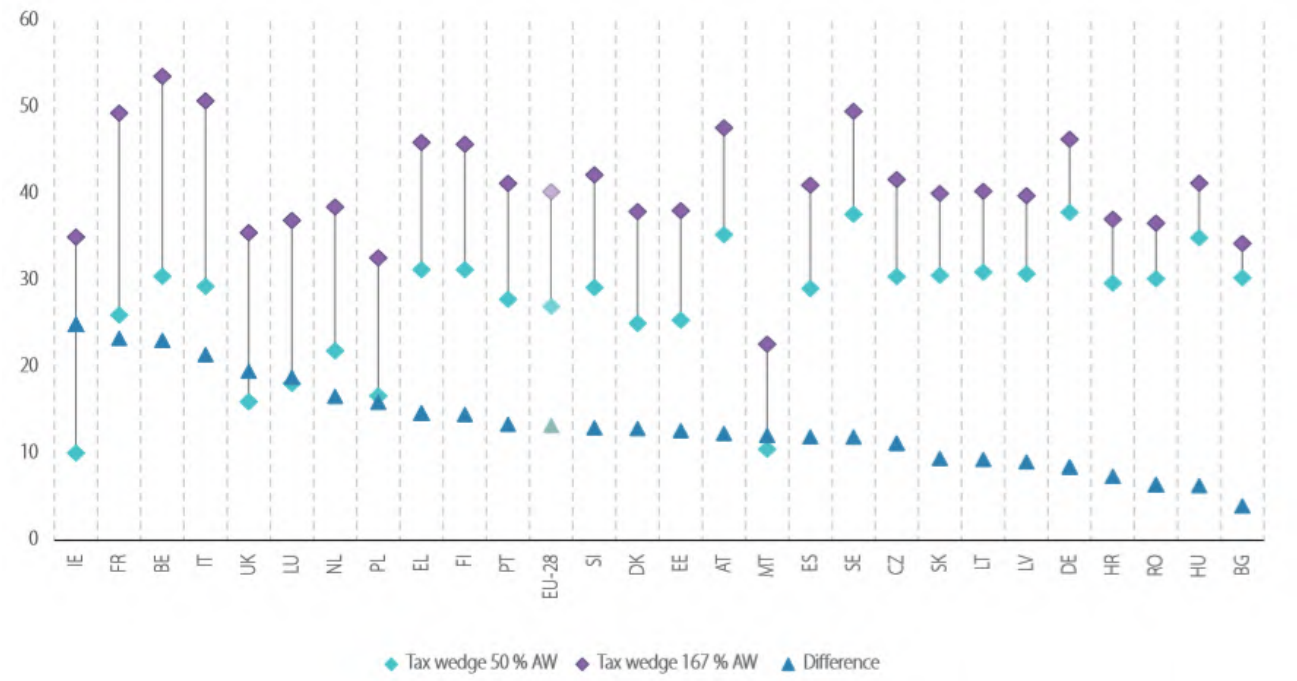
Note: The tax-to-GDP ratio shows the total receipts from taxes and compulsory actual SSCs. Other sources of revenue, e.g. sales of goods and services (issuance of licences, rental of produced assets), property income (interests, dividends, rent income), other current transfers (from international institutions), other subsidies on production, and other capital transfers and investment grants, are not shown.

The progressivity of personal income taxation is one important measure of the redistributive effect of tax and benefit systems. The progressivity of income tax systems, in particular the tax burden on low-income earners, is also relevant to job creation, which is a route out of poverty and social exclusion.

Graph 39 shows the degree of progressivity of labour income taxation by comparing the tax wedges on high and low-income earners (represented by individuals on 167 % and 50 % of the average wage). The progressivity is theoretical, based on standard rates, and takes no account of tax abuse or actual income distribution. As such, it reflects Member States' policy choices, inter alia as regards levels of social contributions, family allowances and benefits.

Graph 39: Progressivity of labour income taxation, 2018

(In %)



Source: Commission services based on Eurostat and OECD data.

Notes: (1) The indicator is based on tax wedge data for a variety of family compositions (single person, one-earner couple, two-earner couples, all three with two children and with none). These are then weighted according to their prevalence in the Member State in question.
(2)) A two-earner couple is assumed to be one person earning 67 % of the average wage and one earning 50 % or 167 %.
(3) Recent data for Cyprus are not available.
(4)) Countries are ordered in descending order by the size of the difference between the tax wedges at 167 % and 50 % AW.

Graph 40 shows the power of tax and benefit systems to correct income inequality, based on actual income data. It complements the progressivity indicator in Graph 39, by comparing market and disposable income inequality at four stages expressed by the Gini index:

(a) market income inequality (*excluding* pensions from market income);

(b) market income inequality (*including* pensions in market income) [88];

(c) disposable income inequality (*before* social transfers) [89]; and

(d) disposable income inequality.

The difference between (b) and (c) shows the redistributive impact of taxes on income inequality, while that between (c) and (d) shows the extent to which social transfers reduce it.

The graph shows that tax and benefit systems mitigate income inequality to a greater or lesser degree in all Member States. Taxation contributes more to redistribution in some Member States (e.g. Portugal, Italy and the Netherlands), while transfers contribute more in others (e.g. Sweden, Slovakia and Poland). Income inequality remains high in certain Member States, including some where the redistributive effect of taxes and benefits is relatively low.

Graph 40: Corrective power of tax and benefit systems (Gini index), 2017

(Gini index)

Source: Commission calculations based on EU-SILC data.

Notes: (1) Income data are adjusted for household size (equalisation). The scale of the Gini coefficient is from 0 to 100. A value of 0 corresponds to perfect equality (same income for everybody), while 100 corresponds to maximum inequality (all income distributed to one person and all others have nothing).
(2) EU-SILC 2017 data are based on income generated in 2016 (except IE and UK).
(3) No 2017 EU-SILC data are available for IE and UK, therefore 2016 data are used.

[88] Pensions are sometimes considered a *social transfer*, in which case households that rely solely on pension income have a market income of zero; this somewhat artificially inflates the level of market income inequality. For that reason, and because pensions are often linked to some extent to lifetime social contributions, for the purpose of this analysis we prefer to consider pension income as *market income*.

[89] I.e. unemployment, family, sickness and disability benefits, and education-related allowances.

Box 2.5: Tax competition in personal income taxation

Governments can use personal income tax (PIT) policy to redistribute and boost employment, but also to support competitiveness or attract highly skilled individuals or high-income earners. As with CIT policy, tax competition in PIT occurs when countries interact in setting tax policies to attract or retain mobile resources (see *Box 2.2*).

Although tax competition in PIT is overall less visible than that for corporate income, data and facts (see below) hint at tax competition targeting the income-rich, to attract this highly mobile segment of the population with preferential tax measures.

1) Data suggest a change in tax rate structures, shifting the tax burden from more mobile to less mobile taxpayers. For example, we observe a steep reduction in top marginal PIT rates in many Member States since the beginning of the 1980s, resulting in a lower average tax burden for the very income-rich. Graph 41 shows that the effective average tax burden on labour (including SSCs) has increased evenly across large parts of the income distribution, while it has decreased for the top 1 %. This hints at two separate developments:

(i) a shift of the tax burden from other (potentially more mobile) bases to labour, given that overall tax revenue is relatively stable over time; and

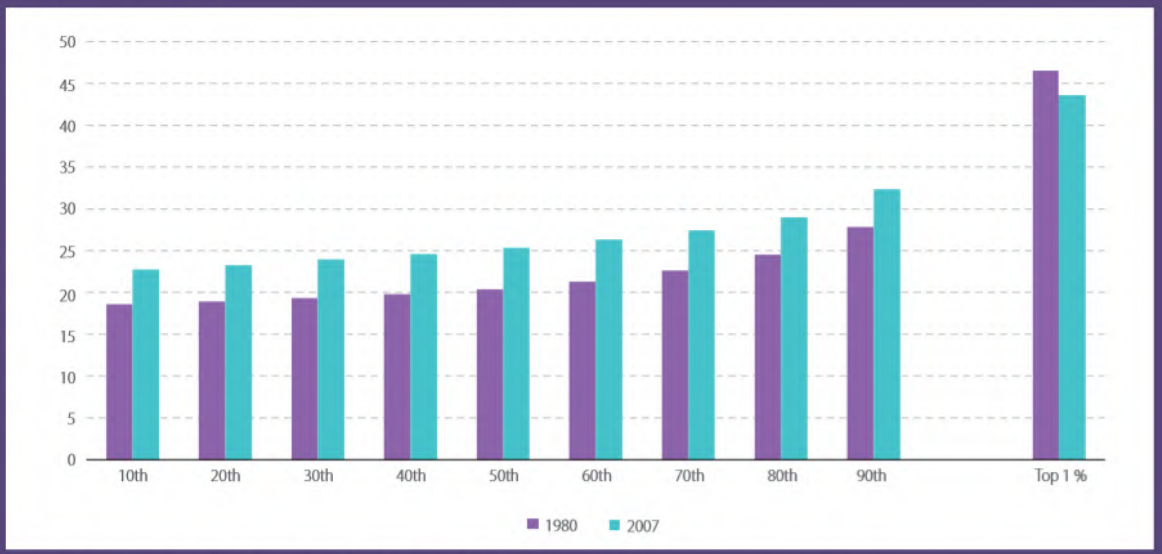
(ii) a shift within the labour tax base from the very income-rich to the rest of the income distribution.

According to the literature (Egger, Nigai, & Strecker, 2019), these shifts can be explained to some extent by the greater mobility of top income earners due to economic integration. This suggests that, in absence of international coordination, globalisation limits the capacities of countries to design their tax policies, including redistribution.

Graph 41 also shows that effective average labour tax rates remain progressive. However, the progressivity of the overall tax mix has to take account of other taxes as well, in particular indirect taxes, which are typically regressive (see *section 1.1 What makes a fair and efficient tax system?* and *Box 1.1: Distribution of overall tax mix*).

Graph 41: Effective average labour tax rate (including social contributions), 1980-2007, by percentile

(Average income tax rates in %)



Source: Own computations based on dataset for (Egger, Nigai, & Strecker, 2019).
Notes: (1) The 10th (20th, etc.) percentile is the value that divides the data so that 10 % (20 %, etc.) of the distribution is below it.
(2) The 17 Member States for which these data are available are AT, BE, CY, DE, DK, ES, FI, FR, UK, EL, HU, IE, IT, MT, NL, PT and SE.

These developments have been accompanied by a trend towards taxing capital income separately and typically at a lower, flat rate, while taxing labour income progressively. This has further alleviated the tax burden on the income-rich, who typically have:

(i) higher capital income; and

(ii) more opportunities to re-declare labour/earned income as capital income.

2) Specific schemes targeting mobile top earners have proliferated in the EU. These include special programmes targeting expats on a gross income above a certain threshold, or certain professions (e.g. pilots, researchers) typically associated with a higher income and/or skill level [90]. It is important to look at these schemes in conjunction with other tax regimes, in particular preferential corporate tax measures, as the two categories complement and amplify the effects on tax competition (e.g. special PIT schemes will attract the high-income individuals needed to fulfil substance criteria for CIT purposes, with a view to relocating profits and thereby CIT revenues) [91].

The rationale behind these tax packages remains unclear. At best, they attract specific skills with positive implications for competitiveness and potentially positive spillovers on other tax bases (e.g. increased consumption and associated tax revenues). At worst, they may simply be used to attract high-income individuals who are needed to fulfil substance criteria for CIT purposes.

This combination of factors threatens to distort the functioning of the single market and restrict Member States' freedom to set their tax policy, since they may:

(i) deprive the other Member States of taxes that are due; and

(ii) distort markets by influencing location decisions through tax benefits/incentives.

As tax cuts for high-income earners need to be compensated through either spending cuts or tax increases imposed on other taxpayers, they risk undermining the progressivity and overall fairness of the tax system.

3) Mismatches in the definitions of 'taxable income' and 'tax residence' for individuals could lead to double or nontaxation. Rules and definitions are outdated and not fit for purpose in an integrated market where highskilled workers or high net-worth individuals are increasingly mobile. This may create loopholes that can be exploited to avoid taxation, which could further constrain Member States' ability to tax high-income earners effectively. In addition, a vast majority of Member States have 'golden visa' arrangements, some of which may be exploited so as to reduce or avoid PIT, or even, in the worst of cases, to launder the proceeds of illegal activities.. Recent examples are 'citizenship by investment' and 'residence by investment'

[90] For a more comprehensive overview, see Trautvetter & Winkler (2019).

[91] Managerial or specific functions may be required to justify that business activities are conducted in a jurisdiction, thereby creating a taxable presence and allowing to shift profits to that jurisdiction for tax purposes.

[92] European Commission (2019f; 2019g).

[93] European Commission (2019d).

Recent literature identifies well-designed inheritance/gift taxes and capital gains taxes as suitable means to fight wealth inequality in a less distortive manner and with an acceptable level of administrative complexity (OECD, 2018b)**.** However, inheritance taxes are often perceived as unfair. They primarily impact the middle classes, since the very wealthy have greater estate-planning and avoidance opportunities than, for example, those whose wealth is tied up in the family home. Also, the notion of double taxation attracts criticism. Many of these concerns can be addressed through proper design. For a more detailed discussion, see the last edition of this report (European Commission, 2018a). Table 4 provides an overview of inheritance taxes across the EU.

Table 4: Inheritance taxes

Member State	Inheritance tax?	Flat or progressive?	Min. - max. rate	Special regimes for family-owned business in certain cases?
BE		Progressive	3 %-80 %	
BG		Flat	0-3.6 %	x
DK		Progressive	0-36.25 %	
DE		Progressive	7 %-50 %	
IE		Flat	0-33 %	
EL		Progressive	1 %-40 %	x
ES		Progressive	7.65 %-34 %	
FR		Progressive	0-60 %	
HR		Flat	0-4 %	x
IT		Flat	4 %-8 %	x
LT		Progressive	0-10 %	x
LU		Progressive	0-48 %	x
HU		Flat	0-18 %	x
NL		Progressive	10 %-40 %	x
PL		Progressive	3 %-20 %	x
SI		Progressive	5 %-39 %	x
FI		Progressive	7 %-33 %	x
UK		Flat	0-40 %	
CZ, EE, CY, LV, MT, AT, PT, RO, SK, SE	x			

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

2.5. Fighting tax fraud, evasion and avoidance

Improving tax compliance to secure revenue to finance public policies on education, healthcare, infrastructure, defence, etc. is essential for creating a fair society. Alongside active measures to combat tax fraud, evasion and avoidance, a transparent and well-functioning tax administration is crucial to creating and preserving trust in the authorities. This trust in the functioning of the system – essentially the sense that others are also paying their fair share – is a pre-condition of voluntary tax compliance. A solid tax compliance system also reduces options for criminals to reinvest the proceeds of their illegal activities in the financial system.

Although it is (by the nature of the phenomena) difficult to estimate how much money is lost to tax fraud, evasion and avoidance, this section presents indicators that aim to gauge the scale of the issues.

2.5.1. Estimates of tax avoidance

Tax avoidance consists of taxpayers reducing their tax liability through arrangements that may be legal, but run counter to the intent of the law. It can take various forms, e.g. intra-group loans, the location of intangibles and the manipulation of transfer pricing.

While many studies demonstrate the existence of tax avoidance practices, it is hard to measure revenues lost to it given the complexity of the phenomenon, and data limitations. A study commissioned by the European Parliament [94] finds that the revenue lost from profit-shifting in the EU amounts to about **EUR 50-70 billion** a year [95]. Álvarez-Martínez *et al.* (2018) find that tax avoidance in the EU entails **EUR 36 billion** of CIT revenue losses annually. Tørsløv *et al.* (2018) estimate that the EU loses around **EUR 37 billion** a year [96]. By way of comparison, CIT revenues totalled EUR 418 billion in the EU in 2017. Furthermore, budgetary losses from tax avoidance might not appear directly in CIT revenues, because they can be hidden by policy choices, e.g. through a broadening of the tax base, which increases CIT revenues.

[94] Dover, Ferrett, Gravino, Jones, & Merler (2015).

[95] The method captures profit-shifting in the EU, excluding Spain, Hungary and Finland. It is based on the 'CIT efficiency' method, which attributes to profit-shifting all differences between a Member State's CIT to gross operating surplus and the EU average of the ratio.

[96] Own computations based on Tørsløv et al. (2018), *The missing profits of nations*.

2.5.2. Financial activity

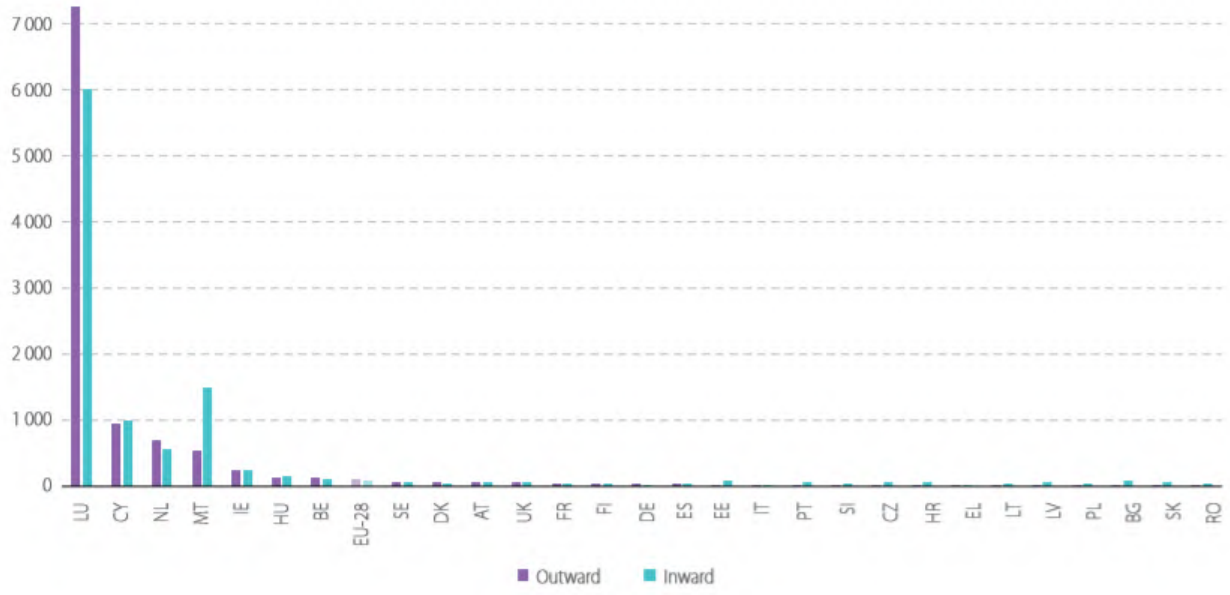
Countries whose tax rules are being exploited for tax avoidance are generally characterised by (abnormally) high financial activity, as opposed to real economic activity. It is therefore useful to look at information on possible disconnects between financial and real economic activity. High flows to 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.

Such indicators are not in themselves conclusive in determining whether a country is being used for tax avoidance purposes. Other factors influence activities and flows (e.g. smaller countries tend to have higher ratios of foreign direct investment (FDI) to GDP). However, together the indicators 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 FDI, as it captures crossborder investments between related companies. Graph 42 contrasts FDI data with countries' GDP.

Graph 42: FDI positions, 2017

(% of GDP)



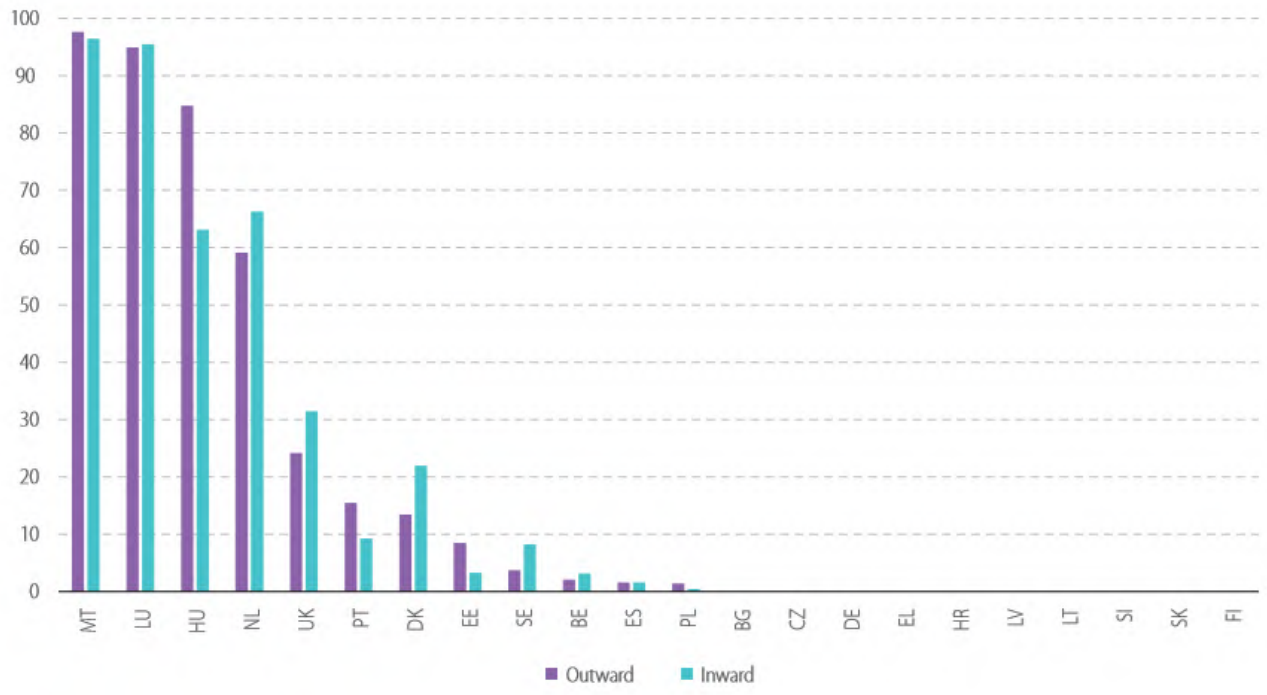
Source: Commission services based on Eurostat, bop_fdi6_pos and nama_10_gdp.

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) Inward FDI or direct investment in the reporting economy (DIRE) denotes investment by foreigners in enterprises based in the reporting economy. Outward 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.

Although direct investment stock carried out through special purpose entities (SPEs) may have legitimate purposes (e.g. achieving a narrow set of goals without putting the entire firm at risk), SPEs are also investment vehicles commonly 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.

Graph 43: Proportion of outward and inward direct investment stocks held through SPEs, 2017

(In % of total FDI)

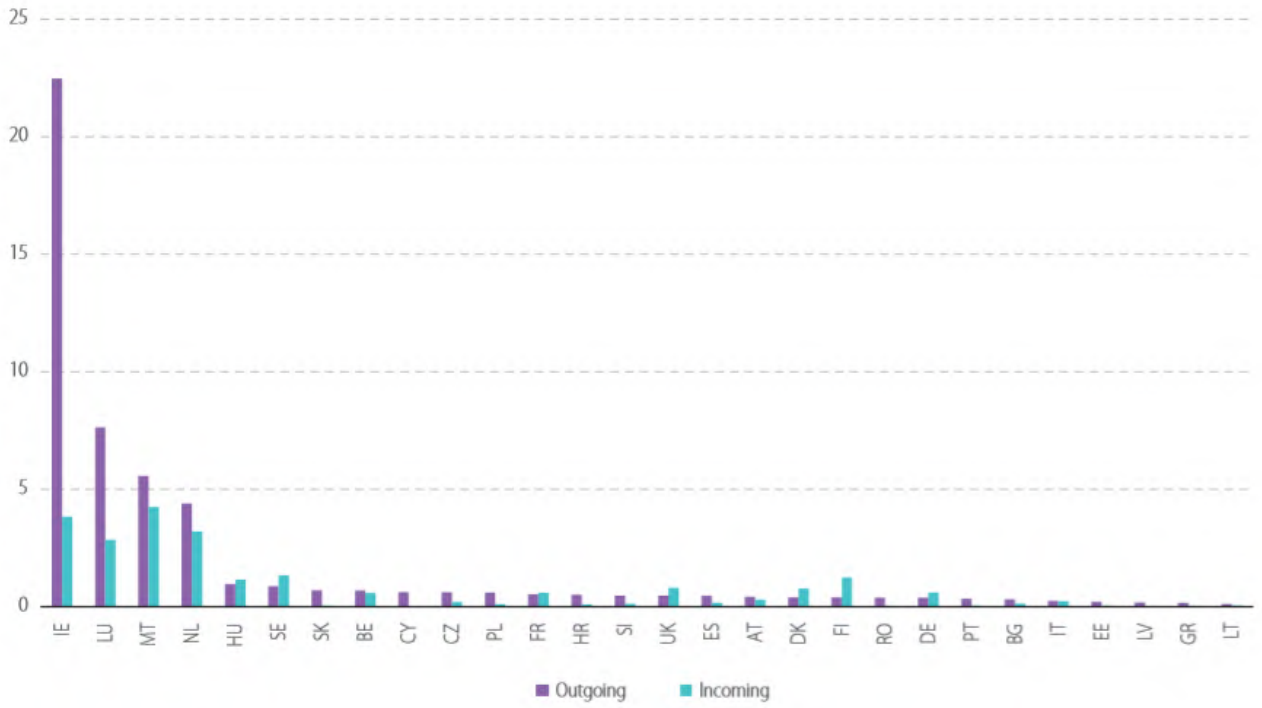


Source: Commission services based on Eurostat, bop_fdi6_pos and nama_10_gdp. Note: Data on SPEs are unavailable for FR, IT, IE, CY, AT and RO.

Some tax avoidance strategies involve (re)locating intangible assets (e.g. intellectual property) in jurisdictions offering favourable conditions. A high volume of royalty payments, particularly relative to GDP, might therefore be indicative of loopholes in tax legislation. As shown in Graph 45, in some countries a high proportion of these flows are going to OFCs [97]. Again, such indicators are not in themselves conclusive proof that a country is being used for tax avoidance purposes.

Graph 44: Charges to/from rest of the world (RoW) for use of IP, 2018 (provisional)

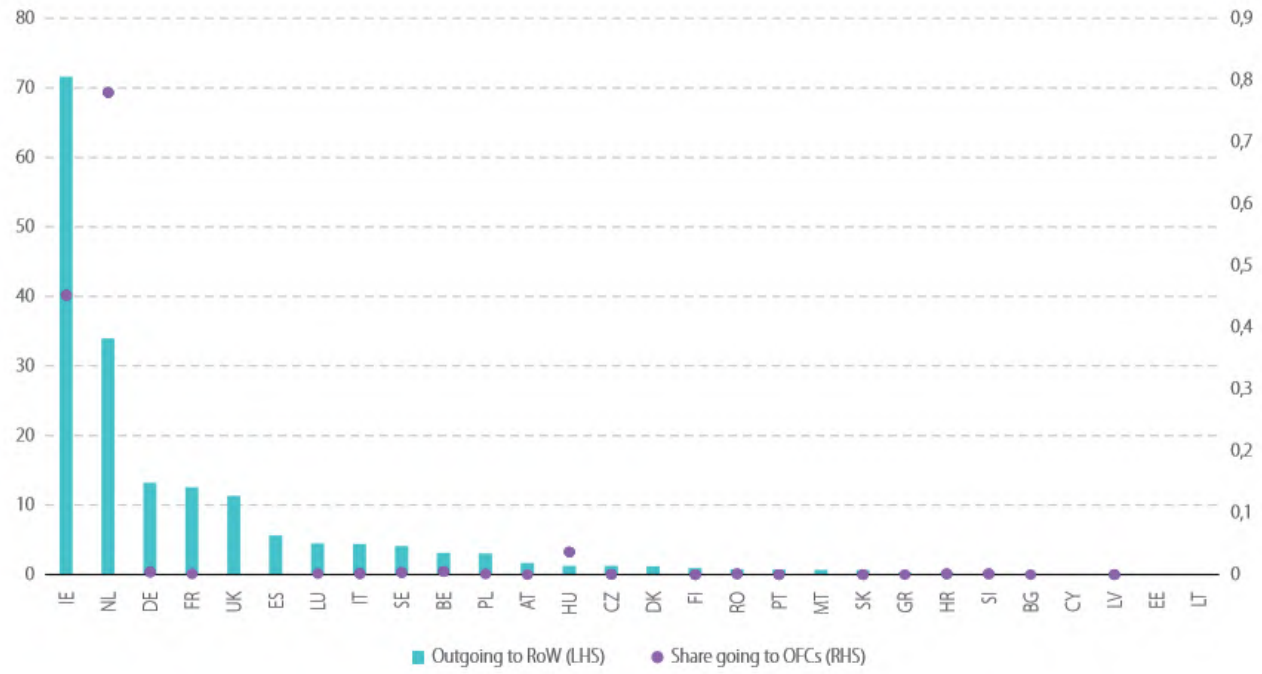
(% of GDP)



Source: Commission services based on Eurostat, 2019, bop_its6_der and nama_10_gdp.

[97] As defined by Eurostat in its Balance of Payments Vademecum.

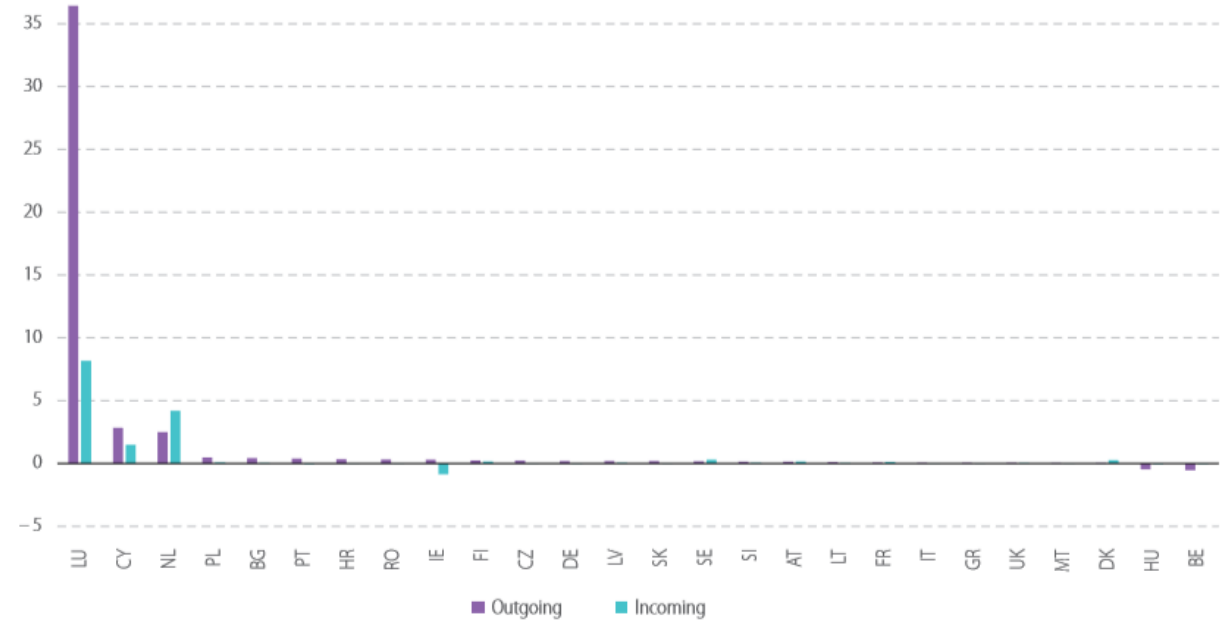
Graph 45: Charges paid to RoW for use of IP and proportion going to OFCs, 2018 (provisional)
(billion EUR) (% going to OFCs)



Source: Commission services based on Eurostat, 2019, bop_its6_det. and nama_10_gdp.
Note: Data on flows to OFCs are unavailable for UK, ES, DK, MT, CY, EE and LT. OFC is an aggregate used by Eurostat.

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).

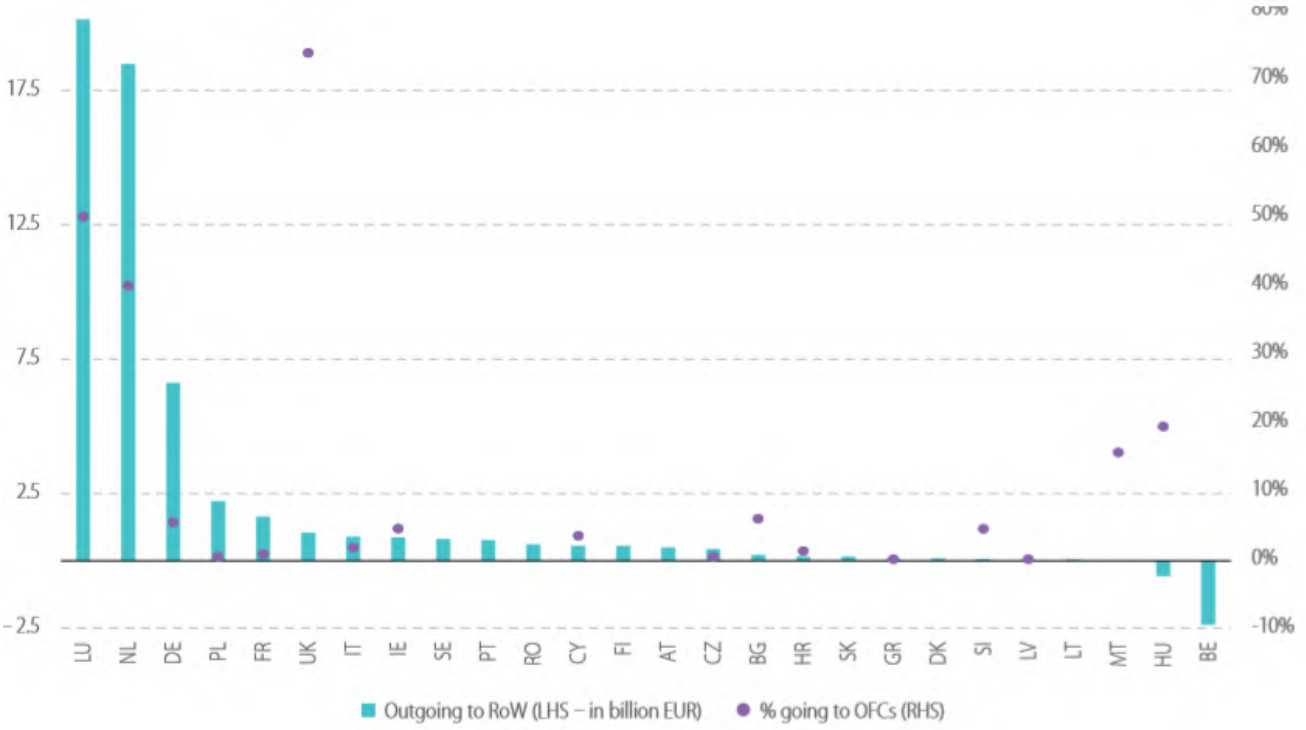
Graph 46: Net income on debt (interests) paid/received to/from RoW, 2018 (provisional)
(% of GDP)



Source: Commission services based on Eurostat, 2019, bop_fdi6_inc and nama_10_gdp. Note: Data are unavailable for ES and EE.

Graph 47: Net interest on debt paid to RoW and proportion going to OFCs, 2017

(billion EUR) (% going to OFCs)



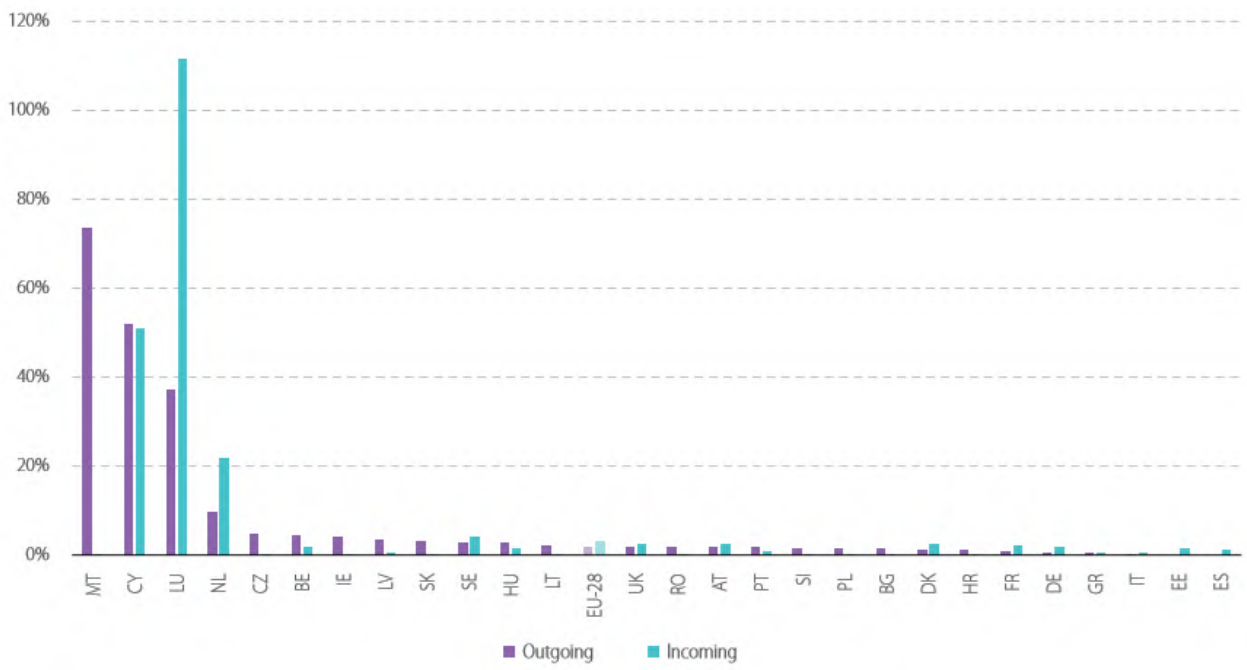
Source: Commission services based on Eurostat, 2019, bop_fdi6_inc.

Notes: (1) A negative flow means that the loan is from the subsidiary (e.g. in HU or BE) to the parent company (abroad).
(2) Data on flows to OFCs are unavailable for SE, PT, RO, FI, AT, SK, DK, LT and BE.

Some multinationals re-route 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 disproportionally high flows of outgoing dividend payments.

Graph 48: Net dividend incomes paid/received to/from RoW, 2018 (provisional)

(% of GDP)

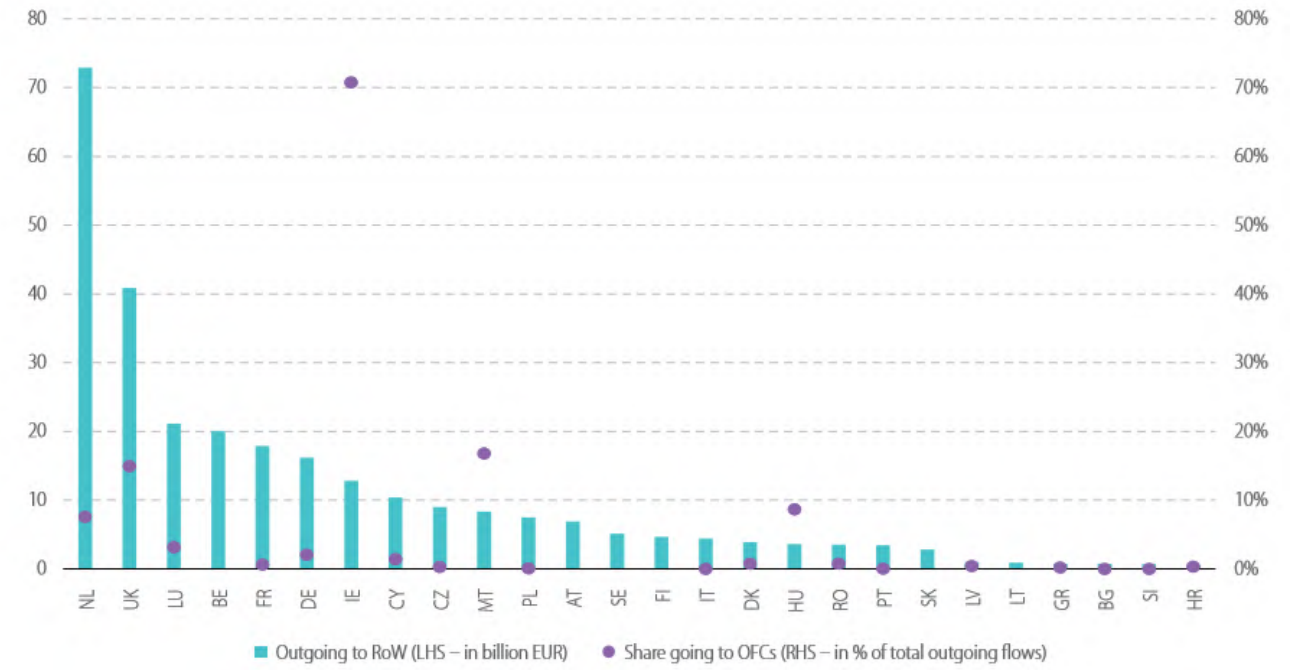


Source: Commission services based on Eurostat, 2019, bop_fdi6_inc.

Note: Data on outgoing dividend payments are unavailable for ES and EE.

Graph 49: Net dividend payments to RoW and proportion going to OFCs, 2017

(billion EUR) (% going to OFCs)



Source: Commission services based on Eurostat, 2019, bop_fdi6_inc.

Note: Data on outgoing dividend payments are unavailable for ES and EE; data on flows to OFCs are unavailable for ES, EE, BE, AT, SE, FI, SK and LT.

2.5.3. Overview of tax rules

Multinationals that engage in aggressive tax planning (ATP) use loopholes in a tax system or mismatches between two or more tax systems to reduce their tax liability. ATP may generally lead to tax avoidance and, in this publication, ATP and tax avoidance are used interchangeably. 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 exempt in the state of residence). It is therefore essential to assess whether Member States' tax rules can be used in ATP schemes. In this respect, it is useful to distinguish between:

- rules that can prompt ATP schemes;
- rules that do not prompt ATP by themselves, but are necessary for an ATP structure to succeed; and
- rules that can counter ATP structures (anti-abuse rules) [98] – these were at the heart of the Anti-Tax Avoidance Directive (ATAD) [99].

The ATAD, which was to be transposed into national law by 1 January 2019, has provided all Member States with a set of robust anti-abuse rules, including interest limitation rules (to discourage artificial debt arrangements designed to minimise taxes) and rules on controlled foreign companies (CFC) to deter profit-shifting to low/no-tax jurisdictions. However, as shown by the current tax reform discussions in the G20/OECD framework on the right to tax and to set a minimum effective tax rate on companies' profits, the ATAD rules are not sufficient to put an end to ATP.

Tax rules that can prompt ATP schemes must be assessed case by case before conclusions can be drawn as to any link with ATP practices. Such assessment requires detailed analysis of their actual design and application, taking account of the extent to which the tax rules are properly safeguarded, with measures to prevent abuse.

While the absence of withholding taxes is generally intended to prevent double taxation [100], it may also facilitate ATP under certain circumstances. Payments to other countries may escape tax altogether, if they are not subject to tax in the recipient jurisdiction. Withholding taxes prevent tax-free profit-shifting, thereby discouraging or impeding ATP.

Table 5 shows which Member States apply a withholding tax (i.e. exceeding 0 %) on flows of interest, dividends or royalties to third-country jurisdictions.

Table 5: Withholding taxes on flows to third-country jurisdictions, 2019

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

Source: ZEW (2016b) and desk research by Commission services.

Notes: (1) The table focuses on WHT rates specified in national corporate tax law; it does not reflect those specified in double-taxation treaties.

(2)) A cross means that the Member State does not apply a WHT (exceeding 0 %).

(3) The Dutch government has announced its intention to introduce WHTs on flows of royalties and interests to low-tax jurisdictions in 2021.

(4) WHTs on royalties in IE are only on patents and with exemptions in certain cases, for WHTs on dividends there is a broad range of exemptions for corporate and individual shareholders. WHTs on interests in DK are only paid to foreign related entities. In SE royalties are subject to income tax by assessment.

[98] For more information, see Ramboll Management Consulting and Corit Advisory (2015).

[99] Council Directive (EU) 2016/1164.

[100] As provided for by Council Directive 2011/96/EU (Parent/Subsidiary Directive), as amended by Council Directive 2014/86/EU.

2.5.4. 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 often hidden, it is difficult to measure the scale of tax evasion. The main difficulties are establishing the 'correct' benchmark level of the tax, and the lack of data. The revenues lost to tax evasion can be estimated by using *top-down* methodology [101] based on macroeconomic data such as national accounts data, or a *bottom-up* methodology [102] exploiting more specific, individual level data, e.g. from surveys and tax audits. Tax fraud is a form of deliberate evasion of tax, 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 deciding to perform economic activities underground or informally. Laundering of proceeds from criminal activities and financing terrorism are also key reasons.

EU statistical offices 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 disclose 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), bankruptcies, financial insolvencies and errors or miscalculations. The VAT gap in the EU was estimated at EUR 147.1 billion in 2016 (CASE et al., 2018). Graph 51 shows the VAT gap in EU Member States as a % of theoretical tax liability. Cross-border VAT fraud across the EU is estimated to account for about EUR 50 billion a year (EY, 2015).

[101] Also referred to as the 'macro' or 'indirect' method.

[102] Also referred to as the 'micro' or 'direct' method.

Graph 50: VAT gap, 2016-2017

(In % of VTTL)

Source: CASE et al. (2019).

Several Member States also estimate other tax gaps, e.g. the CIT gap. According to a survey by the Fiscalis Tax Gap Project Group (Fiscalis Tax Gap Project Group, 2018), nine Member States estimate the 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, the national estimates are not always publicly available and cross-country comparison is not possible due to the use of different methodologies [103].

[103] See Box 2.6 in last year's edition of this report (European Commission, 2018a).

Billions of euros in tax revenues are lost each year in the EU because of tax evasion by individuals. A recent study by ECOPA and CASE (2019) provides estimates of offshore wealth held by individuals (for the world's main economies) and corresponding estimates of revenues lost by the EU and its Member States due to international tax evasion. Global offshore wealth is estimated at EUR 7.5 trillion in 2016, with an estimated EUR 1.5 trillion held by EU residents (i.e. 9.7 % of GDP, down from 15.7 % in 2001). EU revenues lost due to international tax evasion were estimated at EUR 46 billion (0.3 % of GDP) (see Graph 51). On average, the biggest EU economies (France, Germany and the UK) accounted for over 55 % of this amount, in monetary terms.

Graph 51: Total revenues lost in the EU due to international tax evasion

(billion EUR)

Source: ECOP and CASE(2019).

3 Tax reforms in the EU and reform options

As in previous years [104], Member States continued to implement a wide variety of tax reforms in order to foster growth and fairness. Section 3.1 is structured according to the tax priorities presented in the first two chapters of this report and presents reforms announced or implemented between June 2018 and June 2019 [105]. It complements the analysis in chapter 2 by looking at the most recent developments, which are not yet visible in the available data. Tax reforms can have multiple, broad objectives and address different priorities, but we cover them in the subsection where they contributed most to the analysis. Section 3.2 presents general reform options and principles that all Member States can take into account in seeking to make their tax systems fairer and more growth-friendly.

The information in this chapter is based primarily on the tax reform tables in the *Taxation trends report* [106]. In some cases, the information from the tables is complemented with data from other sources, e.g. information provided by Member States in 2019 in their reform, stability and convergence programmes. These sources are referenced in footnotes.

[104] For an analysis of reforms in previous years, see previous editions of this report (European Commission, 2018a; European Commission, 2017a; European Commission, 2016a).

[105] This is the period covered by this chapter. Exceptionally, more recent announcements of tax reforms have been taken into consideration in chapter 2 where relevant for a particular analysis.

[106] European Commission (2019b).

3.1. Recent reforms in the Member States

3.1.1.Reforms affecting private investment

Several Member States lowered their corporate tax rates. The average CIT rate in the EU fell slightly from
21.9 % in 2018 to 21.7 % in 2019, continuing a downward trend. The decrease was due to reforms in Greece (top rate down from 29 % to 28 %), Luxembourg (from 26 % to 24.9 %) and Sweden (from 22 % to 21.4 %). Further cuts were announced in France (progressive decrease from 33.5 % now to 25 % in 2022) and the Netherlands (decrease of the top rate from 25 % now to 21.7 % in 2021). No Member State increased its CIT rate.

Member States continued to adopt policies aimed at stimulating investment. Some lowered the statutory tax rate in specific cases, e.g. Italy cut the STR for reinvested earnings in tangible assets by 9 pp. Others provided tax exemptions for investment, e.g. Poland extended such an exemption from special economic zones to its entire territory and lowered the CIT rate for small companies from 15 % to 9 %, while the UK temporarily increased the annual investment allowance from GBP 200 000 to GBP 1 000 000. Other Member States made accelerated depreciation more widely available (e.g. Hungary increased the threshold for the tax-free 'provision of developments').

Several Member States apply ACE schemes to address the corporate debt bias [107]. Poland introduced an ACE on 1 January 2019. Italy has repealed its ACE scheme as from fiscal year 2019. Although it reduced firms' leverage, it did not meet expectations as regards its impact on investment. Belgium, Cyprus, Malta and Portugal continue to apply schemes.

Some Member States introduced measures to incentivise R & D investment. Poland reduced to 5 % the PIT rate for income derived from intellectual property. Denmark increased the allowance for R & D expenses from 100 % to 110 %.

Member States continued to implement reforms embracing digitalisation and simplifying the remittance of taxes. Digital services are a growing focus of efforts to facilitate tax compliance and some Member States are making them compulsory. This trend continued in the past year, e.g. Cyprus now requires the online payment of taxes that do not bear interest or charges. To make it easier for taxpayers to declare their incomes, Romania introduced a single tax declaration form, replacing seven existing forms.

A number of countries adopted policies to encourage investment in buildings and other real estate. The UK introduced a permanent capital 'structures and buildings allowance'. Italy took a number of measures in this area, doubling the deductibility of municipal taxes from real estate used as capital goods to 40 % and extending the application of the 21 % PIT substitute rate to income from commercial real estate. Malta introduced a stamp duty refund for first-time buyers and those buying a second home.

Member States also implemented reforms to recurrent property taxation systems. Lithuania introduced progressive taxation for expensive non-commercial real estate owned by natural persons. Portugal introduced a new bracket for the tax surcharge (1.5 % for immovable property worth over EUR 2 million) and increased to 5 years the exemption for rehabilitated urban property rented for permanent abode. Greece introduced a city tax on hotels and rented rooms. On the other hand, it readjusted the taxable value for the real estate property tax and raised the threshold for the supplementary tax. The Netherlands reduced the tax on renting properties, subject to sustainability improvements.

[107] See section 2.1.2.

3.1.2. Reforms affecting employment and inequality

PIT developments were generally in the direction of lower rates and narrower bases, but major reforms were limited in number. The Netherlands implemented a PIT reform effective from 2019 that reduced the number of tax brackets from four to two and increased tax credits for general and earned income. It expects the reform to reduce the overall tax burden on labour. It announced increases in other taxes to mitigate the revenue loss (see below). Finland decreased its PIT base, inter alia by increasing the income tax credit (to support employment) and the pension income deduction (see below). In a similar vein, Sweden cut PIT starting from 2019. It expanded the in-work tax credit in combination with an increase in the tax threshold for state income tax. Germany raised the basic personal allowance and the allowance for children, and decreased most social contributions to lower the burden on labour, partly targeting low-income earners and families. In Lithuania, the introduction of a two-bracket taxation of labour income increased the progressivity of PIT, with rates of 20 % and 27 % replacing a flat rate of 15 %. The annual salary threshold for the second tax bracket will drop gradually from 120 times the average monthly wage in 2019 to 60 times in 2021. In 2019, this translated into a threshold of EUR 136 344 p.a. Other income will be taxed at 15 % in the first bracket and 20 % in the second (with a threshold of 120 times the average wage per year). The greater progressivity is partly counterbalanced by a decreasing SSC cap (see below).

There were both upward and downward changes in SSC rates. Lithuania reduced the combined employer/ employee SSC rate by 19 pp and shifted the SSC mainly to employees. It also introduced a cap that will drop gradually in the period to 2021. In Germany, the statutory rates of various SSCs were increased and decreased in differing ways for employees and employers in order to reduce the burden on labour and account for demographic changes. Ireland introduced more bands and decreased some rates in the context of its lowered universal social charge. Greece lowered SSC rates for the self-employed and employees below the age of 25. Cyprus legislated a rise in social contributions to the pension system for 2019 and introduced a compulsory contribution to finance the recently adopted national health insurance system in 2019 and 2020.

Some labour tax reductions targeted low-income earners, second earners and pensions, but were often limited in scale. Austria introduced a tax credit of EUR 1 500 for every child below the age of 18, along with a compensation payment for single (earning) parents. This replaces tax allowances for parenting and childcare costs. According to a EUROMOD simulation [108], the measure should increase labour market participation and hours worked, in particular by women, and benefit mainly low- and medium-income earners with children. The Gini coefficient of equalised disposable income may decrease from 0.251 to 0.248, mainly due to the family bonus. Denmark aims to ease the income tax burden through a decrease in the bottom bracket tax and an increase in employment relief. It also introduced an extra allowance on pension payments to increase pension savings. Sweden raised the basic income tax deduction for over 65 year-olds, starting in 2019. Finland increased the pension income deduction for the state and municipal tax to reduce the tax burden on those with low pension incomes. Malta increased the tax credit for payments to occupational and private pension schemes. Latvia raised the non-taxable minimum for pensioners.

Contrary to the long-term trend of decreasing marginal top tax rates (see Box 2.4), a few Member States extended solidarity levies or reduced benefits from special schemes for high-income earners. Poland introduced a 4 % solidarity levy on individuals earning more than PLN 1 000 000, including income from employment and self-employment (including business income taxed at 19 %) and certain categories of income from capital gains. Finland prolonged the lower threshold for the highest income bracket for state income tax [109]. For tax years 2019 and 2020, Ireland introduced a cap of EUR 1 000 000 for its 'special assignee relief programme' (SARP). For new SARP entrants, the portion of income exempted from income tax is restricted to 30 % between EUR 75 000 and EUR 1 000 000, so that incomes above this threshold no longer benefit from the scheme.

[108] European Commission (2019c).

[109] This 'solidarity tax' was initially introduced as a temporary measure in 2016.

Several Member States legislated special treatment for certain types of income, or schemes targeting particular groups. Greece lowered the withholding tax rate on dividends from 15 % to 10 % from 2019 onwards. Italy introduced flat rates for the self-employed and businesses taxed under the PIT, while Lithuania continues to tax the self-employed at a flat rate, exempting them from its new progressive schedule. To encourage emigrants to return and invest, Portugal implemented a specific temporary tax scheme for those who return in 2019 and 2020 and were not resident in Portugal between 2015 and 2018 (European Commission, 2019e). The measure grants 50 % relief on (self-)employment income for 5 consecutive years. As the next in a series of special tax schemes introduced in recent years, Italy adopted a substitute tax rate of 7 % on foreign pensioners' income sourced from abroad.

3.1.3. Reforms affecting consumption and the environment

The following paragraphs look at reforms of alternative tax bases, such as consumption and environmental taxes.

Changes to consumption taxes were generally relatively minor between mid-2018 and mid-2019. No Member States changed their standard VAT rate, so the relatively stable trend of recent years continued. The Netherlands raised its reduced VAT rate from 6 % to 9 % across the board. Hungary increased the individual exemption for VAT. Most of the changes relate to VAT reductions on specific items.

Some Member States took measures to promote the consumption of cultural goods. Portugal lowered its rate for e-publications and other supplies of cultural goods to 6 %. Ireland reduced its rate from 23 % to 9 % for electronically supplied newspapers and e-books in line with their existing rate for printed newspapers, while Lithuania lowered the rate for newspaper and magazines to 5 %. Greece now applies a reduced rate of 6 % for concert tickets. Spain lowered its rate on cultural services provided by individuals and on cinema tickets from 21 % to 10 %.

Several Member States took measures to promote tourism-related sectors. Austria lowered its reduced rates for hotel and comparable accommodation from 13 % to 10 %, while Slovakia cut its rate from 20 % to 10 %. In Romania, the reduced VAT rate for accommodation and catering dropped further, from 9 % to 5 %. Only Ireland moved in the opposite direction, by increasing its rate for specified tourism industry sectors from 9 % to 13.5 %.

Cyprus increased its property-related VAT, which now applies to transfers of the right to dispose of immovable property and to services/goods supplied by retirement homes.

As regards health-related taxes, a number of Member States (e.g. Lithuania, Portugal, Bulgaria, Czechia, Ireland, Latvia, Hungary, the Netherlands and Finland) raised excise duties on tobacco or alcohol. On the other hand, Greece abolished its excise rate on wine and the UK froze the expected increase in excise duties on spirits, beer and cider. In recent years, several Member States have taken measures to tax novel tobacco products (e-cigarettes, etc.).

Only a few Member States increased excise duties on energy products and electricity or introduced tax changes to support environmental sustainability. Lithuania abolished the excise duty allowance for coal and increased the excise rate for diesel. Latvia planned an increase on oil products used as fuel as of 2020. Finland increased its tax rates on heating fuels and based the CO_2 component of the tax on average life-cycle emissions (rather than combustion only), in order to apply the same principles as for tax on transport fuels. The Netherlands decreased its tax credit on energy and increased the rate on natural gas. Conversely, France withdrew the planned increase of its carbon tax, putting on hold the harmonisation of diesel and petrol excise rates. Sweden decreased its CO_2 tax on diesel fuel in agriculture and forestry, and temporarily froze the indexation of gas and diesel fuel. Fuel duty was also frozen in the UK.

Member States introduced very limited reforms to increase vehicle taxation and some took measures going in the opposite direction. Bulgaria introduced a vehicle tax based on ecological criteria. Ireland introduced a 1 % surcharge for diesel-engine passenger vehicles and extended the vehicle registration tax relief for hybrid vehicles and the 0 % benefit-in-kind rate for electric vehicles. The Netherlands increased the tax rate for heavy vehicles. Finland introduced a 'eurovignette', but decreased its vehicle tax and plans to reduce its tax on heavy-duty vehicles as from 2021. The UK has frozen the heavy goods vehicles duty for 2019 and 2020. Sweden abolished the 2018 tax on air travel.

3.1.4. Reforms affecting tax fraud, evasion and avoidance

The fight against tax fraud, evasion and avoidance has remained an important area of reform at national level in 2018- 2019, complementing EU-level action. Planned or adopted measures include strengthening the legal framework and enforcement, but also modernising tax collection, improving access to information and encouraging voluntary compliance.

In 2018-2019, several reforms aimed to facilitate tax compliance and increase voluntary compliance. Austria decided to structurally reform and modernise its tax administration in response to developments such as digitalisation and globalisation, to promote tax honesty and to reduce compliance costs by introducing easily understandable, standardised automatic services. Czechia continued with the gradual digitalisation of tax administration with a view to implementing a simplified, taxpayer-friendly approach by 2020. The project includes setting up a virtual tax office (*MOJE daně* portal), which will enable taxpayers to use tax forms that are pre-filled with the their basic data, wage inputs from the employer and data from third parties such as banks and pension funds. Czechia is also planning to reduce the administrative burden relating to taxation for small businesses run by the self-employed. Entrepreneurs with an annual income of up to EUR 39 000 (CZK 1 million) will be able to pay tax duties in a single lump sum and be exempted from having to keep accounts for tax purposes and report income tax, social and health insurance on three different forms. France continues efforts to facilitate tax compliance. The ESSOC law (*Loi pour un état au service d'une société de confiance*) aims to simplify procedures and make them more transparent. It provides for more systematic tax rulings, for taxpayers to be able to track their requests and for results to be published for reference purposes. Tax audits should deliver legally binding conclusions, so as to provide taxpayers with greater legal certainty. Tax adjustments will be eased and penalties reduced and normalised for those taxpayers willing to become compliant. Companies liable for corporate tax will be able to ask for compliance checks on their tax operations. Specific support will focus on SMEs as a first step.

Some countries introduced tax lotteries to improve VAT compliance and reduce the shadow economy. In 2018, Lithuania organised a game of cash register receipts to encourage public involvement in the reduction of the shadow economy. Latvia adopted a 'receipt game' law and organised a lottery from 1 July 2019 to promote voluntary tax compliance (thus reducing the shadow economy) and encourage consumers to ask enterprises or performers of economic activity to provide them with formal receipts, etc. Consumers can earn cash prizes by registering receipts for transactions of EUR 5 or more.

Several reforms were introduced to improve tax enforcement. Cyprus is stepping up the fight against illegal and undeclared work by reforming labour inspection mechanisms through training, risk assessment and analysis. To improve deterrence, Malta has imposed heavier fines for evading excise duty on cigarettes and other tobacco products. France adopted a law to strengthen the fight against fraud, with better detection (e.g. by a special 'tax police' force (*police fiscale*)) and harsher sanctions (including 'naming and shaming' in cases of tax fraud).

A comprehensive overview of transactions and efficient IT analysis tools help to fight tax evasion and fraud. In Poland, all entrepreneurs now have to submit monthly records of purchases and sales in the form of a standard VAT audit file [110]. While this obligation already applied to large companies and SMEs, it was extended to micro-enterprises in January 2018. The information is analysed using an IT tool that identifies discrepancies in taxpayers' and contractors' VAT settlements. Also in January 2018, Poland introduced an ICT

[110] *Jednolity plik kontrolny* (JPK).

clearing house system (STIR), which makes it harder for organised crime groups to use the financial sector to commit tax fraud or launder proceeds from their criminal activities. The split payment mechanism introduced by Poland on 1 July 2018 supervises the release of funds on VAT bank accounts, thus preventing taxable persons from receiving VAT payments from their contractors and then disappearing without passing them on to the authorities. The mechanism also improves the transparency of VAT settlements and impedes the transfer of untaxed money abroad. From 1 September 2019, the government has introduced an obligatory split payment mechanism that applies to goods and services covered by the reverse charge and joint and several liability. In May 2019, Poland introduced online cash registers, whereby information on transactions is uploaded to a central register repository. In 2019-2020, it is planning to develop a system for road and rail freight monitoring, which should have a positive impact on the revenue side of the state budget and reduce leakage, including as regards excise duty (for LPG and heating oils, etc.). In 2017, Latvia introduced electronic working-hours registration in the construction sector to facilitate the payment of taxes for employees, prevent illegal employment and incorrect registration of working hours, and improve the traceability of economic activity. Currently, the measure applies to construction works costing over EUR 1 million, but Latvia is planning to reduce the threshold from January 2020.

Some Member States introduced, or plan to introduce, measures to address tax avoidance. In November 2018, Ireland and Malta concluded a competent authority agreement to prevent their bilateral tax treaty being used for ATP practices through the 'single malt' structure [111]. Ireland also published a corporation tax roadmap, which identifies possible avenues for reform, including in the area of transfer pricing. Cyprus is reviewing its legal transfer pricing framework with a view to updating it in 2019. Luxembourg amended its tax law to make the recognition of permanent establishments abroad more stringent and avoid abuses linked to the use of convertible loans. The Netherlands established a blacklist of 21 'low-tax jurisdictions'; this is used for its new measures on controlled foreign companies, the ruling rules and the announced withholding taxes on outbound royalties and interests. Since 1 July 2019, it has been granting certainty in advance (rulings) only to multinationals that have a sufficient economic nexus in the country. Poland adopted rules to transpose the Directive [112] on mandatory disclosure of ATP schemes by intermediaries. These entered into force at the beginning of January 2019, a year ahead of the deadline. In the UK, 'offshore receipts in respect of intangible property' came into effect in April 2019. This measure will apply UK income tax to amounts received in a low-tax jurisdiction in respect of intangible property, where those amounts are more favourable to those deriving from the sale of goods or services in the UK.

Several Member States announced their intention to introduce, or are in the process of introducing, a digital services tax (DST) from 2020, in order to re-establish a level playing field. Austria published a draft bill that would introduce a 5 % DST on Austrian digital advertising revenues for groups meeting certain financial criteria. Czechia plans to introduce a 7 % DST, primarily targeting large digital groups' advertising and personal data sales. In July 2019, France formally adopted a 3 % DST on revenues generated by large companies running digital intermediary platforms or online advertising businesses. Hungary has implemented a tax on advertising revenues above HUF 1 million in 2015 at a rate of 5.3 %, and raised it to 7.5 % in 2017. Italy plans to introduce a DST similar to the French one. Spain has approved a draft law that would levy a 3 % tax on large tech companies' revenues. The UK announced that it will be applying a 2 % tax on the revenues of a subset of digital businesses that derive value from UK-based users.

National reforms have to be seen in the broader context of EU and international agreements, especially as many ATAD provisions entered into force in January 2019 (see section 3.2.1.3 of last year's edition of this report (European Commission, 2018a)). A number of reforms have been adopted or proposed at EU level to fight tax abuse, as discussed in the following section.

[111] A tax arrangement that consists of having a firm registered in Ireland but managed from Malta, whereby its profits would automatically be taxed in Malta based on the tie-breaker rule in the current double-taxation convention between Ireland and Malta.

[112] Council Directive (EU) 2018/822 of 25 May 2018.

3.2. Reform options

Taking account of what makes a fair, efficient tax system (chapter 1), specific national situations (chapter 2) and general reform trends (section 3.1), there are various reform options available to Member States looking to improve their taxation systems.

3.2.1. Stimulating investment and addressing positive and negative externalities

Options for Member States aiming to do more to boost investment and address positive & negative externalities through tax policy include:

Encouraging alternative sources of financing and risk-taking, focusing on efficiency measures and designing better tax incentives:

- encouraging investment through equity as a complementary source of debt financing; moving from depreciation to immediate expensing of investment; allowing for comprehensive loss offsets; improving the effectiveness of tax incentives for R & D, targeting companies on the basis of a combination of criteria (e.g. age and size); business angel and venture capital investment; concentrating on monitoring and simplifying tax incentives that have the potential to boost real investment;
- shifting towards the taxation of economic rents;
- aligning the design of environmental taxes more closely with the externalities and policy goals they are intended to address, in order to provide consistent price signals; and
- simplifying and clarifying the application of tax rules to the collaborative economy.

3.2.2. Improving tax administration and tax certainty

Taking a proactive approach to digitalisation:

- stepping up tax administrations' digitalisation efforts to facilitate tax compliance and improve customer service; and
- providing tax certainty by keeping tax laws stable and, where changes are needed, consulting taxpayers.

3.2.3. Supporting job creation and employment

For Member States that face challenges around employment and the tax burden on labour, potential reform options could include:

Focusing labour tax cuts on the most reactive groups and those facing the biggest challenges:

- focusing labour tax cuts on groups facing the greatest unemployment challenges and precarious work conditions (e.g. the low-skilled, young people, the elderly and the long-term unemployed), rather than making generic tax reductions; and
- removing or amending features of the tax system that create high marginal tax rates for second earners, e.g. by tapering the withdrawal of income-related child tax credits, and moving from joint to individual taxation for couples.

3.2.4. Mitigating inequality and promoting social mobility

Member States that face particular challenges in social fairness could consider:

Mitigating inequalities of income, wealth and opportunity:

- reducing disposable income inequality through redistribution by strengthening progressive PIT; and
- mitigating wealth inequality and supporting equality of opportunity by increasing the progressivity of the overall tax mix, including the taxation of wealth transmission, individuals' capital income, and property.

Incentivising behaviour that facilitates social mobility:

- reducing the tax burden on the targeted population in order to create jobs, as employment is one route out of social exclusion and poverty; and
- considering the role of entrepreneurship in supporting social mobility.

3.2.5. Fighting tax fraud, evasion and avoidance

Reform options for Member States looking to combat tax fraud, evasion and avoidance include:

More cooperation and a stronger administrative capacity and legal framework:

- making full use of enhanced transparency, particularly on the ultimate beneficial ownership of legal entities and legal arrangements, and cross-border cooperation tools, e.g. automatic exchange of information, sharing of data analysis between countries, multilateral controls and joint audits;
- modernising and digitalising tax authorities to facilitate tax compliance and prevent tax abuse; and
- strengthening the legal framework, e.g. by closing loopholes in domestic legislation and reinforcing anti- abuse provisions.

Promoting trust, transparency and a culture of tax compliance:

- raising taxpayers' awareness of the value delivered through tax revenues; monitoring and showing results of tax administrations' performance;
- strengthening tax morale through information campaigns;
- cooperating with businesses to improve tax compliance while using behavioural economics insights to nudge taxpayers to 'do the right thing at the right time'; and
- reinforcing at national level the protection and safeguarding of whistleblowers who, acting in good faith, denounce serious threats or harm to the public interest.

4 The EU's taxation policy agenda

The Commission proposes tax policies aimed at creating a more efficient, sustainable and fairer tax system. While taxes in the EU have not been subject to much harmonisation, coordinated action at EU level is increasingly necessary to tackle common challenges. In many cases, coordinated solutions can ensure the competitiveness and sustainability of the EU economy and the sustainability of the EU tax base, while addressing tax avoidance more effectively, which in turn helps to prevent criminals from making use of the EU financial system.

This chapter covers the Commission's recent action on tax matters. It starts with a brief presentation of many of the major tax initiatives for more efficient and fair taxation, as proposed by the Commission under Jean-Claude Juncker's presidency [113]. For more information on these initiatives, see section 3.2 of the previous edition of this report (European Commission, 2018a). The remainder of the chapter discusses some of the recently proposed tax initiatives in greater detail.

[113] November 2014 to 30 November 2019.

4.1. Main EU tax actions in 2014-2019

The Commission's main action on tax matters in recent years (2014-2019) has aimed at tackling tax fraud, tax evasion and ATP. With the aim to improve tax transparency, foster administrative cooperation and peer review harmful tax regimes, key initiatives proposed by the Commission and adopted by the Council include:

- two Anti-Tax Avoidance Directives [114] (ATAD I and II);
- five Directives amending the Directive on Administrative Cooperation [115] (DAC); and
- a review of Member States' patent box regimes by the Code of Conduct Group on Business Taxation.

The Commission has also recently launched a network of heads of tax administrations (TADEUS) in order to strengthen cooperation between Member States [116]. In addition, the EU has been engaged in efforts to curb tax avoidance and evasion at global level, in particular by creating a list of non-cooperative tax jurisdictions (see Box 4.1), signing international transparency agreements with non-EU jurisdictions and concluding a VAT agreement with Norway. New tools, such as the adoption of country specific recommendations on aggressive tax planning [117], and the modernisation of the rules on e-commerce [118] have also been proposed or adopted. In the past few years, the Commission has opened several state aid cases relating to business taxation. Lastly, taxation has been a central element of the European Semester, shaping Member States' policies with a view to fair and efficient taxation.

However, there has been limited progress on some of the Commission's flagship proposals. In particular, the proposal for a common consolidated corporate tax base (CCCTB) [119] remains on the negotiation table in the Council. This is largely due to the need for unanimity in the Council on tax matters. To secure tangible results on tax issues, the decision-making process needs to be unlocked, possibly by gradually moving to QMV on tax issues. Enhanced cooperation can be another option to advance certain EU initiatives, albeit (first) with a smaller group of EU Member States. For example, after it became clear that the initial proposal for a harmonised Financial Transaction Tax (FTT) [120] for the entire EU would not receive unanimous support within the Council, the Commission, at the request of a group of Member States, tabled a proposal for implementing enhanced cooperation in that area.

The following sections describe some of the more recent major EU tax initiatives, including the communication on qualified majority voting.

4.1.1. The Commission's communication on qualified majority voting

On 15 January 2019, the Commission presented a Communication on how to move gradually from unanimity voting to the ordinary legislative procedure in EU tax policy. It suggests a roadmap for a gradual transition to QMV under the ordinary legislative procedure in certain areas of shared

[114] Directives (EU) 2016/1164 and 2017/952.

[115] Directives 2011/16/EU, 2014/107/EU, 2015/2376/EU, 2016/881/EU, 2016/2258/EU and 2018/822/EU.

[116] See Box 2.4.

[117] See the 2019 country reports for Hungary, Ireland, Luxembourg, Malta and the Netherlands: https://ec.europa.eu/info/ publications/2019-european-semester-country-specific-recommendations-commission-recommendations_en

[118] See: https://ec.europa.eu/taxation_customs/business/vat/action-plan-vat_en

[119] For more information on the CCCTB, see: https://ec.europa.eu/taxation_customs/business/company-tax/common-

consolidated- corporate-tax-base-ccctb_en

[120] For more information on the FTT, see: https://ec.europa.eu/taxation_customs/taxation-financial-sector_en. Discussions amongst the interested Member States to unanimously reach a final agreement are ongoing. As transparency needs to be ensured, all EU Member States may take part in the deliberations.

EU tax policy, as is provided for in the EU Treaties and is already the case in most other policy areas. The Communication proposed a four-step transition to QMV and co-decision under legislative procedure.

The Commission has called on Member States, the European Parliament and all stakeholders to engage constructively in a debate on QMV in EU tax policy. It is not proposing any change to EU competences in the field of taxation, or to the rights of Member States to set PIT or CIT rates as they see fit. Rather, the aim is to allow Member States to exercise their already pooled sovereignty more efficiently, so that common challenges can be addressed more swiftly. Also, under the ordinary legislative procedure, taxation decisions would benefit from concrete input from the European Parliament, thus giving more weight to citizens' views and increasing accountability. Member States may also agree to use the ordinary legislative procedure for taxes aimed at achieving environmental and energy objectives.

4.1.2. The Commission's proposal for a Digital Tax Package

The digitalisation of the economy has created a growing mismatch between tax rules and value creation. This has in turn facilitated the exploitation of aggressive tax planning schemes, threatened the sustainability of public finance and created an unequal playing field among firms. Against this background — and to avoid a multiplication of national measures that risk fragmenting the Single Market — the European Commission adopted the Digital Tax Package on March 21, 2018.

The Digital Tax Package provides a proposal for a comprehensive solution, which aims to adapt international corporate tax rules to the digital reality. On the one hand, the Package includes a Directive that revises permanent establishment and profit allocation rules by introducing the concept of digital significant presence, which would allocate certain taxing rights to market jurisdictions [121]. On the other hand, acknowledging that progress in the field of taxation usually takes time, it proposes an interim 'digital services tax' (DST) [122], which aims to close the most urgent gaps and loopholes in the taxation of digital activities.

The Digital Tax Package has boosted the discussions at the international level, led by the OECD, to find a global and consensual solution. The discussions are articulated around two broad pillars: (1) realigning taxing rights with value creation and (2) setting a global minimum effective taxation of business profits. As for the Digital Tax Package, the goal of the international discussion is to create a corporate tax system fit for the 21st century, limit profit shifting opportunities and reduce distortion of competition. The Package has been put on hold in the Council while the international discussions are in progress.

[121] A company will be considered 'taxable' in a Member State if it has at least 100 000 users, 3 000 business contracts or EUR 7 million in revenues from supplying digital services there. 'User participation' will be taken into account when deciding the amount of profits a country has the right to tax.

[122] The DST would be levied at 3 %, on companies with revenue of at least EUR 50 million in the EU and at least EUR 750 million in total global turnover (irrespective of the underlying activity).

4.1.3. Evaluations of the ETD and DAC

The Commission has evaluated two of its major tax directives, the Energy Taxation (ETD) [123] and Administrative Cooperation in Direct Taxation (DAC) directives [124]. These evaluations, which were published in September 2019 [125], examined the effectiveness, efficiency, coherence, relevance and added value of the directives for the EU.

The DAC evaluation shows that the framework put in place for administrative cooperation is performing overall well. Administrative cooperation in direct taxation between the Competent Authorities of the EU Member States helps to ensure that all taxpayers pay their fair share of the tax burden, irrespective of where they work, retire, hold a bank account and invest or do business. This is based upon the DAC directive, which establishes all the necessary procedures, and provides the structure for a secure platform for the cooperation. It was relevant at the time it was adopted, and still is today, as it tackles a number of priority problems for the EU. However, not all Member States are using the tools provided by the Directive enough, nor in the same way. In that respect, it is still possible to improve the quality and use of information and the assessment of the performance, while ensuring that the policy remains relevant in particular in the face of new and growing business model.

As of 2020, the DAC evaluation may be followed by new policy proposals.

The ETD has made a positive contribution towards achieving its main objectives of ensuring the proper functioning of the internal market, avoiding double taxation or any distortion of trade and competition between energy sources, energy consumers and suppliers. However, since the adoption of the Directive in 2003, the EU's energy market has experienced significant developments. For example:

- the share of renewable energy in the EU's energy mix has tripled, reaching 18 %;
- as the decarbonisation of the power sector progresses, the share of renewable electricity has increased from 13 % to 31 %; and
- the consumption of biofuels has increased 10-fold.

As technologies, national tax rates and energy markets have evolved over the past 16 years the ETD in its present form no longer delivers the same positive contribution and suffers from many shortcomings. In particular, the evaluation of the directive has detected a number of shortcomings concerning its contribution to the proper functioning of the internal market and to EU environment/climate-change policy.

The evaluation precedes further assessments on possible concrete measures under the next work programme, one of which could be a new proposal for a review of the Directive.

[123] Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity.

[124] Council Directive 2011/16/EU of 15 February 2011 on administrative cooperation in the field of taxation and repealing Directive 77/799/EEC.

[125] For the evaluation of the DAC Directive, see: https://ec.europa.eu/taxation_customs/sites/taxation/files/2019_evaluation_study_on_ dac_kp0219284enn.pdf. For the evaluation of the ETD, see: https://ec.europa.eu/taxation_customs/sites/taxation/files/energy-tax- report-2019.pdf

Box 4.1: EU list of non-cooperative jurisdictions [126]

The EU list of non-cooperative jurisdictions 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 single EU blacklist would hold much more weight than a medley of national lists and would have a dissuasive effect on problematic countries.

The first EU list was agreed by Member States in December 2017. It was the result of an extensive screening of 92 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 blacklisted countries were those that failed to make a high-level commitment to comply with agreed good governance standards.

Many other countries did commit to comply with the criteria by a set deadline (usually the end of 2018). Member States agreed that the Code of Conduct Group and the Commission should monitor them to ensure that they delivered fully and on time. The Commission was asked to assess their progress once the deadline had passed, so that Member States could decide on an updated EU list (which they did in March 2018).

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 good tax governance globally, both through the 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 100 harmful regimes have been eliminated. Zero-tax countries have introduced new measures to ensure a proper level of economic substance and information exchange. In addition, many jurisdictions have brought their tax transparency standards into line with international norms for the first time. Moreover, dozens of countries have been brought into international fora such as the OECD's Global Forum for Transparency and the Base Erosion and Profit Shifting (BEPS) Inclusive Framework for the first time. Engagement on countries' outstanding commitments is ongoing.

The EU list has had a real impact, as a result of both EU and national measures applied to blacklisted countries. It is now linked to EU funding under new provisions in the Financial Regulation and other legislation, so blacklisted jurisdictions cannot be used to channel EU funds. In addition, Member States have agreed on national sanctions against the listed jurisdictions. The Commission continues to support Member States' work to develop coordinated defensive measures for the EU list and to screen additional jurisdictions in response to their requests.

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

Glossary

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.

Allowance for corporate equity (ACE) is a corporate tax arrangement whereby interest payments and a defined return on equity can be deducted from the corporate income tax base. It moves the system closer to financing neutrality between debt and equity at corporate level.

Allowance for growth and investment (AGI) is also a corporate tax arrangement whereby interest payments and a return on equity can be deducted from the corporate income tax base. It also moves the system closer to financing neutrality between debt and equity at the corporate level. However, it goes some steps further than ACE, because it removes tax avoidance by cascading the benefits (the funds injected in a group benefit from deductibility only once), uses an incremental system based on a moving reference year and allows for negative allowances.

Business angel is a knowledgeable private individual, usually with business experience, who directly invests part of his/her personal assets in new and growing unquoted businesses. Besides capital, business angels provide business management experience.

Comprehensive business income tax (CBIT) is a type of corporate tax where neither interest payments nor the return on equity can be deducted from corporate profits, and are thus fully taxed at the normal CIT rate. It equalises the tax treatment of debt and equity finance at corporate level.

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 tax is a tax levied on a situation that is durable by nature and directly on a specific (legal or natural) person via a notice of assessment, e.g. personal income tax (PIT), corporate income tax (CIT), and wealth tax.

Effective average tax rate (EATR) is a tax rate calculated from 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) is a tax rate calculated from the combination of the nominal (i.e. statutory) tax rate and the definition of the tax base (i.e. taxable profit). In particular, it is based on additional investment income.

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 CO_2 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) [127].

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.

[127] This definition is based on European Commission (2013).

Implicit tax rate on consumption is the ratio of revenue from all consumption taxes to households' final consumption expenditure.

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.

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.

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.

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.

Tax evasion generally involves illegal arrangements whereby liability to tax is hidden or ignored, i.e. the taxpayer pays less tax than he/she is 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 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 [128].

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 has an expectation of a higher-than-average return on the 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 in respect of dividends, interest, royalties and similar tax payments. The rates of withholding tax are frequently reduced by tax treaties.

[128] Adapted from Arnold & McIntyre (2002).

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Annex

Choice of indicators

The indicators used in *Tax policies in the EU: 2020 survey* are taken from various sources. They are useful in identifying areas in which policies could be improved, but the results always need to be interpreted alongside in-depth country analysis before any conclusions can be drawn as to appropriate policies. This type of in-depth analysis is beyond the scope of this report, but is carried out as part of the European Semester.

The survey does not claim to be comprehensive and inevitably other indicators could have been used. Factors taken into account in the choice of indicators include completeness (where possible, data covering all 28 Member States), clarity and reliability. Choosing indicators is a particular challenge in certain areas, e.g. it is by definition difficult to estimate how much money is lost to tax fraud, evasion and avoidance. Despite the measurement challenges, this report looks at indicators that are generally considered relevant and can improve our understanding of the size or relevance of the features or phenomena in question.

Where available and relevant, EU-28 averages are presented alongside country-specific data. This is intended to help readers understand the relative levels in different Member States and should not be interpreted as suggesting that the EU average represents an ideal level.

State aid

Member States must ensure that their tax measures comply with EU state aid rules and notify the Commission of all relevant measures not covered by the General Block Exemption Regulation [129] and the *De Minimis* Regulation [130]. This report is without prejudice to the possible state aid assessment of national tax measures by the Commission.

[129] Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1).

[130] Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to *de minimis* aid (OJ L 352, 24.12.2013, p. 1)

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