

New Forms of Tax Competition in the European Union

An Empirical Investigation

Sarah Godar, Eloi Flamant, Gaspard Richard

November 2021

Report No.3



TABLE OF CONTENTS

Introduction	4
Is tax competition harmful?	6
The European Union: limited competence and minimal consensus in the face of tax competition	7
The dangers of increased tax competition within the EU	8
Personal Income tax competition	9
General trends in personal income tax rates	9
Specific preferential regimes of taxation for newly domiciled taxpayers	10
Summary of findings and discussion	18
Corporate tax competition	19
General trends in corporate taxation	19
Development of selected base-narrowing measures	23
Corporate tax collection in the EU trends downwards	31
Summary of findings and discussion	33
Policy recommendations	34
Extend the Code of Conduct Group mandate	34
Explore expatriate taxation options	35
Limit deductions from the corporate tax base subject to the global minimum tax	36
Minimize carve-outs from the global minimum tax	36
Conclusion	37
References	38
Appendix	43

EXECUTIVE SUMMARY

This report provides an empirical analysis of personal and corporate tax competition in the European Union. We find that tax competition increasingly takes the form of preferential or narrowly targeted tax regimes on top of general rate cuts. We provide a ranking of the most harmful regimes targeting foreign, primarily high-income or high-wealth individuals. We also discuss several options to address these trends.

The evolution of tax competition in the European Union may be summarized as follows. While corporate tax rates are still on a downward trend, the decline of top statutory personal income tax rates has stopped since the financial crisis of 2008–2009. In the meantime, many new preferential regimes have been introduced into the personal income tax systems of member states. Many base-narrowing measures also contribute to lowering corporate tax burdens. By targeting the most mobile parts of the tax base - high-income earners and multinational enterprises - these tax incentives undermine effective revenue collection in the European Union and weaken the horizontal and vertical equity of tax systems.

The most striking trend in EU tax competition is the increase in the number of personal income tax schemes targeting foreign individuals. The number of such regimes has increased from 5 in 1995 to 28 today. A tentative ranking suggests that the most harmful ones are the Italian and Greek high-net-worth individual regimes, Cyprus' high-income regime and the pension regimes of Cyprus, Greece and Portugal. These regimes exhibit long periods of duration, provide significant tax advantages, specifically target very high-income individuals or do not require any real economic activity in a given member state. At present, preferential regimes apply to over 200,000 beneficiaries. A lower-bound estimation suggests that the total fiscal costs for the European Union amount to EUR 4.5 billion per year. This sum is equivalent e.g. to the annual budget of the entire Erasmus programme.

Member states also apply numerous base-narrowing measures which have the potential to significantly lower the effective tax rate of multinationals. Public financing of corporate research and development has increased in recent decades and has increasingly taken the form of tax incentives. A total of 14 intellectual property regimes in the EU are currently designed to tax income associated with patents, software and similar intangible assets at rates of 15% or less (10% or less in half of these cases). Six countries have adopted regimes of notional interest deduction; the Maltese and Cypriot regimes seem exceptionally generous. Approximately 1,348 unilateral tax rulings concerning multinationals' tax arrangements were in force in 2019. The implications of these rulings for revenue collection are still unknown to the public.

The trends uncovered by this report may be addressed in several ways, e.g. by reforming the Code of Conduct and transforming it into a binding instrument – and extending its mandate to personal income taxation as well as to non-preferential corporate tax regimes that lead to generally low levels of taxation of multinationals. In the absence of a coordinated approach (which is always the ideal solution), member states might consider unilaterally taxing their expatriates, which, under some conditions, may mitigate the effects of preferential personal income tax regimes. A comprehensive implementation of the global corporate minimum tax agreed in October 2021, with minimal carveouts and limited deductions for research and development, could provide an effective floor for the EU's race to the bottom in corporate taxation.

1 Introduction

The past decade has witnessed a revival of international tax cooperation. Public scandals surrounding the hidden offshore wealth of individuals and multinational enterprises' (MNEs) tax savings in tax havens, as well as growing public revenue needs following the financial crisis of 2008–09, have led to reforms which have closed loopholes and increased tax transparency. These include the adoption of the automatic exchange of information on bank accounts and on tax rulings, the partial publication of MNEs' country-by-country reports, the adoption of anti-avoidance measures as part of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS), and most recently, the proposal for a global minimum tax on the profits of large MNEs. From the point of view of most EU citizens, the tax world looks brighter than it did a decade ago. And while the reduced scope of opportunities for extreme forms of cross-border tax evasion and avoidance are grounds for optimism, this report seeks to highlight the emergence of new, harmful forms of tax competition in the EU which have thus far received relatively little attention: the proliferation of special regimes offering reduced rates to mobile individuals, often with high income or high wealth.

The number of preferential regimes for individuals has increased from 5 in 1995 to 28 in 2021. These regimes inflict revenue losses on other countries and undermine the progressivity of domestic income tax systems. Building on earlier research by Trautvetter & Winkler (2019), this report provides an updated list and description of tax regimes, the reported number of beneficiaries and estimated revenue cost. In addition, a tentative ranking singles out the most aggressive regimes according to duration, intensity, and eligibility conditions.

We also discuss recent trends in corporate income tax competition, including preferential regimes and other tax base-narrowing measures. Our analysis incorporates the various types of corporate tax relief implemented in the EU that contribute to the observed gap between statutory tax rates and taxes effectively paid by large MNEs. While some tax incentives are more convincingly justifiable from an economic point of view than others, they all contribute to eroding the corporate tax base. Their potential costs and benefits thus deserve more public scrutiny.

In principle, corporate and personal income tax target different taxpayers but there are important overlaps. First, entrepreneurs can choose the legal form of their business and thus switch from personal to corporate income tax if they find it more advantageous. Second, after-tax profits of corporations are ultimately distributed to shareholders, who may benefit from corporate tax cuts in the form of higher dividends. Ensuring a sufficient level of taxation of personal capital income would be key to mitigate the distributional effects associated with the decline of corporate tax. As stock ownership is very concentrated at the top of the income distribution, the rise of preferential tax regimes for high-income earners weakens this corrective function of personal income tax. Given that corporate and personal income tax competition may reinforce each other in creating more unequal societies, this report highlights critical developments in both fields.

How should the described trends in personal and corporate income tax be addressed? A coordinated action against the new forms of personal income tax competition might entail extending the mandate of the Code of Conduct group to personal income taxation. This would allow for a more symmetric treatment of issues associated with personal and corporate tax competition at EU level. Absent international coordination, individual member states might consider taxing their expatriates for a number of years after their change of tax residence, reducing the appeal of special regimes abroad. Based on the view that tax competition is capable of undermining the sufficient provision of public goods, the EU should also ensure that the design of the global corporate minimum tax does not reduce it to a pure anti-avoidance measure but maintains its potential of providing an effective floor for corporate tax competition.

The report is structured as follows: Section 2 reviews the potential effects of tax competition, sketches the currently limited framework for coordinated tax-policy making in the EU and highlights the risks associated with non-action. Section 3 describes recent trends in personal income tax with a focus on preferential regimes and their increasing relevance in the EU. Section 4 provides an overview of trends in corporate tax competition, including recently implemented base-narrowing measures such as R&D incentives, intellectual property regimes, allowances for corporate equity and the development of unilateral tax rulings by member states. Section 5 concludes with policy recommendations.

2 Is tax competition harmful?

Tax competition can be defined as “noncooperative tax setting by independent governments, under which each government’s policy choices influence the allocation of a mobile tax base among ‘regions’ represented by these governments” (Wilson & Wildasin 2004). Governments may try to attract capital, workers or consumers from other countries by lowering general tax rates or by offering special regimes targeting a specific part of the tax base or taxpayers. The liberalisation of international capital flows and the advances in transportation and communication technology have generally increased the mobility of corporations and individuals. Nowhere is this more evident than in the case of large corporations and high-income earners. International tax competition over increasingly mobile factors provides a plausible explanation for declining corporate tax rates, the rise of dual income taxation or special regimes for capital income taxation in Europe (Eggert & Genser 2005), and declining top personal income tax rates. However, other factors such as changes in the political climate towards a less egalitarian view of distributive justice may also play a role (Leibrecht & Hochgatterer 2010).

Early economic models of tax competition, where countries compete over mobile business investment by cutting corporate tax rates, usually predict a race to the bottom in corporate taxes resulting in inefficiently low levels of public services (Zodrow 2003). Proponents of tax competition argue that it constrains government officials who - pursuing their egoistic objectives - might increase the tax burden on their residents beyond the welfare-maximizing point (Edwards and Keen, 1994). EU tax revenue statistics suggest that tax competition in the EU has not coincided with a general decline of taxation as a percentage of GDP since 1995¹. Instead, there seems to be a tendency to shift the tax burden from the more mobile capital incomes to less mobile tax bases, such as consumption, with important distributional implications.

In recent years, international initiatives have primarily focused on tax evasion and avoidance, with tax competition largely being sidelined. Preferential tax regimes granting tax benefits without requiring substantial real economic activity have moved into the limelight only recently, in large part because they are believed to intensify inefficiencies related to tax competition (Hebous. 2021). Some scholars argue that preferential regimes for highly mobile parts of the tax base may relax downward pressures on general tax rates (Crivelli et al. 2021). However, they undermine the horizontal equity of the tax system and may distort economic incentives when two taxpayers with the same amount of total income are subject to different effective tax rates.

In the EU, both forms of tax competition – downward pressure on general tax rates and the spreading of preferential regimes – have the potential to undermine the vertical equity of tax systems due to the exceptional mobility that taxpayers enjoy in the common market. As cross-border tax optimization involves relatively high fixed costs, the tax benefits of this increased mobility are likely to be higher for high-net-worth individuals, high-income earners as well as large enterprises. For example, from the point of view of an individual, the financial benefits of a tax residence change must outweigh the costs, including either a complete change of the social environment or, more likely, the maintenance of two residences, frequent travelling, bureaucratic costs, and legal advice. Similarly, it is a privilege of MNEs to strategically locate economic activities across member states, in order to benefit from low taxation without giving up the benefits of public infrastructure in high-tax countries, which creates a competitive advantage over smaller or purely domestic enterprises.

¹Total revenue from taxes and social contributions for the EU-27 have fluctuated around 40.5% of GDP between 1995 (40.5%) and 2019 (41.4%) with a broadly flat trend (Eurostat 2021).

2.1 The European Union: limited competence and minimal consensus in the face of tax competition

The European Union has limited competence to act and legislate in the field of taxation. Ever since its creation, it has been committed to the convergence of European tax legislations regarding VAT or excise duties and has issued directives asking for cooperation between tax administrations. However, direct taxation remains the sole prerogative of individual member states, subject to the fundamental freedoms fixed in the Treaty on the Functioning of the European Union. In principle, tensions arising due to the spillover effects of individual member states' tax policies on other member states can only be addressed within the official EU framework if they distort competition within the common market. For example, the EU Commission has scrutinized several member states' corporate tax practices within the framework of state aid investigations (European Commission 2016b, 2017b).

In addition to this limited competence in taxation matters, tax competition is not generally regarded as a problem in the EU. This is reflected in how the European Commission frames the phenomenon by distinguishing between *harmful or aggressive* tax competition and *non-harmful* tax competition. It thereby implicitly defines the latter as a field of non-action. The European Commission in fact highlights the beneficial effects of (non-harmful) tax competition: «In this context it is important to recognize that, while harmful tax competition must be addressed both at EU level and at the broader international level, notably within the OECD, and the State aid provisions of the Treaty must be respected, some degree of tax competition within the EU may be inevitable and may contribute to lower tax pressure.» (European Commission, 2001).

As a result of this limited competence and problem definition, the Code of Conduct for business taxation, adopted in 1997, is not legally binding and only addresses harmful tax competition which involves “measures which unduly affect the location of business activity in the Community by being targeted merely at non-residents and by providing them with a more favourable tax treatment than that which is generally available in the Member State concerned” (European Commission 2021a).

Since its establishment, the Code of Conduct group has induced the monitoring of over 400 EU regimes and pushed for reforms of approximately 100 identified as harmful (European Commission 2020b). However, the criteria of the Code of Conduct do not cover non-preferential regimes, which may be considered harmful regardless, e.g. because they facilitate very low general levels of taxation. Therefore, the European Commission (ibid.) and the European Parliament (2021) have already suggested to reform the Code of Conduct criteria so as to better assess the harmfulness of all cases of very low taxation. While doing so will not end the problematic distinction between harmful and non-harmful tax competition, it potentially widens the EU's minimum consensus on the kind of corporate tax incentives regarded as non-tolerable in the future.

In the field of personal income tax, coordinated EU action has been much more limited and mainly focused on avoiding double-taxation and on increasing transparency regarding received capital incomes (Trautvetter & Winkler 2019). The Code of Conduct only applies to business taxation and, even though the European Commission had already initiated debate on including certain regimes for highly qualified expatriate workers in accordance with the Code of Conduct in 2001, this initiative has not been pursued further. The asymmetric treatment of corporate and personal income tax may, however, come to an end as both the European Parliament (2021) and the EU Commission (2020b) have recently acknowledged the need for action in the field of harmful personal income tax regimes.

2.2 The dangers of increased tax competition within the EU

In recent decades, the European Union has witnessed a decline in corporate income tax rates and top personal income tax rates as well as, more recently, an intensification of tax competition by means of preferential regimes targeting the most mobile parts of the corporate and personal income tax bases. In addition to harmful or aggressive tax competition as defined by the Code of Conduct group, non-action in the face of the general dynamic of tax competition raises potential risks for the European Union:

- **Public finances:** Tax competition induces national governments to establish tax rates and regimes that do not correspond to the level of taxation otherwise applied in a harmonized scenario. This may lead to a lower provision of public services or jeopardize the sustainability of public finances by increasing the public deficit.
- **Social equity:** The tax cuts are rarely uniform across all sectors, brackets and income types. Tax competition tempts governments to accept relative increases in the tax burden on the least mobile and least elastic categories of the tax base such as consumption or the wages and salaries of less mobile individuals.
- **Political cohesion:** The absence of tax harmonization following the creation of a common market tends to favour downward convergence in the field of taxation, which may be seen as a potential weakness in the political construction of the European Union. Perceiving other member states as competitors rather than as partners in a project of shared prosperity may reinforce Euroscepticism among citizens.

One way for the European Union to mitigate the negative effects of globalization could be by establishing tax cooperation. In an individualistic scenario, member states would be obliged to lower their taxes, which would thus eventually lead to a lower quality of public services or more regressive tax systems. A cooperative scenario, on the other hand, would favour upward convergence in terms of tax revenue collection, public goods provision and social equity.

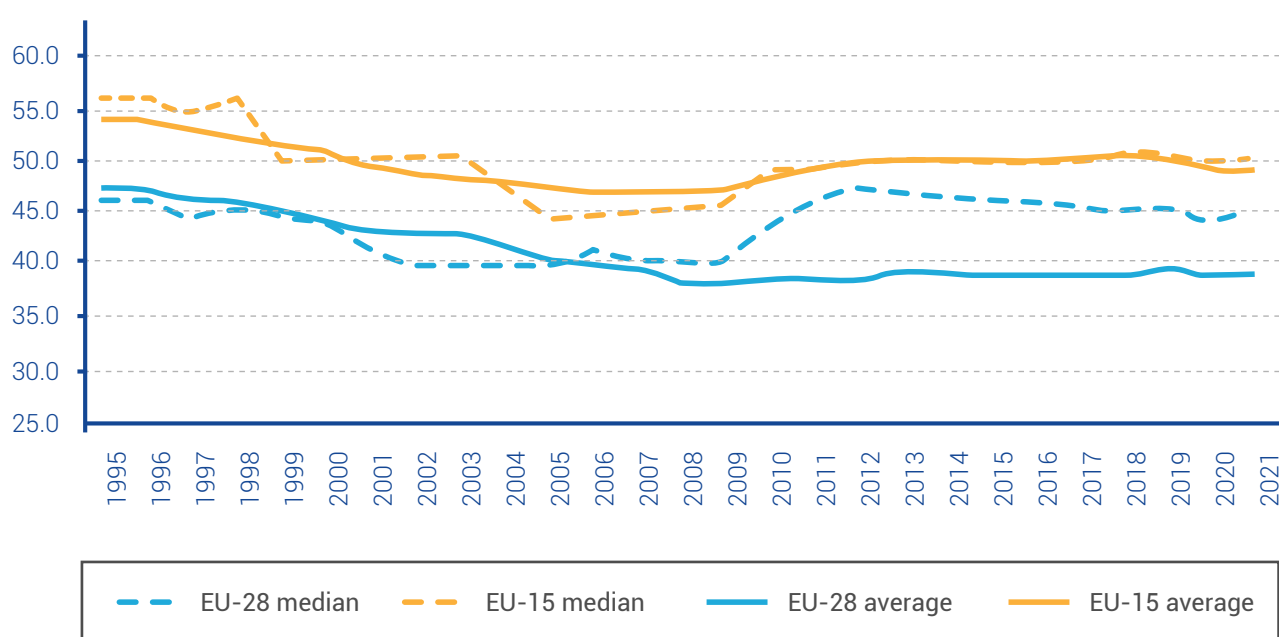
3 Personal income tax competition

3.1 General trends in personal income tax rates

The European Union experienced a period of declining top statutory personal income tax rates between 1995 and the 2008 financial crisis. During the course of this 15-year-long period, the average top statutory rate in EU countries fell from nearly 48% to less than 40% (Figure 1). This decrease took place during the 1990s and 2000s in a context of moderate economic growth and under the impetus of a European Commission rather favourable to the idea of some economic competition between countries of the European Union.

Figure 1

Development of median and average top statutory personal income tax rates for EU 15 and EU 28 countries



Source: European Commission, DG Taxation and Customs Union, Taxes in Europe Database and KPMG and IBFD data – non-weighted by population size

The 2004 enlargement and the introduction of tax systems with relatively low rates contributed to the continued fall of the European average top personal income tax rate. However, the observed reduction in tax rates was not purely the result of new and more fiscally competitive countries entering the European Union. A downward trend in tax rates had already been visible in EU-15 countries since the mid-1990s.

A closer examination of the EU-15 indicates that the median tax rates roughly followed the trend of the average. Rates fell between 1995 and the end of the 2000s before rising again and stabilizing in the 2010s. EU-28 data for the past decade clearly show that the average is significantly lower than the median. This difference is explained by the existence of very low top marginal tax rates in a number of EU countries, among others in Bulgaria (10%), Czechia (23%), Estonia (20%), Hungary (15%), Romania (10%) and Slovakia (25%), which lower the average. However, this observation should not obscure the fact that, at country level, almost all top marginal tax rates have declined since the mid-1990s. Between 1995 and 2009, only Portugal saw its top statutory marginal tax rate increase (by 2 percentage points). The rise in rates, visible between 2009 and 2021, concerned 19 countries out of 28 (9 countries² saw their marginal rates continue

²Belgium, Denmark, Estonia, Ireland, Croatia, Hungary, Netherlands, Romania, Sweden

to fall between these two dates). Overall, between 1995 and 2021, only 4 out of 28 countries saw their rates increase (Greece, Latvia, Portugal, and the UK).

After declining for almost two decades, top statutory rates have stabilized following the 2008 crisis. A simple hypothesis would be that the continuation of such a race to the bottom would have been too costly for the tax resources of member states. In order to preserve their tax base, EU countries have thus turned to other ways of attracting taxpayers and economic activity, namely through specific regimes aimed at new tax residents.

3.2 Specific preferential regimes of taxation for newly domiciled taxpayers

During the course of the past three decades, EU countries have sought to reconcile the need to increase their tax attractiveness – in order to raise extra revenues and attract investments – with the need to avoid eroding their domestic tax base – so as not to jeopardize their resources. One solution to this difficult equation has been to cherry-pick foreign high-income taxpayers by implementing specific preferential schemes targeted only at newly incoming residents. These schemes allow for keeping the tax scale applied to the domestic population intact while gaining additional revenues by applying a reduced rate to foreigners.

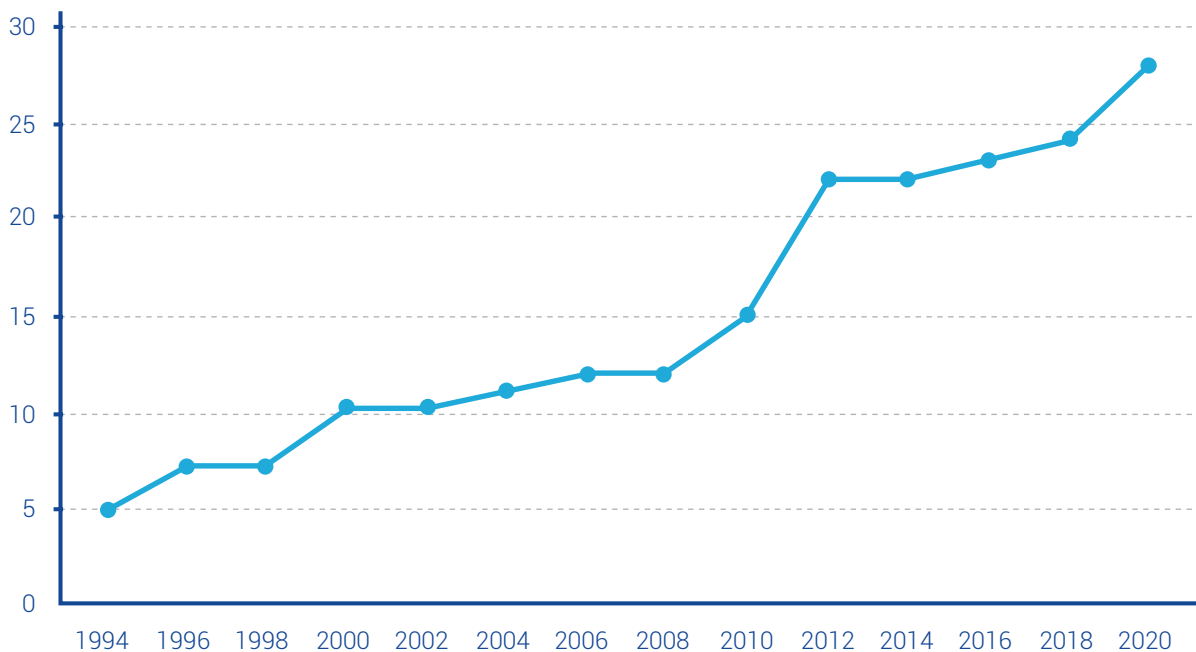
Over time, these schemes have become more and more aggressive, facilitating real tax optimization strategies based on simple domicile changes. Although they were originally focused on income earned in the new country of tax residence, these schemes have since been extended to foreign-sourced or worldwide income.

3.2.1. Presentation of preferential regimes

The principle of a specific tax regime applicable to the earnings of new tax residents as well as to large fortunes of newly domiciled taxpayers is not new. For example, at the end of the Second World War, the Netherlands established a scheme which allowed new residents to exempt part of their income from taxation. However, only since the 1990s have these schemes started to become better developed, increasingly aggressive and more advantageous (see Appendix Table A1 for a complete list of such regimes). In 1994, only five such schemes (UK and Irish remittance basis schemes; Dutch, Belgian and Danish regimes) were in existence; in 2020 there were 28 (Figure 2).

Figure 2

Number of specific personal income tax schemes granted to new residents in the European Union since 1994³



Source: EU Tax Observatory; see Appendix Table A1 for more detailed information on individual regimes.

These favourable tax regimes are generally established for two purposes, namely to:

- **Reinforce the economic appeal** of a given country by attracting qualified workers or executives as well as the companies that employ them.
- **Increase the tax base and revenues** by bringing in taxpayers from foreign countries who are likely to gain high revenues.

All such schemes are based on a change of residence condition, meaning that the beneficiary must become a tax resident in the country where the regime is in place. In most cases, to benefit from such a scheme, one must not have been a resident for a certain number of years prior to the application. In several cases, not having the nationality of the country in question is also a required condition to benefit from the scheme.⁴ However, preferential regimes do not have the same underlying characteristics, do not all target the same taxpayers and therefore do not all have the same effects in terms of harmful tax competition. Three main models of specific tax regimes may be identified (Table 1):

1. Foreign source or worldwide income regimes:

These regimes target the most affluent taxpayers by offering tax exemptions on various foreign income sources or on worldwide income. These regimes can even be anti-progressive, e.g. lump sum payments may be required instead of the progressive scale applied to domestic resident taxpayers.

³Region covered is EU, countries with schemes are Austria (2 regimes), Belgium, Cyprus (3), Denmark, Finland (2), France, Greece (2), Ireland (2), Italy (5), Luxembourg, Malta (2 in 1), Netherlands, Portugal (2), Spain, Sweden, United Kingdom.

⁴Belgium: Foreign executives' regime, Finland: 32% rule regime, Sweden: Expert tax regime, Ireland: Non-remittance regime.

One of the most recent examples is the High-Net-Worth Individuals regime introduced in Italy in 2017. This regime allows new tax residents to pay a lump sum (EUR 100,000 per year and EUR 25,000 per child) as tax on their foreign sources of income while keeping income earned in Italy taxed under standard conditions. This is a significant tax break for high-net-worth individuals who derive their income from countries with very limited taxation⁵.

2. Schemes associated with income earned while performing a specific economic activity in the host country:

These schemes target highly skilled workers by partially exempting or more favourably taxing the domestic earnings of new taxpayers (applicable only to income earned in the new tax domicile). These schemes are subject to an earnings requirement that must be met by the beneficiary. For example, under the provisions of the Finnish 32% exemption scheme, a foreign taxpayer who meets certain conditions of income and expertise benefits from a fixed tax rate of 32% on income earned in Finland. On the other hand, a Finnish taxpayer, earning at least as much as the amount that would be required to benefit from the scheme, is taxed at a rate of 37% or above.⁶

These schemes frequently target specific professions such as researchers and scientists – but may also be applicable to artists or professional athletes. One example is the scheme granted to Italy-based researchers: since 2010 they are eligible for a 90% deduction on the income they receive from their research activity in Italy, making them taxable only on 10% of this amount⁷.

3. Schemes targeting pensioners:

New residents benefit from lower taxation on foreign source pension income. The main objective is to attract consumers with higher purchasing power than the average population.

An example of this type of scheme is the total exemption from income tax on retirement pensions granted in 2009 by Portugal to retirees newly settled in the country. This scheme was reformed in 2020, raising the tax rate from 0% to 10%.

In addition to these differences, preferential schemes use various existing tools to reduce the tax burden such as lump-sum tax, flat-tax rate, different income tax brackets applicable only to new taxpayers, exemption on portions of taxable income and various deductions (see Appendix Table A2 for more detailed information).

Interestingly, some regimes exhibit a non-negligible imitation trend. The Italian HNWI scheme of 2017 has been imitated by Greece in 2019. Pension schemes were first implemented in Portugal in 2009 and Malta in 2011, followed by Cyprus in 2015, Italy in 2019 and Greece in 2020 (whose regime is closely modelled on the Italian one). The increasing dynamic in establishing these schemes intensifies tax competition.

⁵The following schemes work similarly; UK and Ireland: non-remittance regimes, France: régime des impatriés, Portugal: NHR tax regime, Luxembourg: hiring international executive regime, Malta: 15% regime, Greece: HNWI regime.

⁶The following schemes work similarly; Netherlands: 30% rule regime, Belgium: foreign executives regime, Denmark: 32.84% flat-tax rate regime, Italy: inbound workers regime, Sweden: expert tax regime, Austria: workers tax exemption regime, Cyprus: high-income regime, low-income regime, Ireland: SARP regime.

⁷The following schemes work similarly; Finland: researchers regime, Austria: artists regime, Italy: sportsmen regime

⁸The following schemes work similarly; Malta, Cyprus, Italy, Greece: foreign pension regimes

Table 1

Specific regimes granted to new residents by category of income taxed in 2021. Numbers in brackets indicate the number of existing schemes in the EU.

Special treatment of foreign source or worldwide income regimes (9)	Regimes targeting income earned while performing a certain economic activity in the host country (14)	Regimes targeting pensioners (5)
Italy: HNWI regime UK: non-remittance regime Ireland: non-remittance regime France: régime des impatriés Portugal: NHR tax regime Luxembourg: hiring international executive regime Malta: 15% regime Greece: HNWI regime Spain: Régimen de impatriados	Finland: 32% rule regime Netherlands: 30% rule regime Belgium: foreign executives' regime Denmark: 32.84% flat-tax rate regime Italy: inbound workers regime Sweden: expert tax regime Austria: workers tax exemption regime Austria: artists regime Cyprus: high-income regime Cyprus: low-income regime Ireland: SARP regime Regimes targeting specific jobs: Finland: researchers regime Italy: researchers regime Italy: athletes regime	Portugal, Malta, Cyprus, Italy and Greece: foreign pension regimes

Source: EU Tax Observatory

In the European Union, very few studies have focused on the impact of tax exemptions on the arrival of skilled workers or wealthy individuals, primarily due to a lack of precise data. In addition, more attention has been given to other broader tax issues such as tax evasion, corporate tax competition or general tax reforms in individual countries. The sole exception is Denmark, where the 1991 reform (32.84% flat tax on salaries and bonuses) was studied in detail by Kleven et al. (2014).⁹ The study identified a clear pull effect on workers. The Danish case was taken up in an article on inventor mobility by Akcigit et al. (2015). They conclude that foreign inventors are significantly affected by top tax rates when making tax domicile decisions. With the exception of Denmark, few European schemes have been studied in detail. The implementation of the Spanish Régimen de impatriados of 2005, which very specifically targets athletes, has also concluded on an elasticity of foreign players' migration with respect to net-of-tax rate around one (Kleven et al, 2013).

⁹The number of highly paid foreign employees doubled in Denmark compared to slightly less paid employees with an important elasticity of migration due to the scheme.

3.2.2. Specific personal income tax regime ranking

The individual regimes are unevenly aggressive and thus participate in the acceleration of tax competition between EU countries with varying intensity. We use the following indicators to classify these regimes and to create a tentative harmfulness ranking:

- **Regime duration:** The longer lasting the regime, the more attractive it becomes and the more tax losses it causes on a European Union scale. Besides, an individual who is reluctant to move for short-term tax exemptions will have much more incentive to do so if the duration of the scheme is long. In our ranking, a score of 1 is thus assigned to regimes lasting four years or fewer (a sufficiently short period of time which does not encourage too much mobility for purely fiscal reasons), a score of 2 is assigned to regimes lasting 5 to 6 years, a score of 3 to regimes of 7 to 8 years, and a score of 4 to all longer lasting schemes (8 in total). At present, average regime duration across the EU is over 7.5 years. For instance, the Belgian foreign executive regime has no time limit, and the Greek and Italian HNWI regimes may apply for up to 15 years, while the Finnish researchers scheme only lasts for up to two years.

- **Remuneration conditions:** This indicator measures to what extent the regime undermines income tax progressivity in the country implementing it. Many of these schemes are designed to offer tax exemptions only to the wealthiest in order to significantly increase their tax base and to attract highly skilled workers. The indicator considers both explicit and implicit remuneration thresholds needed by any applicant to actually benefit from a given regime. Some regimes include a clearly stated remuneration condition (the taxpayer must achieve a certain annual income threshold). Other schemes set an implicit remuneration condition by granting an exemption which only applies above a certain amount of income (e.g. a flat-tax rate of 32% which will only benefit individual usually subject to a higher effective tax rate). A score of 1 is assigned when neither explicit nor implicit remuneration conditions apply, i.e. the regime does not only benefit rich taxpayers, a score of 2.5 indicates that remuneration conditions exist (below EUR 200,000) and a score of 4 indicates a high-level remuneration condition (over EUR 200,000 of taxable income per year). Among regimes with remuneration conditions, the Italian and Greek HNWI schemes exhibit the highest implicit income condition (given that the lump-sum tax is EUR 100,000 and that taxes may be paid abroad, the taxpayer should earn at least EUR 200,000 for the regime to become profitable). On the other hand, some regimes have no remuneration conditions (e.g. the low-income regime implemented by Cyprus).

- **Professional activity requirement:** Some regimes seek to attract certain types of professionals (artists, researchers, etc.). Such regimes may have an economic purpose beyond attracting tax revenue and are simultaneously less threatening to the tax base of neighbouring countries, as they only target specific groups of workers. Other regimes, on the contrary, do not even require participation in the labour market in order to benefit. Not only is the potentially recoverable foreign tax base larger in these cases, but the recovery of tax revenue becomes the sole motivation for these regimes. Besides, by allowing new residents to benefit from the regime without being employed or operating a business, this type of preferential regime may facilitate fraud. In our ranking, a score of 1 is thus assigned when only a specific professional segment is targeted; a score of 2.5 is assigned to regimes targeting all labour income earners and a score of 4 to regimes not requiring any participation in real economic activity (also applicable to pensioners and/or rich taxpayers without having to take a job). Specific jobs regimes frequently target researchers (Finland, Italy), professional athletes (Austria, Italy) or artists (Austria). On the other hand, Italian and Greek HNWI regimes do not require any participation in economic activity, thereby facilitating income shifting.

- **Magnitude of tax benefit:** The extent of tax exemption is measured by the ratio between the tax paid by an individual earning EUR 200,000 of taxable income per year (EUR 500,000 net wealth per year in the case of the very high wealth regimes) and benefitting from the regime in question and the tax paid by a similar individual not benefitting from the regime.¹⁰

¹⁰Tax credits and other tax system specificities are assumed to be the same for the two taxpayers

Scoring is applied given the extent of tax exemption: a score of 1 is assigned to a tax burden equal to at least 80% of the burden imposed on a non-beneficiary, a score of 2 in to a burden of 60 to 80%, 3 to a burden of 40 to 60%, and a score of 4 to a burden below 40%. For example, the Italian researchers regime reduces the tax burden on income earned to 10% and thus scores a 4. On the other hand, the Belgian foreign executive regime “only” allows for a tax exemption of approximately EUR 11,000 and thus scores a 1.¹¹

By combining these four criteria, we were able to propose a tentative ranking of the examined schemes with respect to their level of harmfulness (Table 2). Interestingly, a regime that is aggressive in one of the categories is very likely to be aggressive in the other three.

Table 2
Specific (personal income) tax regime aggressiveness scoring

Regime	Regime duration score	Remuneration conditions score	Professional activity requirement score	Magnitude of tax benefit score	Harmfulness score
Greece – HNWI (EUR 500,000)	4	4	4	4	16
Italy – HNWI (EUR 500,000)	4	4	4	3	16
Cyprus – high income	4	2.5	2.5	4	13
Cyprus – pensions	4	1	4	4	13
Greece – pensions	4	1	4	4	13
Portugal – pensions	4	1	4	4	13
Italy – inbound workers regime	4	1	2.5	4	11.5
Italy – pensions	2	1	4	4	11
Portugal – NHR regime	4	1	2.5	3	10.5
Denmark – 32.84% rule	3	2.5	2.5	2	10
Luxembourg – hiring international employees	3	2.5	2.5	2	10
Netherlands – 30% rule	2	2.5	2.5	2	9
Spain – Régimen de impatriados	2	2.5	2.5	2	9
Sweden – expert tax	2	2.5	2.5	2	9
Malta – high-income and pensions	1	2.5	2.5	3	9
France – régime des impatriés	3	1	2.5	2	8.5
Belgium – foreign executives regime	4	1	2.5	1	8.5
Finland – 32% rule	1	2.5	2.5	2	8
Ireland – SARP	2	2.5	2.5	1	8
Italy – researchers	1	1	1	4	7
Italy – athletes	2	1	1	3	7
Finland – researchers	1	1	1	4	7
Cyprus – low income (EUR 100,000)	2	1	2.5	1	6.5
Austria – 20% deduction regime	2	1	2.5	1	6.5
Austria – artists regime	2	1	1	2	6

Source: EU Tax Observatory's own calculations¹²

¹¹A detailed overview of individual regime characteristics is provided in Appendix Table A3

¹² UK and Ireland non-remittance regimes are not in the ranking because the magnitude of tax benefit score cannot be calculated with enough precision (depends on each taxpayer's choice of remittance).

The most aggressive regimes seem to be the recently introduced Greek and Italian lump-sum tax regimes on foreign-sourced income, both of which are specifically designed to attract high-net-worth individuals.¹³ Both also allow such individuals to benefit for periods of over 8 years. Furthermore, no real economic activity is required to benefit from the regime. The regimes facilitate a tax rate reduction by over 50% for taxable incomes of at least EUR 500,000, which also situates them at the top of the ranking in terms of the magnitude of tax benefit indicator¹⁴. Several other regimes also achieve a relatively high score on the dimension of the magnitude of tax benefit score, allowing for particularly low effective tax rates compared to individuals not benefitting from the regime. These include Cyprus' high-income regime and Italy's inbound workers regime, each of which offers a reduction of over 60% on income tax for a taxable income of EUR 150,000 per year. Various pension regimes, e.g. in Cyprus, Greece, Portugal and Italy, employ a similar mode, granting foreign pensioners a tax burden only equal to 15% to 25% of the tax burden applicable to "domestic pensioners" on a taxable pension income of EUR 150,000 per year.

The least aggressive regimes include primarily short-term schemes and those intended to attract certain professionals (e.g. the Austrian artists and athletes scheme or the Finnish researchers scheme, the latter despite a very high tax exemption).

3.2.3. Estimating the global impact of specific personal income tax regimes

The extent of specific tax regimes granted to new tax residents may be assessed using two main indicators: the number of beneficiaries of a given tax regime and the tax cost borne by the host country.

Data on specific personal income tax regimes were partly collected from tax administrations (in case the information was provided), public reports, annexes to finance laws, and, when all other possible sources were exhausted, from newspaper articles. Some information was also sourced from a report by Trautvetter and Winkler (2019). Among countries with specific regimes for new tax residents, requests for information submitted to the Maltese, Italian, Cypriot, and Luxembourgish administrations were left unanswered. Thanks to the responses of the remaining administrations, we were able to collect information on the number of beneficiaries of 17 regimes (Table 3). However, only 7 countries were able to provide data on the tax cost generated by these regimes. For the remaining schemes for which the number of beneficiaries is available, we simulate several scenarios to approximate the overall tax cost (see Appendix A.1.1 for more details on data and methodology).

The collected data show that specific schemes for new taxpayers tend to attract more and more beneficiaries over time. This is the case for all schemes except the UK remittance basis scheme (which exhibits decreasing numbers of beneficiaries, likely due to Brexit¹⁵) and the Austrian workers regime.¹⁶ According to the collected data, nearly 200,000 individuals across the European Union are currently benefitting from specific tax regimes; however, this figure should most likely be increased by at least 50% due to the lack of recent data for some countries and the absence of data for some schemes (especially: Cyprus, Greece, Luxembourg, and Malta).

¹³High-net-worth individuals often receive most of their earnings in foreign-sourced capital income included in their taxable income

¹⁴Given that HNWI scheme is targeting only the richest taxpayers, a taxable income of EUR 500,000 is assumed. The fact that the taxpayer could be holding tax credits for taxes paid abroad is not relevant in this case as the scoring compares two similar taxpayers – except that one of the two is a new tax resident and as such benefits from the scheme while the other does not. Using PwC income tax brackets for 2021, the result is that a EUR 500,000 new resident taxpayer bears a tax burden that is less than half of the one borne by a longer-established taxpayer.

¹⁵<https://www.theguardian.com/business/2019/aug/08/britons-non-domicile-status-drops-record-low-brexite-wealth-tax>

¹⁶A decrease in beneficiary numbers has been established by the Austrian administration; however, as they are not entirely sure of the figures, data for the past several years should be interpreted with caution.

Table 3**Number of beneficiaries per regime**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Latest available figure
Austria – 20% deduction								714	1,081	1,045	346	531		531 (2020)
Austria – artists									50	124	177			177 (2019)
Belgium – foreign executives										18,718	19,996	23,062	24,311	24,311 (2021)
Denmark – 32.84% flat-tax rate	3,947	4,035	3,978	4,558	5,041	5,504	5,965	6,530	6,899	7,369	7,699			7,699 (2019)
Finland – 32% rule		335								550	550	550	600	600 (2021)
France – régime des impatriés	8,430	8,600	9,070	9,840	11,070	11,125	11,279	11,256	11,455	13,260	13,704			13,704 (2019)
Greece – HNWI												20	58	58 (2021)
Greece – pensions												8	206	206 (2021)
Ireland – non remittance scheme					3,393		5,597	7,262	8,500					8,500 (2017)
Ireland – SARP regime				11	121	302	586	793	1,084	1,481				1,481 (2018)
Italy – inbound workers														1,850 (2006)
Italy – HNWI									99	264	421			421 (2019)
Netherlands – 30% rule	37,700	40,259	43,758	45,653	48,757	51,975	56,431	64,539	74,044	85,479	89,483	92,048		92,048 (2020)
Portugal – NHR regime (+ pensions)								10,684				23,000		23,000 (2020)
Spain – Régimen de impatriados										7,720	9,599	9,852		9,852 (2020)
Sweden – expert tax					2,277	2,430	2,468	2,580	2,575	2,627	2,953	2,965		2,965 (2020)
United Kingdom – non-remittance scheme	48,500	45,600	49,200	48,900	48,000	53,000	55,100	55,100	53,700	45,700				45,700 (2018)
Total														194,530

Source: EU Tax Observatory

The results of fiscal cost estimations are likely to be lower-bound estimates. A lower-bound back-of-the-envelope calculation of the total fiscal gain made by eliminating all specific tax regimes indicates an immediate extra revenue sum for the EU of just over EUR 4.5 billion per year, which approximately equals the budget of the EU Erasmus programme (Table 4). However, this figure is grossly underestimated for three main reasons:

- A lack of recent data for schemes which have been steadily gaining in popularity, resulting in underestimates of the current cost.
- The absence of data for some specific regimes, while yet some of them are particularly generous regimes for new tax residents.
- The choice of assumptions in favour of a prudent estimate, in particular the choice of a net taxable income of EUR 100,000 per beneficiary per year, which does not take the progressivity of income tax scales into account.

Table 4**Total fiscal gain of eliminating specific regimes**

	Estimated fiscal cost in millions EUR (lower-bound estimate)	Average gain per beneficiary in EUR
Austria – 20% deduction	0.39 (2020)	737
Austria – artists	3.08 (2019)	17,401
Belgium – foreign executives	136.7 (2021)	5,625
Denmark – 32.84% flat-tax rate	160.1 (2019)	20,794
Finland – 32% rule	2.39 (2021)	3,983
France – régime des impatriés	180 (2019)	13,135
Ireland – non remittance scheme	255 (2017)	30,000
Ireland – SARP regime	42.4 (2018)	28,629
Italy – inbound workers	57.7 (2006)	31,194
Italy – HNWI	42.1 (2019)	100,000
Netherlands – 30% rule	1,100 (2020)	11,950
Portugal – NHR regime (+ pensions)	619.8 (2019)	26,948
Spain – Régimen de impatriados	502.7 (2020)	51,020
Sweden – expert tax	87.1 (2020)	29,376
United Kingdom – non-remittance scheme	1,371 (2018)	30,000
Total	4,560.0	23,473

Estimations not provided by administrations are listed in italics (see Appendix A.1.1 for more detailed information).

Source: EU Tax Observatory

One other way to appreciate the loss of fiscal gain as well as the advantage for beneficiaries is to look at the per beneficiary tax cost. It is in Austria of EUR 737 per capita in 2020, EUR 29,340 on average per beneficiary in Sweden in 2020 and up to EUR 51,000 on average per beneficiary in Spain in 2020.

3.3 Summary of findings and discussion

A number of EU member states have introduced preferential tax regimes to attract personal income taxpayers. Establishing such specific regimes has become increasingly lucrative with the global increase in the mobility of both companies and individuals; furthermore, the establishment of the EU greatly reduced the costs associated with changing one's tax domicile. These regimes target high-net-worth individuals, selected professionals, or pensioners. A tentative ranking suggests that the Italian and Greek HNWI regimes as well as the Cypriot high-income regime, and the Cypriot, Greek, and Portuguese pension schemes are among the most harmful. More than 200,000 taxpayers are currently benefitting from these schemes. Overall, preferential schemes generate a loss of revenue of over EUR 4.5 billion per year for the EU as a whole.

Preferential schemes are all the more problematic as they target the highest-income taxpayers, either by defining the minimum amounts of income to be earned, or by reducing tax rates that will only benefit individuals with a previous higher tax rate (i.e., the highest-income earners). The exemptions thus directly undermine the progressivity of tax systems and create favourable regimes for already extremely high-income individuals.

4 Corporate tax competition

The significant decline of statutory corporate income tax rates taking place in the EU in recent decades has only partially been compensated for by base-broadening measures. Estimated effective tax rates paid by large MNEs in the EU suggest that actual tax burdens may have been significantly lower in most member states than values suggested by their statutory rates. In addition to measurement errors, this may stem from different base-narrowing measures such as R&D incentives, intellectual property (IP) regimes, allowance for corporate equity (ACE) regimes, and tax rulings, applied by an increasing number of member states. It seems that, similarly to trends observed in personal income tax competition, corporate tax competition has likewise recently been driven by special regimes.

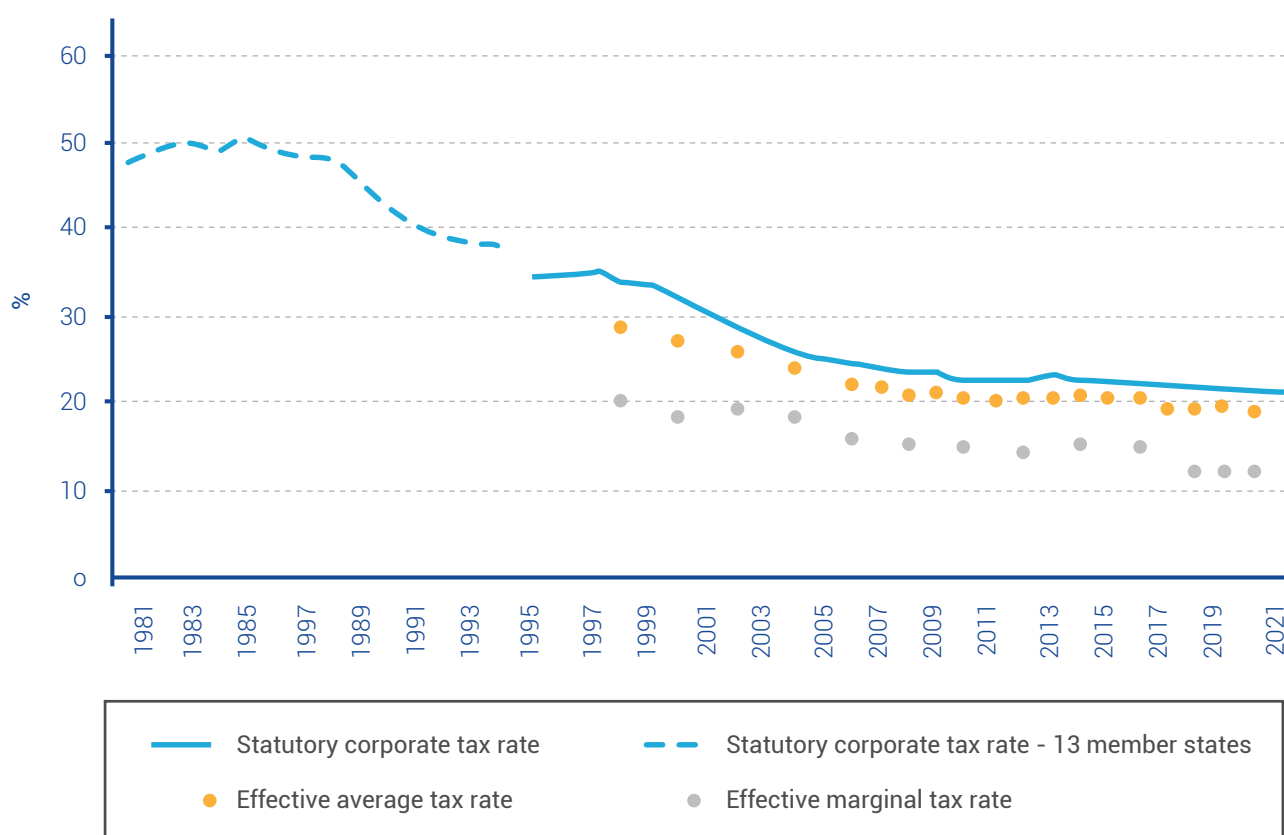
4.1 General trends in corporate taxation

4.1.1. Declining corporate tax rates

The average statutory tax rate in the European Union has declined significantly during the past several decades, from approximately 35% in 1995 to nearly 21% in 2021. A smaller sample of 13 member states, for which historic data is available, exhibits a decline from an average statutory corporate tax rate of 48% in 1981 (Figure 3).

Figure 3

Development of corporate tax rates, 1981–2021



Source: European Commission (2021b), Spengel et al. (2020).

Forward-looking effective average and marginal tax rates,¹⁷ which also capture the degree to which capital allowances reduce the tax burden on corporations, confirm the downward trend in statutory tax rates since the 1990s.

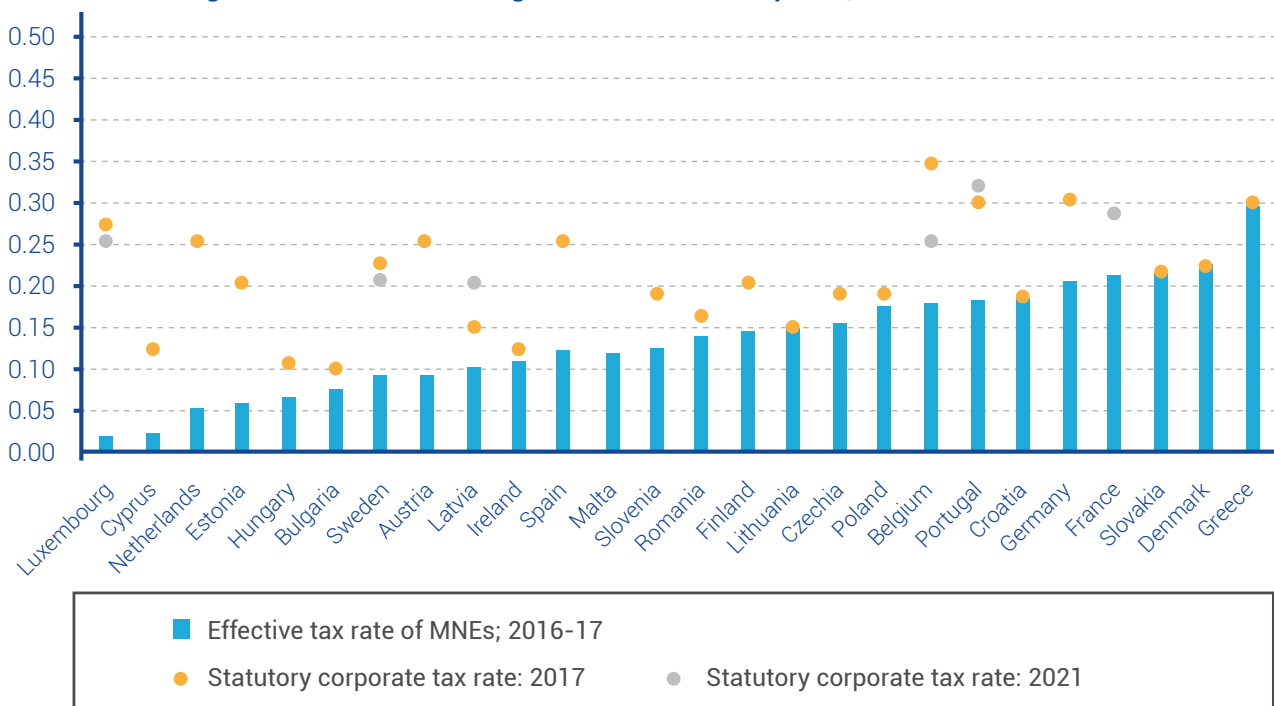
Since the financial crisis, the decline of the average statutory tax rate has slowed. However, tax competition seems to have become more intense for certain tax-base-narrowing measures. These include expenditure-related investment incentives, R&D incentives, as well as relatively new exemptions and deductions targeting the most mobile parts of the corporate tax bases – the profits of multinational enterprises. As these measures are not standardised internationally, assessing their quantitative relevance and potential revenue effects systematically is difficult.

4.1.2. Effective tax rates of multinational enterprises

As multinational enterprises are able to exploit differences in member states' tax systems more easily, they tend to pay lower effective tax rates on average than purely domestic companies (see for example Bilicka 2019). Backward-looking effective tax rates (ETRs) based on aggregate country-by-country-report (CbCR) data suggest that affiliates of large MNEs have on average paid less than 20% of their profits in corporate tax in most member states in 2016 and 2017 (Figure 4). In 8 member states, the average ETR for affiliates of large MNEs was even estimated to be below 10% for 2016 and 2017.

Figure 4

Backward-looking effective tax rates of large multinational enterprises, 2016–2017



Backward-looking effective tax rates of MNEs refer to taxes accrued by foreign affiliates of MNEs with turnover of more than EUR 750 million as reported in aggregate CbCR data for each host country. Tax payments and profits were averaged over the years 2016–2017. Headquarter companies were excluded to reduce the downward bias of ETRs due to intra-company dividends. Statutory tax rates include surcharges, such as the 2017 one-off surcharges for very large companies in France. **Sources:** OECD (2021), European Commission (2021b), own calculations

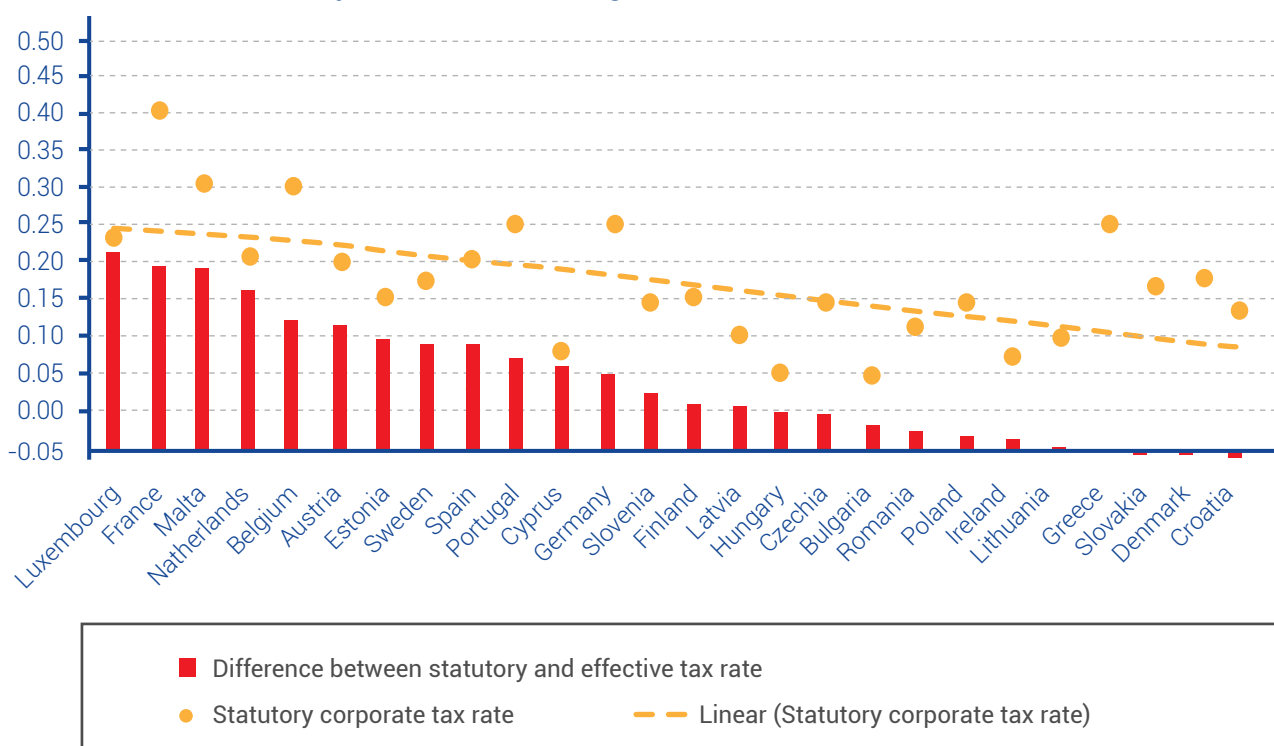
¹⁷Forward-looking effective average tax rates (EATRs) provided by Spengel et al. combine information on statutory tax rates and capital allowances for different asset types that narrow the corporate tax base. They are based on a microeconomic model of investment which calculates the average tax contribution a firm makes on an investment project. For example, the return on an investment project is taxable at the statutory rate. However, as the company bought a new machine to make this investment, a certain percentage of its expenditure can be deducted from the taxable profit. This reduces the taxes effectively paid. Effective marginal tax rates (EMTRs) measure the tax burden on a marginal investment project that delivers just enough profit to pay the user cost of capital. EMTRs tend to be lower than EATRs because the effect of the capital allowance is relatively more important at low levels of profit.

Low ETRs may be due to several reasons. The corporate tax burden depends strongly on the definition of taxable profits. These may differ from financial profits due to capital allowances, tax-deductible interest payments, corporate equity allowances, and special tax regimes such as R&D incentives or patent boxes. Furthermore, loss carry rules may also reduce the amount of taxable profits in a given year. In addition to the tax rate and the legal definition of the corporate tax base, the interpretation of tax law may also play a role. For example, the so-called sweetheart deals, which have achieved some notoriety thanks to the LuxLeaks scandal, included special agreements between tax authorities and individual MNEs on how to define taxable profit. In many cases, this strategy significantly reduced the tax payments of such MNEs. Finally, corporate tax avoidance strategies may reduce taxation in ways not intended by the legislator.

Effective tax rates provide a rough indication of how much tax corporations pay in relation to their economic profits, keeping in mind that low ETRs may be caused by intended or unintended tax reductions.¹⁸ The countries with the highest statutory rates tend to be those with the largest absolute discrepancy between statutory and estimated effective tax rates with a 67% correlation of both measures (Figure 5). This might indicate that they offer more generous tax base reductions or are more affected by corporate tax avoidance.

Figure 5

Difference between statutory and backward-looking effective tax rates



Notes: Backward-looking effective tax rates of MNEs refer to taxes accrued by foreign affiliates of MNEs with turnover of more than EUR 750 million as reported in aggregate CbCR data for each host country. Tax payments and profits were averaged over the years 2016–2017. Headquarter companies were excluded to reduce the downward bias of ETRs due to intra-company dividends. Statutory tax rates include surcharges, such as the 2017 one-off surcharges for very large companies in France. Sources: OECD (2021), European Commission (2021b), own calculations.

¹⁸ A potential shortcoming of the CbCR data is that the profits reported by MNEs may include dividend income which might lead to double-counting as these dividends should have been subject to corporate income tax already. This might misleadingly inflate profits in relation to corporate tax. For this reason, ETRs are calculated based on foreign affiliates only, which should receive less dividends on average than corporate headquarters (Bratta et al. 2021).

Based on Orbis data, García-Bernardo et al. (2019) find that ETRs of EU MNEs have declined by 8.7 percentage points between 2005 and 2015. They estimate that 3.4 percentage points of this decrease was driven by declining statutory tax rates in these MNEs' home countries while changes in domestic tax bases accounted for 2.5 percentage points. 0.8 and 0.9 percentage points can be attributed to changes in foreign countries' statutory tax rates and tax bases, respectively. Only the remaining 0.4 percentage points are attributed to profit shifting, according to the authors' estimates. Similarly, Fuest et al (2020) observe that the effective tax rate at firm level fell by 14.3 percentage points between 1995 and 2016 for a sample including both multinational and non-multinational firms in the OECD.

4.1.3. Tax reforms in the past five years

During the past half decade, member states implemented numerous changes to both the corporate tax rate and corporate tax base. A total of 9 member states decreased their statutory corporate tax rates, with the strongest tax rate cuts adopted in Hungary (-9.4 pp), Belgium (-9 pp), and France (-6pp). Statutory tax rates were also cut by Croatia, Greece, Italy, Luxembourg, Slovakia and Sweden. The only countries to raise their statutory corporate tax rates were Latvia (+5 pp), Portugal (+2 pp), and Slovenia (+2 pp). Tax reforms adopted by member states during the course of the past five years include a mix of base-broadening and base-narrowing measures. A rough classification of measures suggests that many countries increased their tax bases by adopting anti-avoidance measures and by reducing exemptions and deductions – such as limiting the deductibility of losses (Latvia, Netherlands, Sweden) or company car use (Poland), and reducing the exemption of dividend income (Spain and Belgium) or capital gains (Spain). However, many new exemptions and deductions were introduced, such as tax-relief for reinvested profits (Latvia, Portugal), increased deductibility of municipal taxes (Italy), more generous tax brackets in progressive schemes (Netherlands), and the expansion of a tax exemption previously limited to special economic zones to the entire country (Poland).

A clear upward trend may be observed for base-narrowing investment incentives such as more generous capital allowances or accelerated depreciation and R&D incentives (Table 5). In addition, some member states have introduced preferential tax regimes for income derived from intellectual property, and notional interest deduction, analysed in more detail in section 4.2.

Table 5**Number of corporate tax reforms EU, 2017–2021**

	Rate increase	Rate decrease	Base increase	Base decrease
General CIT reforms	16	28	54	50
of which				
anti-avoidance measures (e.g. CFC rules, exit tax, interest deduction limitation, thin-capitalization rules)	1	1	25	1
cost-based investment incentives (capital allowances, depreciation rules, investment deductions)	2	2	2	16
R&D incentives	0	0	1	9
IP regimes	1	2	2	3
notional interest deduction ACE regimes	1	0	1	4
ecological incentive	0	0	0	3
COVID-19 compensation	0	1	0	13
Tax reforms which concern only SME or micro enterprises	1	9	3	7
Tax reforms which concern only specific sector or region	8	3	3	12

Notes: CFC – controlled foreign company; R&D – research and development; IP – intellectual property; ACE – allowance for corporate equity. **Source:** OECD R&D Tax Incentive Indicators, 2020

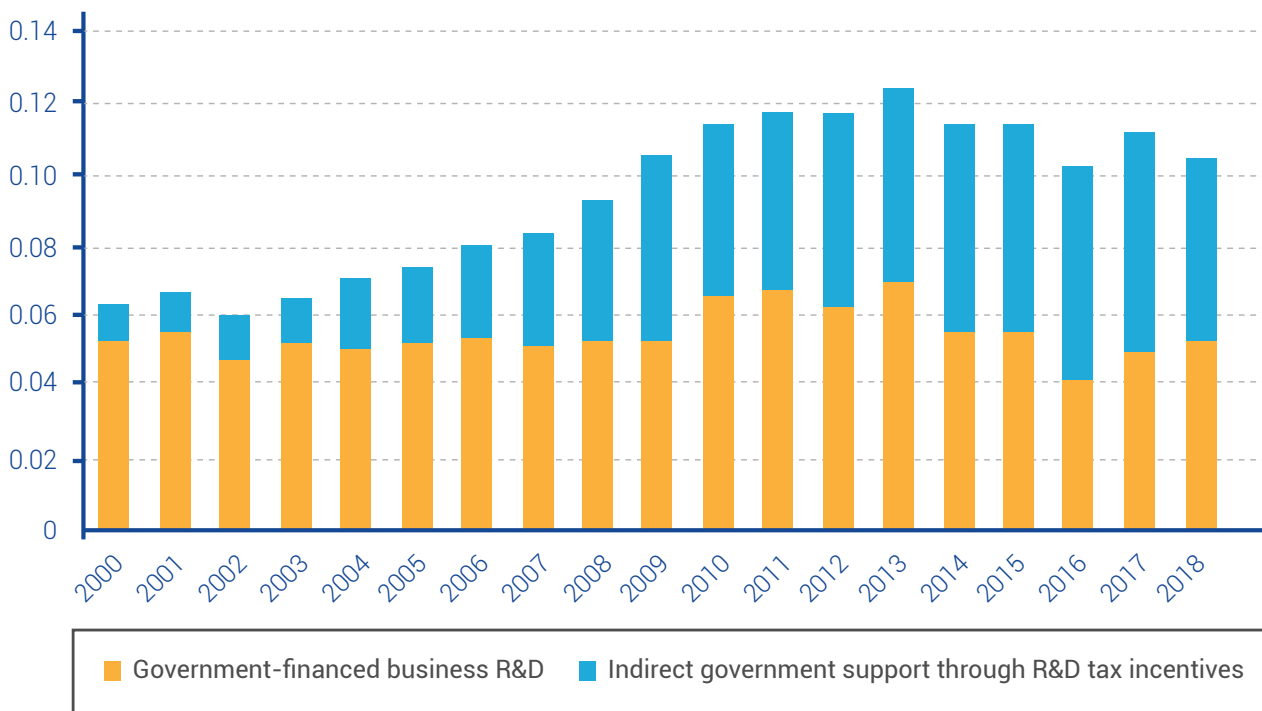
4.2. Development of selected base-narrowing measures

This section analyses recent developments in base-narrowing measures which have the potential to substantially drive down the effective tax rates of individual MNEs. These measures include tax incentives for R&D, preferential taxation of income derived from intellectual property, and notional interest deduction. While in principle available to all enterprises, MNEs are capable of exploiting such incentives more intensively as they are able to relocate profits and activity between jurisdictions with greater ease than purely domestic firms; as a result, they are potentially capable of combining the benefits of several incentives across different countries. Furthermore, this section also examines the development of unilateral tax rulings, which are confidential agreements between tax authorities and MNEs on the assessment of taxable profits. These agreements have become notoriously known due to the LuxLeaks scandal, where they resulted in individual MNEs paying close to zero tax in Luxembourg.

4.2.1. Research and development incentives

Historically and theoretically, government support for innovation has been viewed as a way to resolve the underprovision of long-term research by private market providers. Aside from funding public research facilities (e.g. universities) directly, governments promote innovation through two distinct channels:

- Direct funding of business R&D;
- Tax incentives for private R&D investment (e.g. credits applicable to R&D outlays).

Figure 6**Government support for R&D in the EU-27 (2000–2018)**

Sources: OECD R&D Tax Incentive Indicators, 2020

Figure 6 plots the evolution of direct funding and tax incentives for business R&D since 2000 and shows how governments have encouraged private research. First, the data highlight a clear evolution: tax incentives have become much more important in the promotion of R&D (+442% over 18 years in terms of GDP). In 2018, these incentives already played a role comparable in importance to direct funding (0.051% of GDP vs 0.053% of GDP, respectively). However, they have not replaced the direct public funding of business R&D, which has remained fairly stable as a share of GDP over the past two decades. While the purpose of increasing indirect government support for R&D is clearly to intensify R&D expenditures, it has also inevitably and simultaneously impacted tax revenue, since it narrows the corporate income tax base.

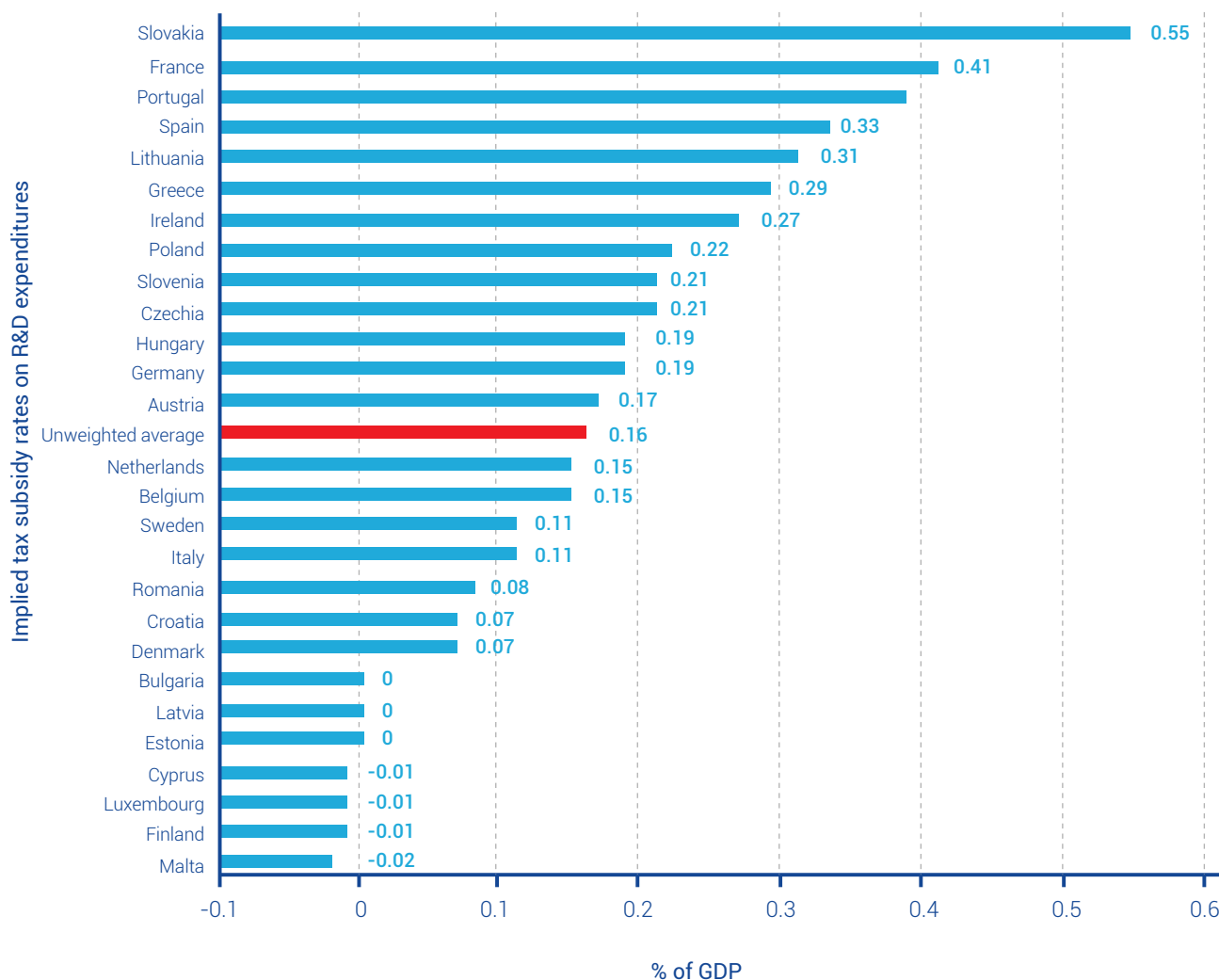
R&D expenses benefit from a more or less preferential tax treatment depending on the statutory corporate tax rates and the tax incentive policies implemented by states. To rank individual regimes, the OECD has designed an indicator, namely the implied tax subsidy rates on R&D expenditures (the so-called 1-beta index). It provides a synthetic impression of how generous a tax system is towards a firm investing in R&D (Warda, 2002). As the indicator encapsulates the gap between the CIT rate and the treatment of R&D investment, the development of tax provisions for R&D increases the rate whereas the reduction of R&D allowances lowers it.

Consistently with the evidence presented in Figure 6, the average implied tax subsidy rate in the EU has increased within the space of the past twenty years. However, despite a general increase, recent data show the diversity of tax systems among member states and reveal the different paths taken by individual governments. A small group of “generous incentive providers” (Warda, 2002) highly subsidize research through tax reliefs and other tax incentives (Slovakia, France, Portugal, and to a lesser extent Spain and Lithuania) whereas countries labelled as “low incentive providers or non-incentive providers” (ibid.) seem to offer little to no preferential tax treatment of R&D expenditures, meaning that governments do not use tax incentives to promote innovation.

In summary, during the past two decades, the development of tax incentives as a form of indirect R&D support has narrowed corporate tax bases in member states and may be seen as a novel corporate tax competition driver. A recent study suggests that more generous R&D incentives induced MNEs to reallocate R&D investments across borders rather than raise their global R&D activity (Knoll et al., 2019), which is a clear indication of the inter-dependence of member states' R&D policy choices. Compared to direct government funding of private R&D, tax relief or tax credits may be regarded as less transparent public intervention instruments as it is more difficult to predict who will benefit in the end, and by how much.

Figure 7

Preferential treatment of R&D in the EU-27 tax systems (2020)



Data: OECD R&D Tax Incentive Indicators, 2020. Rates apply to large profitable firms. The tax subsidy rate is defined as 1 minus the B-index, a measure of the “before-tax income needed to break even on USD 1 of R&D outlays” (Warda, 2001). More specifically, an implied subsidy rate of zero or close to zero means that there is very little to no preferential tax treatment for R&D. An increase in tax provisions for R&D leads to a higher rate.

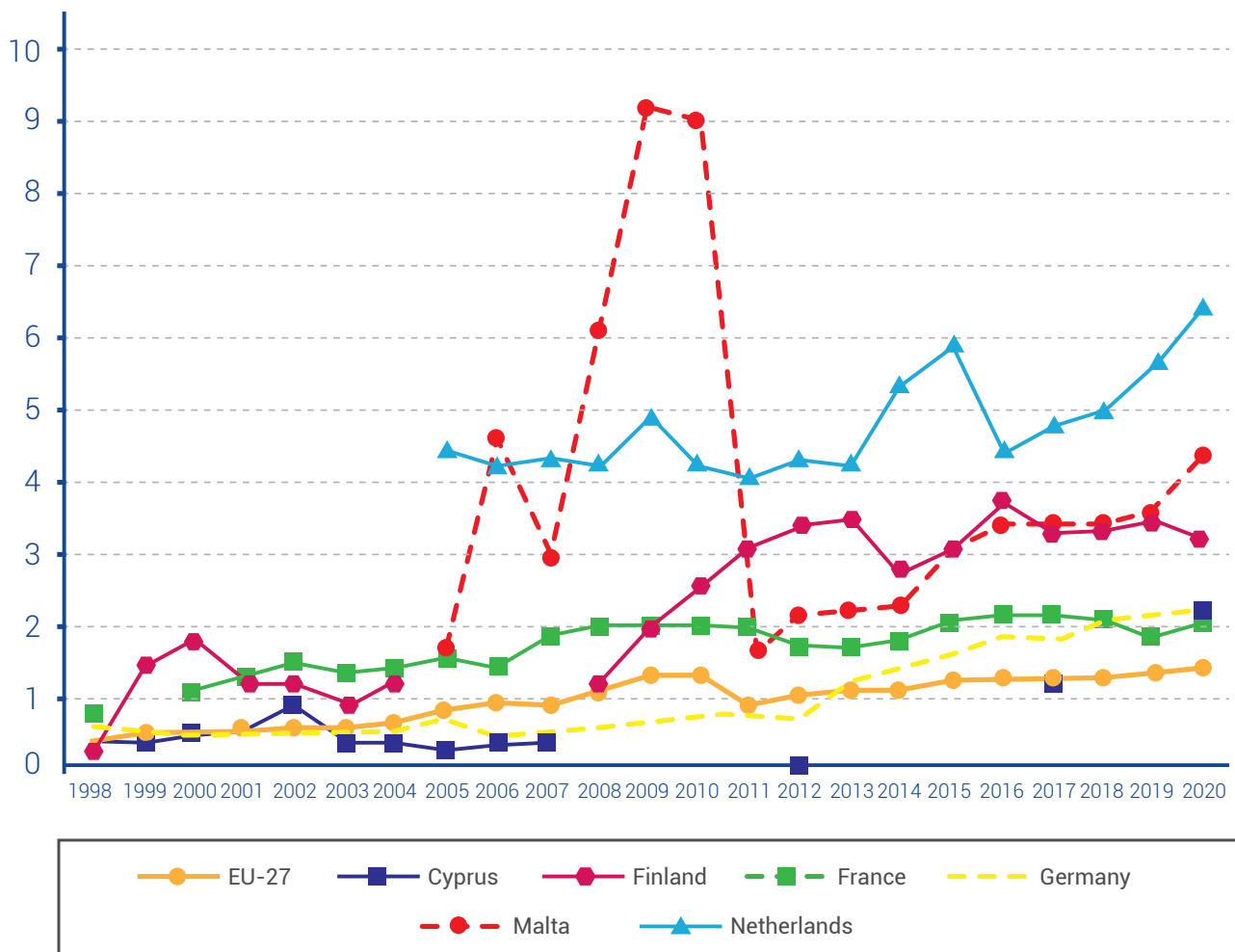
4.2.2. Intellectual property regimes

Intellectual property (IP) regimes provide a preferential tax treatment for income derived from intangible assets such as patents and software. This may concern license fees or royalties received from corporations or corporate group members but also 'embedded' royalties, which constitute the estimated contribution of a corporation's intellectual property to the sales price of its final product.

The share of charges for the use of intellectual property currently amounts to 1.3% of total trade in the EU. This figure seems relatively low but has increased significantly over the past two decades (Figure 8). Especially the Netherlands, Malta, and Finland report above-average shares of IP-related charges, amounting to 6.3%, 4.3% and 2.1% in total trade respectively, which might indicate that their economies are highly knowledge-based or that some strategic location of intangible assets by MNEs has taken place. This trade data underestimates the relative importance of revenues related to intangible assets, as it does not include embedded royalties included in the sales prices of goods and services.

Figure 8

Share of charges for the use of intellectual property (creditor) in total trade, 1998–2020



Note: The figure shows the average share of charges for the use of intellectual property in total exports for the average of EU-27 and individual member states with above-average exports in 2020. Source: IMF (2021): Balance of Payments Statistics, own calculations.

McKinsey (2021) estimates that capitalized spending on R&D and intangible assets such as brands, software, and intellectual property in global value chains has increased from 5.4% of revenue in 2000 to 13.1% in 2016. In the pharmaceutical sector and in machinery and equipment this share is already much higher, reaching 80% and 36% in 2016.¹⁹ As global value chains are becoming more knowledge-intensive, the preferential tax treatment of returns on intangible capital will become more costly to EU member states.

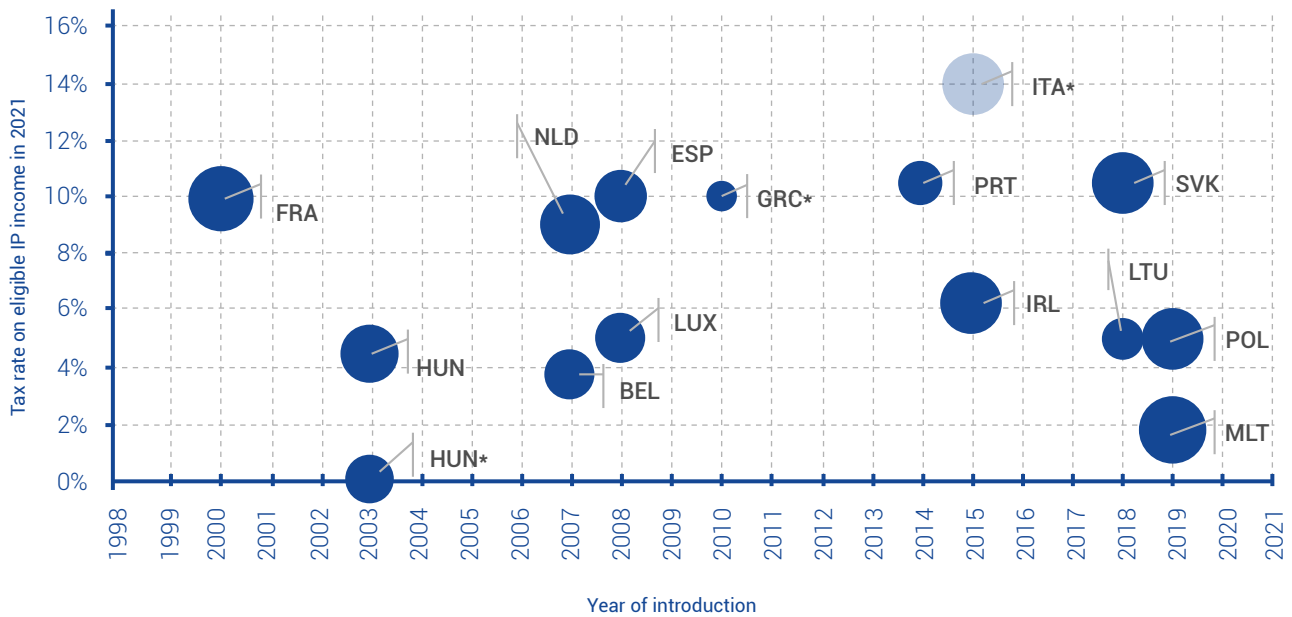
The rapid spread of IP boxes in the EU provides an indication of how intensively member states compete with each other over the most mobile parts of the corporate tax base. An increasing number of countries excludes income derived from intangible assets such as patents and software from the general tax base and taxes them at highly preferential rates or allows high shares of IP income to be deducted from the tax base, which effectively reduces the tax rate on this income. Preferential tax rates range from zero on long-term capital gains in Hungary to 11% on income from intangibles in Portugal and Slovakia (Figure 9). Lithuania, Luxembourg, Malta, Hungary, and Poland offer preferential tax rates of 5% or less. Belgium, France, Luxembourg, Malta, the Netherlands, and Portugal offer the most intense preferential treatment as the difference between statutory corporate tax rate and preferential rate is higher than 15 percentage points (see Table A4 in the Appendix).

Some IP boxes are more generous than others in terms of qualifying assets and revenues. For example, the Maltese IP regime applies to embedded royalties and qualifying assets comprise patents, software, and utility models, and other IP assets with features similar to those of patents. Belgium, Hungary, Ireland, Italy, Luxembourg, Poland, and Slovakia also allow for the inclusion of embedded royalties, but only patents and software qualify as IP assets (and, in the case of Ireland, also IP assets with features similar to those of patents). The Dutch patent box applies to three categories of intangible assets: patents, software and other IP²⁰ which the Ministry of Economic Affairs has declared as eligible in a so-called R&D declaration (OECD 2021) but excludes embedded royalties. France includes patents, software, and patentable inventions but no embedded royalties. The scope of qualifying assets and incomes for IP regimes is represented by the different bubble sizes in Figure 9.

The exclusion of marketing and brand-related IP as part of the OECD's/G20 BEPS reforms, has limited the scope for some extreme forms of corporate tax avoidance related to IP regimes in the EU. In addition, the modified nexus approach was implemented by all member states, which now require some incurred R&D expenditures as a precondition for benefitting from their IP regimes. However, the effectiveness of the nexus approach in curbing IP-related tax avoidance still needs to be evaluated as companies already benefitting from IP regimes before the reform could continue to do so until June 2021 due to grandfathering clauses.

¹⁹Ocean Tomo (2021) estimates that intangible assets contributed approximately 75% to the market value of 350 leading blue-chip companies from 16 developed European Markets (S&P Europe 350 index) in 2020.

²⁰IP related to technological/scientific research or the development of new (parts of) physical products

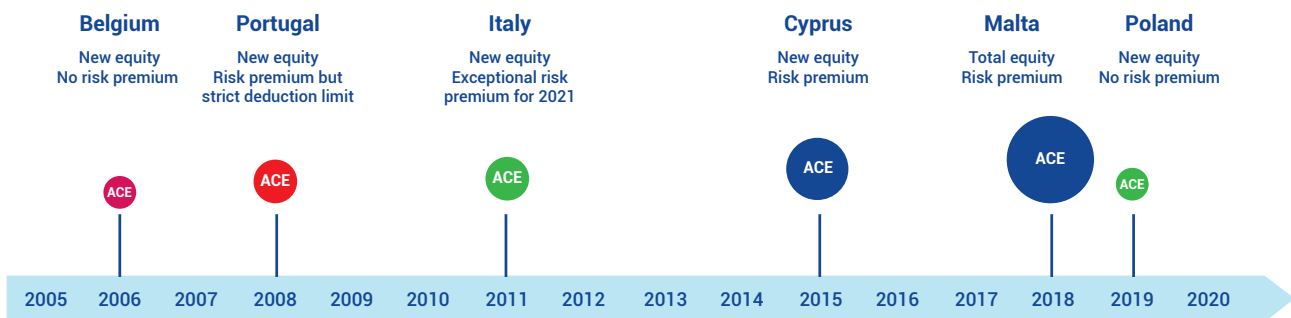
Figure 9**Intellectual property regimes in the EU 1998 – 2021**

Note: Bubble size indicates regime generosity: the bigger the bubble, the broader the potential tax base, i.e. embedded royalties are included or more types of intangible assets qualify for the regime (patents, software, utility models, other types of intangible assets similar to patents). *Italy has abolished its patent box in Oct 2021. Hungary applies are rate of 0% on capital gains and 5% on other IP income. The Greek patent box is currently under revision and no detailed information available.

Sources: see table A4 in the Appendix.

4.2.3. ACE regimes

Some countries have introduced allowances for corporate equity (ACE) which theoretically serve to reduce the debt-equity bias in corporate taxation. The debt-equity bias occurs because interest rates paid can usually be deducted from the corporate tax base, which might make debt financing more attractive relative to raising new capital by issuing shares. The debt-equity bias may be mitigated by reducing the deductibility of interest payments or by allowing for a notional interest deduction on corporate equity (European Commission 2021d). While the first option increases the corporate tax base, the second option decreases it; in the latter case, the extent of forgone tax revenue strongly depends on the implementation details. A high notional interest rate and a broad definition of equity to which this notional interest deduction applies lead to a higher share of profits excluded from the general corporate tax base. To facilitate inter-country comparisons of notional interest rates, each member state's notional interest rate can be benchmarked against the yield of each country's 10-year government bonds. A notional interest rate exceeding the 10-year government bond yield can be regarded as including a risk premium and is thus considered more generous.

Figure 10**Introduction of ACE regimes**

Note: Bubble size indicates regime generosity. A regime is considered more generous if a risk premium is added on top of the average 10-year government bond yield (Italy, Portugal, Cyprus, Malta) and if it applies not only to new equity but to the total stock of equity (Malta). Italy temporarily increased its notional interest rate to 15% in 2021. Usually, a notional interest rate of 1.3% applies which is just 1 pp higher than the average 10-year government bond yield. Portugal limits the maximum allowance to EUR 140,000 per year.

During the course of the past two decades, ACE regimes have been introduced by six member states (Figure 10). Malta's is the most generous, as it applies to the total stock of equity and sets a relatively high notional interest rate adding a 5 percentage point risk premium on top of the long-term bond yield. Other ACE regimes also allow for a relatively generous explicit or implicit risk premium with approximately 7 percentage points in Portugal²¹ and 5 in Cyprus but apply it only to new equity. As Portugal limits the maximum allowance to EUR 140,000 per year, the generosity of the regime is assessed as being relatively low. The ACE regimes of Belgium and Poland also seem much less generous, as they do not include a significant top up on the long-term government bond yields²² which have been close to zero in the first half of 2021 but might rise again in the future. Italy's notional interest rate used to be relatively low (1.3%) but has been temporarily increased to 15% in 2021. Austria and the Netherlands announced that they were considering the (re-)introduction of ACE proposals in 2020 (Asen 2020, EY 2020a).

4.2.4. Advance tax rulings

Advance tax rulings (ATRs) are not part of general legal provisions defining the corporate tax base. They are legal instruments that may be requested by a taxpayer to clarify the application of tax rules to specific taxation arrangements. The interpretation of tax laws consequently provided by a given authority is binding and generally serves to provide the taxpayer with tax certainty. However, the ATRs revealed by LuxLeaks were associated with complex tax structures that in many cases led to almost zero tax payments in Luxembourg. Huesecken and Overesch (2019) find that MNEs benefitting from ATRs revealed by the LuxLeaks reduced their groupwide effective tax rates by 3 to 4 percentage points relatively to MNEs that did not benefit from an ATR. Recent state aid investigations by the European Commission indicate that the ATRs of other member states have likewise provided very generous interpretations of tax rules (EC 2016b, EC 2017b, EC 2017c).

²¹Portugal sets the notional interest rate at 7%, i.e. much higher than the current yield on long-term government bonds of approximately 0.027% for Jan–Aug 2021 (ECB 2021)

²²Poland's ACE regime actually refers to the reference rate of the National Bank of Poland but for consistency, the 10-year government bond rate was used as benchmark.

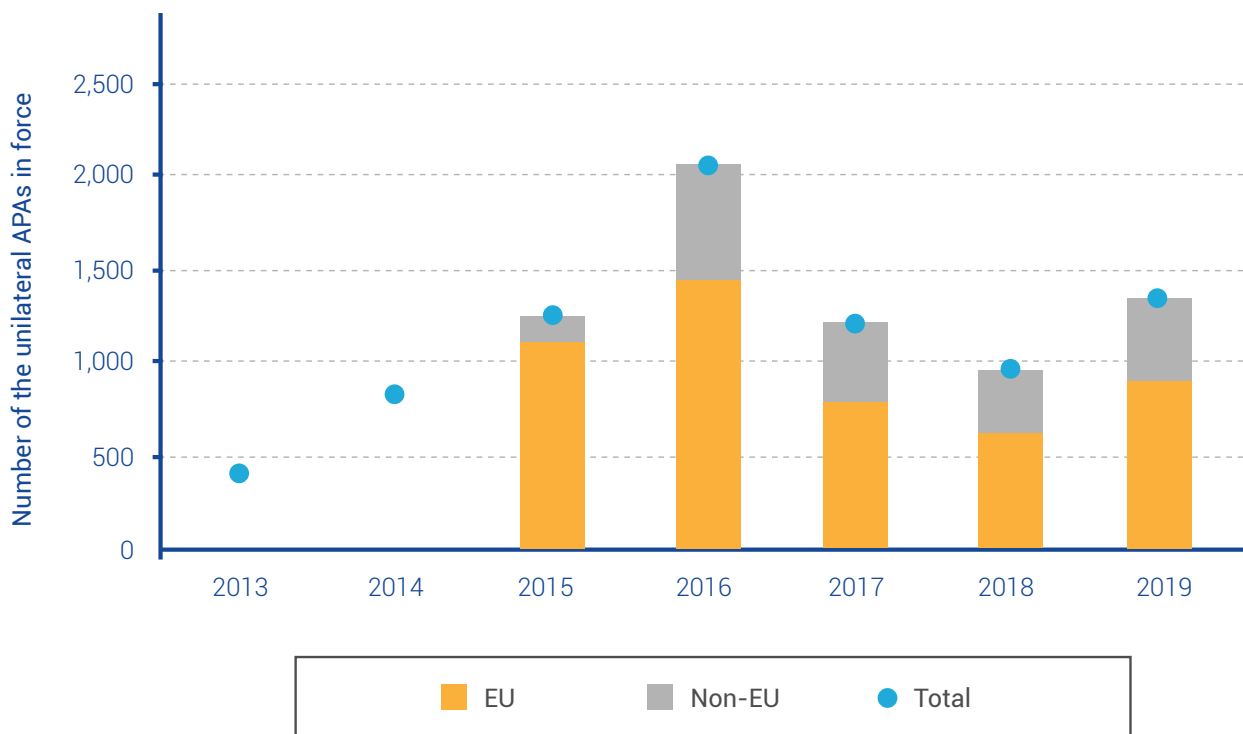
Advance price agreements (APAs) are a specific form of ATRs that provide a binding interpretation of transfer pricing rules to taxpayers. If issued unilaterally by a single tax administration, they may have the highest risk of including preferential arrangements since other host countries of the MNE are not involved in the consultations. The automatic exchange of information on tax rulings introduced in 2015 represents an important step towards greater transparency. To what extent this exchange of information has induced tax authorities to question existing arrangements has thus far not been disclosed to the public. The content of most tax rulings remains obscure to both EU institutions and citizens.

The increasing number of APAs issued by EU member states also illustrates the increasing complexity of the transfer pricing system, which fails to unambiguously determine the tax base of MNEs. A low effective tax rate may thus also be the result of the tax administrations negotiating with MNEs over their taxing rights and intentionally or unintentionally forgoing revenues in the absence of clearly comparable cases. The potential of APAs to reduce the number of transfer pricing disputes ex ante (Deloitte 2012) also comes with the risk of not being able to correct a decision when new information becomes available after the tax returns have been filed.

The number of unilateral APAs, as reported to the European Commission, has increased dramatically since 2013, reaching a peak of 2,053 unilateral APAs in force in 2016. As Luxembourg's reported unilateral APAs dropped from 599 in 2016 to 1 in 2017, the total EU-wide number likewise decreased. Since then, however, it has increased again slightly to 1,348 in 2019 (Figure 11). The Netherlands do not report the number of unilateral APAs in force to the European Commission even though past state aid investigations suggest that unilateral APAs have existed in the Netherlands (EC 2017a).

Figure 11

Reported unilateral advance pricing agreements in force

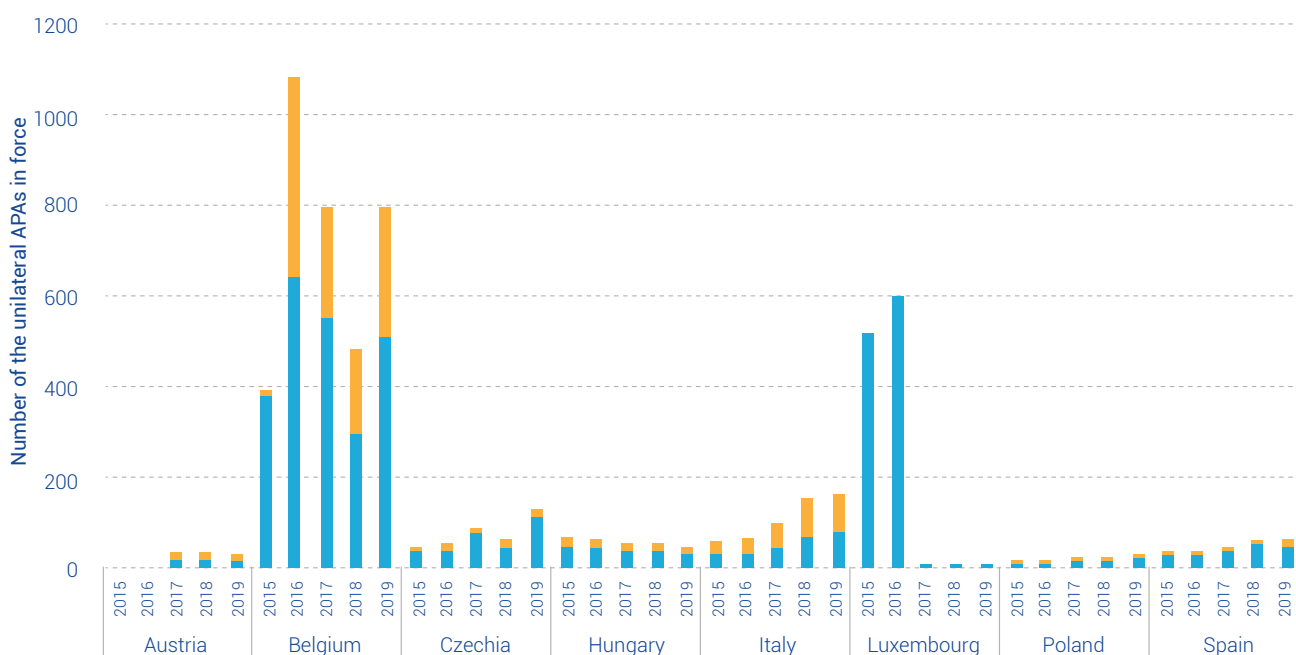


Note: The EU and non-EU categories differentiate between transactions with entities from other EU member states and with entities from outside the EU. As several countries may be involved, the distinction is not always clear-cut. Source: European Commission (2016c), European Commission (2018b), European Commission (2018c), European Commission (2019b), European Commission (2021e), Ryding (2018).

Available country-level data suggest that the practice of issuing unilateral APAs has been primarily concentrated in Luxembourg (until 2016) and Belgium. Belgium has reported 798 APAs in force as of 2019. Increasing tendencies – although at comparably low levels – may be observed in Czechia, Italy and Spain (Figure 12). According to anonymous whistleblowers referred to in the LuxLetters scandal, Luxembourg had substituted the practice of unilateral tax rulings by so-called information letters where companies set out their tax arrangements to the Luxembourg tax authorities which would signal acceptance by non-response (Vaudano et al. 2021). The Luxembourg government disclaims issuing any “oral or informal confirmation” and insists that any unilateral correspondence with the Luxembourg tax authorities cannot thus be considered binding or be interpreted as confirmation (Luxembourg government 2021).

Figure 12

Development of reported unilateral advance pricing agreements in selected countries



Note: Only countries reporting more than 30 unilateral APAs are included. Source: European Commission (2016c), European Commission (2018b), European Commission (2018c), European Commission (2019b), European Commission (2021e), Ryding (2018).

4.3. Corporate tax collection in the EU trends downwards

Tax competition entails a redistribution of tax revenues between member states as corporations shift profits and real activities to avoid paying taxes in high-tax countries. This leads to the lower collection of corporate tax for the EU as a whole. Since corporate tax revenues are very sensitive to the economic cycle and prone to strong fluctuations, the immediate effect of corporate tax cuts on tax revenues may be difficult to observe in aggregate statistics. In economic upswings, profits tend to grow faster than GDP so that the relative contribution of corporate income tax to total tax revenues increases. The opposite holds true for economic downswings, where corporate profits tend to decrease more strongly than GDP. Additionally, loss offset can still dampen corporate tax payments during periods of economic recovery, which likely explains part of the sluggish recovery of the corporate sector’s tax contribution after 2009.

Aggregate corporate sector tax revenues have remained broadly stable over the last 26 years: a linear trend approximation indicates only a very slightly declining trend in relation to GDP (Figure 13). However, the linear trend of the corporate sector aggregate profits, adjusted for the imputed

contribution of self-employed²³, suggests that profits have grown more than GDP over the same period (Figure 13). As this has not translated into a corresponding increase in corporate tax revenues, the trend of the tax-to-profit ratio has been negative (Figure 14). While this negative trend seems moderate, it might underestimate the actual declining trend of the effective tax burden for several reasons. Recent research based on microdata finds that corporate profits in OECD countries have grown more strongly than the gross operating surplus as measured by national accounts (Fuest et al. 2020). Furthermore, a growing number of attractive corporate tax regimes has provided an incentive for company owners to incorporate so that the tax base of the corporate income tax increases at the cost of the personal income tax base (de Mooij & Nicodeme 2008). This effect may mitigate the negative effects of lower corporate taxes on corporate tax revenues. In addition, the relative recovery of corporate tax revenues since 2009 has likely peaked in 2018/19 due to the subsequent Corona recession and will thus remain below previous peaks observed in economic upswings.

Figure 13

Aggregate corporate tax revenues and profits in EU-27, % of GDP

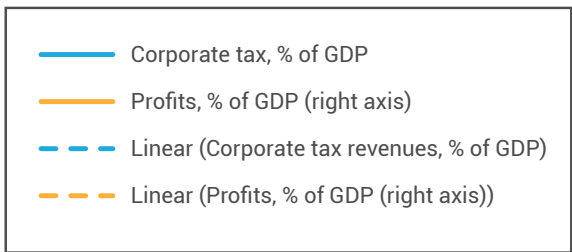
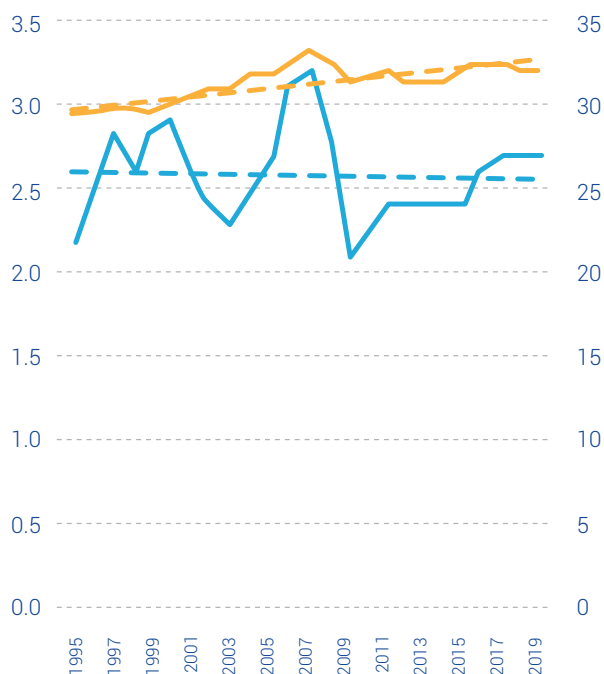
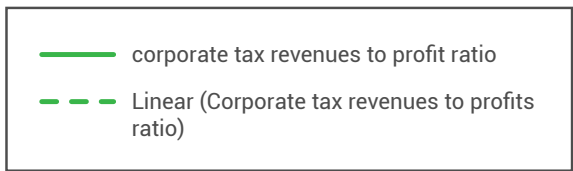
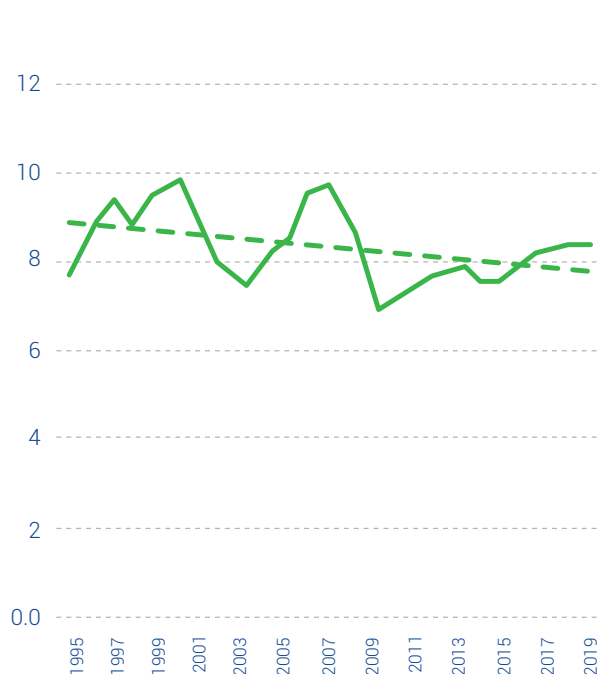


Figure 14

Ratio of aggregate tax revenues to profits in EU-27, %



Note: Profits are measured by gross operating surplus adjusted for the imputed compensation of self-employed (UQGD as provided in the AMECO online database). Figures are based on aggregate values reported (total sum of profits, total sum of revenues and total GDP). Source: European Commission (2021b, 2021f), own calculations.

²³The gross operating surplus adjusted for the imputed contribution of self-employed is a standard measure as provided in the AMECO Database (time series UQGD). As the gross operating surplus is a residual product in the national accounts, it includes not only profits but also income of the self-employed for which a split into labour income and profit is not available. The adjustment is made by subtracting the product of the number of self-employed and the average compensation of employees.

4.4. Summary of findings and discussion

Since the post-crisis slow-down in the EU-wide race to the bottom, corporate tax competition seems to have gained some new momentum. Average nominal and forward-looking effective tax rates have continued their decline throughout the past decade and several new tax incentives and base-broadening measures have been introduced. Since 2017, the number of base-broadening and base-narrowing reforms has been broadly balanced. However, since base-broadening measures mainly comprise anti-avoidance measures, it is not very likely that they will compensate for the downward trend in other corporate tax indicators.

The public financing of corporate research and development has become more common, increasingly taking the form of tax incentives, which constitute indirect but less transparent public subsidies. In addition, the EU now accounts for 14 intellectual property regimes which tax income related to the use of patents, software, and similar intangible assets at rates below 15%, half of them even below 10%. Six countries have adopted additional tax-base narrowing measures in the form of allowances for corporate equity. These are especially generous in Malta and Cyprus as they allow returns of up to 5% of new equity, and, in the case of Malta even total equity, to be excluded from the corporate tax base. Approximately 1,348 unilateral tax rulings concerning MNEs' tax arrangements (excluding potentially non-reported tax rulings by the Netherlands) were in force in 2019, with their implications for revenue collection still unknown to the public.

Some of these base-narrowing regimes may serve more targeted economic goals and some may foster aggressive tax planning by MNEs more than others. However, on the whole, tax competition leads to a decline in the relative contribution large corporations make to the financing of public budgets in the EU. In addition, the many different and selective base-narrowing measures applied by member states to increase the attractiveness of their tax system without lowering the general corporate tax rate create an untransparent patchwork of rules, the costs and benefits of which are largely ignored by most citizens.

5 Policy recommendations

The analysis of recent trends in personal and corporate income tax suggests that tax competition has gained new momentum during the course of the past decade. While corporate tax rates have continued to decrease, the decline of top statutory personal income tax rates has ceased since the financial crisis of 2008. However, many new preferential regimes have been introduced into the personal income tax systems of member states and several base-narrowing measures have been adopted to further lower the corporate tax burden. By targeting the most mobile parts of the tax base such as high-income earners and large corporations, many of these tax incentives not only undermine effective revenue collection by EU countries, they also undermine the horizontal and vertical equity of tax systems. The described trends may be countered using a number of approaches.

5.1. Extend the Code of Conduct Group mandate

Initiatives raised by the Code of Conduct Group during the last decades were designed to address aggressive business taxation regimes, defined according to several criteria. Recommendations made by the Group focused on the amendment or abolition of existing aggressive regimes as well as on the elimination of new similar formulas appearing in the policies of individual member states. It must be recognized that some progress has been made in the area of controlling corporate tax competition, given that since the first report, published in 1999,²⁴ all tax regimes examined by the Code of Conduct Group at that time have been changed or eliminated. In the latest working document, dated June 2021,²⁵ only the Polish investment zone regime, introduced in 2019 and considered to infringe the rules of the Code of Conduct, has not yet been reviewed. The same document judges, however, that the patent box regimes, which were amended according to the rules of Action 5 of the OECD's BEPS programme, should be considered as non-aggressive tax regimes – despite the large order of magnitude of the tax exemption granted by these regimes.

Since its establishment, the Code of Conduct Group has focused solely on business tax competition. This position was clearly reaffirmed in 2017 in a written response from former European Commissioner Pierre Moscovici²⁶ to a group of parliamentarians questioning the aggressive nature of the Italian regime for newly domiciled high-income individuals. The European Commission stated that measures regarding the taxation of individuals fell outside of the scope of the Group's work, unless they exerted a final influence on the tax competition of companies when interacting with other regimes.

However, considering the proliferation of increasingly aggressive personal income tax regimes aimed at tax residents from abroad, it would seem appropriate to seek a reform of the Code of Conduct Group which would enable it to assess the aggressiveness of these regimes. This broadening of the scope has already been demanded by the European Parliament in a recent report on reforming the EU policy on harmful tax practices (which included a mention of the reform of the Code of Conduct Group²⁷). Building on this report's proposal for a new Framework on Aggressive Tax Arrangements and Low Rates (FATAL), this new instrument could also examine innovative harmful schemes in both personal and corporate income tax areas.

To expand the current scope of action of the Code of Conduct, the definition of harmful tax competition should be reassessed. Currently, the criterion that harmful regimes target merely non-residents is applied

²⁴REPORT from the Code of Conduct Group (Business Taxation) to the ECOFIN Council; 29 November 1999. ²⁵Poland's ACE regime actually refers to the reference rate of the National Bank of Poland but for consistency, the 10-year government bond rate was used as benchmark.

²⁵From: General Secretariat of the Council; To: Delegations, 8602/1/20 REV 1 FISC 125 ECOFIN 478

²⁶EN E-001841/2017 E-001843/2017 Answer given by Mr Moscovici on behalf of the Commission; 15 June 2017.

²⁷https://www.europarl.europa.eu/doceo/document/TA-9-2021-0416_EN.html

in an overly narrow way. The Code of Conduct should acknowledge that non-preferential regimes may also be harmful if they lead to an exceptionally low overall level of taxation.

5.2. Explore expatriate taxation options

If EU institutions are indeed unable or unwilling to put an end to harmful specific regimes, an alternative way to eliminate tax competition for individuals would be to establish a unilateral mechanism for the temporary taxation of expatriates who decide to move their tax residency outside of a given country. A former tax resident who has been resident for tax purposes for a substantial period of time in one of the member states would continue to be subject to a tax obligation towards the original country of tax residence for a specified number of years, even after a change of tax residence.

Unilateral national measures facilitating the taxation of expatriates following their departure from a given country are not new in European legislation. Some general schemes are currently in place to force taxpayers to remain liable for taxation in their home country. These include e.g. a "tax quarantine" in place in Spain, the Gesetz über die Besteuerung bei Auslandsbeziehungen (Foreign Tax Act) applied in Germany or similar regimes in Italy and France, all of which in one way or another prolong the tax liability of ex-residents for a period of time after expatriation (see Appendix A.3.1 for a more detailed overview).

If implemented, a reform would stipulate that this post-departure tax should be calculated according to a differential taxation principle. The country of departure would tax the expatriate for a number of years as if he/she were taxable on worldwide income while providing tax credits corresponding exactly to amounts already paid abroad, especially to those paid in the new tax domicile. Since most schemes are anti-progressive, aiming to reduce the tax burden of the wealthiest individuals, a minimum taxable income above which this reform applies (e.g. EUR 100,000 taxable per year) might be considered, so as not to burden involuntary business moves or mobility that does not give rise to particular tax benefits.

If introduced, such unilateral measures would immediately remove some of the tax incentive to change one's country of tax residence, leaving the decision to expatriate to other motivations for departure that are assumed to be completely legitimate. National tax exile would be strongly limited thanks to the disincentive effects of the proposed mechanism. Thus, the argument that is raised against wealth taxes, assuming that this type of measure encourages migration, cannot be applied here given that this reform offsets part of the incentives to migrate for tax matters.

The main goal of this proposition is to put an end to EU tax competition to attract European taxpayers by making preferential schemes inefficient. Indeed, implementing the measures outlined above may be justified simply by pointing out that a taxpayer who has made a fortune in their home country while also benefitting from its educational system, its public infrastructure, and its services, as well as from the prevailing economic, political and legal climate, has a duty to continue to contribute temporarily to the tax revenues of this country, even after moving to a country with a more advantageous tax regime.

The implementation of such measures would immediately raise many obstacles, especially in view of existing community law and tax treaties governing the bilateral taxation rules of many member states. The proposed reform may be incompatible with the freedom of establishment by contributing to significant differences in tax treatment between two taxpayers. It also implies a review of the bilateral tax treaties between different jurisdictions. However, these obstacles are not prohibitive in the light of the current state of European case law (see Appendix A.3.2 for a more detailed discussion).

It is clear that this reform might face legal and political obstacles whose resolution goes far beyond the scope of this report. However, EU institutions are reassessing permanently the prerogative of the member states in matters of taxation. If EU cannot regulate aggressive personal income tax competition on the grounds that it is overreaching, it may induce individual countries to take unilateral measures against the tax departure of their taxpayers.

5.3. Limit deductions from the corporate tax base subject to the global minimum tax

The agreement by the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) to implement a minimum tax rate of 15% for large MNEs may be a first stepping-stone towards curbing the race to the bottom in corporate incomes taxes. However, the latest statement has left quite unclear to what extent the calculation of the tax base will allow for deductions, including e.g. the existing R&D tax incentives of individual countries.

The public financing of private R&D activities is certainly desirable – as long as the private gains derived from these R&D activities are also shared with the public. Direct subsidies, which are a more transparent way of supporting corporate R&D, may be more conducive to the scrutiny of citizens, NGOs and other political actors. As some poorer countries may not have the means to compete with the level of subsidies provided to the private sector by rich countries, tax-based incentives may constitute an alternative. However, certain limitations should apply so that the efficiency of the minimum tax is not undermined.

Most importantly, preferential tax regimes for intellectual property that generally exempt profits derived from the use of intangible assets should not fall under the category of R&D tax incentives. Existing IP regimes only reward successful R&D ex post instead of reducing the sunk costs in the initial phase of R&D projects.

5.4. Minimize carve-outs from the global minimum tax

In its currently discussed form, the global minimum tax has the potential to significantly reduce corporate profit shifting and induce a realignment of profits with economic activity. It would become difficult for MNEs to pay less than 15% on their shifted profits. Paying 15% in a low-tax country instead of 20% or even 30% in a high-tax country might still be attractive for MNEs; this implies that the incentive to shift profits would not be eliminated but only considerably weakened.

However, unlike what the term “minimum tax” suggests, the currently proposed design of the minimum tax will not stop corporations from paying less than 15% on an important share of profits derived from real economic activity. This is because MNEs are allowed to deduct 5% of the value of tangible assets and payroll from the profits subject to the minimum tax. This implies that an estimated share of 22% of total profits reported by the affiliates of the largest MNEs in the EU will not be subject to the minimum tax. If more generous carve-outs apply for the first 10 years,²⁸ this estimated share even increases to 37% in the first year. In addition, the minimum tax will not apply at all to corporations with revenue of EUR 750 million or below.

Overall, while the global minimum tax will reduce completely artificial structures in corporate tax planning, its mitigating effect on tax competition crucially depends on the generosity of carve-outs. Strictly speaking, while a minimum tax with carve-outs may be a very good anti-avoidance instrument, it does not constitute a proper minimum tax, as it does not provide a floor for tax competition in the EU.

²⁸Initially, carve-outs will stand at 8% of the value of tangible assets and 10% of payroll. Those rates will decrease over a 10-year period to reach the long-run carve-out rate at 5% of payroll and tangible assets.

6 Conclusion

In trying to attract or retain the most mobile parts of the tax base, EU member states have introduced several preferential personal income tax schemes and contributed to the race to the bottom in corporate taxation by further lowering corporate income tax rates or by introducing special base-narrowing measures.

Most preferential personal income tax regimes target high-income earners, who are offered preferential tax rates or exemptions as incentives to move their tax domicile. While the number of beneficiaries of individual regimes varies substantially, their overall number has nearly doubled since 2009 and currently stands at over 200,000. While many of these regimes undermine the progressivity of the domestic tax system, they also inflict revenue losses on other countries by attracting taxpayers who would not have moved their tax domicile in the absence of such regimes. Back-of-the-envelope calculations suggest that the elimination of these regimes would result in an EU-wide fiscal gain of at least EUR 4.6 billion – or EUR 23,473 per beneficiary. As more countries start copying these regimes, the associated revenue losses are likely to increase in the future.

While the EU average corporate income tax rate has continued to decline during the course of the past two decades, member states have significantly increased their R&D tax incentives, introduced patent boxes to partially exempt profits related to intangible assets from corporate taxation, and implemented ACE regimes which provide tax relief for notional returns on corporate equity. Unilateral advance pricing agreements, which played an important role in the LuxLeaks scandal, seem to have become established practice in several member states – with unknown implications for tax revenue collection. At the same time, the relative tax contribution of corporations in the EU trends downwards.

These findings suggest that tax competition in the EU is dynamic and increasingly takes the form of preferential regimes for specific groups of taxpayers or types of income when general tax cuts may be deemed too costly. In the corporate tax arena, non-preferential base-narrowing measures also help fuel competition among member states trying to attract FDI. The common market potentially intensifies downward pressures on direct taxation as firms and individuals can move more freely without giving up the benefits of relatively high public good provision in high-tax countries.

This report's policy recommendations therefore focus on the need for increased tax harmonisation in the EU. A reform of the Code of Conduct Group's mandate, broadening its scope to personal income tax and expanding the definition of harmfulness to include non-preferential corporate tax regimes, would constitute an important step towards fighting the most aggressive forms of tax competition. In the absence of a coordinated approach to mitigating personal income tax competition, various approaches to the continued taxation of expatriates might be discussed. In the field of corporate income taxation, the global minimum tax might become a game changer. This, however, depends on the final implementation agreement. High deductions and carve-outs have the potential to reduce the minimum tax to an anti-avoidance instrument.

References

- Akcigit, U., Baslandze, S., Stantcheva, S. (2015). Taxation and the International Mobility of Inventors. *American Economic Review* 2016, 106(10): 2930–2981
- Asen, E. (2020). Austria is mulling an allowance for corporate equity. 23 July 2020, <https://taxfoundation.org/austria-corporate-equity-tax-allowance>, accessed 10 Oct 2021.
- Asen, E. (2021). Patent Box Regimes in Europe. Tax Foundation, 9 Sep 2021. <https://taxfoundation.org/patent-box-regimes-europe-2021/>
- Baraké, M. et al. 2021. Collecting the Tax Deficit of Multinational Companies: Simulations for the EU. EU Tax Observatory Report No. 1. June 2021.
- Belastingdienst (2021). How to use the innovation box. Business.gov.nl. <https://business.gov.nl/running-your-business/business-taxes/filing-your-tax-returns/how-to-use-the-innovation-box/>, accessed 14 Oct 2021.
- Bilicka, K. (2019). Comparing UK Tax Returns of Foreign Multinationals to Matched Domestic Firms. *American Economic Review* 109(8) : 2921-53.
- Council of the European Union (2018a). Slovakia's patent box regime (SK007). Brussels, 20 Nov 2018, ST 1464/18 ADD 9.
- Council of the European Union (2018b). Italy's notional interest deduction regime (IT019). Brussels, 20 Nov 2018, ST 14264/18 ADD 4. <https://data.consilium.europa.eu/doc/document/ST-14364-2018-ADD-4/en/pdf>, accessed 16 Oct 2021.
- Council of the European Union (2019a). France's new IP regime (FR054). Brussels, 27 May 2019, ST 9652/19, ADD2. <https://data.consilium.europa.eu/doc/document/ST-9652-2019-ADD-2/en/pdf>, accessed 15 Oct 2021
- Council of the European Union (2019b). Malta's patent box regime (MT015). Brussels, 25 Nov 2019, ST 14114/19, ADD 1. <https://data.consilium.europa.eu/doc/document/ST-14114-2019-ADD-1/en/pdf>, accessed 14 Oct 2021.
- Council of the European Union (2019c). Poland's IP regime (PL012). Brussels, 27 May 2019, ST 9652/19, ADD 5. <https://data.consilium.europa.eu/doc/document/ST-9652-2019-ADD-5/en/pdf>, accessed 14 Oct 2021.
- Council of the European Union (2019d). Poland's notional interest reduction regime (PL011). Brussels, 25 Nov 2019, ST 14114/19 ADD 2, <https://data.consilium.europa.eu/doc/document/ST-14114-2019-ADD-2/en/pdf>, accessed 17 Oct 2021.
- Crivelli, E., de Mooij, R. A., De Vrijer et al. (2021). Taxing multinationals in the Europe. Departmental Papers No. 21/12. European and Fiscal Affairs Department, International Monetary Fund. <https://www.elibrary.imf.org/downloadpdf/journals/087/2021/012/087.2021.issue-012-en.xml>
- de Mooij, R. A., Nicodeme, G. (2008), Corporate tax policy and incorporation in the EU. *International Tax and Public Finance* 15(2008): 478-498.
- Deloitte (2012). Advance Pricing Agreement. Frequently Asked Questions. September 2012. <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/tax/thoughtpapers/in-tax-deloitte-apa-faqs-noexp.pdf>

- Deloitte (2015). Spain Tax Alert. 6 Nov 2015. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-alert-spain-6-november-2015.pdf>, accessed 14 Oct 2021.
- EY (2020a). The Netherlands publishes 2021 budget proposals. 15 Sep 2020. https://www.ey.com/en_gl/tax-alerts/the-netherlands-publishes-2021-budget-proposals, accessed 10 Oct 2021.
- EY (2020b). Cyprus amends Notional Interest Deduction rules. 5 June 2020, https://www.ey.com/en_gl/tax-alerts/cyprus-amends-notional-interest-deduction-rules, accessed 16 Oct 2021.
- EY (2021a). Luxembourg Parliament adopts new IP regime. https://www.ey.com/en_lu/tax/ey-luxembourg-tax-library/luxembourg-parliament-adopts-new-ip-regime, accessed 14 Oct 2021.
- EY (2021b). Italy enacts exceptional 15% Notional Interest Deduction or equivalent tax credit for 2021. June 2, 2021, 2021-1096. <https://taxnews.ey.com/news/2021-1096-italy-enacts-exceptional-15-percent-notional-interest-deduction-or-equivalent-tax-credit-for-2021>, accessed 14 Oct 2021.
- Edwards, J., Keen, M. (1996). Tax competition and Leviathan, *European Economic Review*, Volume 40, Issue 1, 1996, Pages 113-134
- Eggert, W., Genser, B. (2005). CESifo DICE Report 1/2005. <https://www.ifo.de/DocDL/dicereport105-rr1.pdf>
- Eurostat (2021a). Main national accounts tax aggregates (online data code: GOV_10A_TAXAG), https://ec.europa.eu/eurostat/databrowser/view/GOV_10A_TAXAG_custom_1429016/default/table?lang=en, accessed 18 Oct 2021.
- European Commission (2016a). Report by the Code of Conduct Group (Business Taxation) to ECOFIN–Patent boxes: state of play and the way forward. Brussels, 3 November 2016, 13924/16 FISC 183 ECOFIN 992, <https://data.consilium.europa.eu/doc/document/ST-13924-2016-INIT/en/pdf>
- European Commission (2016b): COMMISSION DECISION of 30.8.2016 ON STATE AID SA.38373 (2014/C) (ex 2014/NN) (ex 2014/CP) implemented by Ireland to Apple.
- European Commission (2016c). EU JOINT TRANSFER PRICING FORUM, Statistics on APAs in the EU at the End of 2015. Meeting of 20 October 2016, DOC: JTPF/015/2016/EN
- European Commission (2017a). Taxation trends in the European Union. Data for the EU Member States, Iceland, and Norway. 2017 edition. DG Taxation and Customs Union.
- European Commission (2017b). Commission Decision (EU) 2017/502 of 21 October 2015 on State aid SA.38374 (2014/C ex 2014/NN) implemented by the Netherlands to Starbucks (notified under document C(2015) 7143), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017D0502>
- European Commission (2017c): COMMISSION DECISION of 4.10.2017 ON STATE AID SA.38944 (2014/C) (ex 2014/NN) implemented by Luxembourg to Amazon, Brussels, 4.10.2017, C(2017) 6740 final.
- European Commission (2018a). Taxation trends in the European Union. Data for the EU Member States, Iceland, and Norway. 2018 edition. DG Taxation and Customs Union.
- European Commission (2018b). EU JOINT TRANSFER PRICING FORUM. Statistics on APAs in the EU at the End of 2016. Meeting of 8 March 2018, DOC: JTPF/015/2016/EN

- European Commission (2018c). EU JOINT TRANSFER PRICING FORUM. Statistics on APAs in the EU at the End of 2017. Meeting of 24 October 2018, DOC: JTPF/007b/2018/EN
- European Commission (2019a). Taxation trends in the European Union. Data for the EU Member States, Iceland, and Norway. 2019 edition. DG Taxation and Customs Union.
- European Commission (2019b). EU JOINT TRANSFER PRICING FORUM. Statistics on APAs in the EU at the End of 2018. Brussels, July 2019.
- European Commission (2020a). Taxation trends in the European Union. Data for the EU Member States, Iceland, and Norway. 2020 edition. DG Taxation and Customs Union.
- European Commission (2020b). Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee. Tax policy in the European Union - priorities for the years ahead. COM(2001) 260 final. Official Journal of the European Communities, C 284/6, 10.10.2001.
- European Commission (2021). Harmful tax competition, https://ec.europa.eu/taxation_customs/harmful-tax-competition_en, accessed 14 Oct 2021.
- European Commission (2021b). Data on Taxation. https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en, accessed 15 Sep 2021.
- European Commission (2021c). Taxation trends in the European Union. Data for the EU Member States, Iceland, Norway, and the United Kingdom. 2021 edition. DG Taxation and Customs Union.
- European Commission (2021d). Inception Impact Assessment. Ref. Ares(2021)3879996-14/06/2021. DEBRA – Debt Equity Bias Reduction Allowance, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12995-Debt-equity-bias-reduction-allowance-DEBRA_en
- European Commission (2021e). Statistics on APA's (Advance Pricing Agreements) in the EU at the End of 2019. Brussels, March 2021.
- European Commission (2021f). AMECO online database, https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/macro-economic-database-ameco/ameco-database_en, accessed 10 Sep 2021.
- European Parliament (2021). European Parliament resolution of 7 October 2021 on reforming the EU policy on harmful tax practices (including the reform of the Code of Conduct Group) (2020/2258(INI)), https://www.europarl.europa.eu/doceo/document/TA-9-2021-0416_EN.html
- Fuest, C., Hugger, F., Wildgruber, S. (2020). Why is corporate tax revenue stable while tax rates fall? Evidence from firm-level data. Cesifo Working Paper, No. 8605, Center for Economic Studies and Ifo Institute (CESifo), Munich
- Galindo-Rueda, F. et al. "Indicators of R&D Tax Support.", Issues in Science and Technology, vol. 34, no. 4, University of Texas at Dallas, 2018, pp. 85–88, <https://www.jstor.org/stable/26597994>
- Garcia-Bernardo, J., Janský, P., & Tørsløv, T. (2019). Decomposing Multinational Corporations' Declining Effective Tax Rates. IES Working Paper Series, 2019(39), 1–32.
- Hebous, S. (2021). Has Tax Competition Become Less Harmful? in: De Mooij, Klemm, and Perry (2021): Corporate Income Taxes under Pressure. International Monetary Fund, pp. 87–106. <https://doi.org/10.5089/9781513511771.071>
- Huesecken, B., Overesch, M. (2019). Tax Avoidance through Advance Tax Rulings – Evidence from the LuxLeaks Firms. FinanzArchiv (FA) 75(4): 380-412

IMF (2021). Balance of Payments Standard Presentation by Indicator: Current Account, Goods and Services, Services, Charges for the Use of Intellectual Property nie, Credit, US Dollars. Accessed, 5 Oct 2021.

Irish Tax and Customs (2021). Knowledge Development Box (KDB). <https://www.revenue.ie/en/companies-and-charities/reliefs-and-exemptions/knowledge-development-box-kdb/index.aspx>, accessed 14 Oct 2021

Kleven, H., Landais, C., Saez, E. (2012). Taxation and International Migration of Superstars: Evidence from the European Football Market, AMERICAN ECONOMIC REVIEW, VOL. 103, NO. 5, AUGUST 2013

Kleven, H., Landais, C., Saez, E., Schultz, E. (2014). MIGRATION AND WAGE EFFECTS OF TAXING TOP EARNERS: EVIDENCE FROM THE FOREIGNERS' TAX SCHEME IN DENMARK, QJE

Knoll, B., Riedel, N., Schwab, T., Todtenhaupt, M., Voget, J. (2019). Cross-Border Effects of R&D Tax Incentives. Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3484384

Koka, G. & Kocsis, G. (2016). New IP regime in Hungary. Expert Guides. 03/08/2016. <https://www.expertguides.com/articles/new-ip-regime-in-hungary/arrgbfql>, accessed 15 Oct 2021

KPMG (2020). Notional Interest Deduction. June 2020. <https://assets.kpmg/content/dam/kpmg/mt/pdf/2020/06/notional-interest-deduction.pdf>, accessed 16 Oct 2021.

Leibrecht, M., Hochgatterer, C. (2010). Tax competition as a cause of falling corporate income tax rates: a survey of empirical literature. Journal of Economic Surveys 26(4): 616-648.

Lund, S., Manyika, J., Woetzel, J. et al. (2019). Globalization in transition: the future of trade and value chains. McKinsey Global Institute, McKinsey & Company, January 2019, <https://www.mckinsey.com/featured-insights/innovation-and-growth/globalization-in-transition-the-future-of-trade-and-value-chains>

Luxembourg Government (2021). Statement by the Luxembourg Government on press articles published about tax rulings and so-called information letters. Press release 01.07.2021. https://gouvernement.lu/en/actualites/toutes_actualites/communiqués/2021/07-juillet/01-statement-tax-rulings.html

Ocean Tomo (2021). Intangible Asset Market Value Study. <https://www.oceantomo.com/INTANGIBLE-ASSET-MARKET-VALUE-STUDY>, accessed 15 Oct 2021

OECD (2021). Intellectual Property Regimes. https://qdd.oecd.org/subject.aspx?Subject=IP_regimes, accessed 6 Oct 2021.

PWC (2021). Belgium. Corporate - Tax credits and incentives, <https://taxsummaries.pwc.com/belgium/corporate/tax-credits-and-incentives>, accessed 14 Oct 2021.

Ryding, T. (2018). Tax 'sweetheart deals' between multinationals and EU countries at record high. Eurodad, 12 March 2018, https://www.eurodad.org/tax_sweetheart_deals_between_multinationals_and_eu_countries_at_record_high

Scapigliati, S. et al. (2019): The Patent box and the recent development under the Italian tax rules. Expert Guides. 07/09/2019. <https://www.expertguides.com/articles/the-patent-box-and-the-recent-development-under-the-italian-tax-rules/arxrwjgy>, accessed 14 Oct 2021.

Spengel, C., Schmidt, F., Heckemeyer, J. et al. (2020). Effective tax levels using the Devereux/Griffith Methodology. Project for the EU Commission TAXUD/2020/DE/308, FINAL REPORT 2020. Mannheim.

Trautvetter, C. & Winkler, E. (2019). Competing for the rich. Tax exemptions and special schemes for the rich. Report commissioned by the Greens/EFA group in the European parliament.
<http://extranet.greens-efa-service.eu/public/media/file/1/5920>

Vaudano et al. (2021). « LuxLetters » : la nouvelle astuce pour contourner la transparence fiscale au Luxembourg, Le Monde online, 01 juillet 2021 à 19h01, https://www.lemonde.fr/evasion-fiscale/article/2021/07/01/luxletters-la-nouvelle-astuce-pour-contourner-la-transparence-fiscale-au-luxembourg_6086592_4862750.html

Warda, J. (2002). Measuring the Value of R&D Tax Treatment in OECD Countries", STI Review, no. 27, Special Issue on New Science and Technology Indicators, OECD Publishing.
<http://www.oecd.org/sti/37124998.pdf>

Wilson, J. D., Wildasin, D. E., (2004). Capital tax competition: bane or boon. Journal of Public Economics 88(2004): 1065-1091.

Zodrow, G. R. (2003): Tax competition and tax coordination in the European Union. International Tax and Public Finance 10 (2003): 651-671

Appendix

A.1. Personal income tax

Table A1

Detailed list of all personal income tax regimes targeting new tax residents

Country	Concession type	Duration	Target population	Requirements	Year of enforcement or last significant change
Austria	<ul style="list-style-type: none"> Continuation of foreign tax burden on foreign income (if at least 15%). Additional tax allowance of 30% of taxable income from scientific and research activities. 	5 years	Specific jobs (scientists, researchers, artists and athletes)	Scientist/researcher and university professor or researcher working over 50% of the time in Austria and earning over EUR 59,724 per year or artist/athlete of "public interest".	2015
Austria	<ul style="list-style-type: none"> Flat-rate professional expenses allowance of 20% on an income calculated by taking the gross income and subtracting special payments within the sixth month of the year and tax-free remuneration. Maximum of EUR 10,000; no further proof required. 	5 years	Workers	<ul style="list-style-type: none"> Employment by a foreign company working for a maximum of 5 years in Austria, working for an Austrian employer. No tax residence in Austria for the past 10 years. Stable place of residence abroad. 	2015
Belgium (2)	Income tax exemption on non-recurring expenses (moving expenses and home improvements) and recurring expenses (school fees, annual travel, tax equalization, etc.) all limited to EUR 11,250 per year with the exception of school fees.	No limit	Highly qualified workers	Be an executive worker of another nationality and have specific skills or be a researcher and hold a temporary job proven by conclusive evidence.	1960
Cyprus (1)	Individuals who take up employment in Cyprus with an annual income > EUR 100,000 will be eligible for an exemption from taxation of 50% of their income.	10 years	Highly paid workers	Non-resident for at least 3 of the past 5 years including the last year before employment.	2012
Cyprus (2)	Individuals who take up employment in Cyprus will be eligible for an exemption equal to the minimum between 20% of their income and EUR 8,550	10 years	Workers		
Cyprus (3)	Overseas pensions are exempt from tax up to EUR 3,420 and taxed at 5% thereafter.	10 years			2015
Cyprus (4)	Exemption on all interest and dividend income.	Until resident has reached tax residency for 17 out of the 20 past years		Tax resident but "non-domiciled".	2017

Denmark	Flat-tax rate of 32.84% on salary, bonuses, company car, free phone and health care insurances.	7 years	Highly paid workers	<ul style="list-style-type: none"> • Danish employer, work in Denmark but no need to live in Denmark. • Monthly salary of over DKK 69,600 (EUR 9,356). • Non-resident for at least the last 10 years. 	1991
Finland (1)	Source tax at the 35(32)% rate.	4 years	Highly paid and highly qualified workers	<ul style="list-style-type: none"> • Non-resident for at least the last 5 years and staying for a maximum of 5 years. • Worker with specific and hard-to-find qualifications in Finland, earning over EUR 5,800 per month. 	1995
Finland (2)	Exemption from income tax.	2 years	Specific jobs (researchers)	Coming from a country that has a bilateral tax-treaty with Finland on that matter.	1995
France	<ul style="list-style-type: none"> • Exemption of the inpatiation bonus. • 50% exemption of income from movable capital received abroad. • 50% exemption of gains on the disposal of securities held abroad. • Income tax exemption on the portion of income derived from activities performed abroad. 	8 years	Workers	No tax domicile in France in the past five years.	2004
Greece (1)	<ul style="list-style-type: none"> • Flat-tax of EUR 100,000 on foreign sourced income. • Additional flat tax of EUR 20,000 per member. • No obligation to declare foreign income (or its sources) in Greece. 	15 years	Rich taxpayers	<ul style="list-style-type: none"> • Non-resident for the past 7 out of 8 years. • Obligation to invest at least EUR 500,000 in Greece (real estate, securities or shares in legal entities based in Greece within 3 years). 	2019
Greece (2)	7% flat-tax on both foreign pensions and foreign-sourced income.	6 years	Pensioners	<ul style="list-style-type: none"> • Foreign pension recipient. • Non-resident for the past 5 out of 6 years. • Transfer of tax residency from a country with which Greece has signed a tax administrative cooperation agreement. 	2020
Ireland (1)	30% rebate on earned income.	5 years	Highly paid workers	<ul style="list-style-type: none"> • No fiscal residence in Ireland in the past five years. • At least 6 months of work for the same employer outside Ireland, plan to work for at least 1 year in Ireland. • Minimum basic salary of EUR 75,000 per year. 	2012

Ireland (2)	Remittance basis taxation on foreign-sourced income.	5 years	Highly paid workers	<ul style="list-style-type: none"> • Non-domiciled, Irish tax resident. 	1799
Italy (1)	<ul style="list-style-type: none"> • Lump-sum tax of EUR 100,000 on foreign sourced income. • Exemption from Italian inheritance tax on foreign assets. • Exemption from wealth taxes IVIE and IVAFE. • Exemption from daunting reporting obligations on income sources (RW form). 	Unlimited	Rich taxpayers	<ul style="list-style-type: none"> • Non-resident for tax purposes for at least 9 of the past 10 years. 	2017
Italy (2)	70% rebate on taxable income (90% for declining regions).	15 years	Workers	<ul style="list-style-type: none"> • No fiscal residence in Italy for the past 2 years, intention to reside there for at least 2 years. • Work activity carried out mainly on Italian territory. 	1999
Italy (3)	90% rebate on earned income on research and teaching activities.	4 years	Specific jobs (researchers)	<ul style="list-style-type: none"> • Sufficient qualification level, university degree which must be recognized by Italian administration. • Previous status as a tax resident abroad. • Performance of research or teaching activities abroad for at least 2 consecutive years • Performance of teaching/ research activities in Italy in the public or private sector. 	2010
Italy (4)	50% rebate on earned income.	5 years	Specific jobs (athletes)	<ul style="list-style-type: none"> • Athlete, as defined in the applicable legislation: Law No. 91/1981 • No tax residency for 2 years prior to arrival, must stay for at least 2 years. • Performance of work for at least 183 days in Italy. • Payment of 0.5% of the tax base as a contribution (article 16, clause 5-quinquies of the Legislative Decree No. 147/2015 and Resolution No. 17/E, 10 March 2021). 	2019
Italy (5)	7% flat-tax on both foreign pensions and foreign-sourced income	6 years	Pensioners	<ul style="list-style-type: none"> • Foreign pension recipient. • Relocation to a southern village of less than 20,000 inhabitants. • Non-resident for at least the past 5 years. • Last country of tax residence was a EU member state. 	2019

Luxembourg	Benefits such as tax equalisation, moving expenses, recurring expenses: school fees, living allowance (up to 8% of revenue or EUR 1,500), exoneration of 50% of the inpatriation bonus.	5 years	Highly paid workers	<ul style="list-style-type: none"> • Work primarily in Luxemburg, and not having taken the job of a non-beneficiary worker • Minimum annual remuneration of EUR 50,000. • Non-resident for the past 5 years, no residence within 150 km of the Luxembourgish border. 	2011
Malta	Tax on income at a rate of 15%.	5 years (returning Maltese nationals), 3 years (all other workers)	Highly paid and highly qualified workers or pensioners	<ul style="list-style-type: none"> • Non-Maltese citizens: domicile in Malta, specific competences and an income of at least EUR 45,000. • Maltese citizens: have lived in Malta for 20 years but not during the 10 years preceding the application for the scheme, income of at least EUR 75,000 per year. • Pensioner (pensions constitute at least 75% of the income). 	2011
Netherlands (1)	Tax free allowance equal to 30% of earned income.	10 years (before 2012), 8 years (before 2019), 5 years today	Highly paid workers	<ul style="list-style-type: none"> • Specific expertise scarcely available in Netherlands (at least EUR 54,781 per year) or being a master's graduate/PhD student younger than 30 years old (at least EUR 29,149) or being a scientific researcher or a medical specialist (no salary requirements). • Recruitment from abroad (except in case of a PhD from a Dutch university and employment in the year following diploma acquisition). • Wage tax withholding agent. 	After WWII
Portugal (1)	10% flat tax on foreign pension income (or 0% before April 2020),	10 years (may be stopped and resumed)	Pensioners	<ul style="list-style-type: none"> • Non-resident for tax purposes for at least the past 5 years. • Living in Portugal for at least 183 days per year or having a substantial residential property. 	2009

Portugal (2)	<ul style="list-style-type: none"> • 20% flat-tax rate on Portuguese-sourced income. • Exemptions of tax on foreign-sourced income. • 0% tax on crypto income. • 0% tax on dividends, interest and real estate income, capital gains from the disposal of real estate, royalties and associated income. 	10 years (may be stopped and resumed)	Highly qualified workers	<ul style="list-style-type: none"> • Employment in a job on the list of high-value jobs. • Foreign-income already taxed in the state where income is earned. 	2009
Spain	Régimen de impatriados: single rate of 24% on worldwide annual revenues below EUR 600,000 (49% above this sum)	6 years	Highly paid workers	<ul style="list-style-type: none"> • Non-resident for at least the last 10 years. • Arrival due to an employment contract with a Spanish employer and work in Spain (for at least 85% of the working time). • Not being a professional athlete (2015). 	2005
Sweden	Expert tax: 25% discount on earned income,	5 years	Highly paid and highly qualified workers	<ul style="list-style-type: none"> • Non-resident for at least the past 5 years and staying for a maximum of 5 years. • Specific and hard-to-find qualifications in Sweden or earning more than SEK 94,600 per month (EUR 111,572 per year). 	1999
United Kingdom	Remittance basis taxation on foreign sourced income.	15 years de facto	Rich taxpayers	<ul style="list-style-type: none"> • Non-resident for 15 out of the past 20 years. • If you have less than GBP 2,000 of remitted income, the remittance basis system applies automatically with no charge. • If you have more than GBP 2,000 of remitted income, you have to pay a remittance basis charge to benefit from the system. • If you are a long-term resident you have to pay GBP 30,000 a year to benefit from the remittance basis system. 	1799

Table A2**Type of exemption used by each regime**

Lump-sum tax	Flat-tax rate	Specific tax income brackets	Part of income disregarded from tax	Lump-sum deductions
Italy: HNWI regime Greece: HNWI regime Austria	Malta: 15% regime Finland: 32% rule regime Netherlands: 30% rule regime Denmark: 32.84% flat-tax rate regime Sweden: expert tax regime Finland: researchers regime Portugal: pension regime Cyprus: pension regime Italy: pension regime Malta: pension regime Greece: pension regime	Spain: Régimen de impatriados	UK: non-remittance regime Ireland: non-remittance regime France: régime des impatriés Italy: inbound workers regime Austria: workers tax exemption regime Austria: artists regime Cyprus: high-income regime Cyprus: low-income regime Ireland: SARP regime Italy: researchers regime Italy: athletes regime	Luxembourg: hiring international executive regime Belgium: foreign executives regime

Table A2**Characteristics of individual personal income tax regimes**

Regime	Exemption type	Official remuneration condition	Implicit remuneration condition for the regime to be profitable ²⁹	High skills requirement	Specific jobs targeted	No condition other than residency
Austria – 20% deduction	20% deduction					x
Austria – artists	25% deduction				x	
Belgium – foreign executives	Lump-sum deduction			x		
Cyprus – high-income	50% deduction	x				
Cyprus – low-income	20% deduction					x
Cyprus – pensions	0–5% flat-tax rate					x
Denmark – 32.84% flat-tax rate	32.84% flat-tax rate	x				
Finland – 32% rule	32% flat-tax rate	x		x		
Finland – researchers	0% flat-tax rate				x	
France – régime des impatriés	30% deduction					x
Greece – HNWI	EUR 100,000 flat tax		x			
Greece – pensions	7% flat-tax rate					x
Ireland – SARP regime	30% deduction	x				
Ireland – non-remittance scheme	Non-remittance scheme		x			
Italy – researchers	90% deduction			x	x	
Italy – athletes	50% deduction				x	
Italy – inbound workers	70% deduction					x
Italy – HNWI	EUR 100,000 flat tax		x			
Italy – pensions	7% flat-tax rate					x
Luxembourg – Hiring international employees	Benefits	x				
Malta – 15% flat-tax rate	15% flat-tax rate	x		x		
Malta – pensions	15% flat-tax rate					x
Netherlands – 30% rule	30% deduction	x		x		
Portugal – NHR regime	20% flat-tax rate			x		
Portugal – NHR pensions	10% flat-tax rate					x
Spain – Régimen de impatriados	Two single rates		x			
Sweden – Expert tax	25% deduction	x		x		
UK – non-remittance scheme	Non-remittance scheme		x			

²⁹Implicit remuneration condition : the nature of the exemption is such that only people who are earning more than a threshold would benefit from the regime.

A.1.1. Estimation of revenue cost – methodological remarks

Some countries were unable or unwilling to provide estimates of the gross tax revenue loss for a specific regime. In order to obtain an estimate, certain assumptions specific to each national situation were made.

The tax rates and rules used have been retrieved from the PwC website as of 2021. They allowed us to estimate the difference in taxation between an individual benefitting from a specific regime and one not benefitting from it, all other things being equal, assuming that the only income concerned was targeted by a given regime.

Austria: Data provided by Statistics Austria.

Belgium: To benefit from the Belgian regime, the taxpayer should either be an executive or a person equipped with special skills. The estimation of a taxable income of EUR 100,000 per year per beneficiary may be assumed. A comparison between the amount of taxes paid by a taxpayer earning the same income but not benefitting from the regime and the amount of taxes paid by a regime beneficiary, gives the loss of gain per beneficiary. Total loss is estimated by multiplying by the number of beneficiaries given in the table.

Denmark: New tax resident key employees represent between 50% and 60% of regime beneficiaries with the remainder being made up of researchers. If you are a key employee, you have to earn more than about EUR 112,000 per year to benefit from the regime. Therefore, a taxable income of EUR 150,000 can be assumed per year (an average effect will always underestimate the amount, given that the tax schedule is progressive). A comparison between the tax amount paid by someone who is earning the same income but is not benefitting from the regime and the tax amount paid by someone who does, gives the loss of tax gain per beneficiary. Total loss is obtained by multiplying by the number of beneficiaries.

Finland: A taxpayer should earn at least EUR 69,600 per year to benefit from the 32% flat-tax rate regime. Taking that threshold as a lower-bound estimation, a comparison between tax amount paid by someone who is earning the same income but is not benefitting from the regime and tax amount paid by someone who does, gives the loss of tax gain per beneficiary. Total loss is obtained by multiplying by the number of beneficiaries.

France: Number provided by document: Evaluation des voies et moyens - finance bill.

Ireland (remittance): No information about loss of gain from the regime. Using the UK remittance regime which exhibits similar features, a back-of-the-envelope calculation provides a total fiscal cost for the Irish remittance scheme.

Ireland (SARP): Number provided by Irish Tax and Customs. .

Italy (inbound workers): No information is provided directly on the loss of tax gain from the regime. We assume a taxable income of EUR 100,000 per taxpayer on average and use the given number of beneficiaries (the most recent figure is from 2006, the number of beneficiaries is likely much higher today). A comparison between the amount of taxes paid by someone who is earning the same income but is not benefitting from the regime and the amount of taxes paid by someone who does, gives the loss of tax gain per beneficiary. Total loss of tax gain is estimated by multiplying by the number of beneficiaries.

Italy (HNWI): No information on loss of tax gain of the regime. The main concern is that there are probably many high-net-worth individuals who push up the mean of tax savings (when Cristiano Ronaldo was benefitting from the scheme, it resulted in several millions of EUR in savings). Assuming EUR 100,000 of savings thanks to the regime on average and using the number of beneficiaries, the total fiscal expense is estimated.

Netherlands: Number provided by the Dutch Tax and Customs Administration

Portugal: Number provided by the Conta Geral do Estado

Sweden: Number provided by the Swedish Tax Agency

UK (remittance): Knowing that the 45,700 beneficiaries are paying a total sum of EUR 4.3 billions in tax (number provided by the tax administration), i.e. EUR 94,000 on average per beneficiary, an estimation of fiscal gain per taxpayer could be EUR 30,000 on average. Total loss of gain is estimated by multiplying by the number of beneficiaries.

A.2. Corporate income tax

Table A4

Intellectual property regimes

	Year of introduction	IP qualifying assets	Embedded royalties included	Regime tax rate	Otherwise applicable tax rate	Score qualifying assets	Score qualifying income	Combined score tax base
Belgium	2007	Patents, software	yes	4.0%	25.0%	0.2	0.1	0.3
France	2000	Patents, software, utility models, category 3	no	10.0%	28.4%	0.4	0	0.4
Greece	2010	Patents, detailed information missing	n/a	10.0%	24.0%	0.1	0	0.1
Hungary	2003	Patents, software, utility models	yes	4.5% royalty income, 0% in case of capital gains	10.8%	0.3	0.1	0.4
Ireland	2015	Patents, software, category 3	yes	6.0%	12.5%	0.3	0.1	0.4
Italy	2015	Patents, software, utility models	yes	14.0%	27.8%	0.3	0.1	0.4
Lithuania	2018	Patents, software	no	5.0%	15.0%	0.2	0	0.2
Luxembourg	2008	Patents, software, utility models	yes	5.0%	25.0%	0.3	0.1	0.4
Malta	2019	Patents, software, utility models, category 3	yes	2.0%	35.0%	0.4	0.1	0.5
Netherlands	2007	Patents, software, utility models, category 3	no	9.0%	25.0%	0.4	0	0.4
Poland	2019	Patents, software, utility models	yes	5.0%	19.0%	0.3	0.1	0.4
Portugal	2014	Patents, utility models	no	11.0%	31.5%	0.2	0	0.2
Slovakia	2018	Patents, software, utility models	yes	11.0%	21.0%	0.3	0.1	0.4
Spain	2008	Patents, software, utility models	no	10.0%	25.0%	0.3	0	0.3

Source: Asen (2021), Belastingdienst (2021), Council of the European Union (2018a), Council of the European Union (2019a-c), Deloitte (2015), EY (2021a), Irish Tax and Customs (2021), Koka & Kocsis (2016), OECD (2021), PWC (2021), Scapiigliati et al. (2019)

Table 5
ACE regimes

Country	Year of introduction	Eligible equity	Tax rate applied on exempt income	Notional interest rate	Explicit risk premium	10-year government bond yield (mean Jan–Aug 2021)	Risk premium benchmarked against long-term government bond yield	Score risk premium	Score full or new equity	Maximum deduction decreases generosity significantly	Combined generosity score
Belgium	2006	new equity	0.0%	-0.09%	–	-0.05%	0.00%	0	0.1	0	0.1
Cyprus	2015	new equity	0.0%	10-year government bond of the jurisdiction of investment	5%	0.33%	5.00%	0.2	0.1	0	0.3
Malta	2018	stock of equity	0.0%	Malta Government Stocks with a remaining term of approximately 20 years (which at 31 December 2019 was 0.93%)	5%	0.44%	5.00%	0.2	0.3	0	0.5
Italy	2011	new equity	0.0%	1.3%, exceptionally 15% in 2021	–	0.74%	0.60%, (14.26% for 2021)	0.1	0.1	0	0.2
Poland	2019	new equity	0.0%	The reference rate of the National Bank of Poland –1.5%, increased according to art. 15cb par. 1, by 1 percentage point.	–	1.50%	0.00%	0	0.1	0	0.1
Portugal	2008	new equity	0.0%	7%	–	0.03%	7.00%	0.2	0.1	-0.1	0.2

Source: EY (2020b), EY (2021b), KPMG (2020), Council of the European Union (2018b), Council of the European Union (2019d)

A.3. Policy implications

A.3.1. Existing expatriate tax regimes in EU member states

Unilateral national measures facilitating the taxation of expatriates are not new in European legislation. Some general schemes currently in place force taxpayers to remain liable for taxation in their home country following their departure.

A “tax quarantine” system is currently in place in Spain.³⁰ When a Spaniard or a person with dual citizenship moves to a tax haven (defined as such according to a list provided by the Spanish tax administration), he or she remains taxable by the Spanish administration during the year of the move as well as for the following four years. In 2018, the list of tax havens included three EU member states: Cyprus, Luxembourg and Malta. A similar provision was adopted by Portugal in 2006 for its own expatriates.

In Germany, the Gesetz über die Besteuerung bei Auslandsbeziehungen³¹ (Foreign Tax Act) provides that individuals continue to be taxed to a limited extent on their income even when they move their tax residence. Continued tax liability is subject to certain conditions (the main one being moving to a low-tax country, defined as a country imposing a tax burden at least one third lower than Germany).

In Italy, since 1999, expatriates who establish their residence in a country classified as a tax haven must prove that their residence is not fictitious in order to be considered as expatriates according to the Italian tax administration. The list of countries concerned is determined by the Italian administration.

To a lesser extent, measures such as the French “exit tax” (taxation of unrealized capital gains, i.e. the difference between the market price and the acquisition price minus the deduction for the ownership period), or the Dutch taxation of the estate of an individual who has transferred his or her tax residence abroad for fewer than ten years, focus on the taxation of expatriate taxpayers after their departure.³²

A.3.2. Potential obstacles to the taxation of expatriates and tentative answers

Community law

In the area of Community law, the taxation of expatriates might present challenges with respect to the freedom of establishment. Indeed, by significantly increasing the tax burden on individuals wishing to settle in another member state, a potential reform might be in danger of presenting an abusive barrier to mobility. However, it appears that the taxpayer will in no case be taxed more following departure than if he/she had remained in his/her country of initial tax residence; therefore, if he/she no longer has a tax advantage over a taxpayer who has remained in the territory, he/she is not disadvantaged in terms of the amount of taxes paid.

A further objection might result from a potential violation of the principle of non-discrimination. The jurisprudence of the European Court of Justice, following the European Court of Human Rights, requires not only that two persons in similar situations be treated the same, but also that two persons in two objectively different situations be treated differently³³. By imposing the same tax burden on two individuals residing – for tax purposes – in two different countries, a member state may be accused of creating a discriminatory situation. However, for such a principle to be invoked one has to assume that the country of residence is a relevant criterion of differentiation from the

³⁰Ley 35/2006, de 28 de noviembre, del Impuesto sobre la Renta de las Personas Físicas y de modificación parcial de las leyes de los Impuestos sobre Sociedades, sobre la Renta de no Residentes y sobre el Patrimonio, Jefatura del Estado, «BOE» núm. 285, de 29 de noviembre de 2006

³¹Gesetz über die Besteuerung bei Auslandsbeziehungen (Außensteuergesetz) AStG Ausfertigungsdatum: 08.09.1972

³²Successiawet 1956

³³Case of Thlimmenos v. Greece (Application no. 34369/97), Judgment, Strasbourg, 6 April 2000.

point of view of taxation purposes.

Bilateral tax treaties

The taxation of expatriates may also present a legal difficulty with respect to the multiple bilateral tax treaties signed between individual states to govern their tax relations and avoid double taxation situations. These tax treaties are based on the key concept of tax residence, according to which a state has the right to tax its taxpayers as it wishes. This power arises from the personal relationship between the individual and the state. Considering the link they still have with the state of departure, it would not seem illogical to include neo-expatriates in this category.

Potential changes to legislation would imply a review of the clauses concerning tax residence, by considering the possibility of introducing a notion of "dual residence" or «extended residence». Many observers rightly point out the complexity of such an undertaking. It should be noted, however, that most tax treaties are largely based on the model issued by the OECD, which already provides special rules in the event of a conflict of residence between two states. Therefore, it does not seem absurd to envisage that the OECD could introduce a clause allowing a contracting state to the convention to continue to tax its former national on behalf of an extended tax residence notion.

About the EU Tax Observatory

The EU Tax Observatory is an independent research center that conducts and disseminates innovative studies on taxation and stimulates exchanges between the scientific community, civil society, and policy makers. The EU Tax Observatory aims to contribute to the development of knowledge and the emergence of new concrete proposals to address the tax and inequality challenges of the 21st century.

Its key missions are :

- to conduct and disseminate cutting-edge innovative research on taxation, with a focus on tax evasion and fraud, and potential solutions to these problems;
- to promote a democratic, inclusive, and pluralistic debate on the future of taxation by fostering dialogue between the scientific community, civil society, and policymakers in the European Union and worldwide;
- and to provide access to knowledge on taxation by making available to the general public a repository of data and analysis on our study topics, as well as interactive tools that allow them to easily understand and exploit them.

The EU Tax Observatory is hosted at the Paris School of Economics, and receives funding by the European Union. This report does not reflect the views of the European Commission.



About the authors

Eloi Flamant is a research assistant at the EU Tax Observatory. He is a master student at the Paris School of Economics and Ecole normale supérieure, with a passion for public economics and regulation. Contact : eloi.flamant@taxobservatory.eu

Sarah Godar is a researcher at the EU Tax Observatory. She is a PhD student in Economics at Charles University in Prague working on corporate tax avoidance. Contact : sarah.godar@taxobservatory.eu

Gaspard Richard is an intern at the EU Tax Observatory. He works on incentives and corporate tax competition. Contact: gaspard.richard@taxobservatory.eu

Press contact

Anne-Priscille Desbarres, Director of communications : ap.desbarres@taxobservatory.eu

Friederike Jaich, Communication and Events Assistant : friederike.jaich@taxobservatory.eu

EUTAX

Observatory

taxobservatory.eu