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DISCUSSION PAPER

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From Corporate Tax Competition to Global Cooperation? Trends, Prospects and Effects on German Family Businesses

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From corporate tax competition to global cooperation?

Trends, prospects and effects on German family businesses

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Abstract:
This study provides an overview of current political developments in the tax competition debate, emphasizing the consequences for large German family businesses. We analyze new tax competition trends in Europe and selected industrialized countries in recent years. Subsequently, we discuss various international tax policy counter-reactions, namely the Anti-Tax Avoidance Directive and country-by-country reporting on the European level as well as the OECD's two-pillar project. We outline a potential shift in tax competition away from companies towards highly wealthy and highly qualified individuals. The implications of these developments on large German family businesses are emphasized, offering insights into the evolving landscape of tax competition.

JEL: H25, H24, K34

Keywords: tax competition, family businesses, international tax policy

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1. Introduction

Over the past few decades, international tax competition has intensified, driven by the implementation of tax reductions and the introduction of specific tax incentives targeting economically mobile and highly profitable activities. The progressing globalization and mobility of work and capital have resulted in an increasing interdependence of national tax policies. This study analyzes international tax competition in recent years and sheds light on current and potential future developments. The analysis deals with Germany's position in the international landscape and the effects on family businesses.

While countries are now largely refraining from broad-based tax cuts, the focus is increasingly on digital companies, which have more degrees of freedom in their tax optimization due to their lack of physical presence in market countries. These also tend to be the beneficiaries of targeted incentives for research and development (R&D) and income from intangible assets. For family businesses with a high regional footprint in Germany, it is much more challenging to benefit from such foreign preferential regimes.

Since the Base Erosion and Profit Shifting (BEPS) report, the European Commission has introduced many regulations to restrict profit shifting and increase tax transparency. The Anti-Tax Avoidance Directive (ATAD) addresses important profit shifting channels and includes measures whose effectiveness has been empirically proven (in particular, interest deduction restrictions and controlled foreign corporation (CFC) taxation). It leads to a Europe-wide minimum standard in the fight against profit shifting. The flexibility granted in the implementation leads to a heterogeneous picture of the actually implemented regulations. On the one hand, this creates new scope for competition, but at the same time, no intensification of tax rate competition can be identified across the board.

Complementing the fight against specific profit shifting activities, the European Commission has massively increased the availability of data on tax issues through a large number of standards. This goes so far that financial administrations are reaching their limits in evaluating and using this data. Nevertheless, a decrease in profit shifting activity and the use of tax havens can be measured as a result. Competitive effects exist in that the regulations on country-by-country reporting (CbCR) are size-dependent, and some companies also manage to circumvent the regulations' applicability. In addition, potentially high indirect costs are expected with the public CbCR as confidential information is disclosed to the public.

The Organization for Economic Co-operation and Development's (OECD) two-pillar project, which envisages the reallocation of taxing rights to market countries and a global minimum tax on corporate profits, affects large (and profitable) companies. However, these measures only restrict international tax competition to a limited extent. The complexity is further exacerbated by existing anti-profit shifting rules. The juxtaposition of CFC taxation and the global minimum tax is to be viewed critically since both regulations are aimed equally at combating profit shifting to low-taxed subsidiaries but lead to an enormous compliance effort.

Due to numerous and ever stricter anti-abuse regulations, a shift in tax competition away from companies towards highly wealthy and highly qualified individuals is to be expected. Instead of shifting profits on paper, companies could organize their activities tax-optimally by shifting production factors. In addition to pure capital, this would increasingly affect the labor factor, which is becoming increasingly mobile.

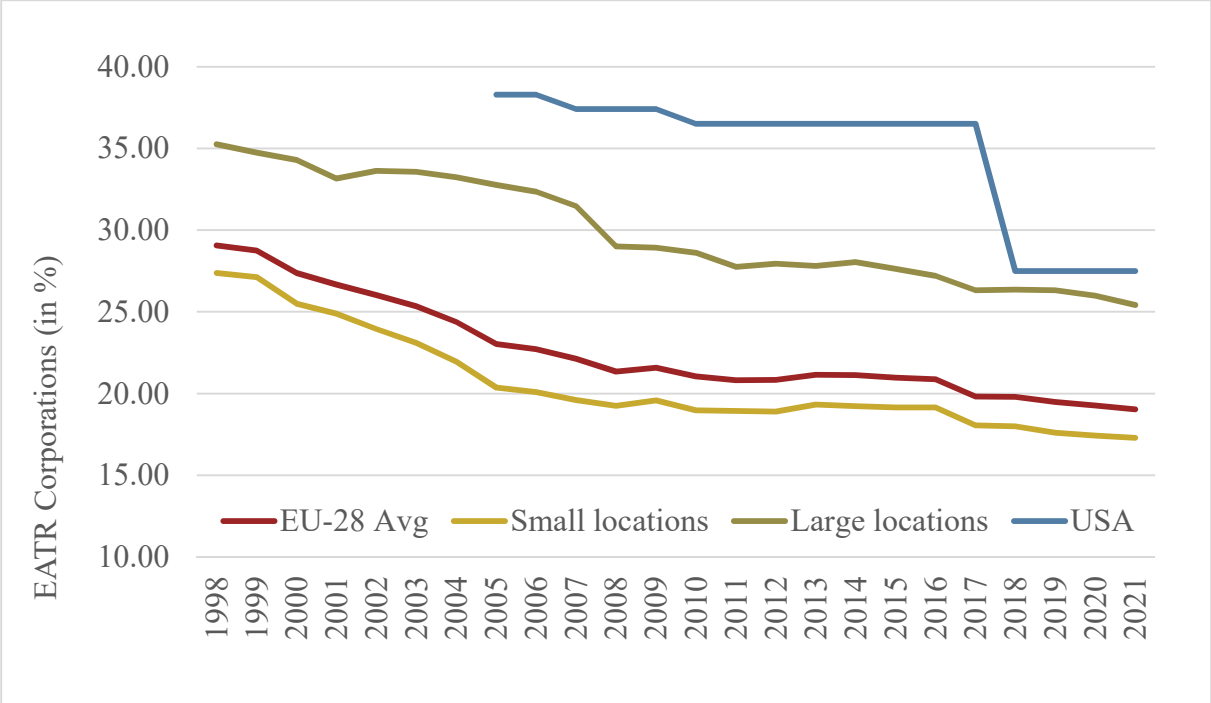
The remainder of the paper proceeds as follows: Section 2 reviews the current status of tax competition. Subsequently, the most recent harmonization and anti-tax avoidance measures at the European (Section 3) and international levels (Section 4) are evaluated. Section 5 provides an outlook on tax competition in the future. Section 6 evaluates the developments for German family businesses. Finally, the last section concludes.

2. Recent developments in tax competition

2.1. Recent developments in effective tax burdens

Figure 1 shows the development of effective corporate tax rates over time. These "Effective Average Tax Rates" (EATRs) depict the tax burden incurred based on an ideal-typical investment. In addition to income and other relevant taxes such as property taxes, the calculation includes tax depreciation rules and other tax base effects.[1]

Figure 1: Corporate EATRs (1998-2021)



Source: European Commission/ZEW (2022), own illustration. For the calculation of the EATR, investments in five ideal-typical economic goods were assumed according to the Devereux/Griffith (1999, 2003) model.

The term "race to the bottom" indicates the continuous reduction in the tax burden on companies in recent decades. Although the tax base was broadened in parallel with the reduction in tax rates, there was a clear negative trend in the combined effective tax burden. However, the downward trend in the effective tax burden has weakened significantly in recent years. Apart from the far-reaching US tax reform in 2018, there have been only manageable changes in recent years. While the average effective tax rate in the EU (including the United Kingdom)

[1] See European Commission/ZEW (2017) for a detailed explanation of the calculation of the EATR.

decreased by 2.4 percentage points from 1998 to 2001 (29.1 % to 26.7 %), in the period from 2018 to 2021, there was only a moderate reduction of 0.8 percentage points (19.8 % to 19.0 %). Overall, corporate tax competition has slowed significantly in recent years.

In general, it is more attractive for smaller locations to participate in tax competition. Thus, in addition to the average rate, Figure 1 shows the effective tax rates broken down by large and small EU27 Member States and the United Kingdom.[2] Even after the US tax reform, corporate profits in large European locations are, on average, less taxed than in the US. In absolute terms, large locations have accounted for a major part of the tax reductions in the EU since 2018 (1 percentage point, compared to 0.7 percentage points for smaller countries). However, the larger locations also have significantly higher effective tax rates. Relative to the level of the tax burden, both groups reduce their tax burden by around 4 % (3.6 % for the large locations and 3.9 % for the small locations) in the observation period. Overall, the average tax differentials between small and large European locations remain the same.

Since the COVID-19 pandemic broke out at the beginning of 2020, there have been few changes in corporate tax competition. The legislators focused on tax aid programs to support companies hit by the crisis. The main measures adopted were administrative simplifications, VAT reductions and more generous loss carry-backs to promptly make liquidity available to companies. In addition to the tax measures, most of which lead to a purely temporal shift in the tax burden, companies and the self-employed were often supported with financial aid. These expenditures must be counter-financed in the coming years, especially in countries with difficult budgetary situations. Recently, the Ukraine war has also weighed on the European economy. Overall,

[2] Member States classified as “large” have a gross domestic product of more than 600 billion euros. Germany, France, Italy, the Netherlands, the United Kingdom and Spain had a gross domestic product of more than 600 billion euros in 2021.

these developments are expected to reduce further the fiscal leeway for large-scale tax cuts in the coming years.[3]

2.2. Targeted tax incentives

In addition to general measures to reduce the tax burden, targeted tax incentives for R&D activities can also be granted. The instruments available to the legislator are, on the one hand, more generous tax deductions for the costs incurred as part of the research (input-based incentives) and, on the other hand, reduced tax rates for the income generated from it (output-based incentives).

Technically, input-based R&D tax incentives are provided through increased deductions, accelerated depreciation or tax credits for research expenses. The advantages of these tax instruments can be measured with the subsidy rate for R&D, which is based on the so-called B-index. The B-index measures the pre-tax income that a company needs to fund one unit of R&D expense.[4] The B-index thus allows conclusions to be drawn about the necessary profit with which a company would be willing to expand existing R&D activities marginally. The subsidy rate is defined as 1 minus the B-index. With a zero subsidy rate, the entrepreneurial decision about the extent of R&D activities is not tax-distorted. A positive subsidy rate implies a tax incentive for R&D activities, and a negative subsidy rate a tax disadvantage. Figure 2 shows the development of the subsidy rates for R&D in the EU and the US.

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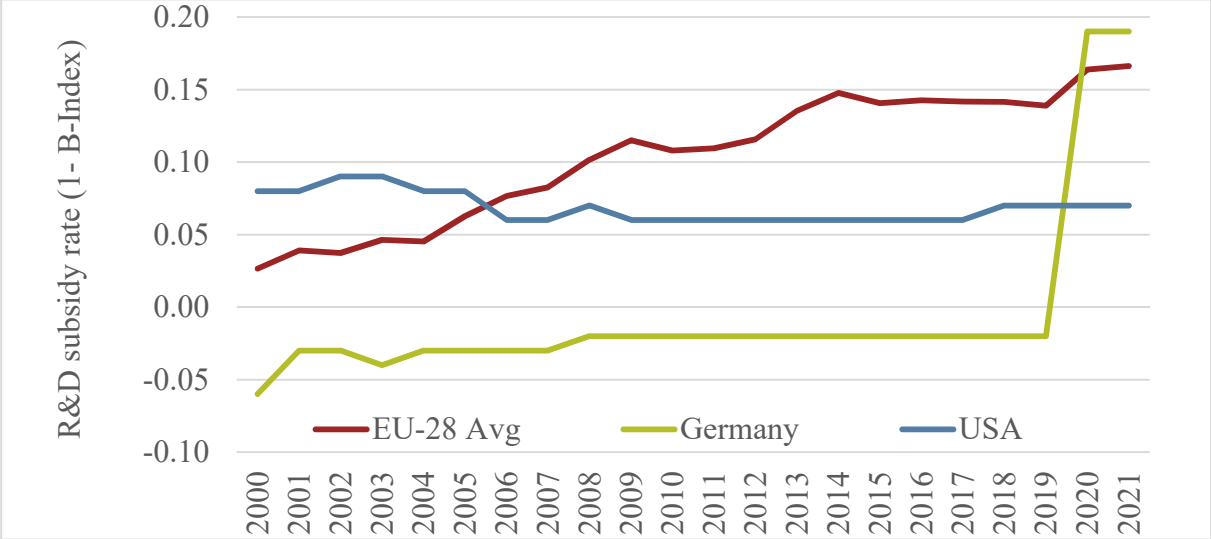
[3] See Fischer et al. (2022), p. 305.

[4] See Warda (2001). The B-index is defined as (1-A)/(1-t), where A is the present value of R&D deductions and t is the tax rate.

Figure 2: Tax treatment of R&D expenditure (2000-2021)



Source: OECD (2022a), own illustration. The subsidy rate is defined as 1 minus the B-index, a measure of the tax advantage of R&D. The B-index relates the present value of tax deductions granted for R&D to the tax rate. A subsidy rate of zero represents no tax incentives to conduct additional R&D activities; a subsidy rate above (below) zero indicates the existence of positive (negative) incentives to conduct additional R&D activities.

The continuous expansion of tax incentives for R&D in recent decades has come to a standstill. Only in 2020, the introduction of a new R&D incentive scheme in Germany and the strengthening of existing incentives in other countries recently led to a significant increase in the average subsidy rate. With the German research allowance, the so-called '*Forschungszulage'*, Germany for the first time exceeds the European average (0.17) with a subsidy rate of 0.19. It is, therefore, more generous than the US (0.07). Germany has stronger incentives than other European countries such as Austria (0.17), Belgium (0.15) or Denmark (0.07). However, compared to countries with particularly generous R&D input incentives, such as France (0.37), Italy (0.20) or Spain (0.33), there is still some catching up to do.

In the field of output-based R&D tax incentives, so-called patent boxes have been introduced successively in more and more countries since the 2000s. As part of this special regime, income from intangible assets is subject to a reduced corporate income tax rate to boost innovation activity in the country. In 2022, companies in many European Member States had the opportunity to benefit from these privileges. Table 1 provides an overview of the existing patent box regimes in the EU, the UK and the US.

Table 1: Status of patent boxes in EU27 Member States, UK and US

Country	Introduction	Last change	Patent box rate	Regular tax rate
Belgium	2007	2016	3.75%	25.00%
Cyprus	2012	2016	2.50%	12.50%
France	2000	2019	10.00%	28.40%
Greece	2010	2022	0.00%	22.00%
Hungary	2003	2016	4.50%	9.00%
Ireland	2015	2016	6.25%	12.50%
Italy	2015	2022	13.91%	27.81%
Lithuania	2018	2018	5.00%	15.00%
Luxembourg	2008	2018	4.99%	24.94%
Malta	2019		1.75%	35.00%
Netherlands	2007	2017	9.00%	25.80%
Poland	2019		5.00%	19.00%
Portugal	2014	2016	10.50%	21.00%
Slovakia	2018	2018	9.45%	21.00%
Spain	2008	2018	10.00%	25.00%
United Kingdom	2012	2016	10.00%	19.00%
US (dom. R&D)	2017		8.40%	21.00%
US (foreign R&D)	2018		13.13%	21.00%

Sources: Flamant et al. (2021), IBFD. *Greece*: The tax exemption applies for the first three years. *Italy*: The 2022 changes apply retroactively to 2021. *Slovakia:* The tax rate applies 2022-2025.

Currently, 15 of the 27 EU Member States grant reduced tax rates on income from intangible assets resulting from R&D. In Germany, the regular income tax rate continues to apply, which harms the location's attractiveness for innovative and digital business models.[5]

[5] See Spengel et al. (2017).

Tax competition via patent boxes was restricted with the introduction of the Modified Nexus Approach. Therefore, the economic goods for which the output-oriented incentive is claimed must also have been developed at the respective location; this is intended to limit profit shifting. Instead of pure book profit transfers, incentives are created for real transfers of R&D activities.[6] The rule has applied to newly introduced incentive schemes since 2016 but granted a grandfathering for existing regimes until 2021. In recent years, there have been subsequent adjustments to the patent box regimes to comply with the provisions. While the Modified Nexus Approach has limited excessive tax burden reductions, companies can still benefit from significantly lower tax rates on R&D-based income. In combination with input-oriented incentives, the tax concession can be further strengthened.[7]

3. Harmonization and transparency measures within the EU to reduce tax competition

3.1. Overview

To counteract countries' tax competition and curb profit shifting by multinational companies, the European Commission has recently launched a series of tax policy measures that differ in their objectives and mode of operation.

Firstly, the European Commission introduced the ATAD based on the OECD action plan. The ATAD defines uniform regulations to curb tax avoidance in five areas: interest deduction restrictions, taxation of legal entities on evictions and emigration, CFC taxation, hybrid structures, and abuse prevention. ATAD aims to achieve the best possible EU-wide implementation of the corresponding BEPS recommendations while at the same time ensuring conformity with fundamental freedoms and maintaining the competitiveness of the EU.[8]

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6 See Müller et al. (2022), p. 80.
7 See Müller et al. (2022), p. 100.
8 See Directive (EU) 2016/1164 of 12 July 2016, OJ L 193.

Secondly, since the beginning of the BEPS debate, the European Commission has pursued increasing tax transparency in Europe. The measures adopted so far by the European Commission include various forms of country-specific income tax reporting (CbCR), a reporting requirement for advance tax assessments (in the EU register), a reporting requirement for tax arrangements via intermediaries, a reporting requirement for digital platforms, as well as the exchange of financial account information and recording beneficial owner.

3.2. Heterogeneous implementation of the EU ATAD

On July 12, 2016, the EU Member States agreed on a uniform implementation of the BEPS recommendations in their national taxation systems and, for this purpose, laid down uniform and binding minimum standards at the EU level to combat tax avoidance within the framework of the ATAD.[9] The ATAD regulations aim to curb profit shifting by limiting external financing (limitation of interest deduction, Art. 4), restricting the removal of valuable assets (exit taxation, Art. 5), minimizing the abusive acquisition of tax advantages (general abuse provision, Art. 6), curbing profit shifting to low-tax countries (CFC taxation, Art. 7 and 8) and reducing the possibility of, for example, double deductions (hybrid arrangements, Art. 9). To sum up, ATAD addresses important channels of profit shifting and includes measures whose effectiveness has been empirically proven.[10] At the same time, however, empirical studies also indicate "side effects" in terms of adverse investment effects due to the increased cost of capital.[11]

When evaluating the implications of ATAD on the tax competition between countries, it is crucial to consider the ATAD regulations as a minimum standard: When transposing the regulations into national law, the EU Member States are free to implement or maintain stricter regulations to prevent tax structuring that go beyond the ATAD minimum standards. There is also

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[9] See Directive (EU) 2016/1164 of 12 July 2016, OJ L 193.

[10] See Buettner et al. (2012), Overesch/Wamser (2014), Blouin et al. (2014) for the impact of thin-capitalization rules on profit shifting.

[11] See Buettner et al. (2018), Merlo/Riedel/Wamser (2020).

leeway when granting exemptions based on specific criteria. This flexibility is intended to make it easier for Member States to adapt the rules to national circumstances. Consequently, the respective transposition into national law influences how comprehensively EU-wide harmonization can be achieved in restricting profit shifting. The fact that the ATAD is intended as a minimum standard introduces a tension between flexibility and harmonization: While the main elements of each regulation are defined, countries' implementations may differ considerably in detail. With respect to tax competition, this means that, despite common legislation, there is scope for differentiation from other Member States. To the extent that states opt for different designs in detail, the corresponding effects on competition remain. To give some examples, there is significant heterogeneity between the Member States concerning exemptions granted from the thin-capitalization rule and the possibility of interest carryforward. The ATAD CFC regulations, in particular, grant far-reaching options (model A and B, each with specific exceptions) so that one can hardly speak of harmonizing the add-backs' taxation. Hence, the result is a fragmented picture with a correspondingly high level of complexity. Accordingly, it cannot be ruled out that new tax planning opportunities will arise.[12] This is also likely true for ATAD Article 9 (hybrid mismatches). The cases involved are numerous, and the rules are complex, making implementation and monitoring difficult. The rule targets explicitly certain inconsistencies that the rule cannot fully cover. On the one hand, this closes many gaps. On the other hand, fundamental causes of hybrid incongruities are not eliminated.[13] As a result, there are still alternatives for tax avoiders and, conversely, scope for tax competition. The regulation provides no exceptions for cases where non-tax reasons result in hybrid mismatches.[14] On the contrary,

[12] See Spengel/Stutzenberger (2018), p. 41, Ginevra (2017).
[13] See Fibbe/Stevens (2017).
[14] See Ginevra (2017).

ATAD Articles 5 (exit taxation) and 6 (general anti-avoidance rule) resulted in minor adjustments in most Member States[15] and thus do not provide any particular impetus for tax competition.

Despite the heterogeneity in implementation details, ATAD ensures that a waiver of anti-avoidance rules can no longer be used as a potential tax competition tool. In this respect, it establishes an alignment with a minimum level. This broadened the tax base for states that had previously implemented no or only weak anti-avoidance rules. Even if this broadening of the tax base creates scope for tax rate reductions for these states (and thus could potentially induce an intensification of tax competition), this can only be determined in isolated cases and to a small extent.[16]

With respect to tax competition with non-EU countries, a look at the 2022 "Country Index for Family Businesses"[17] makes it clear that competitive effects will persist as long as these third countries do not implement the BEPS action points equivalently to the ATAD rules. Accordingly, some non-EU countries (including Canada and Japan) have improved their position compared to EU Member States with respect to the taxation of cross-border activities.

3.3. Increasing tax transparency

Increasing transparency complements the political effort to curb aggressive tax planning and harmful tax competition. The number of mandatory measures to enhance corporate tax transparency has risen significantly in recent years.

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[15] However, the German ATAD-UmsG contains a radical new version of § 6 AStG compared to the previous regulation, although there was no secondary legal obligation to reform the exit taxation within the meaning of § 6 AStG, since the ATAD is aimed exclusively at legal entities. See in detail: Stiftung Familienunternehmen (2022).

[16] During the ATAD implementation period, Belgium, Luxembourg and Sweden reduced the corporate tax rate. Belgium and Luxembourg also implemented many of the possible exceptions in the area of the interest cap and thus kept the expansion of the assessment basis comparatively small. Along with the reduction in tax rates, the aim is to maintain a favorable tax environment.

[17] See Stiftung Familienunternehmen (2023).

These actions are motivated by the perception that the availability of more data, particularly those reflecting cross-border activities, will first allow tax authorities to identify better and prosecute harmful tax practices (and subsequently eliminate possible loopholes in the law) and second, release societal pressures generated, which can tempt companies to reduce the level of tax avoidance voluntarily.

A distinction is necessary between the confidential transmission of the relevant data to the tax authorities and the publication of the data as part of the annual financial statements. The confidential data transmission is linked to an automatic exchange of information between the Member States, based on the so-called directive on administrative cooperation (DAC) in tax matters.[18] The scope of the DAC guideline has now been extended six times (DAC 1-7). It includes the exchange of financial information/bank data (DAC 2) in the implementation of the OECD Common Reporting Standard (CRS), the recording of cross-border tax rulings and advance agreements in a central EU directory (DAC 3), the exchange of country-specific income tax information/CbCR (DAC 4), access of the tax authorities on information about the beneficial owner (DAC 5), the reporting obligation of cross-border tax arrangements (DAC 6) and finally the reporting obligation for digital platforms (DAC 7).

In addition to these regulations, the European Commission has also launched public CbCR, initially for banks and the extractive industries.[19] There had been a long struggle for an industry-independent, public CbCR, and draft guidelines were rejected several times. Finally, in November 2021, the EU Parliament decided to include a public CbCR in the EU Accounting Directive. The obligation to disclose country reports applies to multinational companies with a consolidated group turnover of more than 750 million euros in two consecutive financial years. The reporting obligation includes information for each EU Member State on the type of business,

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[18] See Directive 2011/16/EU of 15 February 2011, OJ L 64.

[19] See Directive 2013/34/EU of 26 June 2013, OJ L 182; Directive 2013/50/EU of 22 October 2013, OJ L 294.

the number of employees, the pre-tax profit, and the applicable income taxes. For third countries not listed on the so-called EU blacklist of non-cooperative tax jurisdictions, the information must only be aggregated and not broken down by country. The Member States have to transpose the minimum standards of the directive into national law by June 22, 2023. Public country-by-country reports must be prepared for the financial year beginning on or after June 22, 2024, at the latest.

The transparency rules adopted by the European Commission are extensive. Empirical evidence suggests that many of the provisions mentioned have a disciplining effect in that a reduction in tax avoidance can be measured.[20] This is remarkable because, firstly, the majority of the arrangements are legal. Secondly, the data collected is apparently hardly ever analyzed by financial authorities and used for risk assessments,[21] and thirdly, the channel of public pressure from consumers cannot be proven. Based on current empirical studies, the following conclusions can be drawn: After the introduction of CbCR regulations, companies report lower profits in tax havens,[22] shift investments from tax havens to other low-tax locations,[23] use fewer tax havens overall in their group structure[24] and try to avoid the size-dependent application of the regulation.[25] These results are based on public (bank) CbCR and confidential CbCR. At the same time, it has not yet been possible to show that the publication of supposedly compromising tax

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[20] In the context of tax evasion, for example, Casi et al. (2020) that the introduction of the Common Reporting Standard (corresponds to DAC 2) has led to 14% of assets being withdrawn from so-called offshore locations. However, this was not taxed in the taxpayer's country of residence but was transferred to the US, which had not agreed to the CRS.

[21] See European Court of Auditors (2021). As an example, the European Commission cites in its evaluation report for 2017 the collection of almost 18,000 tax rulings and advance pricing agreements under DAC 3, while previously almost no information on this content was exchanged. However, this significant improvement in transparency is offset by the finding by the European Court of Auditors that no Member State systematically subjected the information uploaded to the central directory to a risk analysis. Only one Member State had even analyzed the data and selected it for further investigation. The cost/benefit ratio appears extremely questionable in this example.

[22] See Overesch/Wolff (2021).

[23] See De Simone/Olbert (2022).

[24] See Eberhartinger et al. (2021).

[25] See Hugger (2019).

information influences consumer decisions,[26] so this channel of action appears unlikely. To what extent investors and analysts consider the additional information valuable is unclear. However, it can be shown for the introduction of the public CbCR in the EU that there are strong negative price reactions,[27] which tends to indicate that investors expect a negative cost/benefit ratio from this regulation. The cited empirical evidence suggests that public CbCR provides no observable benefit. Accordingly, the established effectiveness of the provision is based either on erroneously anticipated public pressure or on (anticipated) better detection of profit shifting by the tax authorities. The latter is also questionable since the CbCR is not suited to uncover specific measures and channels for a company's profit shifting. At best, the data can be viewed as an indication of a company's overall tax planning behavior. The vast majority of tax planning by international companies is carried out legally, for example, by exploiting leeway and loopholes that arise from a lack of coordination between national taxation systems. As a result, the reduction in profit shifting and the use of tax havens suggests that the provision of CbCR data already influences the behavior of companies. It could induce multinational companies to voluntarily refrain from particularly aggressive (but legal) profit shifting measures in advance.

Accordingly, the advantage of the recently adopted public CbCR in the EU is not revealed. Instead, the companies are faced with costs that are difficult to calculate. The direct costs include costs for adapting reporting systems, as well as the preparation and testing of additional key figures. While it is difficult to quantify the specific level of the costs externally, it can be assumed that these will affect small to medium-sized companies in particular and may be less significant for large companies.

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[26] See Hoopes et al. (2018); Gallemore et al. (2014).
[27] See Müller et al. (2021).

With the adoption of the public CbCR in the EU, the complex of indirect costs is of greater importance. Releasing sensitive, company-specific information can create competitive distortions along two dimensions. First, there are differences between companies operating in the EU that are above and below the size threshold for disclosure. Second, companies of similar size inside and outside the EU are affected differently. Competitors can use the CbCR data to obtain information about the geographic structure, the cost structure, details of the production process and the evaluation of the know-how used. The CbCR data also provides information on the profitability of a company's individual locations. Double taxation could occur if the CbCR data arouse greed among the tax authorities in some countries and are used to adjust transfer prices unilaterally. Loss of reputation is possible if the data provided is misinterpreted. In any case, the confidential transmission would be sufficient to provide the tax authorities with additional information and the hoped-for change in the behavior of companies. There is no need for a public reporting obligation, as recently implemented by the EU Commission. This must be emphasized in particular with regard to the significant indirect costs.

4. Impact of the OECD's two-pillar project on tax competition

4.1. Overview

Despite the existing countermeasures at the EU level, there is still room for aggressive tax planning for multinational companies, mainly due to the mobility of intangible assets. To limit profit shifting to low-tax countries and to ensure the appropriate taxation of the digital economy, a total of 137 countries in the OECD's "Inclusive Framework on BEPS" agreed on a fundamental reform of the international corporate tax system, the so-called two-pillar project, in 2021.[28] While Pillar One provides for a (partial) redistribution of taxing rights to market jurisdictions and the abolition of unilateral digital taxes, Pillar Two aims to levy a global minimum tax of

[28] See OECD, https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-members-joining-statement-on-two-pillar-solution-to-address-tax-challenges-arising-from-digitalisation-october-2021.pdf (Accessed on 06/02/2023).

15% on corporate profits. Pillar One applies to multinational groups with revenues of more than 20 billion euros and a profitability of more than 10 %, whereas Pillar Two applies to multinational groups with revenues of more than 750 million euros.[29] At the EU level, the implementation of Pillar Two has already been specified in a draft directive by the European Commission. In December 2022, the EU Member States agreed to implement the directive by the end of 2023.[30]

4.2. Reallocation of taxing rights (Pillar One)

The implementation of Pillar One through a multilateral agreement is planned for 2024, according to the OECD's updated timeline.[31] Effective entry into force, however, presupposes that a "critical mass" of countries – particularly the countries of residence of the companies falling within the scope – ratify the multilateral agreement.[32] However, countries that have to waive taxes due to the redistribution of taxing rights have the incentive to deviate from the agreement or even not ratify it at all.[33] Thus, there is no guarantee that Pillar One will come into effect.

The original goal of Pillar One was to adapt the international tax system to new, digital business models by creating a nexus in market countries.[34] It is questionable whether this goal can be achieved. Since the scope is now limited to very large and profitable MNEs, only very few corporations are affected,[35] which only partially represent the digital economy.[36] Furthermore,

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[29] A detailed description of the regulations under Pillar One and Pillar Two can be found in e.g. Navarro (2021) and Dourado (2022).

[30] See Council of the European Union, https://www.consilium.europa.eu/en/press/press-releases/2022/12/12/international-taxation-council-reaches-agreement-on-a-minimum-level-of-taxation-for-largest-corporations/ (Accessed on 06/02/2023).

[31] See OECD (2022d), p. 5.

[32] See OECD (2022d), p. 5.

[33] See Schreiber/Spengel (2021), p. 2518.

[34] See OECD (2020), p. 11.

[35] The OECD estimates that around 100 companies are affected worldwide (OECD, 2021, p. 18); Devereux/Simmler assume that 78 companies will be affected (Devereux/Simmler, 2021, p. 3).

[36] Devereux/Simmler (2021) assume that only about half of all affected companies belong to the "Automated Digital Services" and "Consumer-Facing Business" sectors, which were originally intended to represent the scope of Pillar One (Devereux/Simmler, p. 8).

only a small proportion of the consolidated profit is allocated to the market countries, so the redistribution effects are likely minor.[37]

From the affected MNEs' perspective, introducing the regulations under Pillar One leads to enormous complexity, which entails high compliance costs. First, the corporation must determine the tax base based on a key figure from the consolidated financial statements, but numerous adjustments must be made. Since a corporation can also be included in the scope if only a specific segment – but not the entire group – exceeds the profitability threshold of 10%, this key figure must also be calculated separately for the segments reported in the consolidated financial statements.[38] In addition, companies must determine in which countries sales are generated and thus localize all end users or end customers. Although the revenue sourcing rules contain detailed regulations for determining the origin of sales for various categories of transactions,[39] in practice it will not always be possible to clearly determine the location, particularly in the case of the provision of digital services.[40] Extensive documentation must be prepared for the tax authorities to review the localization, leading to considerable compliance costs.[41] Affected MNEs must also continue determining the taxable profit for each group entity in the respective country of residence and set arm's length transfer prices for intra-group transactions.[42] The coexistence of an entity-based arm's length and a group-related formula-based apportionment system greatly increases the complexity for companies.[43]

This coexistence of existing and new regulations also increases the risk of double taxation since, in addition to profits allocated to the countries according to the arm's length principle, profits may be taxed in market countries.[44] To avoid multiple taxation, production countries would

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37 The OECD assumes that profits to be redistributed amount to USD 125 billion (OECD, 2021, p. 14).
38 See Petkova/Greil (2021), p. 686.
39 See OECD (2022d), pp. 64ff.
40 See Schreiber/Spengel (2021), p. 2513; Petkova/Greil (2021), p. 687.
41 See Schreiber/Spengel (2021), p. 2513.
42 See Schön (2022), p. 188.
43 See Valta (2022), p. 302.
44 See Schreiber/Spengel (2021), p. 2514.

have to exempt the profit shares allocated to the market countries from corporation tax or credit the taxes paid in the market countries.[45] Due to the risk of double taxation, guaranteeing legal certainty is a central element of Pillar One for the affected companies; in particular, coordination of all countries involved in collecting the tax is required.[46] Companies should gain legal certainty and avoid double taxation by applying dispute avoidance and dispute settlement measures (so-called review and determination panels). Since only selected countries can participate in the panels and the countries of residence and market countries pursue different interests, there is a potential for conflict here.[47] Only an independent authority responsible for allocating taxes and ensuring legal certainty could prevent such conflicts of interest. This – and the planned implementation utilizing the panels mentioned – will require numerous resources from the fiscal authorities and lead to considerable administrative costs.

The objective of Pillar One has changed over time to distribute profits of the largest MNEs and taxing rights more equitably between market and production countries.[48] Even if no specific reference to international tax competition can be identified here, implementing Pillar One can impact tax competition. In theory, introducing taxing rights for market countries reduces tax competition for the location of real economic activities.[49] This is due to the fact that the tax burden for affected companies increases in market countries and decreases in the country of residence. Since end customers and consumers are less mobile than capital and intangibles, it is much more difficult for companies to influence the location of taxation under the new regime than under the existing tax system.[50] The more profits are allocated to the market countries under Amount A, the lower the incentive for companies to relocate their production sites to tax-

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45 See Schön (2022), p. 188.
46 See Schreiber/Spengel (2021), p. 2514.
47 See Schreiber/Spengel (2021), pp. 2514-2515.
48 See OECD (2021), p. 4.
49 See Devereux et al. (2021), pp. 249-250; Schreiber/Spengel (2021), p. 2520.
50 See Devereux et al. (2021), pp. 170-171.

attractive countries for tax reasons.[51] The influence of profit taxes on the location of investments thus decreases and reduces tax competition.[52]

Tax competition for relocating financial and intellectual property can also be restricted under Pillar One.[53] However, this depends on where the residual profits, which will be taxed in the market country in the future, have been recorded so far. If, due to the company's transfer pricing policy, residual profits from valuable financial and intangible assets have mainly accrued in low-tax countries and are now allocated to market countries, low-tax countries will become less attractive for relocating such assets.[54]

4.3. Global minimum tax (Pillar Two)

The agreement of more than 130 countries on a global minimum tax has been described as a "groundbreaking"[55] or even "historic"[56] breakthrough in the fight against tax avoidance. Whether these expectations will actually be met, is still unclear. Pillar Two, also referred to as GloBE (Global Anti-Base Erosion Rules), is intended to ensure that large multinational companies pay a minimum level of taxes on the income generated in all countries in which they operate.[57] The reform thus addresses the tax avoidance of large MNEs in general rather than specific tax challenges of the digital economy.[58] In addition, Pillar Two intends to impose a general lower bound on international tax competition.[59]

Due to its design, the global minimum tax is expected to generate additional tax revenues, particularly in countries where the ultimate parent companies of affected groups are resident. Even

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51 See Schön (2022), p. 187.
52 See Schreiber/Spengel (2021), p. 2520.
53 See Schön (2022), p. 187.
54 See Schön (2022), p. 187.
55 See OECD, https://www.oecd.org/tax/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm (Accessed on 09/27/2022).
56 See BMF (Federal Ministry of Finance), Agreement on a global minimum tax for companies, https://www.bundesfinanzministerium.de/Monatsberichte/2021/07/Inhalte/Kapitel-2b-Schlaglicht/2b-globale-mindeststeuer.html (Accessed on 09/27/2022).
57 See OECD (2022e), p. 8.
58 See Wissenschaftlicher Beirat beim BMF (2022), p. 10.
59 See OECD (2021), p. 4.

though the impact on tax revenues is difficult to estimate due to incomplete data and potential behavioral adjustments by companies and countries, some studies have already published such estimates. The approximations range from 1.2 billion euros[60] to 13.3 billion euros[61] in annual additional tax revenues for Germany. However, these estimations do not consider the so-called substance-based income exclusion which exempts a "routine" profit relating to tangible fixed assets and payroll costs from the minimum tax. When taking into account this income exclusion, the additional tax revenue is reduced by 20 to 40 % compared to the initial case.[62] If one also takes into account potential behavioral adjustments by companies and countries, the forecasts are only between 1.7 billion euros and 1.9 billion euros in additional annual revenues for Germany.[63] As a result, the estimated revenue effects are based on numerous assumptions and are very heterogeneous.[64]

If the global minimum tax is implemented or at least accepted by a sufficiently large number of countries, it can be expected that purely tax-motivated structures for shifting profits to low-tax countries will become less attractive and thus be reduced.[65] However, the expected reduction in profit shifting is offset by the enormous complexity of the regulations and the resulting compliance costs for the companies affected by Pillar Two.[66] The main complexity driver is the calculation of a country-specific effective group tax rate which is based on financial accounting figures with numerous adjustment calculations.[67] Since the data required for the reconciliation calculations is usually not necessary to prepare the annual financial statements or for the tax return submission, they are only to be collected for minimum tax purposes.[68] Independent

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60 See Devereux et al. (2020).
61 See Baraké et al. (2022).
62 See Baraké et al. (2022).
63 See Fuest et al. (2022).
64 For example, the present studies only model the introduction of an Income Inclusion Rule, but not the interaction with the Undertaxed Profits Rule or the Qualified Domestic Minimum Top-up Tax.
65 See Englisch (2022), p. 188.
66 For a cost-benefit analysis of the global minimum tax in Germany see Spengel et al. (2023).
67 See Englisch (2022), p. 190.
68 See Schreib et al. (2022), p. 926.

GloBE accounting and reporting, referred to as "shadow accounting" in the literature, will therefore be indispensable – even for companies just below the relevant revenue threshold. Overall, the administrative burden for the affected companies from the global minimum tax is estimated to be considerable.

Existing anti-profit shifting rules further exacerbate the complexity. Numerous anti-abuse rules exist in Germany, such as CFC rules, the interest limitation rule and the license barrier rule, which continue to apply. In particular, the coexistence of CFC rules and the minimum tax must be viewed critically since both regulations are aimed equally at combating profit shifting to low-taxed subsidiaries,[69] but lead to an enormous compliance burden for the companies concerned: If corporations fall within the scope of the minimum tax, they must prepare four different balance sheets in a fiscal year for each subsidiary (commercial balance sheet, tax balance sheet, determination of profit for CFC taxation, adjustment calculations to determine the top-up tax).[70]

As explained above, one of the objectives of Pillar Two is to limit international tax competition. Looking at the theory of tax competition, it is a priori unclear whether high-tax countries react to minimum taxes with tax cuts or increases. Standard models assume that a minimum tax could induce high-tax countries to levy higher profit taxes than without a minimum tax.[71] However, if high-tax countries do not currently lower their taxes because they anticipate that neighboring low-tax countries will respond with tax cuts, the minimum tax could also have a pull effect toward a profit tax rate of 15 %.[72]

Due to its design, it is to be expected that the global minimum tax will shift tax competition from attracting pure book profits to attracting real economic activities.[73] This is particularly due

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69 See Tcherveniachki/Linnemann (2022), p. 1356.
70 See Schön (2022), p. 190.
71 See Keen/Konrad (2013).
72 See Konrad (2009).
73 See Wissenschaftlicher Beirat beim BMF (2022), p. 13.

to the substance-based income exclusion, which exempts a certain proportion of profits from substantial economic activity from the top-up tax. This severely limits the effect of the minimum tax in locations where companies have tangible assets and paid employees. As a result, countries can continue to lower corporate taxes, for example, to attract R&D facilities, without these companies incurring top-up taxes in other countries.[74]

In addition to the substance-based income exclusion, the optional Qualified Domestic Minimum Top-up Tax (QDMTT) is of particular importance with regard to tax competition. If a country uses this option, it can collect the top-up tax from domestic group entities. The QDMTT takes precedence over the Income Inclusion Rule (IIR) and the Undertaxed Profits Rule (UTPR) and is credited against the international minimum tax.[75] Since the additional taxes under the IIR or the UTPR would have been withheld by other countries, the competitive position of a source country does not deteriorate if it levies a QDMTT.[76] Thus, there is an incentive for low-tax countries, in particular, to introduce such regulations and to continue to levy low regular corporate income taxes in the future in order not to lose any (minimum) tax revenue to other countries and to remain tax-attractive for companies not affected by Pillar Two.[77]

When calculating the effective tax burden, not only taxes actually paid but also deferred taxes are taken into account.[78] In principle, the temporary differences between the actual tax expense and the tax expense according to financial accounting must be reversed within five years to be included in the calculation. However, for some exceptions, the deferred tax liabilities can also be added if they do not reverse until after five years. This also includes deferred taxes resulting from tax depreciation of tangible assets which is more favorable than the depreciation rules

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74 See Wissenschaftlicher Beirat beim BMF (2022), p. 24.
75 See Directive (EU) 2022/2523 of 14 December 2022, p. L 328/36.
76 See Devereux et al. (2022), p. 4.
77 See Devereux (2023), p. 160; Englisch (2022), p. 189; Fuest et al. (2022), p. 43.
78 See Directive (EU) 2022/2523 of 14 December 2022, p. L 328/30.

under commercial law.[79] This means that tax subsidies using special depreciation or immediate write-off are still possible without increasing the risk of minimum taxation.[80] While tax competition has so far mainly been based on the tax rate, this regulation could shift competition to the tax base in the future.

Since a group's effective tax rate can also be reduced through tax incentives in the form of tax credits, super deductions or patent boxes, a top-up tax may also be due in countries with a statutory tax rate of more than 15 %. However, especially in the case of patent box regimes, which correspond to the modified nexus approach[81] and are thus considered non-harmful, it seems questionable and contradictory to BEPS action point 5 why the minimum tax partially neutralizes such a tax subsidy. At least research-intensive companies could benefit from the substance-based income exclusion if the R&D activities incur high costs for personnel and tangible assets.[82]

As a result, it can be stated that the global minimum tax restricts tax competition only to a limited extent.[83] A shift to competition for real economic activities is expected, which will presumably be conducted primarily through the design of the tax base. In addition, tax competition could shift to smaller companies unaffected by the global minimum tax.[84] It is also to be expected that in the future, countries will increasingly use other tax instruments, such as income tax cuts for employees,[85] or non-tax measures, such as subsidies or public benefits for companies, to position themselves in the location competition.[86]

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79 See Directive (EU) 2022/2523 of 14 December 2022, p. L 328/32.
80 See Englisch (2022), p. 189; Spengel (2022), p. 191.
81 See OECD (2015), pp. 24ff.
82 See Liotti et al. (2022), p. 43.
83 See Devereux (2023), pp. 160-161.
84 See UNCTAD (2022), p. 150.
85 See Fischer et al. (2022).
86 See Wissenschaftlicher Beirat beim BMF (2022), p. 13.

5. Tax competition in the future

5.1. Developments in income taxation

Globalization, digitization and automation have made work and workers more flexible and mobile in recent years. “Remote work” is becoming increasingly important, promoted by the Covid-19 pandemic.[87] The infrastructure was expanded, and organizational processes adapted due to the pandemic-related “home office” expansion. Many employees have overcome fears of contact with technology and appreciate greater autonomy and flexibility.[88] Due to these trends, companies increasingly must deal with an internationally mobile workforce. Empirical studies show that personal taxation can affect workers’ migration decisions. This observation applies both to movements and activities within a country and across national borders. This phenomenon can be observed particularly for athletes, high earners, and highly qualified workers in certain industries that allow flexible relocation.[89]

Figure 3 shows the development of the effective tax burden on labor income[90] over time. In contrast to the apparent downward trend in corporate taxes over the last few decades, the tax burden on employees shows only moderate developments on average. The average exposure across all locations[91] fell by around two percentage points from 2003 to 2021 (39.7 % to 37.6 %). In Germany, labor income has been burdened at an unchanged high level of around 40 % for 15 years.

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87 See Fischer et al. (2022), p. 286.

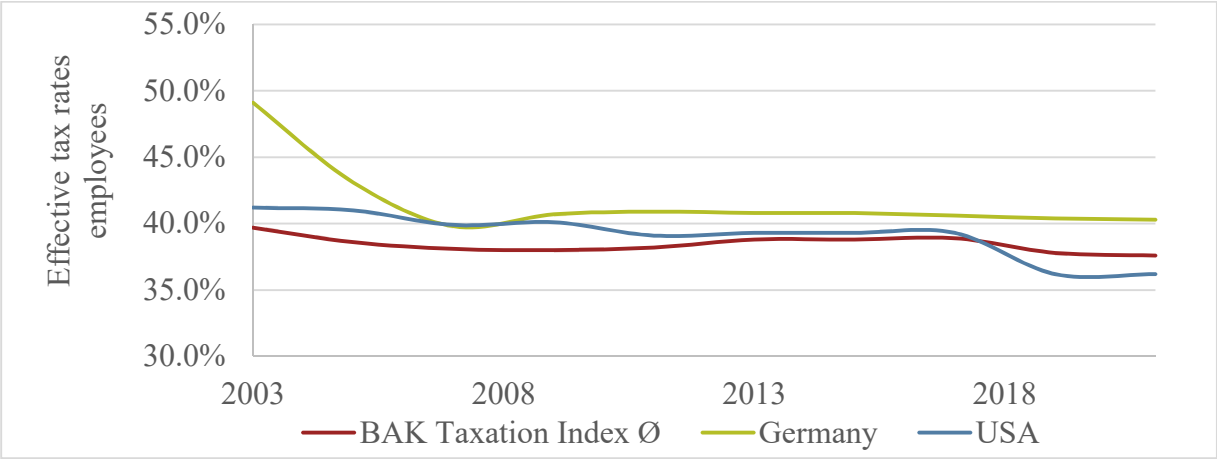
88 See López-Igual/Rodríguez-Modroño (2020).

89 See Liebig et al. (2007) and Schmidheiny/Slotwinski (2018), Agrawal/Foremny (2019), Moretti/Wilson (2017), Kleven et al. (2013, 2014), Akcigit et al. (2016, 2022), Muñoz (2021).

90 The simulation model calculates how much an employer has to spend in order to be able to provide a highly qualified worker with a certain disposable income. Employment costs include gross salary, employer’s social security contributions and payroll taxes, employer’s pension contributions, and non-taxable salary components.

91 Austria, Belgium, China (Beijing, Shanghai, Hong Kong), Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, UK, US (California, Delaware, Florida, Massachusetts, New York, Texas, Washington), Japan, Brazil, India, Russia.

Figure 3: Development of the effective tax rates for employees in an international comparison (2003-2021)



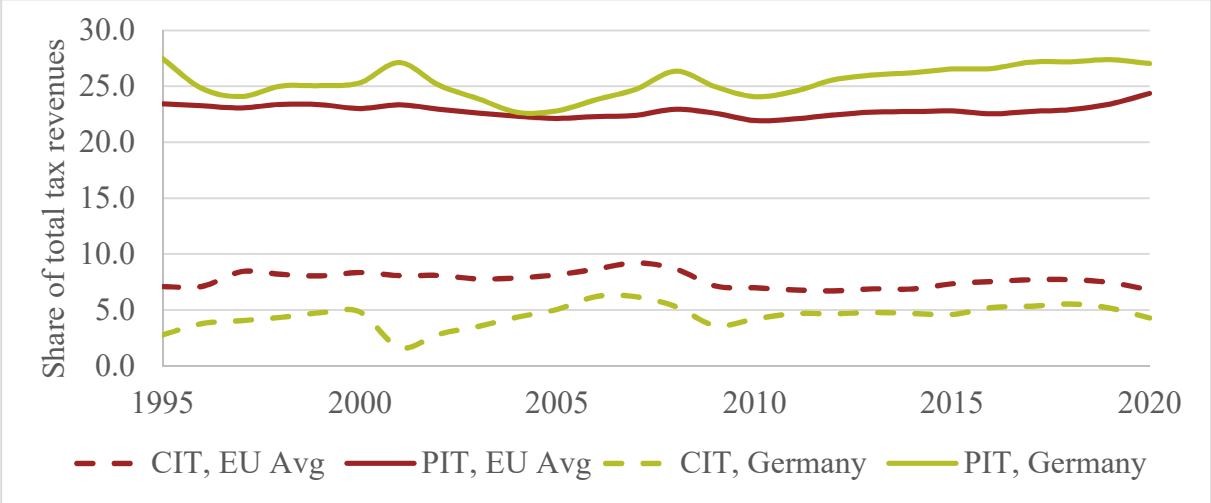
Source: BAK Economics/ZEW (2022), own presentation. EATR tax burden in the economic centers in % calculated for the standard case of a single person without children with a disposable income of EUR 100,000 (from 2010 at 2010 prices and the respective rolling exchange rate). The BAK Taxation Index represents the GDP-weighted average of the effective average tax burden of all locations considered.

Due to the increasing number of coordinated countermeasures to curb tax competition in corporate taxes, the scope is significantly limited. As a result, legislators increasingly focus on targeted measures for R&D activities and highly mobile intangible assets, as described in Chapter 2.2. Individual countries have found another way to increase their tax attractiveness. Instead of reducing taxes directly at the company level, it is linked to the taxation of individuals. For labor-intensive sectors and companies in particular, this could mean a shift in tax competition from the company to the employee level. On the one hand, this measure enables companies to pay employees lower gross salaries without reducing after-tax income.[92] On the other hand, the tax base can also be significantly expanded directly by recruiting high-earning individuals.

From a revenue perspective, a shift in tax competition from the corporate to the employee level could have negative consequences.

[92] See Fischer et al. (2022), p. 291.

Figure 4: Relative shares of CIT and PIT in Germany and Europe (1995-2020)



Source: OECD (2022b), own representation. Taxes on income, profits and capital gains are included. Income tax also includes wage tax and profits from sole proprietorships and partnerships. Income taxes include all taxes incurred on the profits of corporations (in Germany, in particular, corporation tax and trade tax).

Figure 4 depicts the development of tax revenue in Germany and the European average[93] for corporations and individuals. In Europe, the share of income taxes, with fluctuations ranging from 22 % to 24 %, is significantly higher than that of corporation taxes, with a share of between 6 % and 8 %. The difference is even more pronounced in Germany, with an average income tax share of 25.4 % versus an average corporate tax share of 4.49 %. Since income tax also includes sole proprietorships and partnerships, the potential impact of employee tax incentives cannot be directly derived. Nevertheless, the chart indicates that the role of income tax for tax revenue is significantly more relevant than corporate tax. Income tax competition could therefore prove to be far more harmful.[94]

5.2. Preferential income tax regimes

On the one hand, states aim to increase tax attractiveness to attract a higher tax base and investment without losing tax revenue through lower taxation. In this tension, legislators focus on high-net-worth foreign individuals who will be attracted by special preferential tax regimes

[93] It is the EU28 average. Croatia, Romania and Cyprus are not included due to lack of data.
[94] See de la Feria/Maffini (2021), pp. 156-157.

instead of general tax cuts.[95] All special income tax regimes have in common that the individual must be resident for tax purposes in the country where the preferential regime applies.[96] In addition, three different types can be distinguished.

First, foreign income can be taxed less. The basic requirement here is usually that the taxpayers were not resident in the respective country for tax purposes in the previous years. The benefits range from flat taxes to lower tax rates and tax exemptions. The benefits are granted for periods of between five and 17 years, depending on the country. The aim here is to attract high-income taxpayers.[97]

Second, some countries grant preferential taxation to income from specified economic activities. Certain professional groups from the fields of research, art and sport are eligible, but also highly paid or highly qualified workers. Under preferential regimes, a percentage of income is tax-exempt, or a certain percentage of flat-rate deductions are allowed. The discounts are valid for three to five years. On top of generating additional tax revenue, the focus is primarily on promoting certain economic activities.[98]

Third, retirement income is subject to a low flat tax, mostly on foreign payments only. Pensioners can benefit from these special regimes for between five and ten years. This is intended to attract additional consumers since the purchasing power of this target group exceeds that of the average population.[99]

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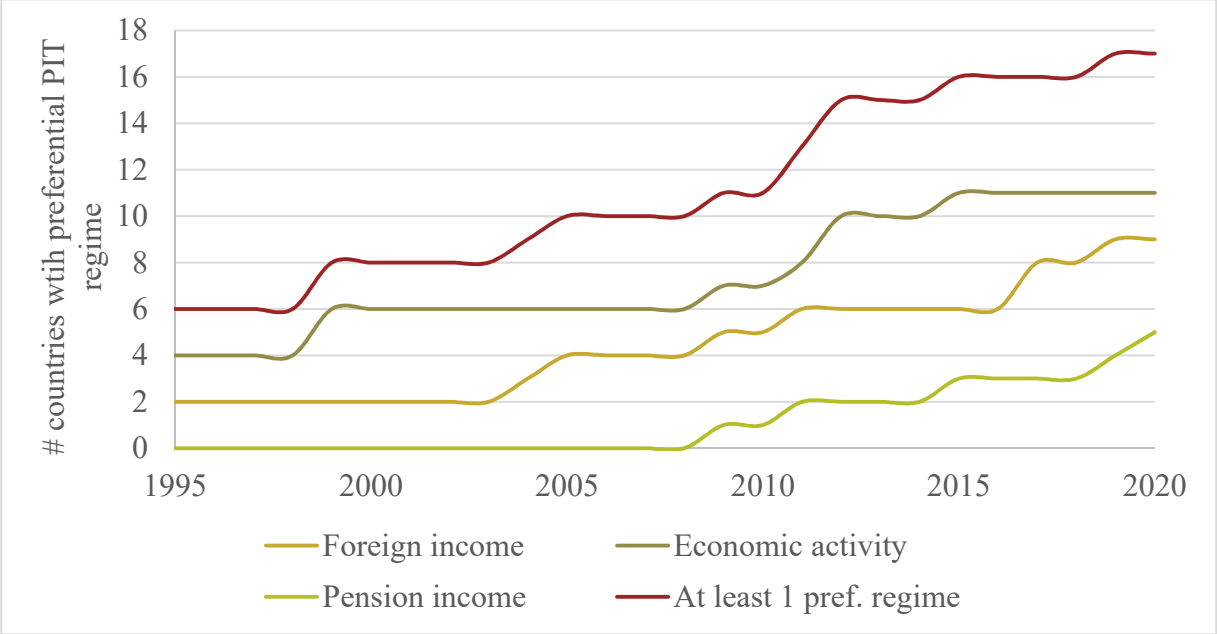
95 See Flamant et al. (2021), p. 10.
96 See Flamant et al. (2021), pp. 11-12.
97 See Flamant et al. (2021), p. 12, pp. 43-47.
98 See Flamant et al. (2021), p. 14, pp. 43-47.
99 See Flamant et al. (2021), p. 12, pp. 43-47.

Figure 5: Preferential income tax regimes in the EU (1995-2020)



Source: Flamant et al. (2021), own representation.

Figure 5 shows the European countries with preferential regimes over time. In addition to the number of countries that offer at least one system, a distinction is made between the individual types of preferential treatment. While only six countries had implemented special income tax regimes in 1995, there were already 17 in 2020. Some of them offer several benefit systems in parallel. Over the years, regimes have also developed better, offering greater benefits and aggressively recruiting high earners and foreign workers.[100]

Some of the regimes pursue an economic purpose beyond attracting tax revenue. For example, in the preferential taxation of income from defined economic activities, the disadvantages for neighboring countries are manageable since only certain professional groups are targeted. In contrast, preferential foreign and retirement income taxation does not require participation in the labor market. Not only does this increase the potentially poached foreign tax base, but tax planning is the main reason for using the regimes. In addition, the risk of fraud is higher since migrants can enjoy the benefit without being employed or doing business in the destination

[100] See Flamant et al. (2021), p. 10.

country.[101] While the number of countries offering preferential treatment for workers engaged in certain economic activities nearly tripled over time (four in 1995 and eleven in 2020), the number of foreign-income special regimes nearly quintupled (two in 1995 and nine in 2020). Preferential systems for retirement income were still unknown at the beginning of the period under review, however, five countries have introduced such preferential treatment since 2009. The graph thus shows a clear trend towards introducing more generous and harmful special income tax regimes. Current estimates by the EU Tax Observatory assume a loss of revenue of around 4.5 billion euros per year across Europe.[102]

The increasing introduction of preferential income tax regimes increases the pressure on other countries to enter this type of tax competition. There is a risk here that the reduced tax rates for the highly qualified and high earners will be compensated for by higher tax rates for average employees.[103]

In addition to the risk to tax revenues, the development could also affect labor markets. In the IT sector, in particular, the home office has established itself,[104] which means that specialists in the industry are highly mobile. At the same time, such highly qualified workers are to be lured with preferential income tax regimes. For example, the systems in Belgium, the Netherlands or Finland specifically target workers with special skills that are difficult to find on the national labor market.[105] IT specialists are explicitly listed in the Portuguese regime's list of favored professions.[106] Special tax regimes can thus be used to increase a country's attractiveness for this professional group in a targeted manner.

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[101] See Flamant et al. (2021), p. 14.
[102] See Flamant et al. (2021), p. 18.
[103] See Trautvetter/Winkler (2019).
[104] See Ilig, Peter (Heise), The job market for IT specialists: The global shortage of IT specialists, https://www.heise.de/background/Der-Arbeitsmarkt-fuer-IT-Fachkraefte-Der-weltue-Mangel-an-IT-Fach-kraeften-7185519 .html (Accessed on 09/27/2022).
[105] See Flamant et al. (2021), pp. 43-47.
[106] See Annex I to the Portuguese Income Tax Act (CIRS), https://info.portaldasfinancas.gov.pt/pt/informa-cao_fiscal/legislacao/diplomas_legislativos/Documents/portaria_1011-2001_de_21_de_agosto_i_serie_b.pdf (Accessed on 09/27/2022).

6. Impact of tax competition on German family businesses

Family businesses play a significant role in shaping Germany's business landscape. Around 90 % of private companies in Germany are family-owned enterprises.[107] Family businesses are primarily found in smaller employee and turnover classes but employ more than half of all German employees.[108] The largest family businesses are globally oriented and generate more than half of their total sales abroad.[109]

Family businesses are mainly engaged in manufacturing and trade.[110] The Covid-19 crisis has particularly affected companies in these sectors. Profitable businesses could benefit from the expanded loss carry-back. It would be desirable to make it easier to offset crisis losses against future profits. Currently, the limitations on loss carry-forward offset can lead to tax payments being due in larger companies despite high accumulated losses.[111] However, these fiscal measures are temporary and will not change the tax landscape in the long term.

The ongoing expansion of R&D tax incentives will play a larger role for tax competition. However, family businesses tend to benefit less from these measures than other companies. Risk-aversion of family businesses[112] and limited resources may result in lower innovation capabilities and research investments.[113] E.g., Anderson et al. (2012) examine American companies and show that family businesses invest more heavily in tangible assets. As a result, the proportion of intangible assets – an important factor for input-based R&D tax support – is comparatively lower in family businesses.

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[107] See Stiftung Familienunternehmen (2019), p. 1.
[108] See Stiftung Familienunternehmen (2019), p. 17.
[109] See Stiftung Familienunternehmen (2019), p. 42.
[110] See Stiftung Familienunternehmen (2019), p. 42.
[111] See Bührle et al. (2020), p. 2490.
[112] See Lumpkin et al. (2010), pp. 241-242.
[113] See Calabrò et al. (2019), p. 334.

Family businesses also face challenges if they aim to benefit from output-based R&D tax incentives. The long-term orientation[114] and strong regional roots[115] of family businesses can generate a positive environment for local research activities and cooperation.[116] E.g., Matzler et al. (2015) show in the German context that family-run companies invest less in research but, at the same time, do so more effectively.[117] However, due to the modified nexus approach, it is now regularly necessary to relocate research activities to the respective countries to use reduced tax rates in patent boxes. These incentives primarily benefit companies with digital business models and a high proportion of intangible assets. As a result, locally rooted companies relying on regional cooperation to drive innovation forward face increasingly limited options.

While family businesses often face limitations in terms of benefiting from targeted tax incentives, they are subject to the impact of anti-avoidance legislation same as other company types. Specifically for German businesses, the ATAD regulations on the limitation of interest deduction per se do not lead to any additional burden. The minimum standards have already been met since the interest cap was introduced as part of the corporate tax reform in 2008. Instead, competitive disadvantages compared to companies in EU countries without interest deduction restrictions are eliminated by ATAD. Given increasing interest rates, it must be assumed that the interest deduction restrictions will gain importance for companies' tax burden as the exemption limit will be exceeded more quickly. As a result, the number of companies affected by the interest cap will increase. Due to the coordinated implementation of ATAD, the EU Member States can no longer react flexibly to such a situation, which in extreme cases, can have negative liquidity effects.[118]

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[114] See Lumpkin et al. (2010), pp. 241-242.
[115] Compared to non-family companies in the DAX, family companies employ a significantly higher proportion of their employees in Germany and are, therefore, much more deeply rooted locally. See Stiftung Familienunternehmen (2019), p. 45.
[116] See Block/Spiegel (2013).
[117] See Matzler et al. (2015), p. 328, Duran et al. (2016) in a meta study.
[118] See Spengel et al. (2010).

Companies are only subject to the new public CbCR rules and the two-pillar project if they exceed the size criteria. We combine balance sheet data from the Orbis database provided by Bureau van Dijk with the list of the top 500 family businesses by turnover from the Foundation for Family Businesses from 2020 to evaluate the extent to which German family businesses are subject to the regulations.[119] Due to the very high revenue and profitability thresholds to apply under Pillar One, only four German companies would be affected by this regulation as of 2021, two of which can be classified as family businesses.

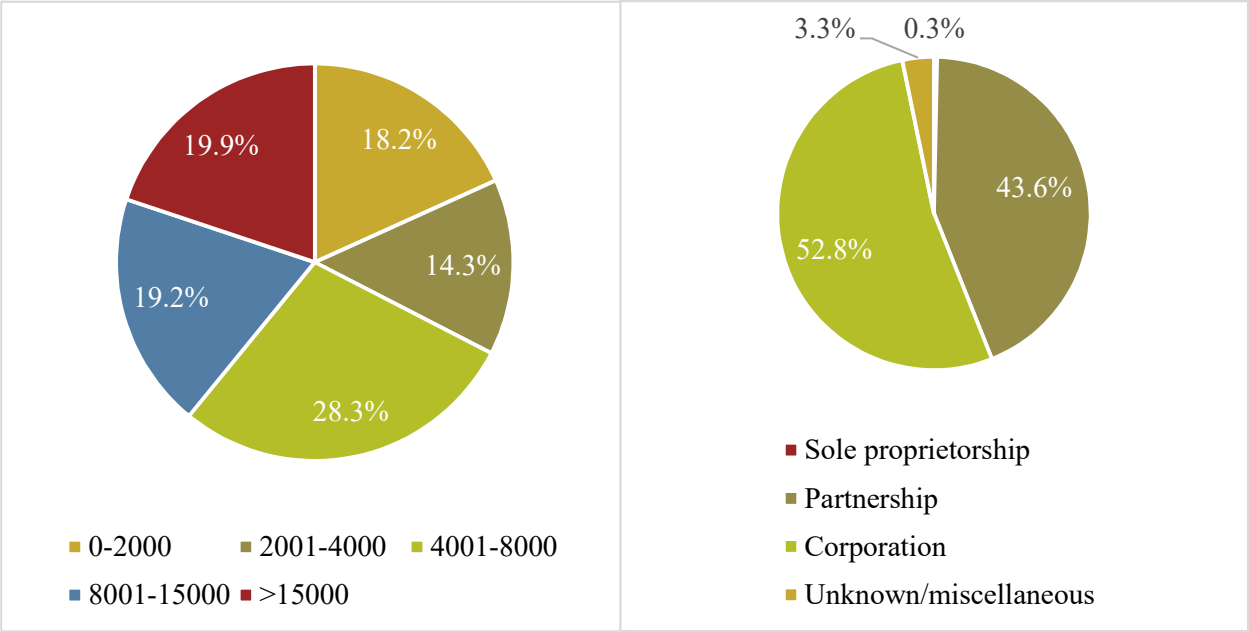
The scope of Pillar Two, i.e., the global minimum tax, and CbCR is much broader. 307 companies meet the size criterion – consolidated annual revenues of at least 750 million euros in at least two of the four previous years. This corresponds to a share of 61.4 % of the 500 largest family businesses. While the companies affected by Pillar Two and CbCR had an average group turnover of almost 4.2 billion euros in 2020, the average group turnover of the top 500 family businesses that did not fall within the scope was only 612 million euros.

Figure 6, Panel A illustrates that the number of employees in the family businesses that fall within the scope varies greatly. While almost a fifth of the affected companies have more than 15,000 and between 8,001 and 15,000 employees, respectively, almost 18 % have fewer than 2,000 employees. The remaining almost 43 % of companies with a group turnover of at least 750 million euros employ between 2,001 and 8,000 people. They also differ in their legal form (Figure 6, Panel B). Almost 53 % of the affected companies operate as corporations, while the remaining part consists mainly of partnerships, including the legal form GmbH & Co. KG. Since fiscally transparent companies are treated in the same way as permanent establishments, and these are treated like group companies, partnerships also fall within the scope of the global minimum tax.

[119] For reasons of data availability, the impact on German family businesses is estimated from the perspective of the year 2021.

Figure 6: Characteristics of family businesses affected by CbCR and Pillar Two

Panel A: Number of employees **Panel B: Legal form**



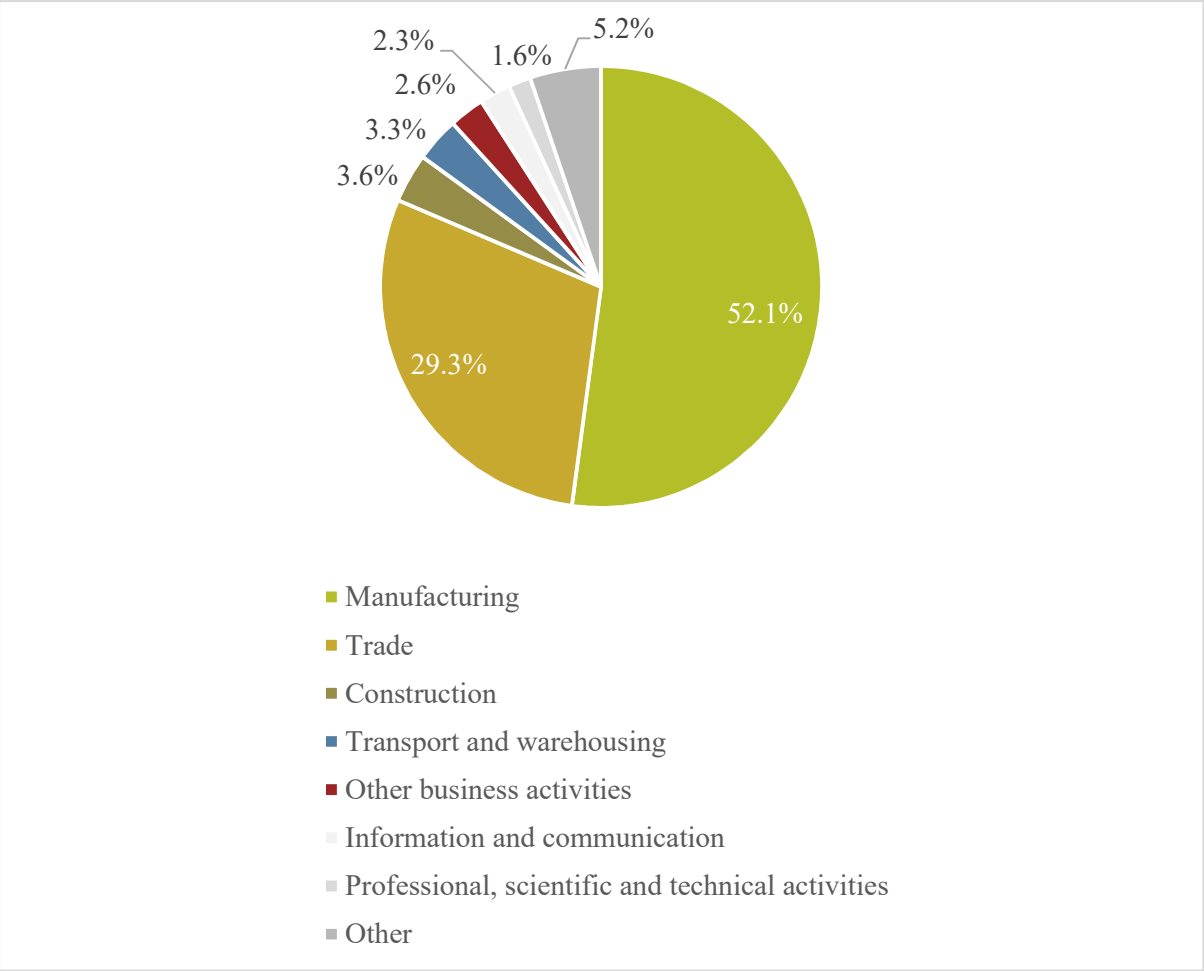
Source: Top 500 Family Businesses; own calculations.

Looking at the industry to which they belong (Figure 7), it can first be seen that more than half of the family businesses affected by CbCR and Pillar Two are active in the manufacturing sector. In addition, almost 30 % of the companies can be assigned to the trade sector. A small proportion of 3 to 4 % consists of companies in the construction, transport and warehousing sectors. The remaining companies can be assigned to various economic sectors.

If the increasing anti-avoidance legislation leads to a shift from corporate to personal income tax competition, the taxation of employees will become increasingly important in the future. Germany and, thus, companies based there will have a comparatively poor starting position. In 2021, the tax burden for an average single worker in Germany was 37.7 %. This is well above the OECD average of 24.6 % and the European average of 28.7 %. A comparable picture also emerges for higher earners (42.6 % tax burden in Germany compared to 29.8 % in the OECD

or 34.2 % in the EU average).[120] At the same time, neighboring countries such as Denmark, Austria, Belgium, France, Luxembourg and the Netherlands offer special income tax regimes.[121]

Figure 7: Industry of family businesses affected by CbCR and Pillar Two



Source: Top 500 Family Businesses; own calculations.

While individuals benefit from the tax incentives in the first step, the measures also indirectly affect companies in the competition for qualified workers by increasing the attractiveness of the location. In the coming years, this could make it more challenging to recruit qualified specialists, particularly for family businesses with local roots. In the IT sector in particular, the

[120] See OECD (2022c), pp. 171-172.
[121] See Flamant et al. (2021), pp. 43-47.

shortage of skilled workers in Germany is getting bigger and bigger. Tens of thousands of positions are unfilled.[122]

Especially family businesses that rely heavily on local workforce might suffer from negative consequences if competing countries reduce their income tax burden. If the German legislator does not intervene, companies could be forced to offset the comparatively higher tax burden with higher gross salaries to attract highly qualified workers. Instead of participating in tax competition and, like other countries, using preferential regimes, such intervention should consist of a coordinated effort to limit the international establishment of such special regulations. As with tax competition in the corporate sector, it is otherwise to be feared that a mutually reinforcing "race to the bottom" will lead to the erosion of tax revenue in all countries.

7. Conclusion

Tax competition, which had increased since the 2000s, has slowed significantly in recent years. This is not least due to increased international countermeasures. Fiscal options for further tax relief are significantly limited in the foreseeable future due to the Covid-19 crisis and the additional economic damage caused by the Ukraine war. Instead of broad-based tax cuts, there are increasing tendencies towards preferential tax regimes aimed specifically at highly profitable and mobile activities, such as R&D incentives.

At the same time, the anti-abuse regulations are constantly being expanded. At the European level, minimum standards were created with the ATAD in five areas (limitation of interest deduction, CFC taxation, exit taxation, hybrid structures and general anti-abuse rule), which demonstrably curb profit shifting. While Germany had already implemented strict regulations in many areas, the assessment base was broadened in other countries. However, this was only

[122] See Specht, Frank (Handelsblatt), Shortage of skilled workers in IT professions greater than ever, https://www.handelsblatt.com/politik/deutschland/arbeitsmarkt-fachkraefteluecke-in-den-it-berufen-so-gross-wie-nie/28046062.html (Accessed on 09/27/2022).

occasionally accompanied by tax rate reductions so that no intensification of tax rate competition (in response to the alignment with the minimum level of protection) can be identified. For the limitation of interest deduction and CFC taxation, it can also be shown that Member States use flexibility in the design of the regulations so that complete harmonization cannot be achieved.

Complementing the fight against specific profit shifting activities, the European Commission has massively increased the availability of data on tax issues through a large number of standards. This goes so far that financial administrations are reaching their limits in evaluating and using this data. Nevertheless, a decrease in profit shifting activity and the use of tax havens can be measured as a result. There are competitive effects in that the regulations on the CbCR are size-dependent, and some companies also manage to circumvent the regulations' applicability. In addition, potentially high indirect costs are expected with the public CbCR.

As part of the OECD's "Inclusive Framework on BEPS", 137 countries agreed on the so-called two-pillar model, which provides for a redistribution of taxation rights to market countries on the one hand and a global minimum tax for large companies on the other hand. These measures are intended to address the tax challenges of the digital economy and to limit international tax competition. However, the two-pillar model creates a special tax regime for a few companies, leading to high compliance costs for the companies concerned due to the complex regulations. The administration of the new regulations will also require numerous resources from the financial authorities. Due to the global minimum tax design, it is expected that tax competition will only be restricted to a limited extent and will shift to the location of real economic activities.

Overall, the scope for tax optimization in international corporations is becoming ever smaller and more cost-intensive. As a result, tax competition in the corporate sector is expected to flatten out in the future.

However, a new trend is emerging at the level of individuals: the number of preferential income tax regimes intended to encourage highly wealthy and highly qualified foreigners to migrate has increased significantly in recent years. The kind of tax competition conducted seems to change: Instead of pure accounting profit transfers, it is to be expected that tax optimization will increasingly be accompanied by the transfer of real activities, both capital and labor.

These developments have important implications for companies in Germany, particularly family businesses as the backbone of the German economy. On the one hand, family businesses can benefit little from targeted tax competition instruments compared to other, multinational companies. Due to their strong local roots and focus on regional research co-operation, access to foreign incentive regimes is significantly restricted. In Germany, R&D expenses have been tax-privileged since 2020 via the research allowance, but some European neighbors are much more generous here.

On the other hand, internationally coordinated countermeasures affect all companies. Larger family businesses, in particular, fall within the scope of the disclosure requirements of the CbCR and the two-pillar model when they exceed the set turnover threshold: 61.4 % of the 500 largest German family businesses are affected by the global minimum tax and the CbCR.

Furthermore, if tax competition shifts from corporate to personal income taxes, in addition to the potential loss of revenue, comparatively high-taxing countries such as Germany could find themselves confronted with relocating industry and an increased shortage of skilled workers. German politics should not participate in this trend but rather work towards limiting such special regulations by international agreements.

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