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REFORMING CORPORATE TAXES – REDUCING DISTORTIONS

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KEY MESSAGES

↘ The recently adopted tax relief programme in Germany promises a moderate increase in GDP and investment.

↘ However, a more fundamental tax reform that specifically reduces distortions of investment and capital structure offers significantly larger income, employment and welfare gains in the long run.

↘ R&D tax incentives are effective in stimulating private innovation, thereby contributing to higher productivity growth. The research allowance in Germany should be simplified such that firms use this instrument more intensively.

EXECUTIVE SUMMARY

In 2025, the German government decided to **temporarily expand depreciation options for equipment investment and to gradually reduce the statutory corporate tax rate** (tax relief programme). Hence, the average effective tax rate on corporate profits in Germany of 28,5 %, which is high compared to other countries, should fall below 25 % by 2032.

Policymakers usually face a trade-off when taxing firm profits: On the one hand, **such taxes contribute significantly** – and even to a rising extent – **to total tax revenue in Germany**. On the other hand, **capital is a mobile production factor**, and firms adjust their investment, location and financing decisions to the tax environment. In particular, the **design of corporate taxes** – such as the asymmetric treatment of debt and equity or depreciation options – **distorts key decisions of firms**. According to the empirical evidence, a one percentage point lower tax rate typically leads to a 0.3 % to 0.8 % increase in investment, a 2.3 % to 3.2 % increase in foreign direct investment and decrease in the corporate debt ratio by 0.2 to 0.3 percentage points. Lowering the effective tax burden on firms or addressing tax distortions should increase growth in the short to medium term via capital accumulation, leading to a permanently higher potential output. The recently approved **corporate tax cut in Germany** promises **moderately positive effects on investment and income** (GDP), with a temporary, but noticeable decline in tax revenue. In contrast, moving towards **a neutral business tax**, for example a **cash flow tax** or an **allowance for corporate equity** (ACE), would promise significantly **larger income, employment and welfare gains**. In the transition phase, however, such a fundamental tax reform would likely involve a tax revenue shortfall and macroeconomic disruption, especially with the cash flow tax. Given its great potential, it would, nevertheless, be worthwhile to converge to a neutral business tax in the long run. One approach, which limits the revenue shortfall in the transition, is to grant the ACE only for newly accumulated equity.

A **permanently higher potential growth rate requires higher productivity growth. R&D tax incentives** can help foster productivity growth as they are very effective in stimulating innovative activities of firms. Germany has taken steps in this direction with the research allowance introduced in 2020 and expanded since then, but the research allowance should be further simplified.

I. MOTIVATION

253. How corporate profits are taxed importantly **determines a country's attractiveness as a business and investment location**. The effective tax burden on firms in Germany has long been high relative to other major advanced economies, averaging 28.5 %. ⬎ ITEM 272 Recently, the German coalition government has agreed on tax relief for firms. **Accelerated depreciation** rules will temporarily apply between 2025 and 2028v to stimulate investment activity in the short term, followed by a **gradual but permanent reduction in corporate tax rate** from 2028 on. ⬎ BACKGROUND INFO 15

254. Against the backdrop of the recently adopted changes in tax policy, the GCEE analyses corporate taxation in Germany in greater depth. In addition to the **fiscal effects**, ⬎ ITEMS 276 FF. the focus is on the **effects of taxes on key decisions of firms** like **investment**, ⬎ ITEMS 280 FF. **location**, ⬎ ITEMS 284 FF. **capital structure** ⬎ ITEMS 292 FF. and **research and development** (R&D) **activities**. ⬎ ITEMS 295 FF. These decisions have consequences for the economy at large, in particular for potential output or the solvency and stability of the firm and banking sector. The often-discussed **growth effects of corporate tax cuts or reforms** importantly differ between the short and long run: As long as reducing the effective tax burden stimulates investment, it raises **the growth rate in the short term via capital accumulation** and the potential output in the long term. **A permanently higher long-term growth rate, however, requires an increase in productivity growth**, which can be supported with instruments such as **R&D tax incentives**. ⬎ BOX 18

255. In general, economic policy faces a trade-off when deciding about corporate taxation: On the one hand, corporate taxes such as corporate income and the local business tax **substantially contribute to government revenue**. In Germany these two taxes accounted for roughly 12 % of total tax revenue, a share which has increased during the past decade. ⬎ ITEMS 276 F. On the other hand, corporate taxes should minimise distortions of private investment and firm creation. After all, **capital is a particularly mobile production factor**, and firms adjust their **investment and location decisions to taxes**. ⬎ ITEMS 279 FF. Multinational enterprises or R&D-intensive firms, which are key for stimulating economic growth in Germany, may be especially sensitive to taxes.

256. The theory of taxation offers key insights about how to solve this trade-off: In general, the **tax rate on anelastic and mobile tax base** should **be lower than that on an inelastic one ("Ramsey rule")**. Corporate profits and capital income are considered comparatively elastic tax bases. Globalisation and digitalisation have increased opportunities for firms to **relocate or shift profits to other countries**, thereby intensifying international tax competition. This is one explanation for the decline in corporate tax rates in many countries during the last decades (Devereux et al., 2008; Auerbach et al., 2010). Multilateral initiatives such as the agreement on the global minimum tax in 2021, ⬎ ITEMS 337 FF. which should limit profit shifting by multinational enterprises, could slow down or even

offset this trend. However, the global minimum tax is once again in question a after announced withdrawal of the USA.

257. In addition to the corporate tax rate, **the design of corporate taxes is crucial**. The latter includes, for example, the **tax treatment of debt and equity, depreciation allowances or the taxation of profits and losses**. Depending on how the tax design, distortions can arise, reflected in inefficiently low investment ↘ ITEMS 281 F. or high debt levels of firms and banks. ↘ ITEMS 292 F. The public finance literature has developed models of neutral business taxes, which do not affect important decisions of firms. ↘ ITEMS 302 FF. Such **neutral business taxes** (e.g. allowance for corporate equity (ACE), cash flow tax) mitigate the above-mentioned trade-off: Given financial and (partial) investment, firms – and thus the tax base – respond less elastically to changes in the tax rate. Nevertheless, these neutral business taxes have so far received little attention by policymakers.

258. This chapter outlines various **reform options for corporate taxation in Germany**, which help improve the attractiveness of Germany as a business location. ↘ ITEMS 302 FF. These measures are suitable for reducing distortions in investment and capital structures, lowering the overall tax burden on firms and strengthening incentives for research and development – especially by young, growth-oriented firms. **Simulations** using a computable general equilibrium model **quantify the macroeconomic and fiscal effects of selected reform scenarios** – including the tax cut agreed by the coalition government – and thus make their benefits and costs transparent. ↘ ITEMS 331 F.

259. The analysis offers three main conclusions: Firstly, the recently agreed **corporate tax cut in Germany** is likely to have **moderately positive effects on investment and income**, with a temporary, but noticeable decline in total tax revenue. ↘ ITEMS 317 FF. Secondly, more fundamental tax reforms leading to **a neutral corporate tax design** promise a significantly **stronger increase in income, employment and welfare** than the recent tax cut. ↘ ITEMS 323 FF. Even though implementing such a neutral business tax (ACE or cash flow tax) is likely to involve short-term macroeconomic and fiscal disruptions, reducing tax distortions of investment and capital structure is promising. In addition, suitable transition strategies can help curb short-term disruptions, for instance, by granting and ACE only for the equity accumulated after the reform. Thirdly, **simplifying** existing instruments such as the **research allowance** ↘ ITEM 331 and the **loss carry-back** ↘ ITEM 333 can improve the incentives for innovation and riskier firm investments, which promises a lasting positive effect on potential growth.

II. CORPORATE TAXES IN GERMANY AND ABROAD

260. **There is not the "one" corporate tax in Germany. Different taxes** are levied on profits, ⬎ CHART 53 **depending on the legal form of the firm: corporate income tax, personal income tax, local business tax and capital income tax**. These taxes significantly contribute to total tax revenue. The tax burden on corporate profits can be characterised using statutory and effective tax rates; the latter also account for key characteristics of the tax system. Measured by the effective average tax rates, the tax burden has fallen over time – especially due to the last major corporate tax reform in 2008. Compared to other advanced economies, however, the current tax burden in Germany is high, partly due to significant tax cuts abroad.

1. Different taxes on corporate profits in Germany

261. Profits of **corporations** are taxed at firm level according to the **separation principle** and payouts are taxed again at shareholder level. In contrast, profits of **partnerships** are part of the taxable income of the partners (**transparency principle**). Since 2022, however, partnerships have the option to be treated like

⬎ CHART 53

At a glance: corporate tax in Germany
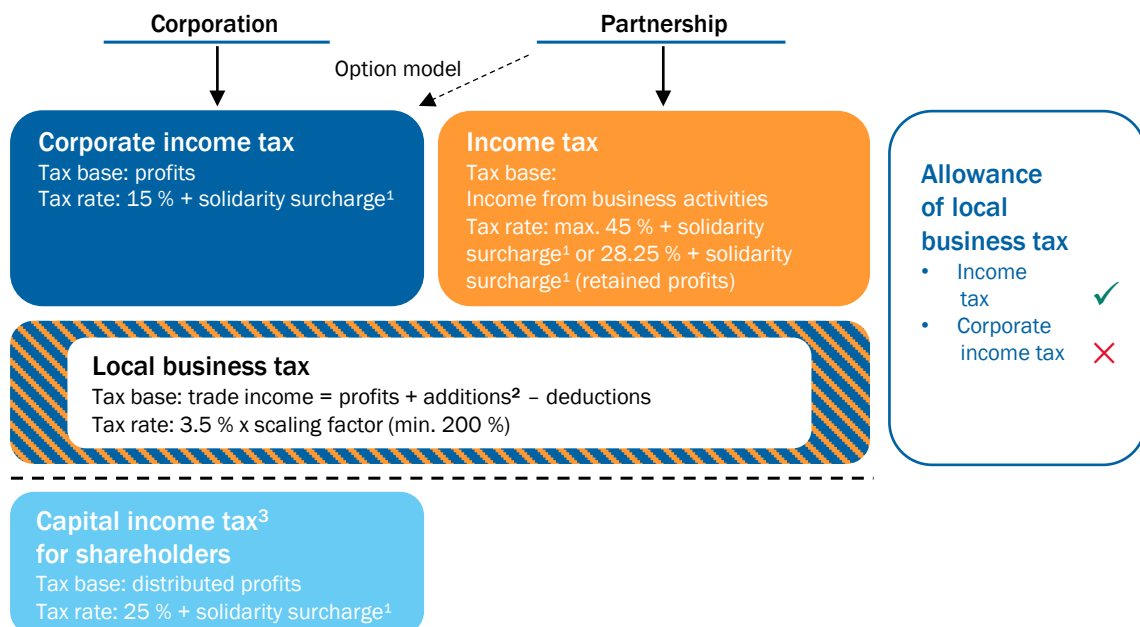
1 – 5.5 % of income tax, corporate income tax or capital income tax. 2 – In particular, a quarter of interest on borrowed capital. 3 – Capital gains of taxpayers with low incomes may alternatively be subject to income tax (voluntary favourable assessment)

Source: own depiction

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corporations for tax purposes. ↘ BACKGROUND INFO 16 A stylised example ↘ BOX 13 illustrates the interaction of the various taxes and the overall tax burden.

262. The **corporate income tax is levied on the profits of corporations** (e.g. stock corporations, limited liability companies). The latter include almost 834,000 active firms in Germany in 2023 (Federal Statistical Office, 2024), which generated almost three quarters of total sales (IfM, 2025). The **tax base is the taxable profit**, which is based on the accounting net profit for the year. Profit is calculated as the difference between revenue and operating expenses such as wage and material expenses and, subject to interest barriers, ↘ GLOSSARY the cost of debt. The cost of equity is, in contrast, not tax-deductible, leading to the well-known **"debt-equity bias"** in corporate taxation. The statutory corporate tax rate is 15 % plus solidarity surcharge. ↘ GLOSSARY The statutory rate will be gradually lowered to 10 % by 2032. ↘ BACKGROUND INFO 15

263. In 2023, there were around 417,000 partnerships in Germany (Federal Statistical Office, 2024). The **profits of partnerships** (e.g. general partnerships, limited partnerships) and sole traders are allocated to the partners' income on a pro rata basis and are subject to **personal income tax**. The **income from business operations**, which includes the profit shares in the partnership, serves as the **tax base** (Section 15 (1) sentence 1 no. 2 EStG). The partnership itself is not taxed. The tax rate corresponds to the individual tax rate of each partner, with the maximum rate being 45 % plus solidarity surcharge. If profits are retained in the partnership, the latter are taxed at a special rate of currently 28.25 % plus solidarity surcharge (retention tax relief, Section 34a EStG). If these profits are withdrawn at a later date, they are taxed subsequently at an income tax rate of 25 %.

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↘ BACKGROUND INFO 15

Background: German government's tax relief programme

The "Act for a German government's tax relief programme to strengthen Germany as a business location" has been in force since July 2025. This provides for a **gradual reduction in the corporate tax rate from 1 January 2028 from the current 15 % to 10 % in 2032**, in five steps of one percentage point per year (Section 23 (1) KStG). At the same time, the special tax rate for retained earnings of partnerships will decrease in three stages from 28.25 % to 25 % (Section 34a EStG), providing tax relief for partnerships that make no use of the option model. The tax cut is combined with **accelerated depreciation of a up to 30 % per year for equipment investments after 30 June 2025 and before 1 January 2028**. This depreciation scheme applies for the corporate income, local business and personal income tax (Section 7 (2) EStG).

264. Since 2022, most **partnerships can choose whether they want to taxed like a corporation** and their partners like shareholders. ↘ BACKGROUND INFO 16 This **weakens the link between the legal form and taxes**. In addition, the empirical literature generally considers the choice of the legal form to be rather tax-inelastic (de Mooij and Ederveen, 2008) – depending more strongly on factors such as the liability of the shareholders or access to finance – and the differences

in the overall tax burden of corporations and partnerships in Germany are small both before and after the reform. ↘ BOX 13

↘ BACKGROUND INFO 16

Background: Option for corporate taxation

Certain partnerships – OHG, KG, GmbH & Co. KG and partnerships – can be taxed like corporations (Section 1a KStG). In 2024, this option was extended to registered partnerships under civil law (eGbR) as well. It applies annually, for newly created firms from the second year onwards. It leads to **separate taxation of the firm and its partners**: The firm pays the corporate income tax on its profits, while the partners are treated like shareholders for tax purposes (i.e. payouts are subject to capital income tax). However, this option has been rarely used. According to the Federal Ministry of Finance, **only 1,031 partnerships had applied for corporate taxation** by April 2025. This could be attributed to difficulties like the **transfer of special business assets** or the **subsequent taxation of retained profits** that had benefited from the retention tax relief (Section 34a EStG), or to the rather small differences in the tax burden between corporations and partnerships. ↘ TABLE 16

265. **Both corporations and partnerships are subject to the local business tax, which is levied on trade income.** This is essentially determined by the profit, but differs from this due to various **additions and deductions**. In particular, a quarter of borrowing costs are added to the profit, whereas the deductions include shares in the profits of other firms (Sections 8-9 GewStG). The local business tax is a **municipal tax**, the municipalities determine the respective tax rate autonomously by setting the scaling factor ↘ BOX 12 of at least 200 %. The local business tax rate is calculated by multiplying the scaling factor by the basic federal tax rate ↘ GLOSSARY of 3.5 %. The tax burden is therefore at least 7 %. On average across all municipalities, it amounted to 14.25 % of trade income in 2023.
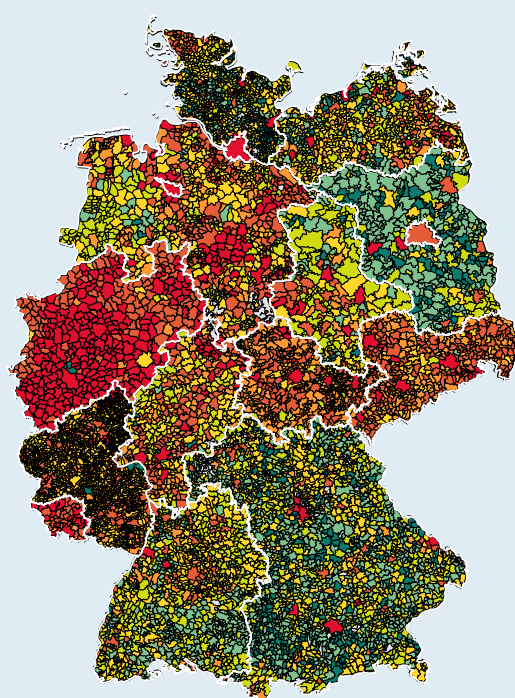
⌄ BOX 12

Focus: Local business tax rates in Germany

Each municipality chooses its scaling factor for the local business tax. In 2023, the scaling factors ranged from the minimum rate of 200 % in Langenwolschendorf in Thuringia with 800 inhabitants to 700 % in the small town of Inden in North Rhine-Westphalia. The highest average scaling factors are in Hamburg (470 %) and Bremen (460 %), followed by North Rhine-Westphalia (455 %). The lowest average scaling factors are in Brandenburg (328 %). ⌄ CHART 54 LEFT
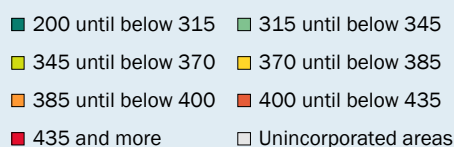
⌄ CHART 54

Scaling factors for local business tax[1] in Germany: status and evolvement
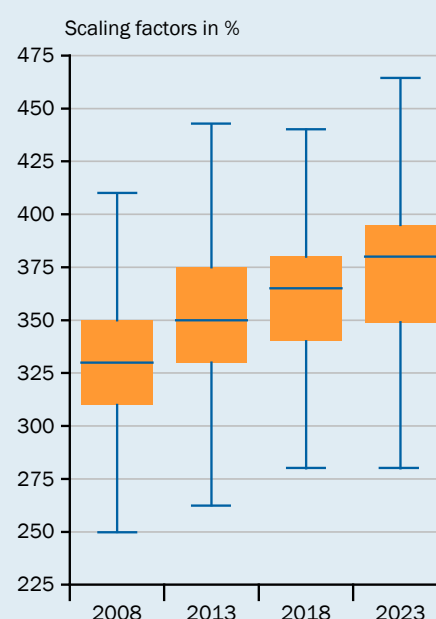in the period from 2008 to 2023

Regions vary greatly in terms of scaling factors for local business tax in 2023

Scaling factors for local business tax have been rising slightly for 15 years[2]

Scaling factors in %:

■ 200 until below 315 ■ 315 until below 345

■ 345 until below 370 ■ 370 until below 385

■ 385 until below 400 ■ 400 until below 435

■ 435 and more ☐ Unincorporated areas

1 – Scaling factors as of 31 December of the respective year. In municipalities with multiple scaling factors as a result of mergers, weighted averages were used. 2 – Outliers in the box plots (e. g. tax rates above 450 %) were not shown for reasons of clarity. The box plot shows the median (horizontal line), lower and upper quartiles (box) and the range up to the last value that lies within 1.5 times the interquartile range (whisker).

Sources: Federal Agency for Cartography and Geodesy, Statistical Offices of the Federation and the Länder, own calculations
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The tax revenue is largely appropriated by the municipalities although they share part of it with federal and state governments via the local business tax levy. A standardised tax revenue measure corresponds to the actual revenue divided by the scaling factor multiplied by 100 %. The **average scaling factor** weighted with this standardised revenue **was 407 % in 2023**, four percentage points higher than in 2022. The latter has increased by 19 percentage points since

2008; implying a 0.67 percentage points higher local business tax rate. ↘ CHART 54 RIGHT In municipalities with at least 20,000 inhabitants, the average scaling factor was around 437 % in 2024 (DIHK, 2024).

266. The **local business tax is credited against the personal income tax** for partnerships (Section 35 EStG). Therefore, their tax burden is largely determined by the personal income tax. However, there are limits: At most four times the base rate of 3.5 % of trade income can be credited such that credit remains incomplete whenever the scaling factor exceeds 400 % – as in more than 54 % of all municipalities with over 20,000 inhabitants. For example, a partnership with a trade income of EUR 100 in a municipality with a scaling factor of 500 % pays a local business tax of EUR 17.5 (= 3.5 % × 500 % × 100), but it can only credit EUR 14 (= 3.5 % × 400 % × 100) against the personal income tax. In case of corporations, however, no such crediting is possible as the corporate is already lower than the personal income tax.

267. In addition to taxes at the firm level, **distributed profits of corporations**, e.g. dividends, are subject to **capital income tax of the owners**, at least as long the latter reside in Germany. The tax rate is 25 %, plus solidarity surcharge. This tax also applies to realised capital gains. Retained profits, in contrast, are not subject to the capital income tax. In the case of qualified shareholdings of at least 1 % of the share capital and professional participation in the corporation, only 60 % of payouts and capital gains are taxed under the partial income method.

↘ BOX 13

Focus: Total tax burden on corporations and partnerships in Germany

A stylised example illustrates the tax burden on firm profits. ↘ TABLE 16 It reveals that although the legal form determines which specific taxes apply, the latter does not have a material effect on the overall tax burden, unlike the capital structure and the payout policy of the firm.

The example considers an investment of EUR 1,000 that generates earnings before interest and taxes (EBIT) of EUR 100; the debt interest rate is 5 %. If the firm is a **corporation**, its profit is subject to the **corporate income tax of 15 %** plus solidarity surcharge and the trade income (i.e. profit plus 25 % of the debt interest rate) is subject to **local business tax**. The shareholders pay capital income tax of 25 % plus solidarity surcharge on distributed profits. If the firm is instead a **partnership** that does not use the option for corporate taxation, the **income from business operations is subject to the personal income tax of the partners**; we assume a maximum tax rate of 45 %. Partnerships also pay the local business tax, but the latter is credited against the personal income tax up to a scaling factor of 400 %.

↘ TABLE 16

Total tax burden on firm profits in Germany

Stylised example[1]

	100 % equity		100 % debt	
	retained profits	payout	retained profits	payout
Corporation				
Profits and tax calculations				
Earnings before interest and taxes (EBIT)	100.0	100.0	100.0	100.0
Interest expenses	0.0	0.0	50.0	50.0
Earnings before tax (taxable profit)	100.0	100.0	50.0	50.0
Trade profits	100.0	100.0	62.5	62.5
Corporate tax (total)	31.2	31.2	17.5	17.5
Corporate income tax + solidarity surcharge	15.8	15.8	7.9	7.9
Local business tax	15.3	15.3	9.6	9.6
Net profit after corporate tax	68.8	68.8	32.5	32.5
Taxation of payout				
Distributed profits (tax base)	–	68.8	–	32.5
Capital income tax	–	18.2	–	8.6
Net dividend to shareholder	–	50.7	–	23.9
Total burden (% of EBIT)	31.2	49.3	17.5	26.1
Partnership				
Profits and tax calculations				
Earnings before interest and taxes (EBIT)	100.0	100.0	100.0	100.0
Interest expense	–	–	50.0	50.0
Income from business operations	100.0	100.0	50.0	50.0
Trade profits	100.0	100.0	62.5	62.5
Local business tax	15.3	15.3	9.6	9.6
Income tax before allowance, reduced (§34a EStG)	28.3		14.1	
Income tax before allowance, regular (§32a EStG)		45.0		22.5
Allowance for local business tax (§ 35 EStG)	14.0	14.0	8.8	8.8
Remaining income tax	14.3	31.0	5.4	13.8
Solidarity surcharge	0.8	1.7	0.3	0.8
Net after taxes (remaining)/after withdrawal	69.7	52.0	84.8	75.9
Total burden (% of EBIT)	30.3	48.0	15.2	24.1

1 – The following assumptions are made: EBIT = €100, total capital = €1,000, interest rate for borrowed capital = 5 %, local business tax rate = base rate 3.5 % × scaling factor for local business tax 438 %. Corporate income tax of 15 % in accordance with Section 23 of the Corporate Income Tax Act (KStG) plus solidarity surcharge of 5.5 % in accordance with the Solidarity Surcharge Act (SolzG), capital income tax of 25 % plus solidarity surcharge of 5.5 %, effective 26.375 %. For income tax, an allowance of 14 % applies in accordance with Section 35 EStG, income tax rate for retained profits in accordance with Section 34a EStG = 28.25 %, solidarity surcharge rate = 5.5 %, additional tax rate in accordance with Section 34a (4) EStG = 25 %. We assume a personal income tax rate of 45 %. Further simplifications: in particular, we assume that allowances, additions or deductions for local business tax, loss carry-forwards or carry-backs, and non-deductible operating expenses are not taken into account. Furthermore, for the sake of simplification, the 25 % back tax payable on the subsequent withdrawal of retained profits is not taken into account. The business tax scaling factor is based on the average rate weighted by population in municipalities with 20,000 inhabitants or more.

Source: own calculations

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The **capital structure has a significant impact on the overall tax burden**: While the debt interest rate is fully (profit, income from business operations) or largely (trade income) deductible from the tax base, this does not apply to the cost of equity (**debt-equity bias**). Debt finance significantly reduces the overall burden, which systematically favours its use. In the case of an equity-financed corporation that retains all profits, the total tax burden is 31.2 % of the pre-tax profit. By contrast, an otherwise identical debt-financed firm pays only 17.5 % tax.
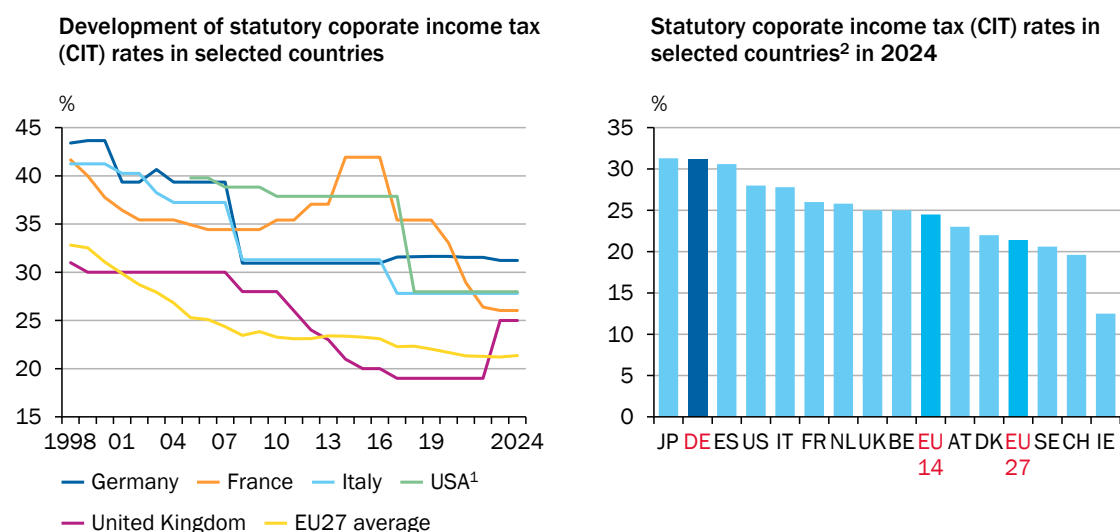
Retained profits are also **favoured over distributed profits**, which significantly influences the overall tax burden: in the case of an equity-financed corporation, the latter is 31.2 % for retained profits compared to 49.3 % for distributed profits.

2. The tax burden on corporate profits: an international comparison

268. The **tax burden** on firms is key for their **location and investment decisions**. ↘ ITEMS 280 FF. International comparisons of this tax burden focus primarily on corporations, which is why we consider the combined burden of corporate income and local business tax in Germany. Overall, the **tax burden in Germany is high compared to other advanced economies**. The last major corporate tax cut as part of the corporate tax reform took place in 2008, lowering the corporate tax rate from 25 % to 15 %. Since then, many other countries have lowered their corporate taxes. With the tax relief programme that was recently adopted, the corporate tax rate in Germany will fall by 5 percentage points until 2032, but is expected to remain above the EU27 average.

269. However, **the tax level is not the only factor** that influences a country's attractiveness as a business and investment location. In addition to the size of a market or access to qualified workers, the scope and quality of public goods and services (e.g. legal system, public infrastructure, basic research) are particularly relevant and require funding from tax revenue.

270. Compared with other large advanced economies and neighbouring countries in Western Europe, a **statutory tax rate of 31.2 % on corporate profits** puts Germany **in the top third** of the distribution. ↘ CHART 55 Among the major advanced economies, there are higher rates only in Spain and Japan. Statutory tax rates are slightly lower in the USA and Italy and significantly lower in France and the United Kingdom.

271. In part, the observed downward trend in statutory corporate tax rates ↘ CHART 55 LEFT can be attributed to **international tax competition**. **The mobility of capital** and the many **opportunities for profit shifting** have been intensified by the trends globalisation (e.g. eliminating capital controls, market integration) and digitalisation (e.g. profit shifting via the pricing of intangible capital). This creates incentives for countries to lower their corporate tax rates to attract capital and profits from abroad, making **rate cuts in different countries interdependent**. This incentive is well documented in theoretical and empirical research (Haufler and Schjelderup, 2000; Devereux et al., 2008; Overesch and Rincke, 2011). According to estimates of Devereux et al. (2008) for 21 OECD countries

↘ CHART 55

International comparison of statutory tax rates on firm profits

Development of statutory coporate income tax (CIT) rates in selected countries

Statutory coporate income tax (CIT) rates in selected countries[2] in 2024

1 – Data only available from 2005 onwards. 2 – JP-Japan, DE-Germany, ES-Spain, US-USA, IT-Italy, FR-France, NL-Netherlands, UK-United Kingdom, BE-Belgium, EU14-average across the member states prior to the enlargement in 2004 (without United Kingdom), AT-Austria, DK-Denmark, EU27-average across the member states, SE-Sweden, CH-Switzerland, IE-Ireland.

Sources: Spengel et al. (2024), own calculations

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(1982 – 1999), a one percentage point decrease in the average statutory tax rate abroad was accompanied by a 0.3 to 0.7 percentage points lower domestic tax rate.

↘ BOX 14

Background: Effective corporate tax rates

Effective tax rates (Devereux and Griffith, 1998, 2003; Jacobs and Spengel, 2000) account for tax characteristics other than the statutory rate like depreciation rules or the tax treatment of debt and equity. This approach is forward-looking as it is based on a representative investment project, with specific assumptions about the capital goods (e.g. assets, company buildings, intangible capital) and their depreciation period as well as about how the project is financed. This allows for a meaningful comparison of the tax burden on investment across different countries.

There are two effective tax rates that measure the effect of taxes on different investment decisions: The effective marginal tax rate (EMTR) measures the **tax burden** on investment that just breaks even, i.e. the **marginal investment with a net return of zero** after interest and taxes. The effective marginal tax rate primarily influences the scale of investment, which is determined by the marginal investment project. It is defined as the tax-induced increase in the cost of capital (required gross return) relative to the real interest rate:

$$EMTR = \frac{Cost\ of\ capital - Real\ interest\ rate}{Cost\ of\ capital}.$$

The effective average tax rate (EATR), in contrast, measures the **earnings share of a profitable investment with an assumed gross return of 20 % absorbed by taxes.** This tax rate is important for the discrete investment decision – primarily about the location – whereby firms compare the net returns (after capital costs and taxes) of the possible alternatives. The calculation is based on a long-term investment, generating income over several years: It corresponds

to the difference between the present values (PV) of the earnings before and after taxes – i.e. the tax burden – relative to the annual earnings before interest and taxes (EBIT). For a one-year investment, this corresponds to the tax divided by the income:

$$EATR = \frac{PV\ Earnings\ before\ taxes - PV\ Earnings\ after\ taxes}{Earnings\ before\ taxes} = \frac{Tax}{Earnings\ before\ taxes}.$$

A stylised example ↘ TABLE 17 illustrates the effective tax burden of an investment of EUR 100 that is financed either with a combination of debt and equity or exclusively with debt; the real interest rate is 5 %. A tax of 25 % is levied on profit. Debt financing lowers taxable profit and thus the amount of the tax; the latter is EUR 3.75 in the case of pure debt finance and EUR 4.38 in the case of mixed financing. The effective average tax rate (EATR) equals 18.75 % or 21.88 % of the profit, implying a net return of 10.63 % or 11.25 %.

The effective marginal tax rate (EMTR) is based on the marginal investment with a net return of zero. In the case of mixed financing, this requires a gross return of 5.83 % such that this investment is subject to a tax rate of 14.29 %. With full debt finance, however, the required gross return corresponds exactly to the interest rate of 5 %. Since the entire cost of capital is deductible, the pre-tax profit and thus the effective tax rate is zero.

↘ TABLE 17

Effective tax rates
Stylised example

	Unit	EATR[1]		EMTR[2]	
		50 % equity and debt, respectively	100 % debt	50 % equity and debt, respectively	100 % debt
Investment	Euro	100	100	100	100
Gross return	%	20	20	5.83	5
Earnings before interest and taxes (EBIT)	Euro	20	20	5.83	5
Debt finance costs 5 %	Euro	2.5	5	2.5	5
Equity costs 5 %	Euro	2.5	0	2.5	0
Profits before taxes[3]	Euro	17.5	15	3.33	0
Tax 25 %	Euro	4.38	3.75	0.83	0
EATR[1]	%	21.88	18.75	–	–
EMTR[2]	%	–	–	14.29	0
Net return[4]	%	10.63	11.25	0	0

1 – Effective average tax rate. 2 – Effective marginal tax rate. 3 – Profit less debt finance costs. 4 – Return on investment after deduction of taxes and debt finance and equity costs.

Source: own depiction according to Devereux and Griffith (1998)
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272. **Statutory tax rates are insufficient for a meaningful cross-country comparison.** After all, the **design of corporate taxes** can **vary considerably** between countries, for instance due to different deduction or amortisation options. To account for such differences, one needs to compare **effective corporate tax rates**, which measure the **tax burden of a representative investment**. ↘ BOX 14 The **effective average tax rate in Germany was 28.5 % in 2024**, which is high by international standards. ↘ CHART 56 The effective average tax burden Germany has been comparatively high over time, with the exception of the phase immediately after the corporate tax reform in 2008. Due to rising

International comparison of effective average tax rates on firm profits

Development of the effective average tax rate
(EATR) in selected countries

Effective average tax rates (EATR) in selected
countries[2] in 2024
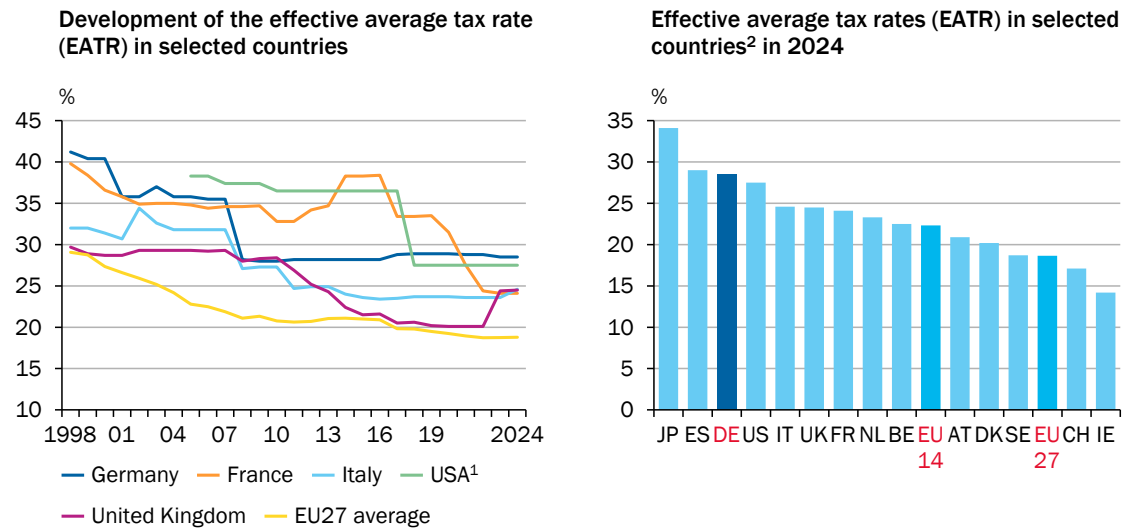
1 – Data only available from 2005 onwards. 2 – JP-Japan, ES-Spain, DE-Germany, US-USA, IT-Italy, UK-United Kingdom,
FR-France, NL-Netherlands, BE-Belgium, EU14-average across the member states prior to the enlargement in 2004
(without United Kingdom), AT-Austria, DK-Denmark, SE-Sweden, EU27-average across the member states, CH-Switzer-
land, IE-Ireland.

Source: Spengel et al. (2024)
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scaling factors of the local business tax ↘ CHART 54 RIGHT the effective average tax rate
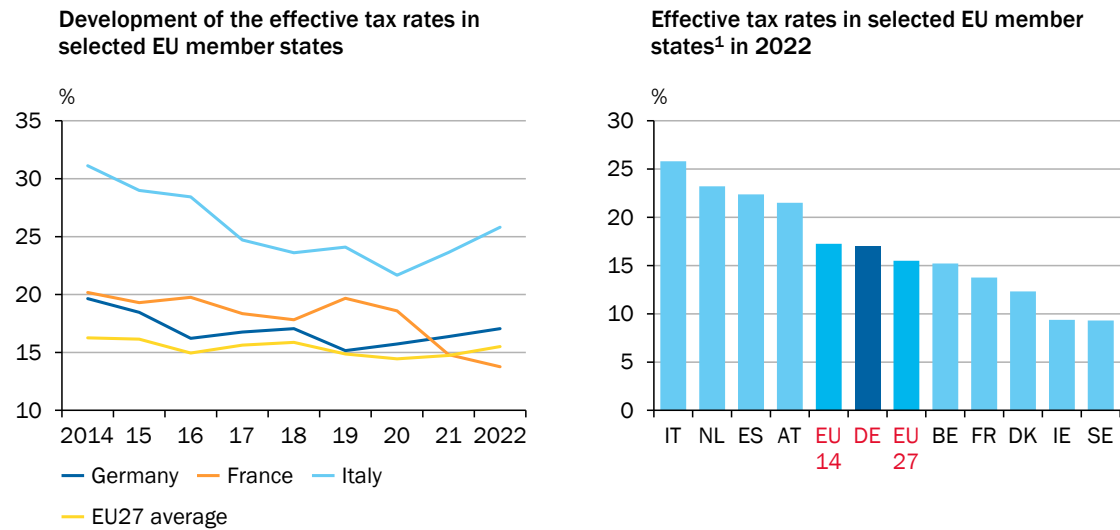has even slightly increased since the mid-2010s.

273. The **effective marginal tax rate**, ↘ BOX 14 which measures the tax burden on
marginal investment, ↘ CHART 57 was 23.1 % in Germany in 2024, **well above the
EU27 average of** 12.8 %. Compared to other large economies, the marginal tax
burden is similar to the USA, the UK or France and significantly lower than in
Spain or Japan. Finally, the case of Italy illustrates that a (limited) allowance for
corporate equity ↘ BOX 20 leads to a very low marginal effective tax rate. Such as
system had been in place in different forms from 1998 to 2002 and from 2011 to
2023.

274. The **tax relief programme** ↘ BACKGROUND INFO 15 will **reduce** the **tax burden on
corporate profits** in Germany. The tax burden on corporations will gradually
fall by 5 percentage points from 2028 on. Assuming a constant average local busi-
ness tax rate and solidarity surcharge, the tax rate is likely to be just under 26 %
from 2032, compared to 31.2 % in 2024. According to calculations by Heckemeyer
(2025), the effective average tax rate is likely to remain almost at its current level
of 28.5 % from 2025 to 2027 and then fall to below 25 % by 2032 in parallel to the
tax cut. In contrast, the effective marginal tax rate is likely to fall earlier because
of the accelerated depreciation scheme. Heckemeyer (2025) expects a marginal
tax rate of just under 15 % for equipment investment between 2025 to 2027. Since
accelerated depreciation phases out in 2027, the effective marginal tax rate will
initially rise to almost 23 %, before gradually falling to around 18 % in 2032.

275. **Effective average tax rates can also be estimated ex post** based on firm-
level data. These measure **the actual tax burden of firms**, i.e. taxes paid as a

Ex-post effective tax rates on firm profits in an EU comparison

Development of the effective tax rates in
selected EU member states

Effective tax rates in selected EU member
states[1] in 2022

1 – IT-Italy, NL-Netherlands, ES-Spain, AT-Austria, EU14-average across the member states prior to the enlargement in
2004 (without United Kingdom), DE-Germany, EU27-average across the member states, BE-Belgium, FR-France, DK-
Denmark, IE-Ireland, SE-Sweden.

Source: Ducept and Godar (2025)
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percentage of reported profits. ↘ BACKGROUND INFO 17 In many cases, the actual tax burden is **significantly lower than statutory or the forward-looking effective tax rates**. ↘ BOX 14 One reason for this is that ex-post tax rates are often calculated for multinational enterprises due to data availability, which incompletely reflects the tax burden on all German firms. In addition, they take into account special regulations such as loss offset, R&D tax incentives and bonus depreciation, which are not reflected in statutory tax and are often only partially in effective tax rates.

For example, the **ex-post tax rate in Germany in 2022 was 17 %**, more than ten percentage points below the effective average tax rate of 28.5 %. **In a European comparison**, this was **approximately equal to the EU14 average**, but was around two percentage points above the EU27 average of around 15.5 %. The actual tax burden was therefore higher than in Ireland and Sweden, but significantly lower than in Italy, Spain, the Netherlands and Austria. ↘ CHART 58

Ex-post effective tax rates on firm profits in an EU comparison

Development of the effective tax rates in
selected EU member states

Effective tax rates in selected EU member
states[1] in 2022

1 – IT-Italy, NL-Netherlands, ES-Spain, AT-Austria, EU14-average across the member states prior to the enlargement in 2004 (without United Kingdom), DE-Germany, EU27-average across the member states, BE-Belgium, FR-France, DK-Denmark, IE-Ireland, SE-Sweden.
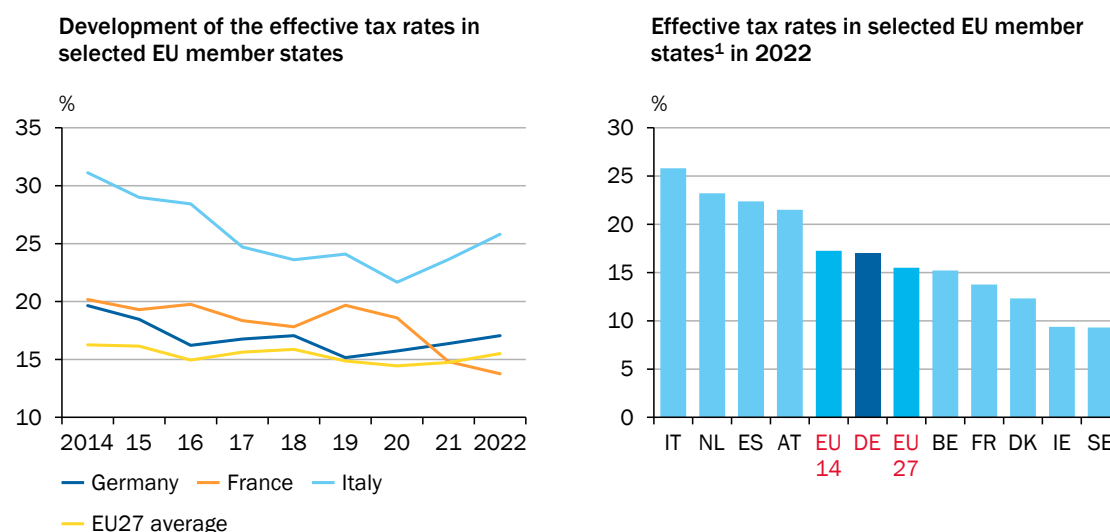
Source: Ducept and Godar (2025)
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Data: Ex-post effective tax rates

In addition to the effective tax rates, ↘ BOX 14 which are based on models and reflect the statutory tax rules, analysing backward-looking effective average tax rates (BE-TRs) has become more frequent in recent public finance research (Bachas et al., 2023; Tørsløv et al., 2023; Hugger et al., 2025). These are calculated on the basis of **accounting data** as the **ratio of corporate tax actually paid to pre-tax profit**. They therefore also include special regulations, loss offsetting, R&D tax incentives or patent boxes as well as profit shifting strategies of multinational companies, which are typically not taken into account in forward-looking models. Important data sources include the OECD Country-by-Country Reports, the EU statistics on foreign affiliates and financial data from ORBIS and Compustat, which have only been systematically analysed for a few years (Janský, 2022). Empirical evidence shows that the **ex-post tax rates are in some cases significantly lower than statutory or forward-looking effective tax rates**. Garcia-Bernardo et al. (2023) estimate an effective average tax burden of 15 % to 29 % for multinational enterprises in Germany between 2011 and 2015. Ducept and Godar (2025) confirm this in a cross-country analysis for the EU and show that the decline in the burden over time is primarily due to limitations on the tax base, for example bonus depreciation, but not due to lower tax rates. However, ex-post effective tax rates have been subject to methodological criticism, for instance, the limited quality and coverage of firm balance sheet data and the double counting of intra-group dividends, which can lead to downward distortions. **However**, **data availability has improved significantly** with the introduction of country-by-country reporting (CbCR) as part of the OECD BEPS project, which specifically covers multinational enterprises. With the microdata available for research, the empirical basis for analysing BETRs has improved (Janský, 2022; Garcia-Bernardo et al., 2023; Hugger et al., 2025).
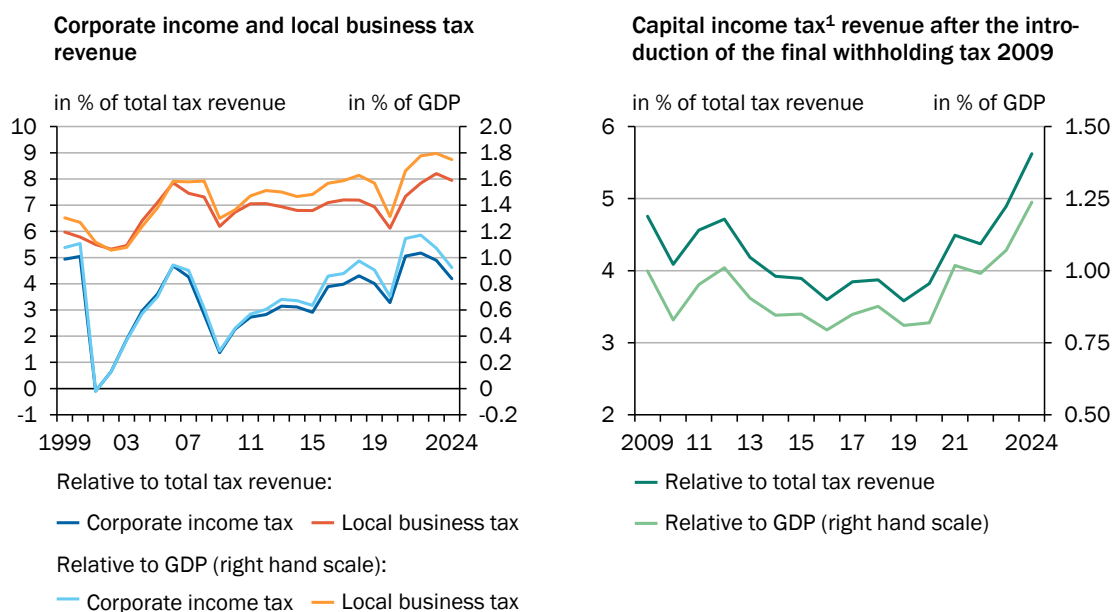
3. Corporate tax revenue

276. **Taxes on firm profits and capital income are important sources of tax revenue.** The corporate income and local business tax combined accounted for around 12 % of total tax revenue in Germany in 2024, which corresponds to 2.7 % of GDP. ⬊ CHART 59 LEFT The **local business tax generates more revenue than corporate income tax** as the former being paid by both corporations and partnerships, while the latter is only levied on corporations. In addition, the base of the local business tax is broader, mainly due to the partial inclusion of debt interest cost. Tax revenue generally fluctuates over time because corporate profits are very cyclical. In addition, the corporate tax reforms of 2000 and 2008 as well as the temporary use of accelerated depreciation ⬊ TABLE 18 during the financial and Covid-19 crisis affected tax revenue.

277. **The local business tax is the most important municipal tax in Germany**, significantly contributing to the revenue of cities and municipalities. In 2024, net revenue from the local business tax accounted for 47 % of municipal tax revenue and 17 % of total municipal revenue (Federal Statistical Office, 2025a). With the local business tax levy, municipalities cede 28 % of their local business tax revenue to the federal and state governments, while receiving 15 % of the revenue from wage and personal income tax as well as 12 % of the capital income tax revenue (Section 1 GemFinRefG). This levy makes the municipalities less dependent on the cyclical Local business tax.

278. In addition to corporate income and local business tax, the capital income tax and the personal income tax also generate revenue from the firm sector. ⬊ CHART 53 **The capital income tax**, levied on **distributed profits** of corporations as well as

⬊ CHART 59
Tax revenues from taxes on firm profits and capital income taxes in Germany

Corporate income and local business tax revenue

Capital income tax[1] revenue after the introduction of the final withholding tax 2009

Relative to total tax revenue:
— Corporate income tax — Local business tax

Relative to GDP (right hand scale):
— Corporate income tax — Local business tax

— Relative to total tax revenue
— Relative to GDP (right hand scale)

1 – Sum of revenues from the non-assessed taxes on yields and from the final withholding tax.

Sources: Federal Statistical Office, own calculations
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interest income and realised capital gains, has accounted for around 4 % of total tax revenue since the introduction of the withholding tax in 2009 and has increased significantly since 2022. ⌐ CHART 59 RIGHT This increase should be seen not least against the backdrop of the monetary tightening, leading to higher nominal interest income (BMF, 2024a). Finally, the revenue from the **personal income tax** also includes **profits of partnerships**. Since the latter are added to the taxable income of the partners, however, this part of tax revenue cannot be separated in the income tax statistics.

III. TAXES AND KEY DECISIONS OF FIRMS

279. The **main decisions of firms influenced by corporate taxes are investment, location, capital structure and research and development (R&D) activities** – choices that ultimately affect the economy at large. ⌐ BOX 18 Individual tax distortions can affect different business decisions. For example, the debt-equity bias not only incentivises excessive debt finance, but also leads to inefficiently low investment. It especially affects innovative firms that often rely on equity finance as their largely intangible capital is ill-suited as collateral for loans. This not only weakens individual business models, but can also reduce the overall economy's innovative strength.

As **firms respond to higher taxes**, the reported pre-tax profits and thus the tax base usually shrink, which has **a negative impact on tax revenue**. An empirical analysis by the GCEE ⌐ BOX 16 highlights the negative correlation between tax rates and the tax base using in case of the German local business tax.

1. Investment and location

280. Taxes on corporate profits influence investments in two different ways: First, they distort the marginal investment decision, i.e. **the scale of investment at given locations**. Second, they influence **discrete investment decisions**, such as whether a firm is created or whether investments are made at a particular location. Different effective tax rates ⌐ BOX 14 affect each of the two decisions.

281. According to neoclassical investment theory, a firm decides about the scale of investment by comparing the marginal return with the required rate of return. **As long as not all investment costs are tax-deductible, taxes increase the gross return that an investment must generate to be profitable.** The **effective marginal tax rate** measures this tax-induced increase in the gross return. Empirical meta-studies (de Mooij and Ederveen, 2008) suggest a semi-elasticity of around −0.8: an increase in the effective marginal tax rate by one percentage point lowers the scale of investment by 0.8 %.

282. More **recent studies** like Hanappi et al. (2023), however, find a **weaker effect of taxes on firm investment**. According their estimates, a one percentage

point higher effective marginal tax rate reduces investment by 0.3 %. Hanappi et al. (2023) find hardly any significant effects after 2009. They attribute this observation to the lower cost of capital in the low-interest rate environment after the global financial crisis and to falling corporate tax rates. They also find **pronounced heterogeneity in the reaction of firms**. For example, the reaction of profitable, large, older or multinational companies is weaker compared to financially constrained firms. In particular, **firms that finance investment internal internally benefit from a tax cut** (Dobbins and Jacob, 2016). In German manufacturing, investment is very sensitive to changes in the local business tax with a tax elasticity of 3 (Link et al., 2024). In recessions, this elasticity can even roughly double.

283. **Depreciation allowances can** also **stimulate investment**. ↘ BOX 15 Empirical studies point to a strong effect. Zwick and Mahon (2017) analyse temporary bonus depreciation in the USA between 2001 and 2004, which are broadly comparable to the accelerated depreciation scheme currently used in Germany. ↘ BACKGROUND INFO 15. They estimate an investment elasticity relative the residual rate (i.e. one minus the tax rate) of around 7. Maffini et al. (2019) report elasticities of between 8.3 and 9.9 for small and medium-sized firms in the UK. Ohrn (2019) identifies the effect of permanent bonus depreciation in manufacturing through its staggered introduction across US states and estimates an investment elasticity of 9.6.

For Germany, Eichfelder et al. (2025) quantify the effect of bonus depreciation under the Land Development Act (1995 – 1998) in the new federal states. Across all **investment expenditure, they estimate an average tax elasticity between 4 and 5**. Investment in buildings responds up to nine times stronger than equipment investment. Furthermore, economically stronger municipalities benefit significantly less from depreciation programmes. The expansion of investment activity reduces average profitability by 15 % to 24 % in the short term and by 32 % to 41 % in the long term (Eichfelder et al., 2023).

↘ BOX 15

Background: Depreciation allowances in Germany

Depreciation allows firms to deduct the **acquisition and production costs of assets from taxes over their lifetime**. **The standard approach in Germany is linear depreciation**, in which a constant amount is depreciated annually. The depreciation rate is based on the respective lifetime. **Accelerated depreciation, in which case a constant percentage of the residual value is depreciated annually, allows for a higher deduction upfront.** Accelerated depreciation was common in Germany until 2007. Since then, it has been used several times as an instrument of stabilisation policy to stimulate investment during recessions (e.g. after the 2008/09 financial crisis, during the Covid-19 crisis and the 2022 energy crisis). ↘ TABLE 18

↘ TABLE 18
Phases of accelerated depreciation in Germany

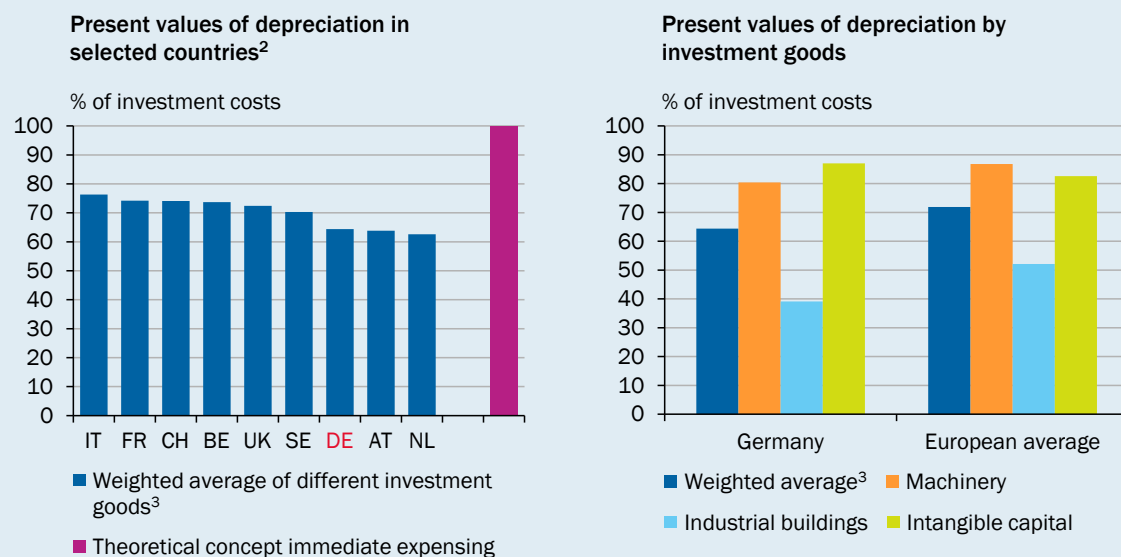| Investment period	Depreciation rate	Assets	Comments
Until 31.12.2007	Up to 30 % max. 3x linear rate	Movable and immovable assets	Abolished with the 2008 Corporate Tax Reform Act
01.01.2009 – 31.12.2010	25 % max. 2,5x linear rate	Movable fixed assets	Package of measures to secure employment and strengthen growth (Art. 1 para. 1)
01.01.2020 – 31.12.2022	25 % max. 2,5x linear rate	Movable fixed assets	German Second Corona Tax Assistance Act (Art. 1 para. 3)
01.10.2023 – 30.09.2029	5 %	Residential buildings (new construction)	Growth Opportunities Act (Art. 1 para. 2b)
01.04.2024 – 31.12.2024	20 % max. 2x linear rate	Movable fixed assets	Growth Opportunities Act (Art. 3 para. 2)
01.07.2025 – 31.12.2027	30 % max. 3x linear rate	Movable fixed assets	Law for a tax relief programme (Art. 1 para. 2)

Source: own depiction
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In general, depreciation rules determine the **intertemporal distribution of the tax burden**. **Accelerated depreciation methods** shift the tax burden into the future so that net income is higher in the early phase of a capital good's lifetime and lower in a later phase. This encourages investment in two ways: First, **it increases the present value of depreciation allowances** for a constant tax rate, which lowers the effective tax burden and thus increases the net income from an investment. This effect is particularly strong for long-lived assets (e.g. buildings) and high interest rates. Secondly, they **reduce the current tax payment and increase liquidity**, which supports investment by financially constrained firms. ↘ ITEMS 289 FF.

As firms can **only claim investment costs for tax purposes only ex post**, a part of these costs – roughly a third in Germany in 2024 – are effectively not taken into account. The **present value of the depreciation allowances falls short of the investment outlays**. ↘ CHART 60 Only in the case of immediate expensing like under a cash flow tax ↘ ITEMS 307 F. or in the UK for machinery, the present value of depreciation allowances equals 100 % of the investment costs. The present value of depreciation allowances differs between assets differ depending on their lifetime. In case of long-lived assets (e.g., buildings), depreciation the end of the lifetime is strongly discounted, which magnifies the tax burden on such investments. With a weighted present value of depreciation allowances of 64.4 % of investment costs, Germany ranked 23rd out of 33 European countries in 2024 and was more than 7 percentage points below the European average (Enache, 2025).

↘ CHART 60

Present values of depreciation[1] in an European comparison in 2024

Present values of depreciation in selected countries[2]

% of investment costs

Present values of depreciation by investment goods

% of investment costs

- Weighted average of different investment goods[3]
- Theoretical concept immediate expensing

- Weighted average[3]
- Machinery
- Industrial buildings
- Intangible capital

1 – Based on a fixed discount rate of 7.5 % (real interest rate: 5.5 %, inflation: 2 %). 2 – IT-Italy, FR-France, CH-Switzerland, BE-Belgium, UK-United Kingdom, SE-Sweden, DE-Germany, AT-Austria, NL-Netherlands. 3 – The assets are weighted according to their share of the capital stock (machinery: 44 %, industrial buildings: 41 %, intangible capital: 15 %). 4 – 33 European countries (European Union, Georgia, Iceland, Norway, Switzerland, Turkey and United Kingdom).

Source: Tax Foundation Europe
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284. In addition, taxes distort **discrete decisions** such as the international or domestic ↘ BOX 16 **location choice, firm creation or the choice of the production technology**, for example in the context of the energy transformation. Distortions arise whenever taxes affect profits of the alternatives differently, for example due to tax differences at different locations. Such decisions depend on the **effective average tax rate**, which reflects the overall tax burden and was 28.5 % in Germany in 2024. ↘ CHART 56

285. Empirical estimates of the tax elasticity of discrete investments relate primarily to foreign direct investment. The meta-study by Feld and Heckemeyer (2011) quantifies the short-term semi-elasticity at 2.6, or 2.3 whenever the meta-regression accounts for publication bias. Another meta-study (de Mooij and Ederveen, 2008) finds a semi-elasticity of 3.2. Hence, a **one percentage point higher effective average tax rate reduces foreign direct investment by 2.3 % to 3.2 %**. In the medium and long run, this effect is likely weaker due to subsequent tax cuts in other countries. ↘ ITEM 271 Furthermore, mergers and acquisitions respond less elastically to tax changes than greenfield investments. Estimates based on the bilateral effective average tax rate eventually reveal that tax changes in the host country are particularly effective if they actually change the relative tax burden and are not neutralised by double taxation in the home country.

286. **Firm creation** as a discrete decision also depends on the effective average tax rate. A lower tax burden increases the expected net profit and can thus stimulate

start-ups (Djankov et al., 2010; Da Rin et al., 2011). Based on sub-national differ-ences in corporate tax rates in Switzerland, Bacher and Brülhart (2012) estimate a **tax elasticity of −0.2 for the number of start-ups**. In addition, targeted tax cuts for start-ups improve their medium-term viability and lead to rising la-bour demand (Venâncio et al., 2022). Darnihamedani et al. (2018) also show that lower corporate taxes **increase** the share of start-ups that offer a **new product** or **service**.

287. Under certain conditions, the scale of investment is independent of taxation. The **marginal investment decision is unaffected at an effective marginal tax rate of zero**. As a result, the gross return that ensures break-even is inde-pendent of taxes. An effective marginal tax rate of zero **does not require a stat-utory tax rate of zero, but can be implemented through a neutral busi-ness tax**, e.g. a cash flow tax. ↘ BACKGROUND INFO 20 Similarly, with full debt finance, the scale of investment can be independent of taxation. ↘ TABLE 17 Discrete invest-ment decisions are unaffected if all alternatives have a similar effective average tax burden, such that tax does not change the "ranking" of the alternatives.

↘ BOX 16

SVR analysis: The importance of local business tax for investment, location and the tax base

There is little evidence on the **relevance of local business tax rates for investment and location decisions** in Germany. A qualitative survey of experts in Düsseldorf, Oberhausen and Magde-burg suggests that the **tax rate** is **only of minor importance for the location choice** (Bui et al., 2025). However, a recent empirical study on municipal tax increases in Western Germany be-tween 1980 and 2018 (Link et al., 2024) finds **significant investment effects.** Following an increase in the local business tax, the share of firms that invest less than planned rises on average by 3 percentage points. In a recession, this effect is even twice as strong. An increase in the local business tax rate (3.5 % × scaling factor) by one percentage point reduces the real-ised investment by 2.3 % to 3.8 % compared to the previously planned investment volume.

An alternative approach considers the effects the scaling factor on the **tax base**. Such base effects mirror that **firms react to tax rate changes** by adjusting investments and location deci-sions or by shifting profits, without identifying these effects separately. Büttner (2003) exam-ines the effects of scaling factor changes on the tax base of municipalities in Baden-Württem-berg between 1980 and 2000. He finds a strong **negative effect of the local tax rate on the local tax base**, while the average tax rate of neighbouring municipalities usually has no influ-ence.

Following this approach, the GCEE analyses the **base effects of local business tax using panel data for the years 2010 to 2020** for all municipalities in Germany. The tax base is ap-proximated by the standardised tax revenue, ↘ BOX 12 which corresponds to the tax revenue at a scaling factor of 100 % (i.e. 3.5 % of the tax base). The data is aggregated at district level such that we consider the relationship between the average scaling factor and the aggregated standardised tax revenue in a district. We estimate the following regression equation:

$$log\ R_{it} = \ \alpha + \beta h_{it-1} + \gamma X_{it-1} + \mu_i + \lambda_t + \epsilon_{it}.$$

R_{it} is the standardised tax revenue in year t and district i and h_{it} is the average scaling factor; the coefficient of interest is β, which measures **the correlation between the standard-ised tax revenue and the average scaling factor**. In all specifications, we control for district size, economic structure and unemployment rate. District and (federal state-specific) time fixed ef-fects absorb all time-constant heterogeneity at the district level (e.g. location) as well as all

shocks affecting Germany (or the respective federal state) as a whole (e.g. changes in tax and fiscal policy, business cycle).

↘ TABLE 19

Local business tax scaling factors and tax base (standardised tax revenue[1]) in the period from 2010 to 2020

Regression coefficents[2]

	(1)	(2)	(3)	(4)	(5)	(6)
Scaling factor	-0.194 ***	-0.173 ***	-0.126 ***	-0.198 **	-0.173 *	-0.115 **
	(0.0643)	(0.0635)	(0.0484)	(0.0825)	(0.0864)	(0.0525)
Control variables[3]	Yes	Yes	Yes	Yes	Yes	Yes
District FE (Fixed Effects)	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	No	No	No
Time FE x Federal State FE	No	No	No	Yes	Yes	Yes
Calculation of scaling factor	Weighted average[4]	Average	Minimum[5]	Weighted average[4]	Average	Minimum[5]
Number of districts[6]	399	399	399	399	399	399
Number of observations	4,377	4,377	4,377	4,377	4,377	4,377

1 – Dependent variable: standardised tax revenue at district level, i.e. local business tax revenue for a constant scaling factor of 100 %. 2 – Standard errors clustered at district level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. 3 – Covariates: log population size, unemployment rate, gross value-added share of the secondary sector, at the district level. 4 – Weighted by municipality population size. 5 – Lowest scaling factor in the district. 6 – Unbalanced panel with up to 399 districts.

Sources: BBSR, Statistical offices of the Federation and the Länder, own calculations
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The estimation results ↘ TABLE 19 reveal a **significantly negative correlation between the average scaling factor and the tax base measured by the standardised tax revenue.** The estimates in columns 4 – 6 are more conservative, as they include state-specific time fixed effects. Translating the coefficients into the elasticity of the tax base with respect to the local business tax rate (i.e. 3.5 % × scaling factor), a one percent increase in the average local business tax rate is accompanied by a 0.69 % to 0.79 % lower standardised tax revenue. This implied elasticity lies between estimates by Büttner (2003) of −1.4 and Fossen and Steiner (2014) of −0.45.

288. **Taxes** not only **influence** the scale and location of investment, but also the **risk of investment**, that is, a firm's **choice between low- and high-risk projects** ("corporate risk taking"). Although the notion of high-risk investment projects is broad, such investments are relevant in research and development and in the high-tech industries, which offer important perspectives for growth. How taxes influence investment risk depends primarily on the **tax treatment of profits and losses**. In Germany, as in most countries, firms can offset losses against future (loss carry-forward) or past profits (loss carry-back), although there are **limits in practice**. ↘ BOX 17 Due to this asymmetry, taxes reduce expected returns of a risky more than those of a relatively safe project, making the former less attractive. Therefore, more generous loss offset can induce firms to take more risks. Empirical evidence from Langenmayr and Lester (2018), who analyse both differences between countries and specific changes within a country, suggests that **extending the loss carry-back by one year increases firm risk taking**, measured by the variance of the return on assets, by 11.6 %. A comparable exten-

sion of the loss carry-forward has a smaller effect of only 2.4 %. Ljungqvist et al. (2017) find a similarly asymmetric effect of loss carry-forwards and carry-backs on risk taking in the US.
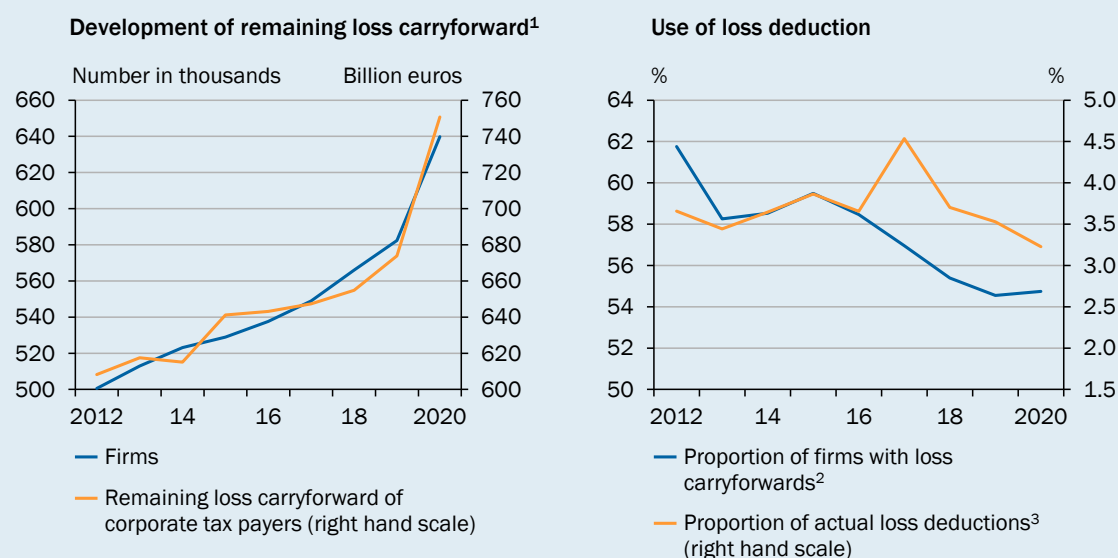
↘ BOX 17

Focus: Loss offset in Germany

In the German **firm sector, quantitatively significant losses are realised every year**: In 2020, the most recent year of the corporate tax statistics, 863,166 firms subject to the corporate income tax earned positive (pre-tax) profits of €278 billion in total. In contrast, 471,589 firms, i.e. around a third, recorded a negative result totalling 112 billion euros. Between 2015 and 2019, the fraction of loss-making firms was around one third. In Germany, as in many other countries, **firms cannot claim unlimited losses for tax purposes**. Instead, losses can be offset against positive profits from earlier (**loss carry-back**) or later periods (**loss carry-forward**) under certain limits. In the case of the corporate income tax, the loss carry-back is limited to a maximum of EUR 1 million, analogous to Section 10d EStG. Since 2022 firms can carry-back losses for up to two years, which will continue to apply for 2024 and 2025 according to the current legislation. Larger losses or losses are not carried back can be carried forward for an unlimited time period. However, the loss carry-forward is systematically limited by minimum taxation: Losses of more than EUR 1 million can only be offset against up to 70 % of the profits. In case of the local business tax, similar regulations apply to loss carry-forwards, but there is no loss carry-back. Corporations lose their loss carry-forward pro rata (in full) if more than 25 % (50 %) of the shares are sold within five years (Section 8c KStG).

↘ CHART 61

Loss carryforward for entities subject to unlimited corporate tax payers

Development of remaining loss carryforward[1]

Use of loss deduction

— Firms
— Remaining loss carryforward of corporate tax payers (right hand scale)

— Proportion of firms with loss carryforwards[2]
— Proportion of actual loss deductions[3] (right hand scale)

1 – As at 31 December of the reporting year. 2 – Ratio of the number of firms that deducted losses from loss carryforwards to the number of companies that incurred losses in the previous year. 3 – Ratio between the actual amounts of loss deductions (from loss carryforwards) and the total remaining loss carryforward from the current year.

Sources: Federal Statistical Office, own calculations
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The **remaining loss carry-forward**, i.e. the sum of losses that have materialised over the years but could not yet be offset, **was around 751 billion euros in 2020**. ↘ CHART 61 LEFT Claiming them **via the loss carry-forward is very slow** due to the many restrictions: In the years 2012 to

2020, between 55 % and 62 % of all firms that realised losses in the previous year claimed a loss deduction from the accumulated loss carry-forward. These deductions amounted to between 3.2 % and 4.5 % of the total loss carry-forward. ⬎ CHART 61 RIGHT

289. Eventually, how taxes influence investment also depends on whether a firm is financially constrained. In such a case, it cannot or only partially realise profitable investments because it has no access to external finance, for instance, due to asymmetric information between borrowers and lenders (Holmström and Tirole, 1997). According to a survey by the European Central Bank (ECB, 2025), 6.6 % of firms surveyed in Germany in the second quarter of 2025 noted obstacles to accessing external finace. **Firms with financial constraints strongly depend on internal funds** (e.g. cash flow), **which largely determine their investment**. The **tax payment automatically reduces these funds** and thereby hampers investment.

Empirical evidence points to heterogeneous tax effects on investment: A study on the tax elasticity of German corporations (Simmler, 2012) shows that the **investment of financially constrained firms**, which are identified by low dividend payments and low debt, mainly **depends on the effective average tax burden**. In contrast, investment of unconstrained firms is sensitive to the marginal effective tax rate, in line with neoclassical investment theory. In this context, Zwick and Mahon (2017) analyse temporary bonus depreciations in the US: Small firms or those without dividend payments – i.e. firms that are often financially constrained – increase their investment by 6.3 % and thus responds almost twice as strongly to bonus depreciation as large firms.

290. In addition to creating marginal investment distortions, the theoretical literature demonstrates that **taxes also exacerbate welfare losses whenever firms are financially constrained** (Keuschnigg and Ribi, 2013). Tax cuts have a particularly strong investment effect if they immediately increase the liquidity of a firm. Dávila and Hébert (2023) characterise the optimal tax design in a model with financially constrained firms and show that such firms should effectively not be taxes.

291. The **interaction of taxes and financial constraints** as well as the **limited loss offset are likely to be particularly disadvantageous for start-ups.** After all, the latter are typically not profitable in the first years following firm creation, while their access to external finance is often constrained. According to a survey by the ECB (2025), around 6 % of small and medium-sized firms in the euro area are considered financially constrained, compared to 4.7 % of all firms and only 2.6 % of large firms.

2. Capital structure of firms and banks

292. In Germany, as in most countries, **the tax system favours debt over equity**. ⬎ ITEM 262 Due to this **debt-equity bias**, equity is considered "expensive" by firms,

which creates **a strong incentive to rely on debt**. Many empirical studies estimate a positive and significant effect of the corporate tax rate on firm leverage, that is, debt relative to total assets. According to meta-studies, which evaluate a large number of empirical studies exploiting both within- and cross-country variation in corporate tax rates, a one percentage point increase in the corporate tax rate increases leverage by 0.27 (Feld et al., 2013) or by 0.17 to 0.28 percentage points (de Mooij, 2011). For Germany, Dwenger and Steiner (2014) estimate a comparatively high tax elasticity of firm leverage of 0.7. because of this debt-equity bias, firms are overly indebted, which weakens their loss-absorbing capacity and undermines their resilience during crises, leading to a higher risk of insolvency in the firm sector.

293. **The incentive for debt finance is particularly problematic for banks** because their **failure often entails large external costs** for the financial system as a whole and for taxpayers with external costs. Therefore, the capital structure of banks is subject to regulation with minimum capital requirements. Despite this strict regulation, the empirical evidence strongly implies that banks still adjust their capital structure to taxes as the capital ratio of many banks exceed the regulatory minimum. **The debt-equity bias in corporate taxation distorts the capital structure of banks and contributes to high levels of debt** (Hemmelgarn and Teichmann, 2014; de Mooij and Keen, 2016; Horváth, 2020). Estimates of de Mooij and Keen (2016) imply that a one percentage point increase in the tax rate increases bank leverage by 0.14 percentage points in the short and by 0.25 percentage points in the long run. This increase is mainly driven by rising debt of well-capitalised banks with equity above the regulatory minimum. Given an average capital ratio of 11.8 % in the sample, this effect is large. Simulation studies point to larger financial stability gains from eliminating the debt-equity bias. The latter could lower the fiscal costs of banking crises in Germany (e.g. for the recapitalisation of distressed banks) by 44 % in a conservative scenario (Langedijk et al., 2015).

294. The debt-equity bias has **heterogeneous effects on firms**. Firms with liquid or tangible assets can often finance themselves with debt such that they less affected by fact that they cannot deduct the cost of equity from taxes. ↘ TABLE 17 Firms that are primarily equity-financed are, in contrast, more affected by the debt-equity bias. In particular, this concerns **innovation-intensive firms**, which may reduce their R&D because of a rising tax burden (Lichter et al., 2025). Such firms primarily have **intangible assets** that are poorly suited as collateral such that they **strongly depend on equity finance** (Dell'Ariccia et al., 2021).

3. Research and development

295. If corporate tax should be designed as to help support long-term **economic growth**, ↘ BOX 18 the **effects of taxation on** firms' **R&D activities are especially important** because the latter have a direct impact on productivity growth. The existing tax burden can hamper R&D activities of firms. An empirical study that exploits variation in the scaling factors of the German local business tax to identify causal effects suggests that **for every euro of taxes, R&D spending**

falls by 0.26 euros (Lichter et al., 2025). This effect is primarily due to the debt-equity bias. ↘ ITEM 294 There is both an incentive to adjust R&D spending to corporate tax changes as well as an incentive to relocate existing R&D activities to low-tax regions. According to Akcigit et al. (2023), the latter effect can be up to seven times stronger than the former.

↘ BOX 18

Background: Corporate taxation and potential growth

According to theoretical research (e.g. with neoclassical and endogenous growth models), the growth effects of corporate taxes fundamentally differ between the short and the long run. **Corporate taxes influence capital accumulation** and thus the level of potential output in the long term and its growth rate in the short term. Reducing the effective tax burden can stimulate investment, which **leads to temporarily higher growth rate as well as to a larger capital stock and thus a permanently higher potential output in the long run**. However, this permanent level effect does not imply a permanently higher growth rate.

A **corporate tax cut can only increase the long-term growth rate if it contributes to permanently higher productivity growth**. By increasing investment in physical capital, it primarily increases the capital stock but not necessarily productivity growth. Positive productivity effects are conceivable due to capital reallocation (i.e., if high-productivity firms expand their investments disproportionately), due to capital-embodied technical change (i.e., if productivity gains are only realised through new investments), or due to learning effects between firms, which are stronger if investment is high (De Long and Summers, 1991). **R&D tax incentives, in contrast, directly affect productivity growth** by stimulating private innovation.

Although the empirical literature predominantly focusses on the investment effects of corporate taxes, some studies also analyse growth effects. However, it is difficult to disentangle short and long-term effects in the data. Cross-country studies find a **negative correlation between** statutory (Lee and Gordon, 2005) or effective (Akgun et al., 2017; Shevlin et al., 2019) **corporate tax rates and the growth rate**. Lee and Gordon (2005) estimate for 70 countries (1970 – 1997) that a tax rate ten percentage points higher tax rate is associated with a growth rate that is around 1.1 to 1.8 percentage points lower; the average growth rate in the sample is 1.7 %. Other studies based on regional variation in corporate tax rates find mixed evidence with significantly negative (Canada: Dahlby and Ferede, 2021) but also insignificant (USA: Prillaman and Meier, 2014; Suárez Serrato and Zidar, 2018) effects of corporate tax rates on regional growth. A meta-study (Gechert and Heimberger, 2022) documents that studies using effective average tax rates and controlling for government spending are more likely to find negative growth effects.

296. Many countries rely on **tax incentives to specifically promote research and development** of firms. Subsidising R&D can be justified by spillover effects – positive side effects from which all market participants benefit. R&D contributes to the general stock of knowledge, which facilitates further innovations or quality improvements. This mechanism is at the core of many endogenous growth models (e.g. Romer, 1986, 1990; Grossman and Helpman, 1991; Aghion and Howitt, 1992). Since private agents do not take such **knowledge externalities** into account when deciding about R&D, this leads to underinvestment. Internalising these positive externalities **justifies government support**, for instance, R&D tax incentives.

297.   Several **instruments** are available to **promote entrepreneurial R&D activities**. In addition to preferential tax treatment, e.g. by deducting R&D expenditure from tax liability, R&D can also be subsidised directly, for example through research grants. � BOX 19 Research incentives can be either input- or output-based (Bergner et al., 2017). **Input-based measures**, such as bonus depreciation, research allowances or tax credits, are linked to the level of R&D expenditure and **incentivise firms to undertake research projects**, regardless of whether they eventually succeed or not. This provides firms with direct incentives to increase investment, but can also create deadweight effects if the projects have poor prospects. **Output-based measures include reduced tax rates or tax exemptions for successful innovations**, e.g. patent boxes, and **require commercially successful innovations**. However, this delays the incentive effect until the end of the development phase, as only successful innovations are actually subsidised.

298.   The empirical evidence shows that **R&D tax incentives can have substantial, causal effects on R&D spending and innovation output**. In their quasi-experimental analysis for the United Kingdom, Güçeri and Liu (2019) estimate that expanding tax incentives for medium-sized firms leads to an increase in R&D spending of around 33 %. Their estimates imply that additional privately financed R&D expenditure of one euro is made for every euro of forgone tax revenue. Dechezleprêtre et al. (2023) find that these benefits also raise R&D output in the form of patent applications, without any deterioration of their quality. The subsidy is particularly effective for financially constrained firms. In addition, Lokshin and Mohnen (2013) point out that tax incentives also lead to higher wages for employees in R&D.
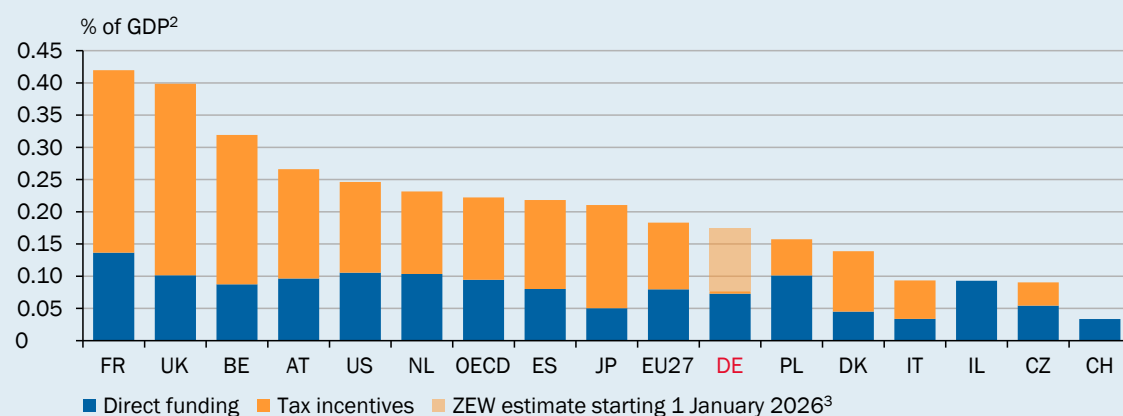
↘ BOX 19

Focus: R&D subsidies in Germany and internationally

Relative to other countries, the direct public subsidies for R&D of firms in Germany are very low at 0.07 % of GDP, which is around one third below the OECD average. ↘ CHART 62 So far, Germany has predominantly relied on direct funding instruments (€3 billion, as at 2023). Examples of this include the Central Innovation Programme for SME (ZIM), the KMU-Innovativ programme and Industrial Collective Research (IGF). These programmes mainly award grants, project funding or subsidised loans and often target specific sectors, such as the KMU-Innovativ programme in the field of photonics and quantum technology.

↘ CHART 62

International comparison of government subsidies for R&D in firms[1]

% of GDP[2]

Legend: ■ Direct funding ■ Tax incentives ■ ZEW estimate starting 1 January 2026[3]

X-axis: FR, UK, BE, AT, US, NL, OECD, ES, JP, EU27, DE, PL, DK, IT, IL, CZ, CH

1 – FR-France, UK-United Kingdom, BE-Belgium, AT-Austria, US-USA, NL-Netherlands, OECD-average across the member states, ES-Spain, JP-Japan, EU27-average across the member states, DE-Germany, PL-Poland, DK-Denmark, IT-Italy, IL-Israel, CZ-Czechia, CH-Switzerland. 2 – Vintage: 2023 for Netherlands, Spain, Japan, Poland, Israel and Czechia; vintage: 2022 for United Kingdom, Belgium, Austria, OECD average, Germany and Italy; vintage: 2021 für France, USA, EU average and Switzerland; vintage: 2020 for Denmark. 3 – ZEW estimate of tax incentives based on the provisions for research allowance applicable starting 1 January 2026.

Sources: OECD, Rammer (2025), own calculations
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However, by introducing the research allowance in 2020, Germany has significantly expanded R&D tax incentives. ↘ TABLE 20 The research allowance can be claimed by all firms. It applies to basic research, industrial research or experimental development projects. Both in-house projects and contract research are eligible for funding. The research allowance grants firms a tax credit of 25 % of eligible R&D spending, which includes wage costs, expenditure on contractors and overhead cost. The tax credit is offset against corporate or personal income tax, and it is refundable, that is, it is directly paid out to loss-making firms as well. Nevertheless, the impact of the research allowance has been marginal so for so far (€0.16bn, as at 2023). One of the main reasons is that firms have up to four years to claim eligible expenses (in accordance with Section 169 (2) no. 2 AO). However, according to a projection of the ZEW (Rammer, 2025), the funding volume is likely to grow to €4 billion per year and thus catch up with the average of the EU27 by 2026.

The focus of the research allowance is on promoting R&D activities by small and medium-sized enterprises (SME), as they are more likely to be financially constrained and therefore have a stronger marginal investment response. Hence, SME receive an increased funding rate of 35 % since 2024 (compared to 25 % for large firms). Empirical studies emphasise that research funding targeted to SME is particularly effective in stimulating new innovations and will likely induce a crowding-in of private R&D spending in the long run (Köhler et al., 2012; Blandinières

↘ TABLE 20

Research allowance at a glance
Eligible R&D expenditure

	Personnel costs	External R&D contracts[1]	Fixed assets investment[2]	Material expenses[3]	Cap on allowance base
	%				million euro
January 2020	100	60			2
July 2020	100	60			4
March 2024	100	70	100		10
January 2026	100	70	100	20	12

1 – Only contractors based in the European Economic Area (EEA: EU plus Iceland, Liechtenstein and Norway).
2 – Depreciation of consumable movable assets. 3 – Flat rate of 20 % of eligible personnel costs, external R&D contracts and depreciation of consumable movable assets.

Source: Rammer (2025)
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4. Incentives for profit shifting

299. In addition to real economic decisions on the location and scale of investment, firms also decide where to locate their profits, which is relevant for tax revenue. The **profit shifting opportunities have expanded in recent decades mainly as a result of globalisation and digitalisation**. Multinational enterprises can use various mechanisms ↘ BACKGROUND INFO 18 to shift their profits from high- to low-tax countries, thereby lowering their overall tax burden.

↘ BACKGROUND INFO 18

Background: International profit shifting mechanisms

Intragroup transactions are subject to **transfer prices** that should reflect the **market prices of the respective goods and services**. However, often **no comparable market price exists**, which allows for profit shifting. Firms can set transfer prices such that profits fall in high-tax locations and rise in low-tax locations. For example, a subsidiary in a high-tax country buys products at inflated prices from a subsidiary in a low-tax country. Another possibility is **debt shifting**: A subsidiary in a high-tax country borrows from a subsidiary in a low-tax country. As the high interest payments are deductible from profits in the high-tax country, the tax burden falls, while the interest income is taxed at a lower rate in the low-tax country (OECD, 2015a). Finally, multinational firms can **locate intangible assets such as patents and brands in low-tax countries** (intellectual property royalty shifting). This group unit charges high licence fees from other subsidiaries in high-tax countries (OECD, 2015b).

300. The extent of profit shifting importantly depends on **tax differences between the locations** and on **measures against tax avoidance**. Several theoretical (Haufler and Schjelderup, 2000; Bilicka et al., 2024) and empirical studies

(Johansson et al., 2017; Delis et al., 2025) show that **the differences in statutory tax rates are especially important** because they determine the tax savings from shifting profits abroad.

Internationally, **a large amount of profits is shifted every year**, although there is a considerable **range of empirical estimates** depending on the data. For 333 German multinational enterprises, Fuest et al. (2022) estimate on the basis of country-by-country reports that they shifted around €5.4 billion or 4.3 % of their profits to low-tax countries in 2016 – 2017, resulting in annual tax losses of €1.6 billion in Germany. Fuest et al. (2025) analysed over 3,600 multinational firms with a presence in Germany (2016 – 2019). Profit shifting to low-tax countries reduced the tax base in Germany by €10.9 billion annually, resulting in tax losses of around €2 billion. Studies based on macro data, in contrast, find a significantly larger amount of profit shifting. For example, Tørsløv et al. (2023) estimate that profits of around USD 89 billion were shifted out of Germany in 2021, resulting in a loss of revenue of around USD 27 billion.

301. Profit shifting takes place not only internationally, but also **domestically** whenever there are regional differences in the tax burden. **In Germany, the local business tax rate varies considerably** between municipalities due to the different scaling factors. ↘ BOX 12 On the one hand, this leads to **tax competition** between locations, inducing firms to locate real economic activities in municipalities with a low trade tax burden or accept higher tax burdens as long as the quality of local public goods is better. On the other hand, firms may use similar mechanisms like at international level, for example, establishing **internal licence or financing subsidiaries** in low-tax locations, to **shift profits to low-tax jurisdictions** (Neugebauer et al., 2020). A first idea about domestic profit shifting in Germany can be provided by municipalities that have a particularly high (standardised) tax revenue per employee despite a very low scaling factor ("local tax havens"). ↘ CHART 63 Empirical evidence suggests that international and domes-

↘ CHART 63

Scaling factors and local business tax revenue for the 100 municipalities with the highest standardised tax revenue

Standardised tax revenue[1] per employee subject to social security contributions in euros in 2023
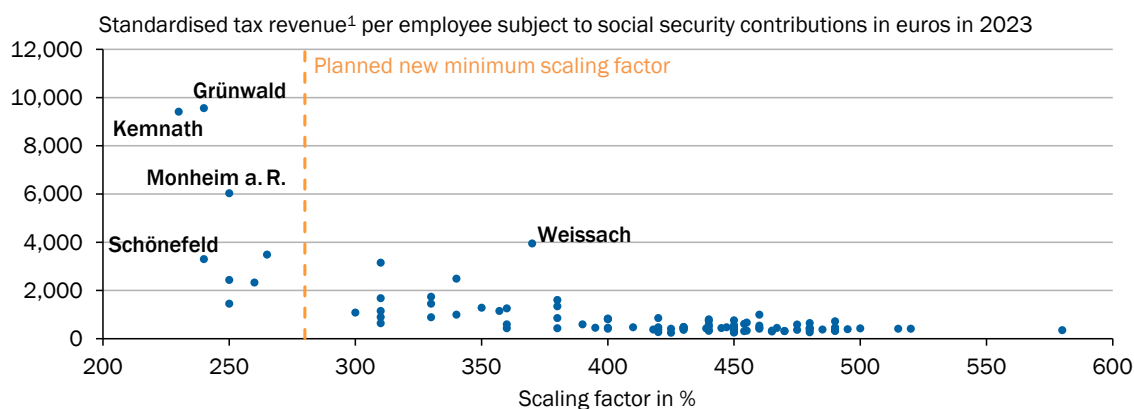
1 – The standardised tax revenue is calculated as the actual revenue divided by the respective scaling factor of the municipality multiplied by 100 %. The standardised tax revenue is the base for the allocation of local business tax.

Sources: Federal Employment Agency, Statistical Offices of the Federation and the Länder, own calculations
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tic profit shifting are substitutes and that **initiatives that discourage international profit shifting tend to encourage profit shifting within Germany**. According to Gaul and Schulz (2025), the tax revenue in local tax havens increased significantly relative to comparable municipalities after measures like country-by-country reporting or the Anti-Tax Avoidance Directive. In addition, firms affected by these new regulations considerably increased the number of subsidiaries in local tax havens.

IV. REFORM OPTIONS IN GERMANY

302. There are several ways to make the corporate tax system in Germany more investment- and innovation-friendly in the long run. Firstly, **changes to the corporate tax design** could reduce distortions in investment and financing decisions of firms, thereby strengthening investment incentives and reducing the incentive to rely on excessive debt. Neutral business taxes such as the allowance for corporate equity (ACE) or the cash flow tax offer some guidance. Secondly, a **corporate tax cut** – as recently decided by the government – can directly and broadly reduce the tax burden on firms, which should improve the attractiveness of the location. Thirdly, **changes in specific areas such as the research allowance or loss offset** offer stimulating effects in some areas without substantially changing the overall tax burden or the tax design.

303. Each approach has advantages and disadvantages. In order to quantitatively evaluate selected reform options and to shed light on their macroeconomic and fiscal effects, we rely on a **dynamic general equilibrium model** that informs about the medium- and long-term implications. The scenarios include **more fundamental tax reforms** (ACE and cash flow tax) and **tax cuts**. The former provide information on how large the effects of the extensive elimination of tax distortions on corporate investment and financing could be.

1. Reducing distortions – neutral business taxes in public finance

304. The public finance literature has developed several forms of neutral business taxes (Auerbach et al., 2010), which render investment and capital structure less dependent on taxes. The classical neutral business taxes are the **allowance for corporate equity** and the **cash flow tax**. ↘ TABLE 21 In both systems, **only economic rents, i.e. profits in excess of the normal return on capital, are taxed**. This differs from the current system, in which the normal return on equity is also taxed.

↘ TABLE 21

Systems of coporate taxation

	Status quo	ACE[1]	Cash flow taxes	
Base	Profit	Economic rents	Economic rents	
Calculation of the tax base	Sales revenue – Personnel and material costs – Depreciation – Debt interest rates	Sales revenue – Personnel and material costs – Depreciation – Debt interest rates – Notional cost of equity	R-Base[4] Sales revenue – Personnel and material costs – Investment costs (Immediate expensing)	R+F-Base[5] Sales revenue – Personnel and material costs – Investment costs (Immediate expensing) **+ New debt** **– Repayment debt** – Debt interest rates
EATR[2]	> 0	> 0	> 0	> 0
EMTR[3]	> 0	= 0	= 0	= 0

1 – Allowance for corporate equity. 2 – Effective average tax rate. 3 – Effective marginal tax rate. 4 – Real economic cash flows. 5 – Real economic and financial cash flows.

Source: own depiction
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Allowance for corporate equity

305. The ACE allows **deducting a notional cost of equity** ↘ BACKGROUND INFO 19 **from the tax base**, similar to the interest expense on debt (Devereux and Freeman, 1991; IFS, 1991). As a result, equity and debt are treated symmetrically and only profits that exceed the cost of capital are taxed. As before, investment is depreciated over the lifetime of an assets. After all, the **deduction of all capital costs compensates a firm exactly** for the fact that it can only **claim its investment costs for tax purposes ex post** (Auerbach et al., 2010).

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↘ BACKGROUND INFO 19

Background: Notional cost of equity in the ACE system

According to Bond and Devereux (2003), the **cost of equity that is deducted the tax base under the ACE equals the risk-free nominal interest rate**. Therefore, no firm-specific information (e.g. on risk premia or risk aversion of the owners) is required to calculate the notional cost of equity, which is particularly advantageous for practical implementation. One prerequisite for this is the symmetric taxation of profits and losses, a theoretically elegant principle that is rarely implemented in practice. ↘ BOX 17 **Without full loss offset**, the notional cost of equity should be **based on a risk-adjusted interest rate**, reflecting the risk that the firm cannot claim the tax deduction for the cost of equity (e.g. due to losses). In case of the ACE in Belgium, for example, the notional cost of equity at was based on the average yield on 10-year Belgian government bonds, with small and medium-sized firms receiving a premium of 0.5 percentage points (Zangari, 2014).

306. One **variant of ACE** that can be implemented in the German tax system is the **ACE for nominal capital** (GCEE Annual Report 2012). Only the cost of the so-called nominal capital, which is equal to **equity excluding retained profits**, is tax-deductible. This approach ensures a symmetric tax treatment of distributed and retained profits, as the former are subject to capital income tax of shareholders. While the entire cost of debt can be deducted from the tax base, only a part of the equity costs is tax-deductible such that this approach does not achieve complete financial and investment neutrality (Neumeier and Stimmelmayr, 2025).

⬐ BOX 20

Background: ACE in Belgium and Italy

Belgium introduced an allowance for corporate equity in 2006, which was in place until 2023. Firms were able to deduct the notional costs of their entire equity from the tax base. Empirical studies show that the ACE **reduced the incentive to use debt** and **strengthened equity finance**. For example, firms increased their equity ratios by around three percentage points from the previous average of 39 % as a result of the ACE (Meki, 2023). German multinational firms also provided their Belgian subsidiaries with more equity (Hebous and Ruf, 2017). Belgian banks increased their capital ratios by just under one percentage point due to this reform, which corresponds to an average increase of 13.5 % (Schepens, 2016). The ACE also contributed to **lower risks of bank lending**, as evidenced by a lower share of non-performing loans (Schepens, 2016; Célérier et al., 2020) and increased lending to safe borrowers (Biswas et al., 2022). Ultimately, **mainly small and medium-sized firms increased investment** by around 3 % as a result of the tax reform (aus dem Moore, 2014). Multinational firms, however, did not increase their investment significantly (Hebous and Ruf, 2017).

Under an ACE, the tax base is narrower as only economic rents and not the entire profit are subject to tax. This leads to **lower tax revenue**. In Belgium, the revenue loss was estimated at around €6.2 billion, which corresponds to a third of the tax revenue that could have been achieved without the ACE (Zangari, 2014).

In Italy, variants of the ACE have repeatedly been part of the tax system since the late 1990s. Between 2011 and 2023, firms could deduct the **notional costs of new equity from the tax base**. New equity corresponds to the cumulative increase in equity since 31 December 2010 (Dreusch et al., 2025). A similar form of ACE already existed between 1997 and 2002. In contrast to the deduction of the total cost of equity as in Belgium, **this approach avoids favouring existing equity** and promises **lower revenue shortfalls** in the short to medium term. Empirical studies point to similar incentive effects as in Belgium: The capital ratios of industrial firms (Branzoli and Caiumi, 2020) and banks (Martin-Flores and Moussu, 2019) increased significantly. However, there were numerous changes to the notional cost of equity. Initially at 3 %, these rose to 4.75 % in 2016 before being lowered to 1.6 % in 2017. Dreusch et al. (2025) estimate that this reduction significantly weakened the effect of the ACE on the capital structure of banks.

Cash flow tax

307. Alternatively, the government can **tax a firm's cash flow instead of its profit** (Meade Committee, 1978). More recently, a variant of the cash flow tax was proposed in the context of international taxation (Auerbach and Devereux, 2018; Devereux et al., 2021). The main element of the cash flow tax is **immediate expensing of investment**. The investment costs are fully deducted from the tax

base in the year in which the investment is made. **As a result, depreciation over the lifetime of an asset is redundant and thus abolished.** Hence, firms can deduct their entire investment costs form, whereas they can effectively deduct just under two thirds in the current system ↘ CHART 60 In addition, permanent immediate expensing should make the **tax burden of investments more predictable for firms** than temporary bonus depreciation. ↘ TABLE 18

308. In a **narrowly defined version, the tax base consists only of real economic flows (R-base)**. It comprises revenue less wage cost, material expenses and investment costs. Neither the cost of equity nor of debt are tax-deductible, while interest and dividend income are not taxed at the firm level. The fact that the costs of capital are not tax-deductible is due to immediate expensing as the costs of investment are immediately recognised. Economically, this is equivalent to a deduction of the normal rate of return.

An **alternative (R+F base) also includes financial flows**. New debt is added to the cash flow, while repayments and interest on debt are deducted. This approach has similar neutrality characteristics as the R-base, but it addresses some practical problems. In particular, it ensures that bank profits, which consist primarily of interest margins, continue to be taxed.

Discussion

309. **ACE and cash flow taxes are essentially equivalent.** They achieve **financial neutrality and investment neutrality** with regard to scale and risk of investment. The marginal investment decision is undistorted as the effective marginal tax rate is zero in both cases, ↘ TABLE 22 which is achieved either by immediate

↘ TABLE 22

Effective marginal tax rate under ACE[1] and cash flow tax
Stylised example

Financing: 50% debt and 50% equity	Unit	ACE[1]	Cash flow tax	
			Year 1	Year 2
Investment	Euro	100	100	
Gross return	%	5	5	
Earnings before interest, taxes, depreciation and amortisation (EBITDA)	Euro	105	0	105
Depreciation	Euro	100	– 100[a]	–
Earnings before interest and taxes (EBIT)	Euro	5	– 100	105
Cost of debt 5 %	Euro	2.5	–	–
Cost of equity 5 %	Euro	2.5	–	–
Profit before taxes[2]	Euro	0	– 100	105
Tax 25 %	Euro	0	– 25	26.25
Present value of tax	Euro	–	– 25 + 26.25 / 1.05 = 0	
EMTR[3]	%	0	0	

1 – Allowance for corporate equity. 2 – Tax base: earnings minus debt and equity costs (ACE) or earnings before taxes and interest (cash flow tax). 3 – Effective marginal tax rate. a – Immediate expensing.

Source: own depiction
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expensing or by the deduction of the entire cost of capital. The decision on safe and risky investment projects remains unaffected as long as either profits and losses are taxed symmetrically or risk-adjusted cost of equity is tax-deductible (Bond and Devereux, 2003). Moreover, **none of the two models achieves complete investment neutrality**. Firstly, taxes continue to influence the location decision of multinational enterprises due to persistent international differences in the effective average tax rate. Secondly, the investment decisions of financially constrained firms remain distorted, as taxes lower the liquidity that such firms need for investment (Keuschnigg and Ribi, 2013).

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↘ BACKGROUND INFO 20

Example: The effective marginal tax rate under neutral business taxes

An investment of EUR 100 is financed half with debt and half with equity. ↘ TABLE 22 The interest rate is 5 % and the investment is depreciated within one year. **Under the ACE**, the costs of equity and debt of 2.50 euros each are deductible. A **gross return of exactly 5 % is sufficient to ensure break even**, as the pre-tax profit and the tax are then zero. In the case of **cash flow tax**, one needs to distinguish between the time of the investment (year 1) and the realisation of its income (year 2). Immediate expensing leads to a tax credit of 25 euros in the first year. In the second year, no depreciation can be claimed and no capital costs can be deducted. The tax is therefore imposed on the gross income (EBITDA) of EUR 105. The **present value of the tax credit and tax payment is exactly zero at an interest rate of 5 %.**

310. Despite their equivalent effects, both systems have their relative advantages and disadvantages: On the one hand, the **cash flow tax** – at least in the case of the R-base – is likely to **have a broader tax base than the ACE**, as the cost of capital cannot be deducted. With an identical statutory tax rate, the ACE therefore lowers the effective average tax burden on firms more strongly than a cash flow tax, which has a positive effect on the attractiveness of the location, but at the same time is likely to lead to lower tax revenue (Keuschnigg, 2011). A revenue-neutral introduction of the ACE would thus require a stronger increase in the statutory rate. On the other hand, the **ACE would better fit into the existing tax system and international double taxation agreements**; furthermore, there is already some practical experience in other countries. ↘ BOX 20 This is probably one of the reasons why the Mirrlees Review (Mirrlees et al., 2011) recommended ACE as part of an optimal tax system.

311. One **difficulty is the transition path towards a neutral business tax**. In the case of cash flow tax, policymakers have to decide how to treat the existing but not yet fully amortised capital stock and existing debt. After all, these depreciations and deductions will be eliminated. In the case of ACE, the question arises as to whether the tax deduction of the notional cost of equity should also be granted for equity that has already been accumulated or only for new equity. How these problems are solved can result in considerable short-term revenue losses and unintended redistribution effects (Keuschnigg and Keuschnigg, 2012). Economic policy should therefore try to **avoid windfall gains in favour of existing**

capital whenever possible. One option is to grant the equity cost deduction only for new equity, similar to the ACE in Italy.

2. Reducing the tax burden on firms

312. One way of reducing the relatively high tax burden on firms in Germany and improving its attractiveness as a business location is to **lower statutory tax rates**. This would provide immediate and broad-based relief for firms. A lower statutory rate automatically reduces the effective average tax rate, which should have a positive effect on investment. It should also weaken profit shifting incentives, which depend directly on the difference in statutory tax rates. ↘ ITEM 300

Unlike more fundamental reforms (e.g. ACE, cash flow tax), **cutting the statutory rate does not eliminate tax distortions**, it only weakens them. In particular, the effective marginal tax rate remains strictly positive, which distorts the marginal investment decision, and equity and debt continue to tax asymmetrically.

313. Tax cuts likely result **in lower tax revenue in the short term**. but **in the medium and long run, a broader tax base** ↘ BOX 16 **will reduce the revenue shortfall**. This is mainly driven by increased investment and a decline in profit shifting Previous tax cuts are informative about the magnitude of revenue shortfall. As part of the German **corporate tax reform in 2008**, the corporate tax rate was reduced from 25 % to 15 %, while the tax base was broadened (e.g. through an interest barrier, non-deductibility of local business tax as a business expense). Finke et al. (2014) estimate that this reform led to an overall **decline in** corporate and local business **tax revenue of 14.1 %**. Another example is the **corporate tax cut in the USA in 2017**, which included a statutory rate cut from 35 % to 21 % as well as immediate expensing for capital goods. According to estimates of Chodorow-Reich et al. (2024), the **corporate tax revenue fell immediately by 40 %** compared to a scenario without reform. Although a broader tax base will likely mitigate this decline over time, their analysis suggests a deficit of 16 % after ten years.

314. Finally, a corporate tax cut has **distributional effects** and tends to increase income inequality. For example, evidence from the USA implies that the income share of the top percentile (top 1 %) increases by 0.9 percentage points if the corporate tax rate falls by one percentage point (Nallareddy et al., 2022). The reason is that firm ownership is strongly concentrated among households with high incomes and wealth. In 2023, 85 % of corporate assets in Germany belonged to households in the top decile of the wealth distribution. ↘ ITEM 359 Against this backdrop, **wealthy households benefit disproportionately from tax relief for firms**, usually in the form of higher payouts and capital gains. According to Bach (2025), around 86 % of the tax relief from the current tax relief programme in Germany is likely to benefit the top income decile.

At the same time, however, a tax cut affects prices and wages. If firms invest more and demand more labour, wages will rise. Empirical studies on the incidence of

corporate taxes suggest that **half of the tax burden is passed on to employ-ees**. ↘ BOX 21 When taking the tax incidence into account, **corporate taxes** are **less progressive** and corporate tax cuts are less regressive (Fuest et al., 2018). New evidence from the USA (Cloyne et al., 2025) points to heterogeneous effects: **Investment and payroll increase significantly** in case of **capital-inten-sive manufacturing firms after a tax cut**, while less capital-intensive service firms primarily pay higher dividends.

↘ BOX 21

Focus: Tax incidence – who bears the economic burden of corporate taxes?

Although firms pay the tax, their owners do not necessarily bear the **tax burden** in terms of lower profits because firms can pass the tax burden on to other agents, for example via lower wages to employees, via higher prices to consumers or via lower rents and land prices to landowners. This essentially determines the distributional effects of corporate taxes.

In **theory, tax incidence mainly depends on how mobile capital** is. In a closed economy in which all factor prices, including the interest rate, are endogenous in equilibrium, seminal stud-ies such as Harberger (1962) show that, under realistic assumptions about substitution and price elasticities, the tax burden is borne by capital owners. In an open economy with interna-tional capital mobility, this result can fundamentally change (Kotlikoff and Summers, 1987; Felix, 2007). After all, the interest rate is determined on the global capital market and is insen-sitive to tax changes in a relatively small economy. The after-tax return that investors demand therefore remains constant and the tax burden is largely passed on to domestic workers through lower wages (Harberger, 1995; Randolph, 2006). Due to taxes, firms invest less, lead-ing to a lower capital intensity. The latter reduces the marginal product of labour, which largely determines wages.

Empirical studies of tax incidence need to deal with the challenge that the **exogenous vari-ation in tax rates is low. In general, the tax burden is likely to be partially passed on to workers**. Some studies consider tax changes within a country. Fuest et al. (2018) use data on the Ger-man local business tax and find that around 50 % of a tax increase is passed on to workers via lower wages. Women, young or low-skilled workers are disproportionately affected by this. Gstrein et al. (2025) also analyse the incidence of the German local business tax, also taking into account the effect on land prices. According to their estimates, business owners bear 64 % of the tax burden, workers 10 % and commercial and private landowners 10 % and 16 %, re-spectively. Suárez Serrato and Zidar (2016) study tax changes in US states and estimate that firm owners bear around 40 %, workers 30 % to 35 % and landowners 25 % to 30 % of the burden. Finally, cross-country studies also suggest that the burden of corporate taxes is shared between labour and capital. Examples include Desai et al. (2007), who find that workers bear between 45 % and 75 % of the tax burden, or Arulampalam et al. (2012), who estimate that an increase in corporate taxes by USD 1 lowers real wages by USD 0.49.

3. Macroeconomic and fiscal effects of corporate tax cuts and reforms

315. To analyse the impact of corporate tax cuts and more fundamental tax reforms on the German economy and to assess which approach can increase investment, in-come and welfare the most, the GCEE relies on a **quantitative macroeco-nomic model**. In an expert report by the ifo Institute (Neumeier and

Stimmelmayr, 2025), **four selected reform scenarios are simulated** using a computable general equilibrium model ↘ BOX 22. This model depicts the German firm sector with corporations and partnerships and the most important taxes in detail. It is calibrated such that its **initial equilibrium** (steady state) on average **matches the most important macroeconomic aggregates for the years 2022 to 2024**. In the model, **tax changes** have **permanent level effects** as well as **growth effects along the transition path**, which vanish once the economy reaches its new long-run equilibrium. ↘ BOX 18 How quickly the capital stock and thus the economy adjust is determined by the half-life. The calibration assumes a **half-life of eight years**, such that **50 %** (75 %) **of the adjustment of the capital stock to its new long-term level is completed eight** (16) **years** after implementing a tax change.

316. The analysis quantifies the effects of tax cuts and reforms **in general equilibrium**, in which prices adjust endogenously. For example, although a reduction in corporate income tax initially reduces its revenue, it also causes additional investment and labour demand. In particular, **wages** adjust **endogenously**, which allows for conclusions about the **tax incidence**, for instance, whether a tax cut is passed on to workers. ↘ BOX 21 Essentially, the model is a growth model such that its **predictions about the medium to long-term effects of taxes** are particularly **relevant**.

The **simulations are not well suited to quantify short-term, cyclical effects**. Instead, **they isolate the long-term causal effects** and allow comparing tax cuts and fundamental reforms of corporate taxation. **The short-term effects** should therefore be interpreted with caution and **not be understood as forecasts for the coming years**. Unlike business cycle models, this model exhibits only few intertemporal frictions (e.g. adjustment costs of the capital stock) and no stochastic shocks. Therefore, the short-term investment and income effects in ifoMod tend to unfold more quickly. ↘ ITEM 322

↘ BOX 22

Background: ifoMod – a CGE model for tax policy analysis in Germany

The computable general equilibrium model (CGE) ifoMod (Radulescu and Stimmelmayr, 2010) allows for a comprehensive, quantitative analysis of tax reforms and their macroeconomic effects. The **model is dynamic and derives the general equilibrium**.

It depicts the German economy in detail. ↘ CHART 64 The **firm sector comprises one representative corporation and one representative partnership with identical production technology, which differ in their financial structure and in taxation.** Each firm maximises its value (i.e. the present value of distributed profits) by optimally choosing investment, labour demand and capital structure each year. Adjustment costs of the capital stock ensure that investment reacts gradually rather than abruptly to changes. Firms are financed with debt, equity and retained profits, which are treated differently for tax purposes.

Households smooth consumption over time and decide on **labour supply**, with the representative household comprising three types of workers with different skill levels. This allows replicating a stylised income distribution. Households invest their savings in a portfolio of various domestic and foreign assets (e.g. shares in corporations, partnerships and government bonds). The **government** levies **taxes** on the profits of corporations and partnerships, on the

wage and capital income of households and on private consumption. Its **expenditure** includes government consumption, lump-sum transfers to households and the interest expense. It is financed by taxes and new borrowing, governed by a fiscal rule reminiscent of the Maastricht criteria. The German economy is connected with the rest of the world via trade and capital flows, which are modelled in reduced form.

↘ CHART 64

IfoMod: model structure at a glance[1]
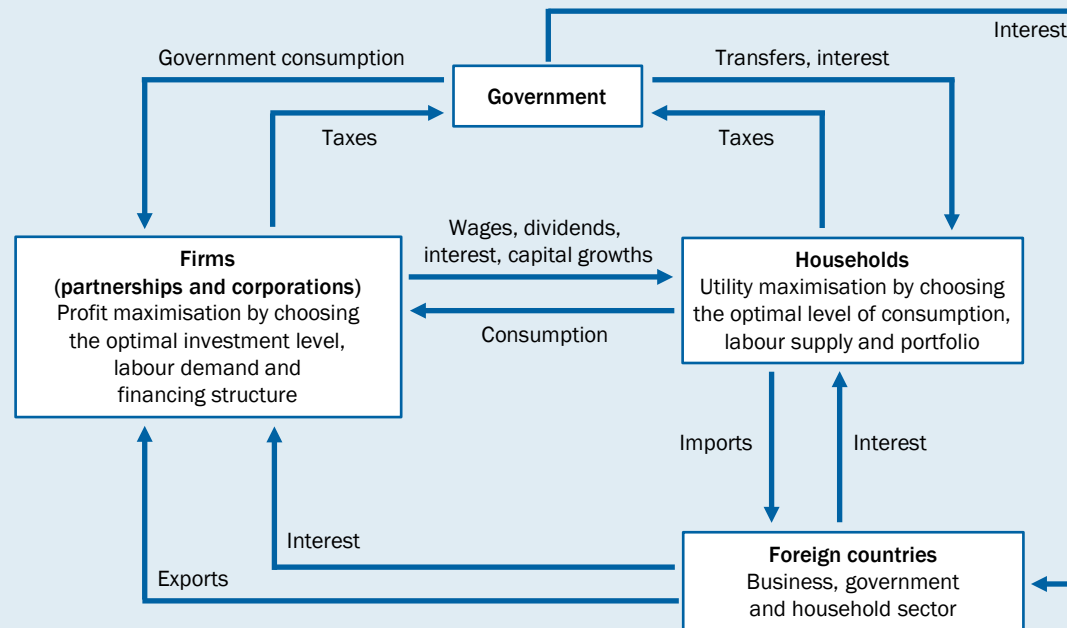
1 – Arrows identify the cash flows between sectors.

Source: Dorn et al. (2021)
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Tax cuts

317. A first scenario is a combination of **gradual tax rate cuts and temporary accelerated depreciation in line with the German government's tax relief programme** (Scenario A). ↘ BACKGROUND INFO 15 A second, alternative scenario instead assumes **an immediate tax cut** of five percentage points in the first year (Scenario B), leaving the depreciation rules unchanged.

In both cases, three **different variants for-financing the tax cut** are considered: a **higher lump-sum tax** for households, an **increase in VAT** or **additional government debt**. These variables are each adjusted to ensure that the **budget constraint of the government still holds after a tax cut** and that the emerging deficit is covered. Although the lump-sum tax is of little practical relevance, it is a non-distortionary approach to cover the tax revenue shortfall, which allows isolating the effect of corporate tax changes in the model.

318. In scenario A, **investment increases significantly in the short term due to accelerated depreciation**; in the first three years, it is on average 5.8 % higher than in the status quo. ↘ CHART 65 TOP RIGHT This is consistent with empirical evidence suggesting sizable investment effects of bonus depreciation. ↘ ITEM 283 Once these generous depreciation allowances expire, investment activity slows down, which is not fully offset by the gradual reduction of the statutory corporate tax rate. **In the long-run equilibrium, investment increases by 2.4 %**. GDP rises by a total of 0.3 % in the short and by 0.9 % in the medium term due to the tax stimulus; **long-term increase in GDP amounts to 1.3 %**. ↘ CHART 65 TOP LEFT The expansion in production has **a slightly positive effect on employment**, which increases by 126,000 jobs or 0.3 % in the long run compared to the initial equilibrium. ↘ CHART 65 BOTTOM LEFT In Germany, the average annual increase in employment over the last four years was around 332,000 people, i.e. three

↘ CHART 65
Economic effects of various tax reduction scenarios[1]
Simulation results
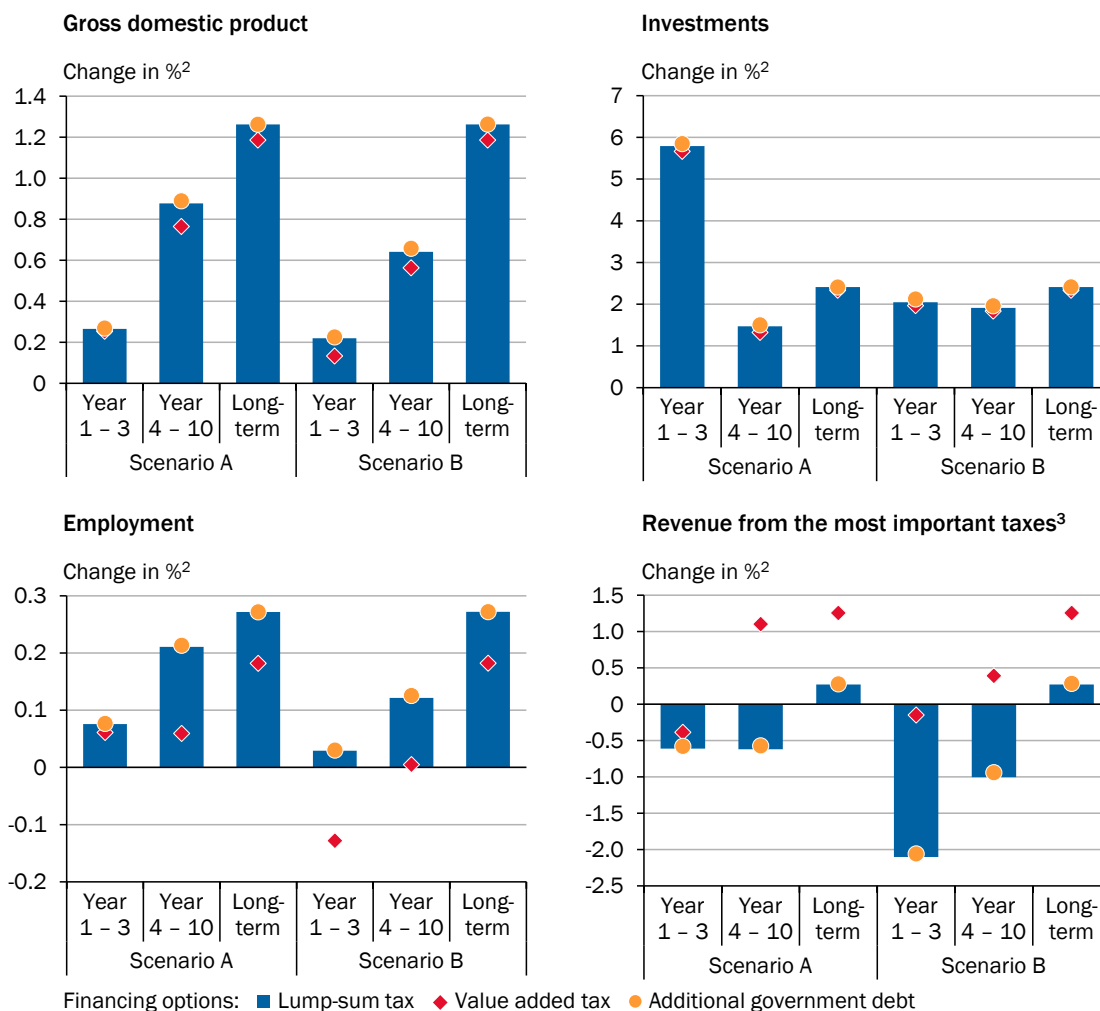
1 – Scenarios: Tax reduction in accordance with the German government's tax relief programme (A) and immediate reduction of corporate income tax by 5 percentage points (B). 2 – Compared to the initial equilibrium before the reform. 3 – Total revenue from income tax, value added tax, corporate income tax, local business tax and capital income tax, excluding revenue from the lump-sum tax.

Source: Neumeier and Stimmelmayr (2025)
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times the simulated employment effect (Federal Statistical Office, 2025b). **Firms pass on part of the tax cut on to workers.** The average wage increases by 1.2 % in the long term, ↘ CHART 67 BOTTOM LEFT with negligible differences between the high, medium and low-skill groups in the model.

319. **The fiscal effects of the tax cut are moderate.** Total tax revenue (excluding the lump-sum tax) falls on average €5.1 billion or 0.6 % annually in the first three years compared to the status quo. ↘ CHART 65 BOTTOM RIGHT In the long term, total tax revenue is even slightly higher, as the rise in income tax and VAT revenue – due to the higher wage bill and consumption spending – more than offsets the long-term decrease in corporate tax revenue of just under EUR 15 billion per year. The public debt ratio of 63.4 % remains constant as long as the tax cut is financed by a higher lump-sum tax or VAT. Due to the higher GDP, it even gradually falls by around half a percentage point in the long term.

320. Scenario B with an **immediate tax cut causes exactly the same effects in the long run**: After all, the tax rates in both scenarios are identical in the long run and the temporary accelerated depreciation scheme has long since expired. In the short term, however, there are differences: On the one hand, investment increases less strongly in the absence of accelerated depreciation, leading to a slower increase in GDP as well ↘ CHART 65 TOP For example, investment in the first three years after the tax cut is around 2 % higher instead of roughly 6 %. In addition, the tax cut causes larger revenue losses in the short run, which average at around €17.6 billion or 2.1 % annually during the first three years. Thereafter, the revenue shortfall will shrink such that it amounts to just under €6.5 billion after ten years, similar to the government's tax relief programme.

On the other hand, **private consumption evolves slightly better in case of an immediate tax cut**. ↘ CHART 67 TOP RIGHT After all, the more gradual increase in investment demand limits the crowding-out of consumer demand. This is the main reason for **higher welfare gains**: Measured by the equivalent variation ↘ GLOSSARY, welfare is around 0.19 % of GDP higher due to the immediate tax cut (scenario B) than without the cut and 0.04 percentage points of GDP higher than in scenario A. ↘ CHART 67 BOTTOM RIGHT

321. **How the tax cut is financed has relatively weak effects on the macroeconomic response** in both scenarios. Only the **higher VAT rate** – by 0.4 percentage points in the long term – **slightly dampens the increase in GDP and constrains employment growth**, ↘ CHART 65 as the higher VAT rate distorts households' consumption and labour supply decisions. At the same time, raising the VAT **significantly** limits the **decline in total tax revenue** and even leads to a 1.1 % larger total tax revenue in the long run. ↘ CHART 65 BOTTOM RIGHT If the tax cut is financed via **additional government debt, the public debt ratio rises by around 0.5 percentage points** of GDP in the long term.

322. Hentze and Kolev-Schaefer (2025) simulate the **short-term macroeconomic effects of the government's tax relief programme** using the Oxford Economics Global Economic Model. This model is suitable for analysing short- to medium-term effects as it features a richer set of short-term rigidities. **Taking these rigidities into account**, the macroeconomic effects are **more muted** com-

pared to Scenario A: According to their analysis, GDP is expected to grow by 0.15 % and investment by 0.3 % on average in the years 2025 to 2029, compared to 0.5 % and just under 4 % respectively in the ifoMod simulation. Employment growth is also lower, with 39,000 additional newly created jobs by 2029 compared to around 100,000 jobs. When interpreting the simulation results, one should also recall that temporary bonus depreciation had been in place frequently in Germany during the last few years. ↘ TABLE 18 Hence, some investments may already have been made, which suggests that the actual effects are somewhat weaker than the simulations.

Neutral business taxes

323. Two further scenarios picture more fundamental tax reforms: the **ACE for nominal capital** ↘ ITEM 306 and the **cash flow tax** (R-Base). ↘ ITEM 307 They apply to the corporate income tax, the local business tax and the personal income tax, thereby affecting both **corporations and partnerships**. Revenue shortfalls will be offset by adjusting the lump-sum tax; if the government instead relies on distortionary instruments (e.g., VAT) to cover the revenue losses, the effects are likely to be somewhat weaker. Both reforms are gradually implemented over five years to smooth out fluctuations and limit windfall gains during the transition phase. For the cash flow tax, the depreciation rate will thus be increased from 12 % initially to 100 % in five stages, while the share of tax-deductible interest costs will fall from 100 % to 0 %.

324. The **ACE for nominal capital** (scenario C) promises an **increase in investment of 3.6 %, GDP of 2.1 % and total employment of 244,000 jobs** or 0.5 % in the long term. ↘ CHART 66 In addition to mitigating the debt-equity bias, the partial deduction of the notional cost of equity also reduces the average tax burden – by around 5 percentage points for corporations. Due to a higher capital intensity, **wages increase by 2 % in the long run**, ↘ CHART 67 BOTTOM LEFT but there are no pronounced differences between the income groups. Even in the short to medium term, the ACE for nominal capital promises positive effects on the economy at large. GDP increases by 0.2 % on average in the first three years and by an average of 1.1 % in years 4 to 10, compared to the initial equilibrium.

325. **In fiscal terms**, the ACE for nominal capital leads to **an average loss of total tax revenue of €13.15 billion** or 2.2 % annually in the first ten years. ↘ CHART 66 BOTTOM RIGHT Even in the long run, the total tax revenue (excluding lump-sum tax) will remain around €3 billion below its initial value. The corporate tax revenue will be around €25 billion lower per year due to the narrower tax base, which will not be fully offset by higher revenue from other taxes. **Private consumption** increases despite a higher lump-sum tax of households and is **2 % higher in the long term**. ↘ CHART 67 TOP RIGHT This significant increase in consumption is the main reason for **welfare gains of just under 0.4 % of GDP**.

326. The simulation results suggest **strong effects of the cash flow tax** (scenario D), similar to other simulation models. ↘ BACKGROUND INFO 21 **In the long term, investment increases by 25.2 %, GDP by 11.3 % and total employment by 1.48 million jobs** or 3.2 %. ↘ CHART 66 Importantly, the effective marginal tax

falls to zero such that many more investment projects are profitable after taxes. This creates strong investment incentives. The effect is particularly strong for partnerships, which face a higher statutory tax rate such that drop in the marginal tax rate is more pronounced than for corporations. This induces a reallocation of capital, labour and output from corporations to partnerships. In the long term, the average wage is likely to rise by 12.4 %. ↘ CHART 67 BOTTOM LEFT However, the simulation results also highlight the difficulties of implementing a cash flow tax: **In the short and medium run**, the transition may involve **considerable macroeconomic disruptions.** This is due to a temporarily higher tax burden, 2.7 percentage points for corporations, as the gradual introduction of immediate expensing will not fully compensate for the fact that interest expense on debt is no longer tax-deductible. As a result, investment, GDP and employment are expected to fall sharply by 14.4 %, 1.2 % and 0.4 % in the first three years.

↘ CHART 66
Economic effects of neutral taxation models[1]
Simulation results
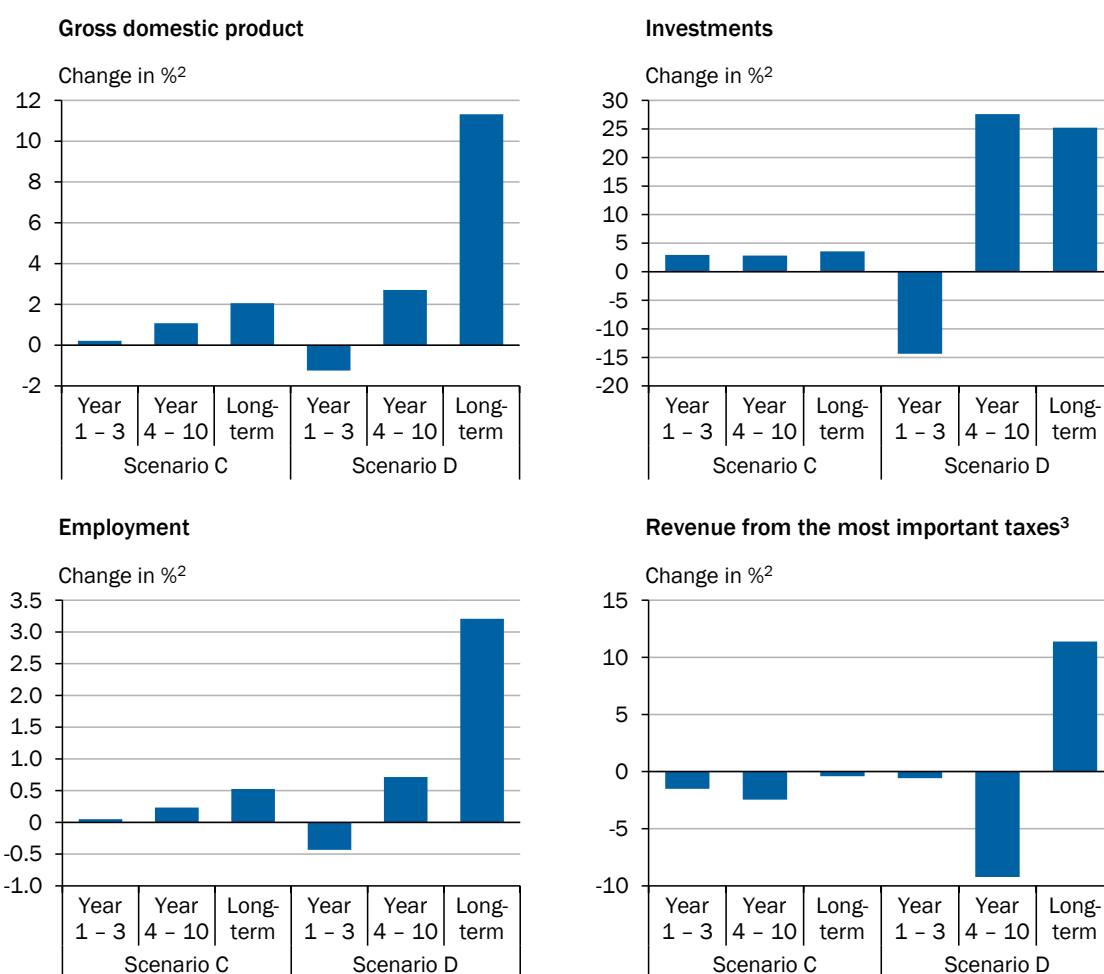
1 – Scenarios: ACE for nominal capital (C) and introduction of a cash flow tax (D). Financed in each case by lump-sum tax.
2 – Compared to the initial equilibrium before the reform. 3 – Total revenue from income tax, value added tax, corporate income tax, local business tax and capital income tax, excluding revenue from the lump-sum tax.

Source: Neumeier and Stimmelmayr (2025)
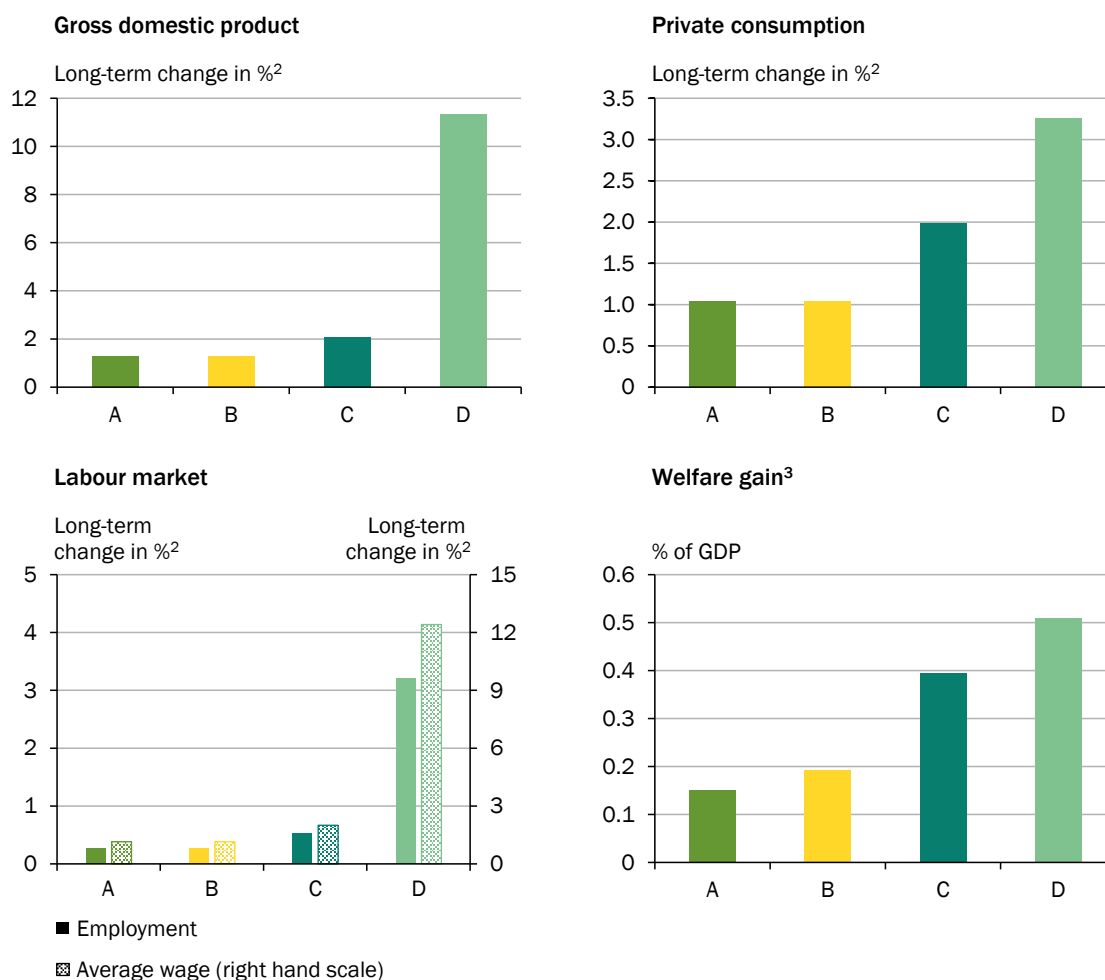© Sachverständigenrat | 25-260-02

↘ BACKGROUND INFO 21

Comparison: cash flow tax

Keuschnigg and Keuschnigg (2012) simulate **fundamental corporate tax reforms in Germany** using an OLG model with labour market frictions. Similar to the simulations in ifoMod, they show **strongly positive, albeit quantitatively weaker, effects of a cash flow tax** (R-Base): In the long term, capital stock increases by 14.3 %, GDP by 5.6 %, private consumption by 1 % and gross wages by 3.5 %. However, they consider a distortionary financing via a higher wage tax, which partly explains the weaker effects. Their simulations also show **considerable macroeconomic disruptions during the transition**, especially if revenue shortfalls are compensated for by an immediate increase in other taxes.

↘ CHART 67

Economic effects in four different reform scenarios[1]
Simulation results

Gross domestic product
Long-term change in %[2]

Private consumption
Long-term change in %[2]

Labour market
Long-term change in %[2] / Long-term change in %[2]

■ Employment
⊞ Average wage (right hand scale)

Welfare gain[3]
% of GDP

1 – Scenarios: Tax reduction in accordance with the German government's tax relief programme (A), immediate reduction of corporate income tax by 5 percentage points (B), ACE for nominal capital (C), introduction of a cash flow tax (D). Financed in each case by lump-sum tax. 2 – Long-term equilibrium compared to the initial equilibrium before the reform. 3 – The effects of the various tax reforms on the welfare of a representative household can be expressed and compared with each other in a single indicator, the equivalent variation. The concept of equivalent variation measures the difference in expenditure required for a household to achieve the new post-reform level of utility at constant pre-reform prices.

Source: Neumeier and Stimmelmayr (2025)
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327. On the **fiscal side**, there are also **strong fluctuations over time**. **Total tax revenue** will fall by around € 77 billion or 9.2 % in the medium term, in particular due to the weak economic development. ↘ CHART 66 BOTTOM RIGHT By contrast, total tax revenue should **rise by 11.4 % in the long term** despite a considerably smaller corporate tax revenue. Given the medium to long-term income growth, households increase their consumption already in the first year after the reform, with aim of consumption smoothing. **Private consumption** is therefore higher in each year than in the status quo and it **increases by 3.3 % in the long term**. The welfare gains amount to 0.51 % of GDP. ↘ CHART 67 BOTTOM RIGHT

328. The **neutral business taxes have significantly different effects in the model**. This concerns not only the economy at large, but also the capital structure of corporations. The **cash flow tax** leads to an **increase in the equity ratio from 58 % to 64.9 %**, while the **ACE for nominal capital** only raises the **equity ratio to 59.9 %**. Although the cash flow tax and ACE have generally similar neutrality characteristics, only the cash flow tax achieves investment and financial neutrality in the model, whereas the ACE on nominal capital does not. The reason is that the **nominal capital excludes retained profits**, which account for 55 % of the total financing of corporations or 90 % of their equity in the initial equilibrium (Neumeier and Stimmelmayr, 2025). As a result, the deduction of the cost of equity remains incomplete.

Discussion and conclusions

329. This simulation analysis allows **comparing corporate tax cuts and fundamental reforms of corporate taxes** in terms of their long-term macroeconomy and fiscal impact. ↘ ITEM 315 In particular, it reveals the **large economic gains promised by neutral business taxes**, which reduce tax distortions of firms' investment and financing decisions, in Germany. Their effects clearly exceed those of corporate tax cuts, namely moderately higher investment and income (GDP) as well as a temporarily, but noticeably lower total tax revenue: The ACE for nominal capital alone promises 60 % higher long-term income gains and more than twice as large welfare gains than a tax cut. ↘ CHART 67 BOTTOM RIGHT With a cash flow tax, the increase in income would even be almost nine times and the welfare gain more than three times as high. Hence, a **sensible approach** for future tax policy would be **addressing the economic distortions caused by the corporate system**.

330. At the same time, the simulation results reveal the **main obstacle** for implementing a neutral business tax, namely, the **difficult transition**. This phase likely involves significant **revenue losses and disruptions**, especially in the case of adopting a cash flow tax, but less so in the case of the more limited ACE for nominal capital. One can draw two conclusions from the analysis: Firstly, a fundamental tax reform requires a transition strategy to mitigate the revenue losses and the negative macroeconomic effects in the short run. ↘ ITEM 311 One approach in case of a cash flow tax include is to depreciate only a part of the old capital or to delay depreciation allowances, although the latter would need to account for the interest costs (Keuschnigg and Keuschnigg, 2012). When the ACE

was introduced in Italy, ↘ BOX 20 the tax deduction was only granted for new equity accumulated after the reform.

Secondly, rather than comprehensively reforming corporate taxation, policymakers may **focus on implementing selected tax instruments, thereby gradually converging to a neutral business tax**. One option is to introduce immediate expensing ↘ ITEM 283 only for certain capital goods (e.g. machinery) or expand accelerated depreciation.

4. Promote innovation – simplify corporate taxes

331. Among subsidies for private innovation, **R&D tax incentives** stand out due to their **effectiveness, accuracy of targeting and openness to technology**. ↘ ITEM 298 **The recent expansion of the research allowance** as part of the German government's tax relief programme will likely increase the amount of eligible expenditure by 20 % (Rammer, 2025). Further efficiency gains can be achieved by **simplifying** the application process, especially for extensions, and by reducing the required documentation for applicants who have already received funding. Such **administrative relief would facilitate the access for small and medium-sized firms**, where such tax incentives are particularly effective.

332. Some countries, including France and the United Kingdom, have **introduced patent boxes with a lower tax rate on earnings from patents** While this may help simplify the commercialisation of patents., GCEE considers R&D tax preferable to patent boxes. The empirical evidence suggests that **patent boxes hardly generate any additional domestic R&D** (Gaessler et al., 2021) but likely **generate additional profit shifting opportunities** through intellectual property royalty shifting ↘ BACKGROUND INFO 18 The latter, in turn, requires significant restrictions on the use of patent boxes.

333. **The asymmetric taxation of profits and losses penalises high-risk investments**, which are essential, for instance, in the high-tech sector. A tax credit for loss-making firms would ensure symmetry and, due to a positive liquidity effect, would be particularly advantageous for start-ups, which often make losses and have limited access to external finance at an early state. However, such a tax credit is unlikely to be realised. Among many reasons are a higher volatility of tax revenue, moral hazard or the delayed exit of permanently unprofitable firms.

Instead, **expanding the loss carry-back promises the strongest increase in risky investments** according to empirical studies ↘ ITEM 288 and is a targeted instrument because only firms that made profits in the recent past can use it. It should also strengthen the **role of corporate taxes as automatic stabilisers** by providing immediate relief to firms with temporary losses during economic crises (Devereux and Fuest, 2009). For example, as proposed by the expert commission on "Simplified Corporate Taxation" (BMF, 2024b), the **loss carry-back** could be **extended in terms of time and amount** and **extended** to the **local business tax**. However, the latter would result in short-term revenue shortfalls during crisis and increase the pro-cyclicality of the local business tax. According

to Koch et al. (2023) who use a microsimulation model, introducing a one-year loss carry-back of €10 million for in the German local business tax could reduce revenue by 7.1 % in a crisis year like 2020 and by 1.9 % in the medium term (2020-24). The medium-term reduction in revenue is significantly lower because fewer firms will be able to carry losses forward to subsequent years.

334. **The local business tax suffers from several weaknesses**. Its high dependence on the business cycle leads to strong **fluctuations in revenue**, which is problematic for financing municipalities (Dorn et al., 2021). This is exacerbated in municipalities that depend on few large firms. Municipal finances exhibit a strong path dependency due to persistent economic disparities (Geißler and Boettcher, 2016; Küpper and Peters, 2019). In addition, the different tax bases of the corporate income and local business tax ⬎ ITEM 265 as well as the necessary apportionment of trade income between municipalities causes a **high administrative burden**. Corporations have to submit separate corporate and trade tax returns, which are among the ten most expensive reporting obligations with annual bureaucratic costs of €2.2 billion and €2.7 billion respectively. ⬎ TABLE 32 The local business tax levied on partnerships is, in turn, largely refunded as part of the credit against the personal income tax.

Policymakers might thus **consider harmonising the tax base of local business tax and the corporate income tax** by abolishing additions and deductions, as recently proposed by the expert commission on "Simplified Corporate taxation" (BMF, 2024b). However, such harmonisation would still require allocating the trade income between individual municipalities in case of multi-location firms. As the local business tax base tends to be broader, sufficient funding for the municipalities would have to be secured. On approach that ensures a revenue-neutral reform would be an increase in the basic federal tax rate from currently 3.5 %, which together with the scaling factor determines the local business tax rate.

335. Another issue is the role of **scaling factors in tax competition between municipalities**. Tax competition offers efficiency gains in providing public goods if firms are mobile and can choose their preferred location (Tiebout, 1956). However, mobile taxpayers may insufficiently contribute to the financing of public goods precisely because they can leave, while immobile taxpayers are burdened with high taxes or insufficient public goods (GCEE Annual Report 2014 box 29). The coalition agreement envisages raising the **minimum local business tax rate from 200 % to 280 %** (CDU, CSU and SPD, 2025). However, this would currently only affect around 0.4 % of municipalities. While a stronger increase could further curb underbidding competition, it would deprive municipalities of an important instrument for improving their attractiveness as a business location and foster the relocation of business activities abroad.

336. The **option for corporate** of partnerships introduced a few years ago is an important step towards making **taxation neutral with respect to the legal form**. It also reduces effective restrictions on tax policy, as changes to corporate income tax do not necessarily require a corresponding adjustment to the personal income tax to ensure a symmetric tax burden of corporations and partnerships.

However, only very few firms have made use of this option model so far. ⊿ BACK-GROUND INFO 16 Two factors are cited as reasons for this (BMF, 2024b): the obligation to **contribute special business assets to the opting firm** and the **subsequent taxation of retained profits** if the retention tax relief under Section 34a EStG was previously used. Above all, **subsequent taxation appears to be dispensable** because these retained profits are still subject to capital income tax either when they are distributed or realised as capital gains.

5. Prospects for the global minimum tax – an overview

337. In response to the increasing international profit shifting, 137 countries and jurisdictions agreed on a **global minimum tax (GMT)** in 2021, **which** aims at ensuring **an effective tax burden of at least 15 % for multinational enterprises** (turnover of at least 750 million euros). ⊿ BOX 23 This lower bound should reduce tax differences between countries, thereby weakening profit-shifting incentives and creating fairer conditions for international tax competition.

338. In 2025, the USA declared its withdrawal from the global minimum taxation, while announcing sanctions against countries that make tax claims against firms domiciled in the USA. Since individual countries have an incentive to deviate from a cooperative approach, **adhering to the GMT** may create a **disadvantage for multinational enterprises with headquarters in the EU**. Nevertheless, it would be **advantageous if all countries jointly adhered to a co-operative solution**.

339. In addition to the GMT, there are already regulations such as **add-back taxation** or **interest deduction limits** (interest barrier, licence barrier) that restrict the opportunities of shifting profits to low-tax countries (Clifford, 2019). With the **Anti-Tax Avoidance Directive (ATAD)**, the EU has further tightened and harmonised these instruments since 2019. Germany therefore already has many instruments in place that likely reduced the extent of profit shifting and whose effectiveness is not dependent on such a high level of cross-country cooperation as the GMT. The Federal Ministry of Finance estimates the additional revenue from implementing the ATAD at around EUR 250 million per year (BMF, 2020). However, due to the measures already taken, for example as part of the ATAD, the additional revenue is likely to be lower at EUR 0.8 – 1.0 billion per year. ⊿ TABLE 6

⊿ BOX 23

Focus: How does the global minimum tax work?

The global minimum tax aims at ensuring an **effective tax rate of at least 15 %** for **multinational enterprises with a turnover of at least EUR 750 million**. It is based on the OECD model rules, which were the basis for an EU directive in 2021 and implemented in Germany by the Minimum Taxation Act in 2024.

The main instrument is the **Qualified Domestic Minimum Top-up Tax** (QDMTT), in which case the **country of residence of a subsidiary raises the tax rate to the minimum level of 15 %**. This

is supplemented by the **Income Inclusion Rule** (IRR), which allows the country in which the parent company is domiciled **to tax foreign profits of this firm** QDMTT up to 15 %. If neither QDMTT nor IRR are applied, the **Undertaxed Payments Rule** applies, according to which other countries can deny deductions for payments to low-tax countries and thus enforce subsequent taxation. Substance-based carve-outs (initially 8 % of fixed assets and 10 % of labour costs, later 5 %) reduce the tax burden under QDMTT to the extent that a subsidiary has real economic activities in the low-tax country. This reduces the revenue potential of the parent company's country of domicile and incentivises investment in low-tax countries.

How large the tax revenue will be in Germany strongly depends on the global implementation. **If the participation remains low, Germany can generate higher direct additional income via the IRR than with broad implementation**.

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