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Tax expenditures in OECD countries: Findings from the Global Tax Expenditures Database

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Tax Expenditures in OECD Countries

Findings from the Global Tax Expenditures Database

Martin Beznoska

Christian von Haldenwang

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Tax expenditures in OECD countries

Findings from the Global Tax Expenditures Database

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Bonn 2023

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Abstract

The Global Tax Expenditures Database (https://GTED.net/) collects national reports on tax expenditures for 101 countries for the period from 1990 to the present. Based on these data, the development of tax expenditures in the 38 OECD countries between 1999 and today is examined. A look at the data shows that even in countries with high GDP and comprehensive tax coverage, reporting is often incomplete. For a subset of 16 OECD countries for which (relatively) continuous reporting over the period is available, we look at the development of tax benefits for households and firms. We can show that data availability improves over time. For the development of business tax expenditures, a weakly significant positive trend can be identified in terms of tax revenues foregone, driven mainly by the Netherlands and Ireland. Both countries are known for wanting to strengthen their business location through generous tax expenditures for businesses. Tax expenditures for private households, which are on average higher than the level of tax expenditures for businesses in the countries under review, do not show any significant time trend, even though they were increasingly used to relieve the burden on private households and businesses during the financial crisis of 2008/09. In order to compare tax expenditures between countries and to better assess their effectiveness, regular reporting at the national level, transparent definitions and ideally uniform standards would be helpful. Regular monitoring by a commission of experts could contribute to the consistency and comparability.

JEL classification

C82 – Methodology for Collecting, Estimating and Organising Macroeconomic Data

H24 – Personal Income and Other Nonbusiness Taxes and Subsidies

H25 – Business Taxes and Subsidies

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1 Introduction

Tax expenditures – also known as tax reliefs – are not a matter of small change. This is highlighted by figures from the Global Tax Expenditures Database (GTED), which pools data from 102 countries: Averaged out over the long term (1990–2020), governments willingly forgo tax revenues amounting to 3.7 per cent of their gross domestic product (GDP) and 23.5 per cent of their tax receipts (Aliu et al., 2022). These figures are even higher for OECD member states: 4.7 per cent of GDP and 27.9 per cent of tax receipts.

The real impact of tax expenditures is often hard to assess. To fully estimate revenue forgone as a result of tax expenditures would require predicting how economic actors react to changes in taxation. Such predictions, however, are only possible to a limited extent, due to the large number of influencing factors and the many ways they interact with each other. As a result, almost all governments use estimation methods that do not account for behavioural changes. Comparing figures on revenue forgone between countries is made even more difficult by the fact that there are no uniform standards for defining tax expenditures. Not only may those standards differ from country to country, but also frequently between economic areas, and sometimes within them, too.

Against this backdrop, the GTED marks the first time national reports on tax expenditures have been brought together in one database. Compiling the data and transferring them into a single system shows that even under the current conditions there are ways to analyse tax expenditures from a comparative perspective, though the GTED also shows how inconsistently tax expenditures are recorded. As a matter of fact, a relatively large number of reports are available for OECD member states and they tend to cover longer periods of time than for other groups of countries. For instance, the European Union (2011), in its Council Directive 2011/85/EU, requires member states to publish details of the impact of revenue forgone on their total revenues. Those reports would constitute a formidable source of comparable data if uniform standards were applied. If tax expenditures were documented at the global level to assess their effectiveness and enable international comparisons, a consistent set of definitions and reporting standards would be required. The COVID-19 pandemic has further highlighted the need for tax expenditures to be reported consistently, as tax relief measures have been used by many governments to respond to the economic consequences of the crisis.

The GTED is presented in Section 2 below. Section 3 then moves on to describe the tax expenditures in the individual OECD countries and to identify possible trends across all countries. Finally, recommendations for action are discussed in the conclusion based on these trends.

2 The Global Tax Expenditures Database

2.1 The database

The Global Tax Expenditures Database (GTED) is a joint project of the German Institute of Development and Sustainability (IDOS) and the Council on Economic Policies (CEP), a Swiss think tank.[1] The database has been available to the public at www.GTED.net since June 2021. The GTED marks the first time that information on tax expenditures all over the world has been recorded using a standardised system of categories and making such information fully

1 This section is based largely on the GTED Companion Paper (Redonda et al., 2021) and the GTED Flagship Report 2021 entitled “Shedding Light on Worldwide Tax Expenditures” (von Haldenwang et al., 2021a).

accessible. It thus opens up new opportunities for research and encourages public debate on the issue.

The GTED is global in scope and, in its latest version, contains data from 102 out of 218 countries and jurisdictions covered. The remaining 116 countries have not published any information on tax expenditures. The GTED provides data for 34 out of the 38 OECD countries in 2019 and for 27 countries in 2020.[2] It is not uncommon for governments to publish their reports on tax expenditures with a certain delay or to cover several years in one single report.

The GTED only considers official data, provided by governments or parliaments, that is publicly available. There are several reasons for this: first, it is virtually impossible to verify the quality of information from other sources without expending an inordinate amount of time and effort. Second, accessing internal reports, unpublished data or other sources would run counter to one of the GTED's key principles, namely that it is a government's duty to give a regular and comprehensive account of its management of the public finances. Data on tax expenditures should therefore not be treated any differently to budget data – of which, after all, it forms a part in the broader sense. In many countries, therefore, reports on tax expenditures are tied to annual budgetary reports.

A report can be considered comprehensive if it includes all the tax expenditures granted. The report should contain details of the legal basis and timeframe, the tax base, the objectives and recipients and, last but not least, the fiscal costs of each tax expenditure. The type of tax expenditure (e.g. tax deferrals and rebates, reduced rates, etc.) should also be indicated. However, only a handful of countries publish reports in such detail. Even amongst OECD members, many governments release reports only irregularly or incompletely by, for instance, publishing aggregated data on revenue forgone but not drilling down to the level of individual tax expenditures.

2.2 Challenges facing a global database of tax expenditures based on country reports

As already outlined in the introduction, different national reports on tax expenditures are only comparable to a limited extent as each country decides for itself what to regard as a tax expenditure. For instance, a reduced value-added tax (VAT) rate for foodstuff and other basic goods is not considered a tax expenditure in Germany, but is in other countries. Another example is carbon taxes. Some countries grant lower rates or exemptions on carbon taxes for energy-intensive sectors of the economy. In other words, those sectors are getting a tax relief. Other countries do not levy any carbon taxes at all, which essentially equates to a tax expenditure of 100 per cent, but which does not appear in any report. Definitions can also change within a country. One striking example of this is a change to the treatment of tax reliefs granted on wage tax in the Netherlands between 2013 and 2014, which in 2014 resulted in a sharp increase in the amount of tax expenditures reported for income tax. Rather than being caused by a shift in tax policy, this was the result of a reinterpretation of what should be reported as a tax expenditure.

Some countries include negative tax expenditures in their reports, i.e. increases in tax receipts due to special rules. Negative tax expenditures of this kind may arise, for example, if crises or external shocks prompt short-term tax deferrals that result in higher receipts in subsequent years. However, they can also emerge over longer periods of time, for instance in situations where reduced tax rates lead to growth of the assessment base for the tax in question, which in

2 See Redonda et al. (2022). Please note that the data used in the following sections of the paper has been obtained from an earlier version of the dataset.

turn causes the corresponding tax receipts to rise. This can be observed with property taxes in some countries. Australia is a special case in that it includes “negative tax expenditures” as a specific category in its report alongside conventional tax expenditures.[3] This item covers e.g. increased excise duties on certain tobacco products.

Another difficulty arises if tax expenditures suddenly become available for certain sub-groups and thus increase the aggregate revenue forgone without any apparent shift in tax policy. Although some national reports – such as the Netherlands’ from 2014 – explain that the method for recording tax expenditures has changed compared to previous years, such changes are effected without comment in other cases, making longitudinal comparisons harder. Across the board, there is the problem of certain kinds of tax expenditures being omitted or only included on a selective basis. This means that it remains unclear whether no tax expenditures are being granted to a particular sub-group or whether they are simply not being reported. There are some cases where this is known to happen: for instance, the report by the US Department of the Treasury clearly states that only tax expenditures granted on income tax are included.[4] A number of countries indicate at individual tax expenditure level why they are not providing any estimation of the revenue forgone in these cases, e.g. because the losses are below a certain threshold or because calculating the costs would take too much time and effort. This information – insofar as it published by governments – is stored in the GTED and made available to users. However, it is only available for particular cases and can therefore not be used for the analysis of aggregate data.

Furthermore, the GTED database only includes tax expenditures at central government level. In countries with a federal system, however, tax reliefs granted at lower levels – e.g. by individual federal states and municipalities in Germany – can be substantial. However, the reporting done at sub-national level is inconsistent and incomplete. Even in countries with good national reporting such as Canada and Germany, it would require an inordinate amount of work to include sub-national tax expenditures in a global database such as the GTED. As a final caveat, many countries report only irregularly and with gaps spanning several years.

3 “A tax expenditure is a tax concession that provides a benefit to a specified activity or class of taxpayer. A negative tax expenditure arises when arrangements impose an additional charge rather than a benefit.” Cf. https://treasury.gov.au/sites/default/files/2019-03/TES_2007_Combined.pdf.

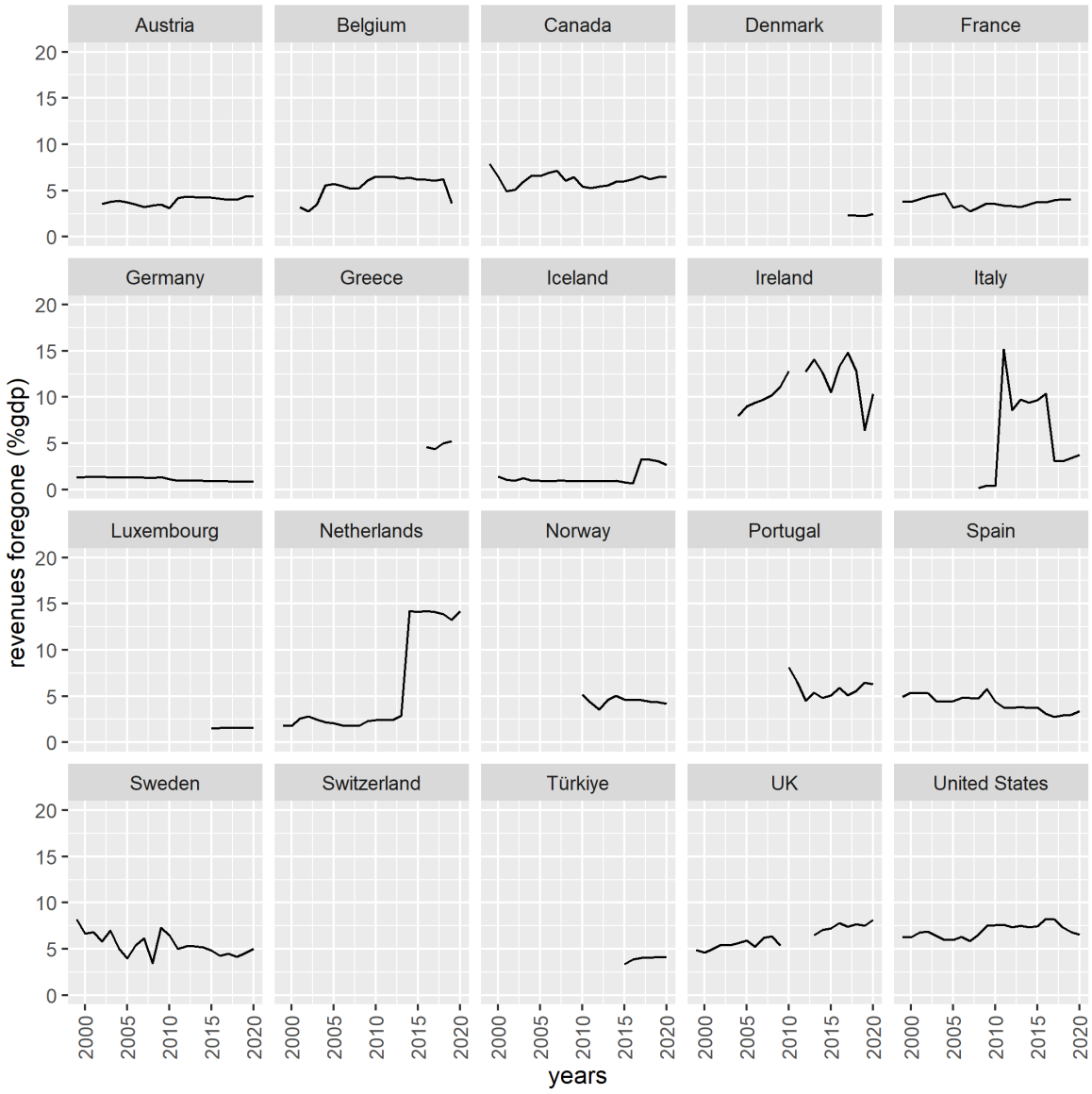
4 Cf. https://home.treasury.gov/policy-issues/tax-policy/taxexpenditures.

3 Tax expenditures in the OECD 1999–2020

3.1 Tax expenditures in individual OECD countries

A look at the trend in tax expenditures in the OECD's 20 founding members shows that even those countries that have been part of the organisation for 60 years apply varying degrees of rigour and consistency in reporting official data on tax expenditures (Figure 1).

Figure 1: Tax expenditures in the OECD's founding member states



Sources: GTED; own calculations

Denmark, Greece, Luxembourg, Norway, Portugal and Türkiye only started reporting in the last decade. While Germany reports a very consistent level of revenue forgone of just under 1.2 per cent of GDP over the last 20 years under observation, all the other countries with longer

continuous time series show fluctuations of varying degrees, as Figure 1 indicates.[5] While the revenue forgone reported in France (2004/05: -1.52 percentage points (pp)), Iceland (2016/17: +2.64 pp), Canada (2000/01: -1.59 pp), Norway (2012/13: +1.05 pp), Austria (2010/11: +0.93 pp), Portugal (2011/2012: -2 pp), Spain (2009/10: -1.32 pp), the UK (2008/09: -0.4) and the US (2009/10: +0.93 PP) may be due to actual fluctuations in the use of tax expenditures and minor adjustments to reporting methods, Italy and the Netherlands have seen significant changes in reporting over the observation period, which explains the large statistical swings in the data. The fluctuations indicated for Ireland may be due to actual policy shifts. Switzerland is the only founding member of the OECD that has not set up any monitoring to determine the scope of its tax expenditures even though the Swiss government has been legally obliged to report on them since 1990.

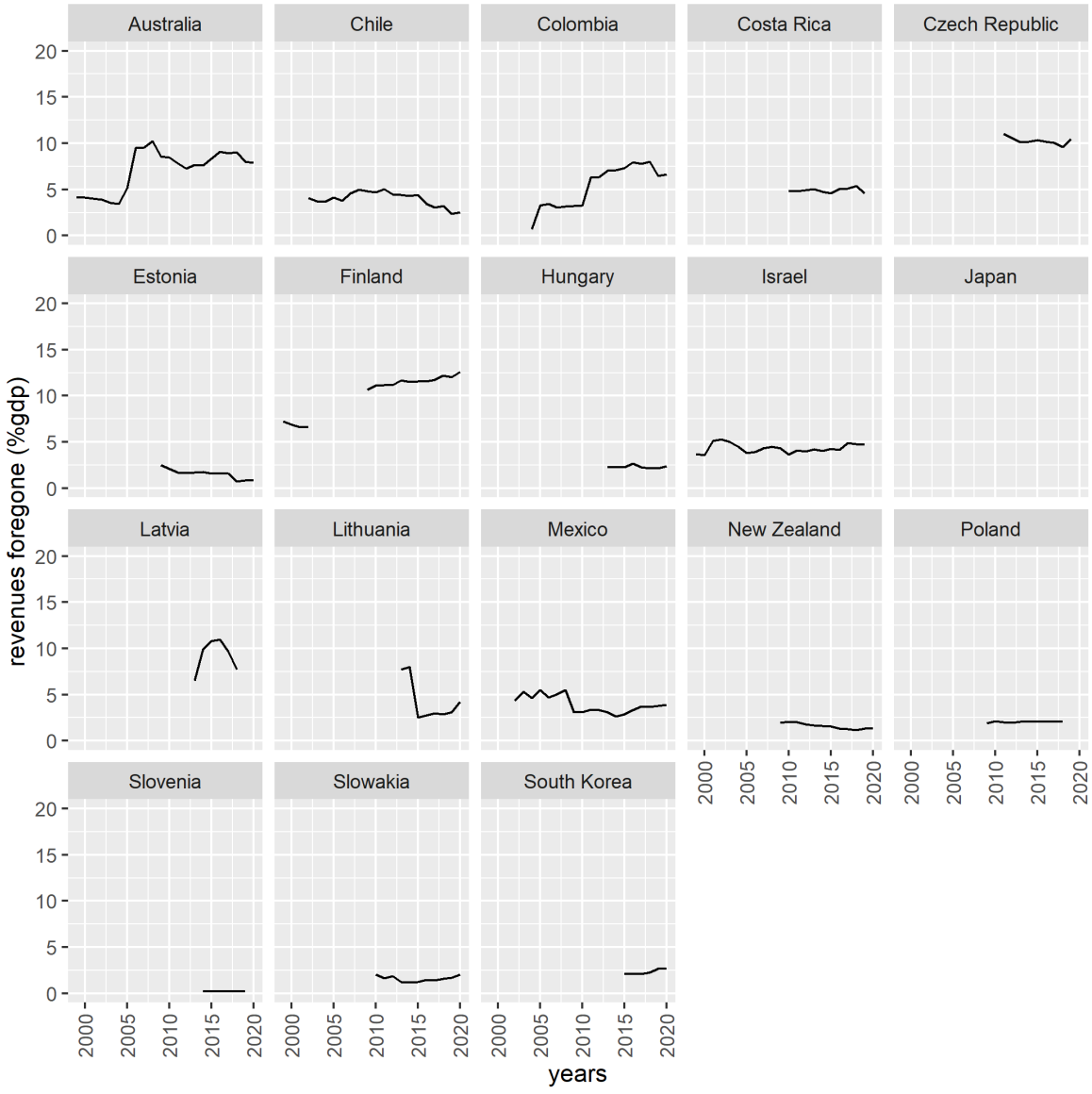
Out of the OECD countries that joined after 1961, data is available for the entire period of 1999–2020 for Australia, Chile, Colombia, Israel, and Mexico (Figure 2). Australia and Colombia demonstrate a positive trend, although this is due to a change in reporting methodology in the case of Australia. Data on the remaining countries is available for at least the past ten years under observation, with all of them but Latvia and Lithuania reporting a fairly stable level of tax expenditures. Although Japan does have a national process in place to report on tax expenditures, the figures published in the reports reflect amounts of deducted income rather than actual revenue forgone. Japan has therefore not been included in the database and will not be considered in this study.

While Figures 1 and 2 show the availability of data for tax expenditures in general, the following section looks at the trends in tax expenditures granted to specific economic entities – private households and companies – over the past 20 years. This is based on a selection of OECD countries for which a fairly complete data set is available for 1999–2020. Amongst the group of OECD founding members, these are: Austria, Belgium, Canada, France, Germany, Ireland, Iceland, Netherlands, Spain, Sweden, the UK, and the US. Of the countries that joined the OECD after 1961, Australia, Chile, Colombia, Israel, Finland, and Mexico qualify for inclusion in the sample. This means that most of the countries for which data is available over a longer observation period are founding members of the OECD.

5 Denmark, Luxembourg and Türkiye report very consistent rates of tax expenditures. As these countries have only been reporting their tax expenditures for a few years, however, it is too early to say whether this trend will remain stable in the long term.

Figure 2: Tax expenditures in OECD countries that joined after 1961

Average tax receipts lost as a percentage of GDP, 1999–2020



Sources: GTED; own calculations

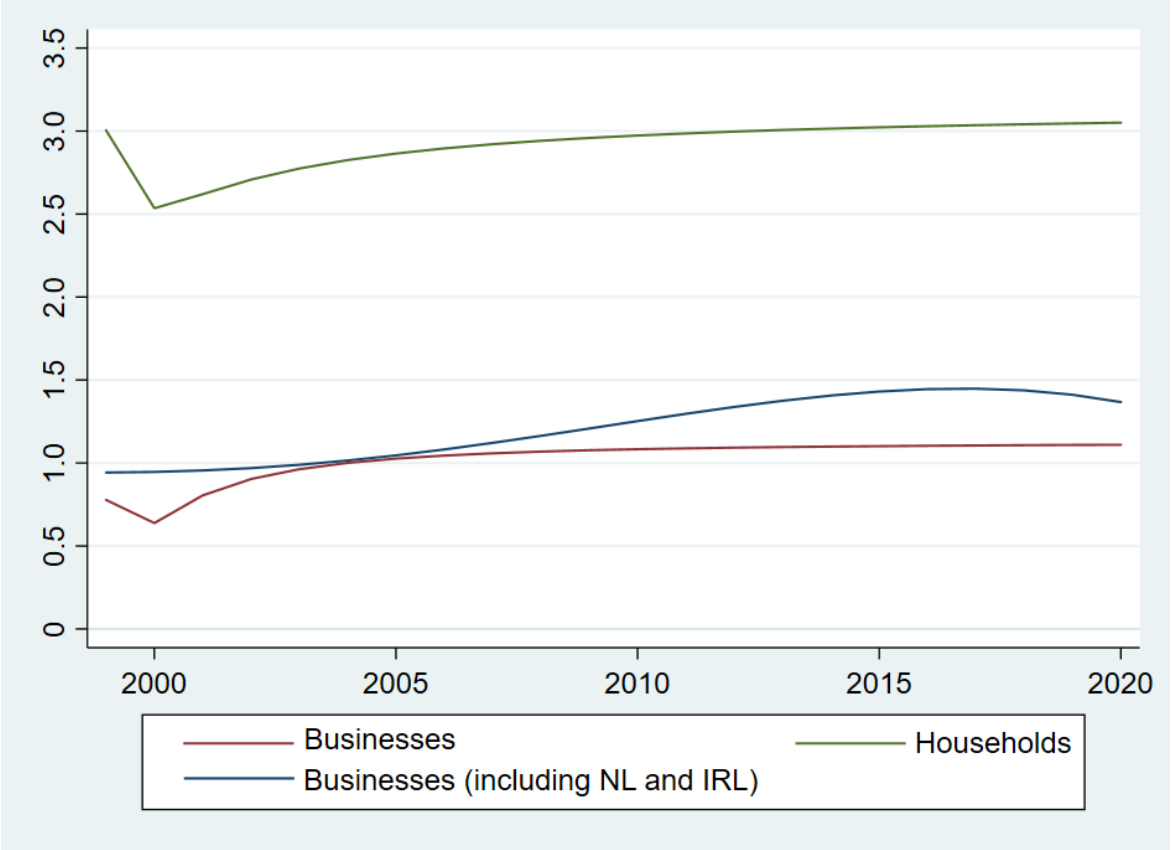
3.2 Time trends in tax expenditures for households and companies

Two research questions that the data can help to answer are, first, “How relevant are tax expenditures granted to certain economic entities in terms of public revenue?” and, second, “How have tax expenditures developed over time?”. The scale of the tax expenditures and their distribution between private households and companies would appear to be of particular interest from a fiscal policy perspective. Despite multiple gaps in the data for some countries, it is still possible to gauge a trend in average tax expenditures for the group of OECD countries defined in the section above. Figure A1 (in the appendix) shows the mean values over time. As the values are not available for the same time period for all countries and there is a particular lack of data in the first years of the observation period, adjusted time trends are illustrated here (Figure 3). The time trends in revenue forgone due to tax expenditures, differentiated by group

(private households and companies) from 1999 to 2020 have been calculated using a fractional polynomial regression. Compared to merely considering mean values over time, the methodology used here is robust with regard to isolated data gaps and outliers. Adjustments have also been made to account for country fixed effects.

Figure 3: Tax expenditures for households and companies in selected OECD countries

Revenue forgone as a percentage of GDP



Notes: Fractional polynomial time trends from country fixed-effects regressions. OECD countries considered: Australia, Austria, Belgium, Canada, Chile, Colombia, Finland, France, Germany, Iceland, Israel, Mexico, Spain, Sweden, UK, and US. Additional countries included in the calculations for corporate tax expenditures: Netherlands (NL) and Ireland (IRL).

Sources: GTED; own calculations

On average, the revenue forgone due to tax expenditures over this period amounts to 2.9 per cent of GDP for private households and 1.0 per cent for companies. As the problems with the data for the Netherlands and Ireland only affect private households, the two countries have been first excluded from the calculation in order to ensure that the samples for the company analysis remain comparable. If both countries are included, revenue forgone from the corporate sector amounts to 1.2 per cent of GDP. The increase over time in revenue forgone due to tax expenditures for companies is statistically significant at 10 per cent if the Netherlands and Ireland are included in the calculations. There is no significant time trend if the two countries are excluded.[6]

6 The Appendix shows each of the time trends with a 95 per cent confidence interval. These illustrate that the degree of statistical uncertainty is particularly high at the start of the observation period. Data availability tends to improve toward the end of the period, resulting in more precise estimates of mean values.

There are many reasons why households might be granted specific tax expenditures, chief amongst them a desire to support certain groups (such as workers and single parents) as part of a government's welfare policy. Economic policy goals also play a role, such as encouraging private pension savings, boosting consumer demand or increasing employment. In the wake of the 2008/2009 financial crisis, for instance, some countries introduced tax credits or temporary VAT cuts to stabilise demand. For this reason, the period after the financial crisis also marks a major trend shift as the average tax expenditures for households began to rise again. More recently, the COVID-19 pandemic has been driving a further increase in revenue forgone due to ad-hoc tax expenditures. Almost all countries have adopted numerous income stabilisation measures once again, resulting in revenue forgone of just over 3 per cent of GDP on average for 2020.

The wide range of policy objectives pursued and the huge number of households affected are also the reason for the imbalance in revenue forgone compared to business-related tax expenditures. Regarding the latter, policy is geared primarily towards promoting investment and improving a country's competitive position as a location for international firms. Excluding the Netherlands and Ireland from the calculations reveals only a slightly (and insignificantly) upward trend for the remaining OECD countries in Figure 3. Across the board, it is evident that tax expenditures for households in high-income OECD member states are much more significant than in the low- and middle-income countries of the Global South, where companies are the main beneficiaries of tax expenditures. This is partly due to the fact that OECD governments generate more revenue from taxing personal income than corporate earnings, meaning that measures in this area have a greater impact. Political debates on expanding the welfare state often play a role as well. Many OECD countries use tax expenditures as a mechanism to implement social policy measures because they are less visible than direct spending and thus fit better into the "lean state" narrative (cf. von Haldenwang et al., 2021b).

As already discussed, however, it must be pointed out that tax expenditures at subnational levels, for instance by federal states in Germany, are not considered here. US states in particular provide generous corporate tax reliefs that are not included in the analysis. This means that the level of tax expenditures for companies is, if anything, an underestimate. However, the calculation in Figure 3, which includes the Netherlands and Ireland, reveals a marked difference compared to the smaller group of countries. Both countries share a reputation for granting particularly generous tax breaks to international companies,[7] a fact borne out by the GTED data. Although Ireland's corporation tax rates are low across the board compared to other countries, they do not qualify as tax expenditures as they initially apply to all corporate earnings in general. However, Ireland waives a disproportionately high amount of tax revenues as a result of special tax deduction arrangements for research and development (R&D) spending, the purchase of intangible assets and generous options for offsetting losses. In the Netherlands, as in Ireland, companies can make use of a so-called patent box, which grants favourable tax treatment to earnings attributable to intangible assets: up until 2018, these earnings were only taxed at 5 per cent. New rules were introduced in 2018 in the Netherlands that curtail this benefit somewhat. A number of other countries, including Germany, have also placed restrictions on the tax-deductibility of spending on licence payments, meaning that these tax expenditures may potentially lose importance once again. This trend has to be seen in the context of international efforts to limit tax avoidance by companies operating internationally, which also includes the excessive use of patent boxes. These efforts form part of the Base Erosion and Profit Shifting (BEPS) project under the aegis of the OECD.[8]

7 It must be borne in mind in this regard that international tax competition is not based solely on tax expenditures, but rather on the overall effective tax burden that companies face.

8 Tom Neubig discusses the issue of patent boxes in detail in the chapter of the GTED Flagship Report entitled "Patent Box Incentives in the GTED" (Haldenwang et al., 2021a, 50–57). A general overview of the BEPS initiative can be found in OECD, 2015.

However, the other countries under observation have applied and continue to apply reduced tax rates to certain earnings (Sweden, UK) or offer other benefits such as tax credits granted to low-wage companies in the form of subsidies (France). The COVID-19 pandemic prompted new tax expenditures to be introduced temporarily in order to boost companies' liquidity and save jobs. In general, however, the trend of increasing tax expenditures – measured as the average revenue forgone over GDP – had tailed off for companies in the previous years. This could also be due to the aforementioned international efforts orchestrated by the OECD to curb profit shifting and tax avoidance.

4 Conclusion and recommendations for action

A look at the trend in tax expenditures in a sample of OECD countries restricted by data availability reveals two things: first, that there are major differences in reporting quality even in countries with an extensive tax reporting system and, second, that international developments in the use of tax expenditures – specifically tax reliefs for private households and companies in this case – merely indicate a tendency rather than a statistical trend in the narrower sense. The analysis of time trends shows that the availability and quality of data have improved over the past two decades. Based on the available data, the Netherlands and Ireland are the main drivers of a slight increase in revenue forgone as a result of corporate tax reliefs.

To allow for better comparability between national reports on tax expenditures, these reports should be published regularly – ideally annually – based on transparent definitions. This will require allocating clear responsibilities to ministries (generally the finance ministry), granting tax expenditures only by law as a basic principle, and imposing sunset clauses as a rule, as well as commissioning regular evaluations from experts in the field who will also review the quality of the data and the definitions used for tax expenditures and the underlying benchmark tax systems. If this reporting is designed to enable comparisons between how different countries handle their tax expenditures, a debate should be initiated at international level – under the umbrella of the OECD or the EU, for instance – on reporting standards to establish a single uniform standard. A look at the data from the GTED may be of use to identify good practices implemented by individual countries. As this report indicates, Germany has succeeded in setting up a reporting system that paints a consistent picture over time. Here too, however, there is an ongoing debate on how to define and report on tax expenditures. This is highlighted, for example, in the differences between the tax expenditures disclosed in the German government's Subsidy Report and those covered in the Kiel Subsidy Report published by the Kiel Institute for the World Economy (cf. Laaser & Rosenschon, 2020).

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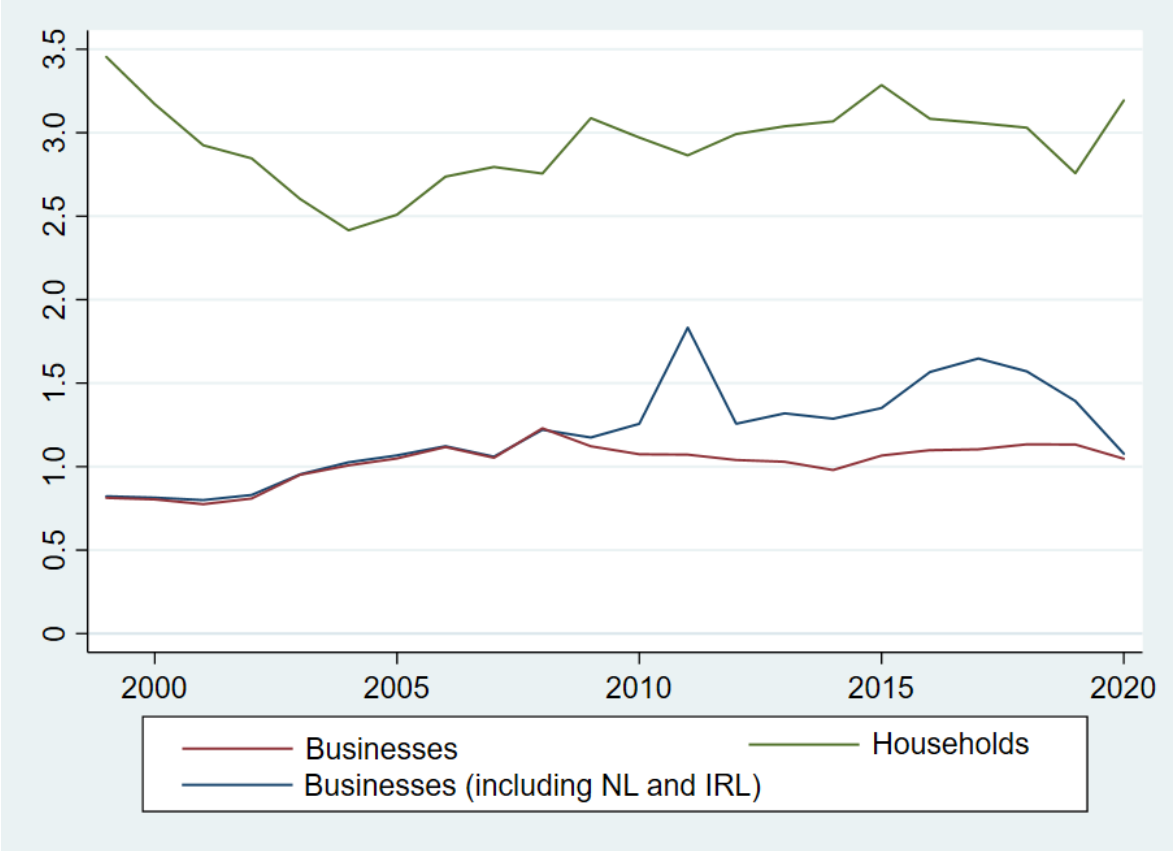
Appendix

Figure A1: Tax expenditures for companies and households in selected OECD countries

Revenue forgone as a percentage of GDP

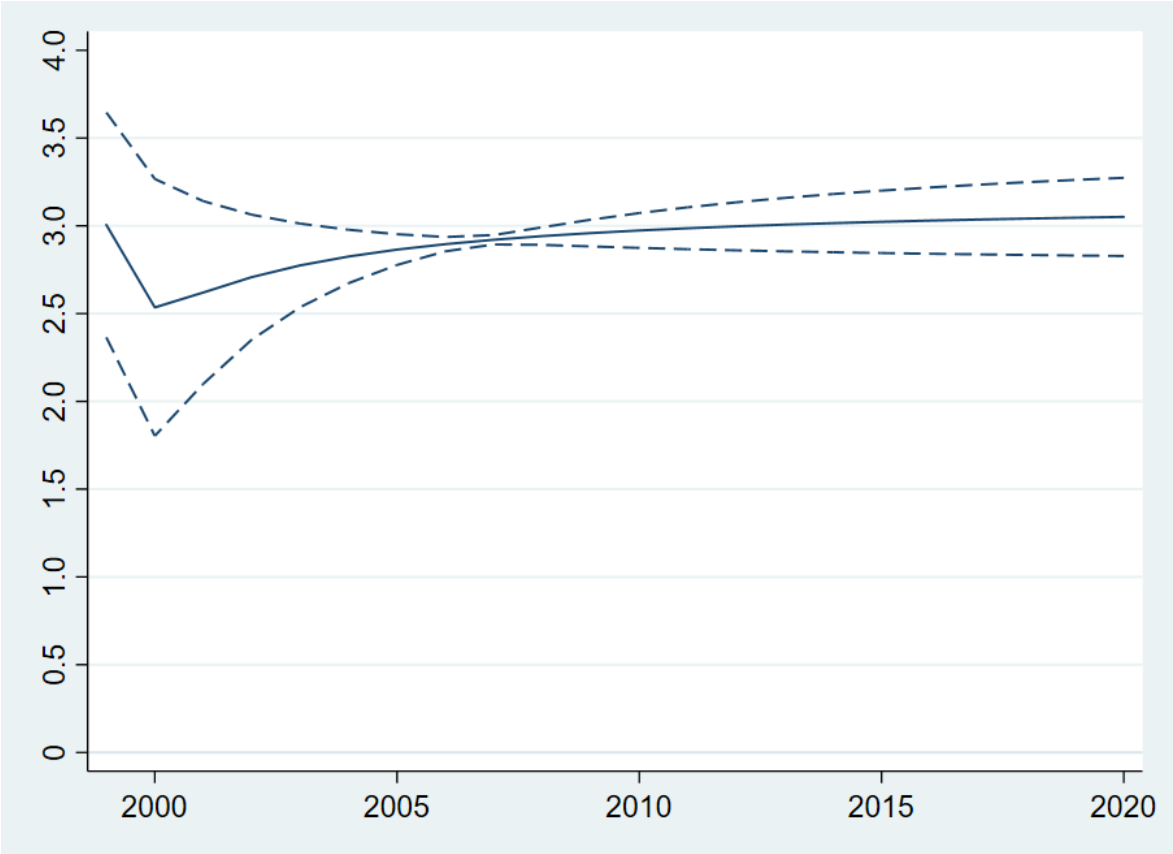


Notes: Mean values. At least 10 out of the 16 or 18 countries are observed each year.
OECD countries considered: Australia, Austria, Belgium, Canada, Chile, Colombia, Finland, France, Germany, Iceland, Israel, Mexico, Spain, Sweden, UK and US. Additional countries included in the calculations for corporate tax expenditures: Netherlands (NL) and Ireland (IRL).

Sources: GTED; own calculations

Figure A2: Tax expenditures for households in selected OECD countries

Revenue forgone as a percentage of GDP

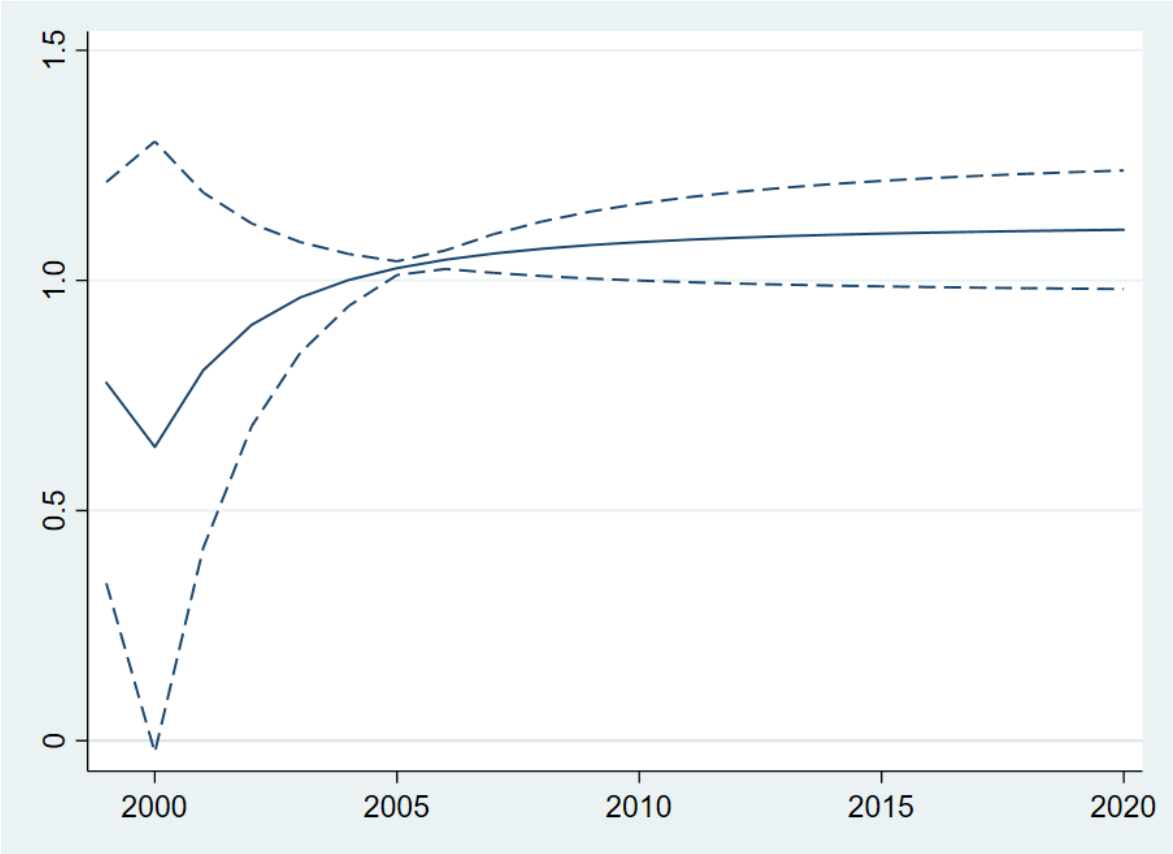


Notes: Fractional polynomial time trends from country fixed-effects regressions. Dashed lines indicate a 95 per cent confidence band.
OECD countries considered: Australia, Austria, Belgium, Canada, Chile, Colombia, Finland, France, Germany, Iceland, Israel, Mexico, Spain, Sweden, UK and US.

Sources: GTED; own calculations

Figure A3: Tax expenditures for companies in selected OECD countries

Revenue forgone as a percentage of GDP

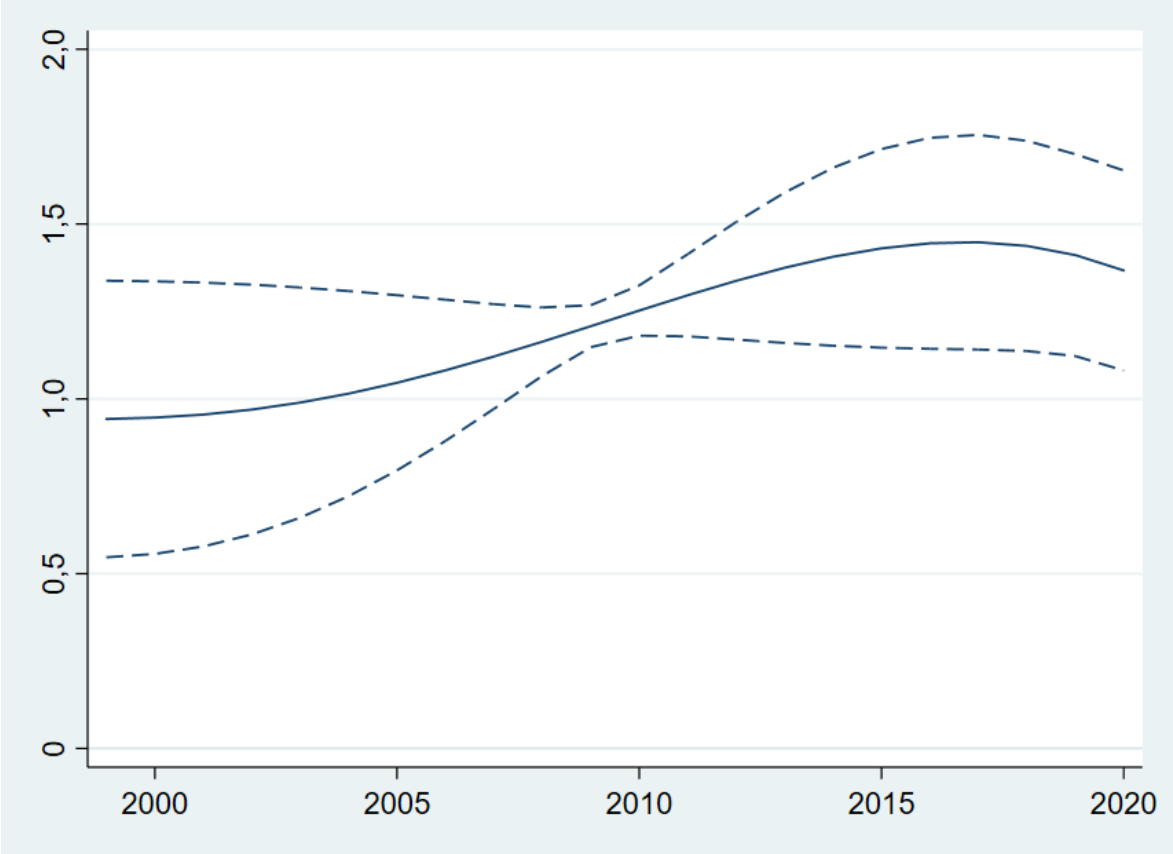


Notes: Fractional polynomial time trends from country fixed-effects regressions. Dashed lines indicate a 95 per cent confidence band.
OECD countries considered: Australia, Austria, Belgium, Canada, Chile, Colombia, Finland, France, Germany, Iceland, Israel, Mexico, Spain, Sweden, UK and US.

Sources: GTED; own calculations

Figure A4: Tax expenditures for companies in selected OECD countries (including the Netherlands and Ireland)

Revenue forgone as a percentage of GDP



Notes: Fractional polynomial time trends from country fixed-effects regressions. Dashed lines indicate a 95 per cent confidence band.
OECD countries considered: Australia, Austria, Belgium, Canada, Chile, Colombia, Finland, France, Germany, Iceland, Israel, Mexico, Spain, Sweden, UK and US. Also included in these calculations: Netherlands (NL) and Ireland (IRL).

Sources: GTED; own calculations