

Corporate Tax Statistics

FOURTH EDITION



Corporate Tax Statistics

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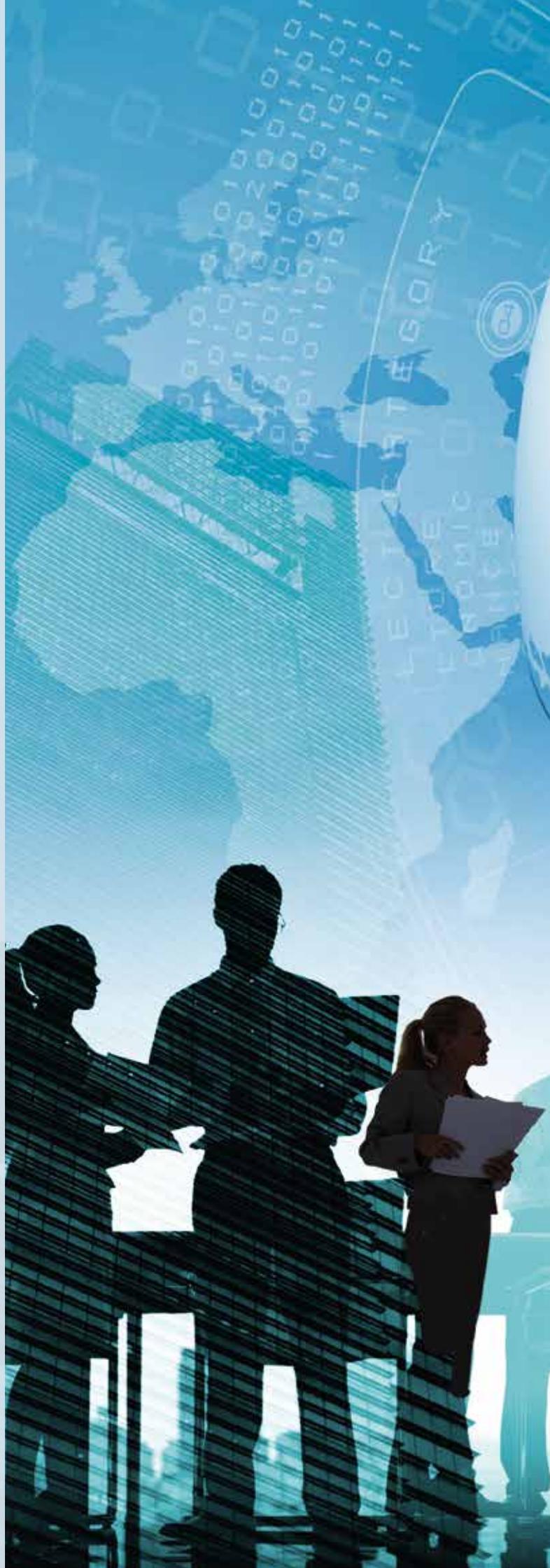
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Introduction

In developing this fourth edition of the *Corporate Tax Statistics* database, the OECD has worked closely with members of the Inclusive Framework on BEPS (Inclusive Framework) and other jurisdictions willing to participate in the collection and compilation of statistics relevant to corporate taxation.

This database is intended to assist in the study of corporate tax policy and expand the quality and range of data available for the analysis of base erosion and profit shifting (BEPS). The 2015 BEPS Action 11 report on *Measuring and Monitoring BEPS* highlighted that the lack of quality data on corporate taxation is a major limitation to the measurement and monitoring of the scale of BEPS and the impact of the OECD/G20 BEPS project. While this database is of interest to policy makers from the perspective of BEPS, its scope is much broader. Apart from BEPS, corporate tax systems are important more generally in terms of the revenue that they raise and the incentives for investment and innovation that they create. The *Corporate Tax Statistics* database brings together a range of valuable information to support the analysis of corporate taxation, in general, and of BEPS, in particular.

The database compiles new data items as well as statistics in various existing data sets held by the OECD. The fourth edition of the database contains the following categories of data:

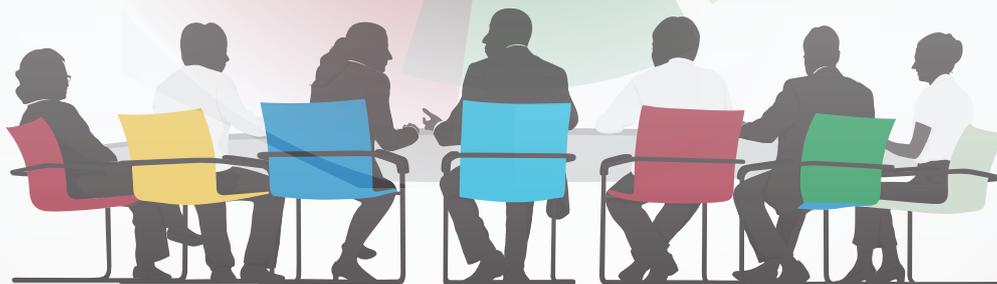
- **Corporate tax revenues;**
- **Statutory corporate income tax (CIT) rates;**
- **Corporate effective tax rates;**
- **Tax incentives for research and development (R&D);**
- **Action 13 implementation;**
- **Anonymised and aggregated statistics collected via Country-by-Country Reports;**
- **Intellectual property regimes;**
- **Standard withholding tax rates.**

NAMES OF COUNTRIES AND JURISDICTIONS

ALB Albania	KHM Cambodia	FIN Finland	KOR Korea	NIC Nicaragua	SVN Slovenia
AND Andorra	CMR Cameroon	FRA France	KGZ Kyrgyzstan	NER Niger	SLB Solomon Islands
AGO Angola	CAN Canada	GAB Gabon	LAO Lao People's Democratic Republic	NGA Nigeria	ZAF South Africa
AIA Anguilla	CYM Cayman Islands	GEO Georgia	LVA Latvia	MKD North Macedonia	ESP Spain
ATG Antigua and Barbuda	TCD Chad	DEU Germany	LSO Lesotho	NOR Norway	LKA Sri Lanka
ARG Argentina	CHL Chile	GHA Ghana	LBR Liberia	OMN Oman	SWE Sweden
ARM Armenia	CHN China	GIB Gibraltar	LIE Liechtenstein	PAK Pakistan	CHE Switzerland
ABW Aruba	COL Colombia	GRC Greece	LTU Lithuania	PAN Panama	THA Thailand
AUS Australia	COD Congo, Democratic Republic of	GRL Greenland	LUX Luxembourg	PNG Papua New Guinea	TGO Togo
AUT Austria	COG Congo, Republic of	GRD Grenada	MAC Macau, China	PRY Paraguay	TKL Tokelau
BHS Bahamas	COK Cook Islands	GTM Guatemala	MDG Madagascar	PER Peru	TTO Trinidad and Tobago
BHR Bahrain	CRI Costa Rica	GGY Guernsey	MWI Malawi	PHL Philippines	TUN Tunisia
BGD Bangladesh	CIV Côte D'ivoire	GUY Guyana	MYS Malaysia	POL Poland	TUR Türkiye
BRB Barbados	HRV Croatia	HND Honduras	MDV Maldives	PRT Portugal	TCA Turks and Caicos Islands
BEL Belgium	CUB Cuba	HKG Hong Kong, China	MLI Mali	QAT Qatar	UGA Uganda
BLZ Belize	CUW Curaçao	HUN Hungary	MLT Malta	ROU Romania	UKR Ukraine
BMU Bermuda	CYP Cyprus	ISL Iceland	MRT Mauritania	RWA Rwanda	UKR Ukraine
BTN Bhutan	CZE Czech Republic	IND India	MUS Mauritius	KNA Saint Kitts And Nevis	ARE United Arab Emirates
BOL Bolivia, Plurinational State of	DNK Denmark	IDN Indonesia	MEX Mexico	LCA Saint Lucia	GBR United Kingdom
BIH Bosnia and Herzegovina	DMA Dominica	IRL Ireland	MCO Monaco	VCT Saint Vincent and the Grenadines	USA United States
BWA Botswana	DOM Dominican Republic	IMN Isle Of Man	MNG Mongolia	WSM Samoa	URY Uruguay
BRA Brazil	EGY Egypt	ISR Israel	MNE Montenegro	SMR San Marino	VUT Vanuatu
VGB British Virgin Islands	ELV El Salvador	ITA Italy	MSR Montserrat	SAU Saudi Arabia	VNM Viet Nam
BRN Brunei Darussalam	GNQ Equatorial Guinea	JAM Jamaica	MAR Morocco	SEN Senegal	
BGR Bulgaria	EST Estonia	JEP Jersey	NAM Namibia	SRB Serbia	
BFA Burkina Faso	SWZ Eswatini, Kingdom of	JOR Jordan	NRU Nauru	SYC Seychelles	
CPV Cabo Verde	FRO Faroe Islands	KAZ Kazakhstan	NLD Netherlands	SGP Singapore	
	FJI Fiji	KEN Kenya	NZL New Zealand	SVK Slovak Republic	

Box 1. CORPORATE TAX STATISTICS DATABASE

- **Corporate tax revenues:**
 - data are from the OECD's [Global Revenue Statistics Database](#)
 - covers 118 jurisdictions from 1965-2019 (for OECD members) and 1990-2019 (for non-OECD members)
- **Statutory CIT rates:**
 - covers 117 jurisdictions from 2000-2022
- **Standard withholding tax rates:**
 - new data covering 112 jurisdictions from 2022
- **Corporate effective tax rates:**
 - covers 77 jurisdictions for 2017-2021
- **Tax incentives for research and development (R&D):**
 - two indicators produced by the Centre for Tax Policy and Administration and the OECD Directorate for Science, Technology and Innovation
 - covers 49 jurisdictions for 2019-2021 (for preferential tax treatment to R&D, based on effective average tax rates and cost of capital for R&D)
- data are from the *OECD R&D Tax Incentive Database* produced by the OECD Directorate for Science, Technology and Innovation
 - covers 49 jurisdictions for 2000-2019 (for tax and direct government support as a percentage of R&D)
 - covers 49 jurisdictions for 2000-2021 (for implied subsidy rates for R&D, based on the B-Index)
- **Action 13 implementation:**
 - information on the implementation of the minimum standard on Country-by-Country Reporting
- **Anonymised and aggregated Country-by-Country Report (CbCR) statistics:**
 - data are from anonymised and aggregated CbCR statistics prepared by OECD Inclusive Framework members and submitted to the OECD
 - covers 47 jurisdictions for 2018
- **Intellectual property (IP) regimes:**
 - data collected for 2018-2022 by the OECD's Forum on Harmful Tax Practices
 - covers 60 regimes in 45 jurisdictions for 2022



Corporate tax revenues

Data on corporate tax revenues can be used for comparison across jurisdictions and to track trends over time. The data in the *Corporate Tax Statistics* database is drawn from the OECD's *Global Revenue Statistics Database* and allows for the comparison of individual jurisdictions as well as average corporate tax revenues across OECD, Latin American and the Caribbean (LAC), African, and Asian and Pacific jurisdictions.¹

Box 2. CORPORATE TAX REVENUES

The *Corporate Tax Statistics* database contains four corporate tax revenue indicators:

- the level of corporate tax revenues in national currency;
- the level of corporate tax revenues in USD;
- corporate tax revenues as a percentage of total tax revenue;
- corporate tax revenues as a percentage of gross domestic product (GDP).

The data are from the OECD's *Global Revenue Statistics Database*, which presents detailed, internationally comparable data on tax revenues. The classification of taxes and methodology is described in detail in the OECD's *Revenue Statistics Interpretative Guide*.

Average corporate tax revenues as a share of total tax revenues



Average corporate tax revenues as a percentage of GDP

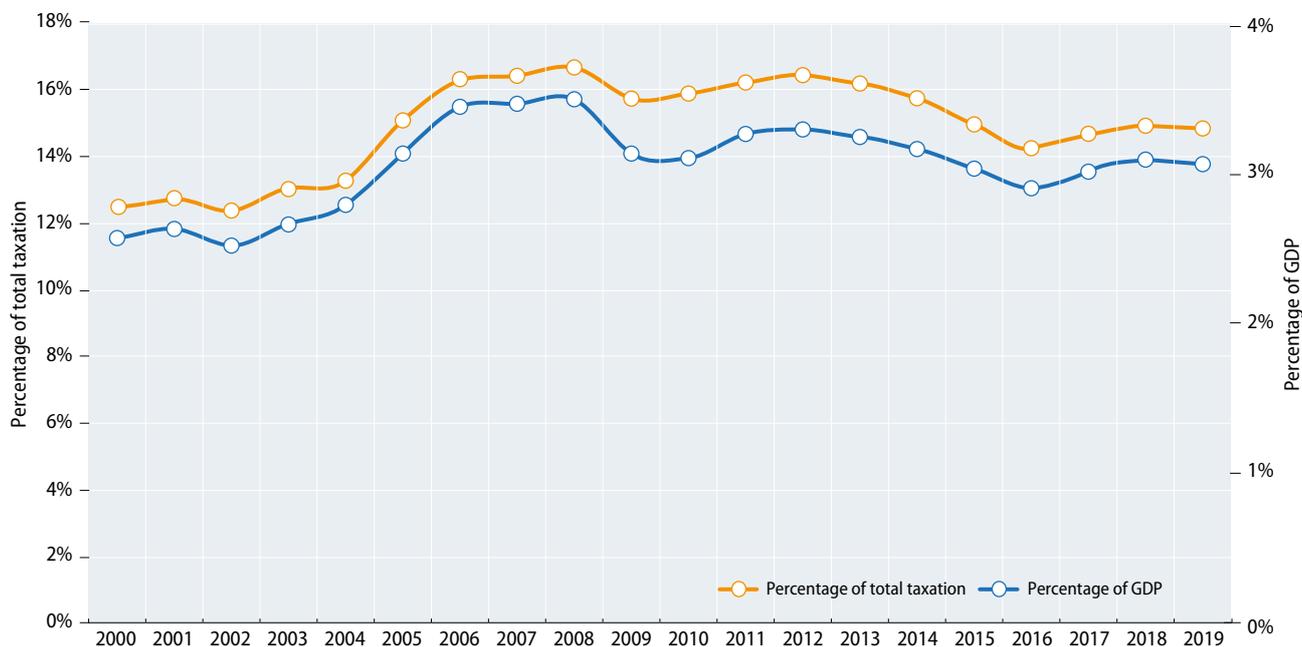


KEY INSIGHTS:

- In 2019, the share of corporate tax revenues in total tax revenues was 15.0% on average across the 115 jurisdictions for which corporate tax revenues are available in the database, and the share of these revenues as a percentage of GDP was 3.1% on average.
- The size of corporate tax revenues relative to total tax revenues and relative to GDP varies by groupings of jurisdictions. In 2019, corporate tax revenues were a larger share of total tax revenues on average in Africa (18.8% in the 30 jurisdictions), Asia and Pacific (18.2% in the 24 jurisdictions) and LAC (15.8% in the 26 jurisdictions) than the OECD (9.6%). The average of corporate tax revenues as a share of GDP was the largest in LAC (3.6% in the 26 jurisdictions), followed by Asia and Pacific (3.3% in the 28 jurisdictions), the OECD (3.0%) and Africa (2.9% in the 30 jurisdictions).
- In fourteen jurisdictions – Bhutan, Chad, Democratic Republic of the Congo, Egypt, Equatorial Guinea, Ghana, Indonesia, Kazakhstan, Malaysia, Nigeria, Papua New Guinea, Singapore, Thailand and Trinidad and Tobago – corporate tax revenues made up more than one-quarter of total tax revenues in 2019.
- Corporate tax revenues are driven by the economic cycle. For the period 2000-19, average corporate tax revenues as a percentage of GDP reached their peak in 2008 (3.5%) and declined in 2009 and 2010 (3.2% and 3.1% respectively), reflecting the impact of the global financial and economic crisis.

1. The *Global Revenue Statistics Database* covers 118 jurisdictions as at 25 July 2022. Data on corporate tax revenues is available for 114 of these jurisdictions. In addition to the OECD, the *Global Revenue Statistics Database* also contains data on 28 Asian and Pacific jurisdictions, 26 Latin America and Caribbean jurisdictions, and 30 African jurisdictions, and averages for the LAC, African, and Asian and Pacific regions.

FIGURE 1: Average corporate tax revenues as a percentage of total tax and as a percentage of GDP



TRENDS IN CORPORATE TAX REVENUES

Data from the OECD’s *Corporate Tax Statistics* database show that there was a slight increase in both the average of CIT revenues as a share of total tax revenues and as a share of GDP between 2000 and 2019 across the 114 jurisdictions for which data are available.² Average corporate tax revenues as a share of total tax revenues increased from 12.6% in 2000 to 15.0% in 2019, and average CIT revenues as a percentage of GDP increased from 2.6% in 2000 to 3.1% in 2019.

Between 2000 and 2019, the trend for both indicators is very similar. When measured both as a percentage of total tax revenues and as a percentage of GDP, corporate tax revenues reached their peak in 2008 and then dipped in 2009 and 2010, reflecting the impact of the global financial and economic crisis. While average CIT revenues recovered after 2010, the unweighted averages declined in 2014, 2015 and 2016 across all 114 jurisdictions for which data are available. The unweighted averages recovered slightly in 2017 and 2018 as a result of increases across a wide range of jurisdictions. This two-year period of

Corporate tax revenues are particularly important in developing economies

(CIT revenues as a share of total tax revenues in 2019)

AFRICA (30): 18.8%



LAC (26): 15.8%



ASIA AND PACIFIC (28): 18.2%



OECD: 9.6%



Corporate tax revenues as a share of total tax in 2019

25% OR MORE

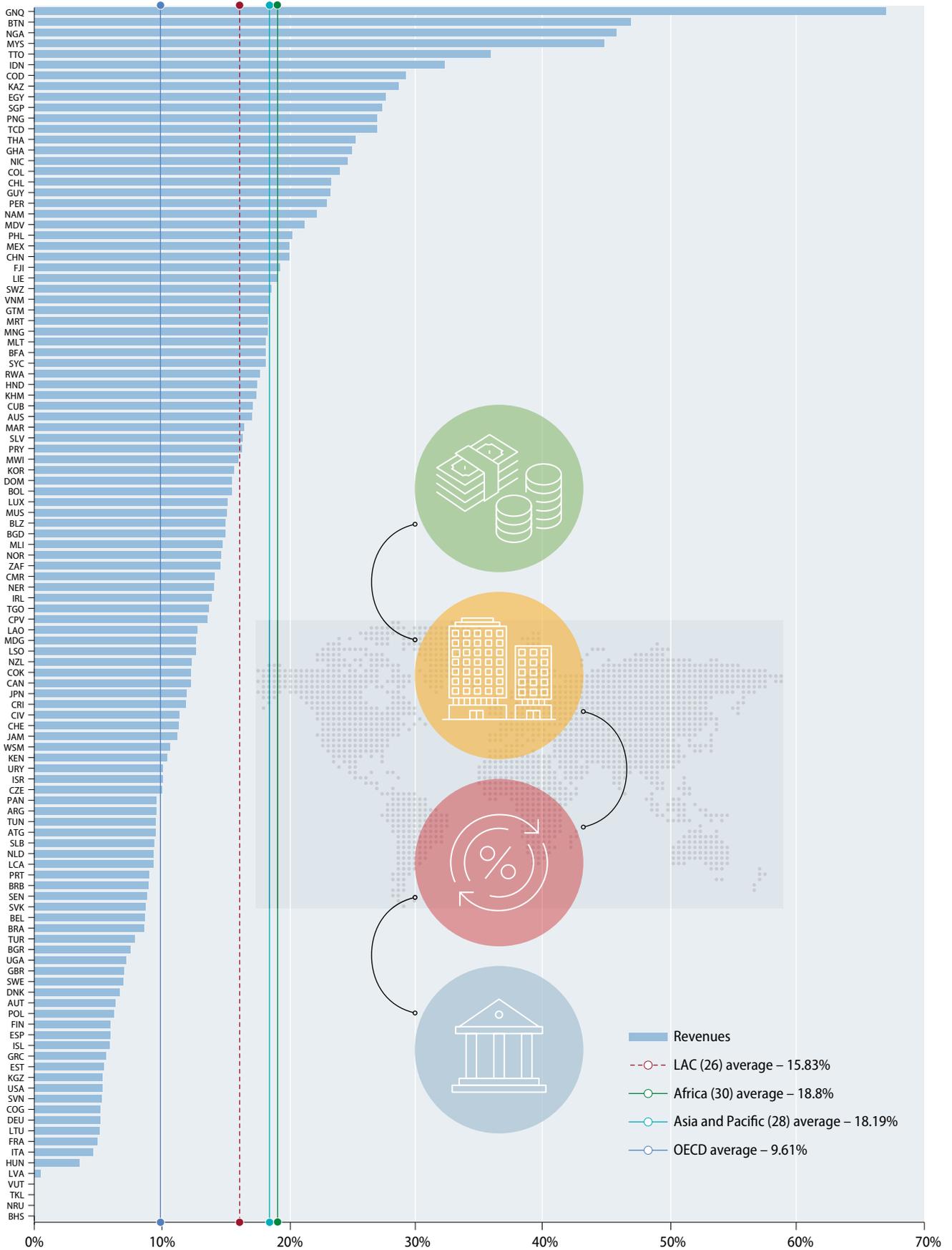
Corporate tax revenues made up more than one-quarter of total tax revenues in 2019: **Bhutan, Chad, Democratic Republic of the Congo, Egypt, Equatorial Guinea, Ghana, Indonesia, Kazakhstan, Malaysia, Nigeria, Papua New Guinea, Singapore, Thailand and Trinidad and Tobago**

5% OR LESS

Corporate tax revenues made up less than 5% of total tax revenues in 2019: **Bahamas, France, Hungary, Italy, Latvia, Nauru, Tokelau and Vanuatu**

2. The latest tax revenue data available across all jurisdictions in the database are for 2019, although there are 2020 data available for some jurisdictions in the *Global Revenue Statistics* database.

FIGURE 2: Corporate tax revenues as a percentage of total tax revenues, 2019



increases was followed by a slight decline in 2019 as more than half of the 114 jurisdictions reported a reduction in both indicators in 2019.

The averages mask considerable differences across jurisdictions. In 2019, jurisdictions differed considerably in the portion of total tax revenues raised by the CIT. In Bhutan, Chad, Democratic Republic of the Congo, Egypt, Equatorial Guinea, Ghana, Indonesia, Kazakhstan, Malaysia, Nigeria, Papua New Guinea, Singapore, Thailand and Trinidad and Tobago, CIT revenue accounted for more than 25% of total tax revenue. In Bhutan, Equatorial Guinea, Malaysia and Nigeria, it accounted for more than 40%. In contrast, some jurisdictions – such as the Bahamas, France, Hungary, Italy, Latvia, Nauru, Tokelau and Vanuatu³ – raised less than 5% of total tax revenue from the CIT. In most jurisdictions, the difference in the level of corporate taxes as a share of total tax revenues reflects differences in the levels of other taxes raised.

The average revenue share of corporate tax in 2019 also varied across the OECD and the regional groupings (LAC, Asia and Pacific and Africa). In 2019, the OECD average was the lowest, at 9.6%, followed by the LAC average (15.8% in 26 jurisdictions), the Asian and Pacific average (18.2% in 28 jurisdictions) and the African average (18.8% in 30 jurisdictions).

Some of the variation in the share of CIT in total tax revenues results from differences in statutory corporate tax rates, which also vary considerably across jurisdictions. In addition, this variation can be explained by institutional and jurisdiction-specific factors, including:

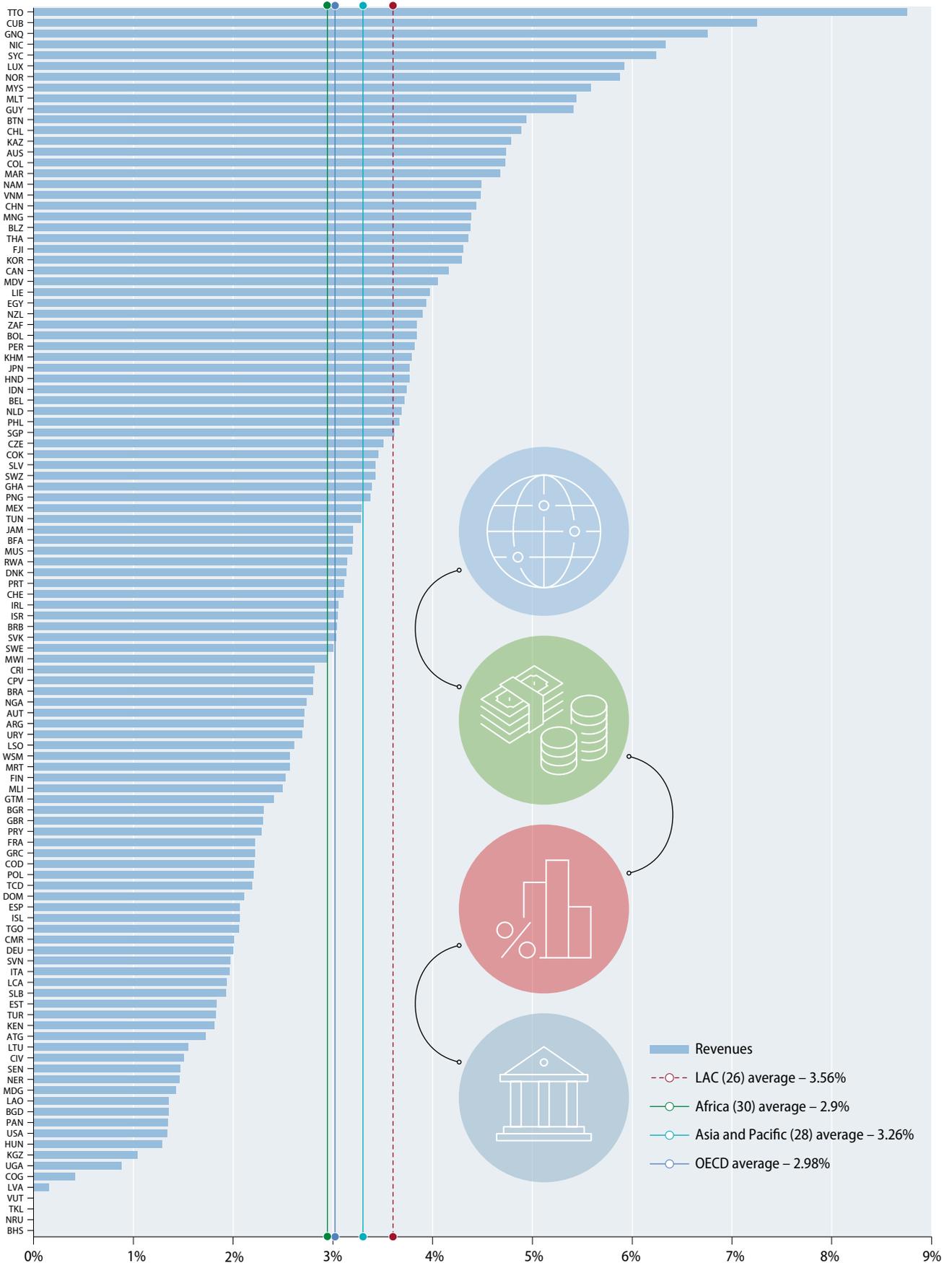
- the degree to which firms in a jurisdiction are incorporated;
- the breadth of the CIT base;
- the current stage of the economic cycle and the degree of cyclicity of the corporate tax system (for example, from the generosity of loss offset provisions);
- the extent of reliance on other types of taxation, such as taxes on personal income and on consumption;
- the extent of reliance on tax revenues from the exploitation of natural resources;
- other instruments that postpone the taxation of earned profits.

Generally, differences in corporate tax revenues as a share of total tax revenues should not be interpreted as being related to BEPS behaviour, since many other factors are likely to be more significant, although profit shifting may have some effects at the margin.



3. The Bahamas, Nauru, Tokelau and Vanuatu do not levy a corporate income tax.

FIGURE 3: Corporate tax revenues as a percentage of GDP, 2019



CORPORATE TAX REVENUES AS A SHARE OF GDP

Corporate tax revenues as a percentage of GDP also vary across jurisdictions. In 2019, the ratio of corporate tax revenues to GDP were between 2% and 5% of GDP for a majority of the 114 jurisdictions covered. For a few jurisdictions, corporate tax revenues accounted for a larger percentage of GDP; they were more than 5% of GDP in 10 jurisdictions. In contrast, they were less than 2% of GDP in 28 jurisdictions.

In 2019, the OECD and Africa (30 jurisdictions) averages were similar, at 3.0% and 2.9% of GDP respectively, whereas the Asia and Pacific (28 jurisdictions) and LAC (26 jurisdictions) averages were higher (3.3% and 3.5%).

The reasons for the variation across jurisdictions in corporate tax revenues as a percentage of GDP are similar

to those that explain why the corporate tax revenue share of total tax revenue differs, such as differences in statutory corporate tax rates and differences in the degree to which firms in a given jurisdiction are incorporated. In addition, the total level of taxation as a share of GDP plays a role. For example, for the 30 African jurisdictions, the relatively high average revenue share of CIT compared to the relatively low average of CIT as a percentage of GDP reflects the low amount of total tax raised as a percentage of GDP (average of 16.6%). Total tax revenue as a percentage of GDP is somewhat higher for the 26 LAC jurisdictions (average of 22.7%), the 28 Asian and Pacific jurisdictions (average of 20.3%) and for the OECD jurisdictions (average of 33.4%). Across jurisdictions in the database, low tax-to-GDP ratios may reflect policy choices as well as other challenges associated with domestic resource mobilisation (e.g. administrative capacity and levels of compliance).



In 2019, average corporate tax revenues as a percentage of GDP were highest in the LAC (26) region at **3.6%**. The Asian and Pacific (28), OECD and African (30) averages were **3.3%**, **3.0%** and **2.9%** respectively.

Statutory corporate income tax rates

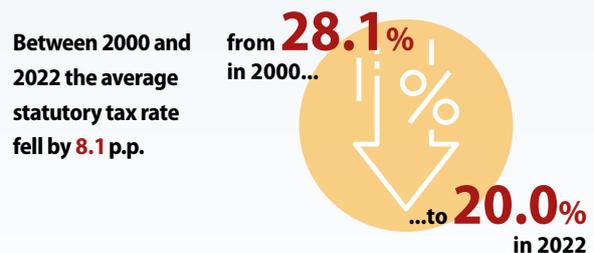
Statutory CIT rates show the headline tax rate faced by corporations and can be used to compare the standard tax rate on corporations across jurisdictions and over time. As statutory tax rates measure the marginal tax that would be paid on an additional unit of income, in the absence of other provisions in the tax code, they are often used in studies of BEPS to measure the incentive that firms have to shift income between jurisdictions.

Standard statutory CIT rates, however, do not give a full picture of the tax rates faced by corporations in a given jurisdiction. The standard CIT rate does not reflect any special regimes or rates targeted to certain industries or income types, nor does it take into account the breadth of the corporate base to which

the rate applies. Further information, such as the data on effective corporate tax rates and intellectual property (IP) regimes in the [Corporate Tax Statistics](#) database, is needed to form a more complete picture of the tax burden on corporations across jurisdictions.

KEY INSIGHTS:

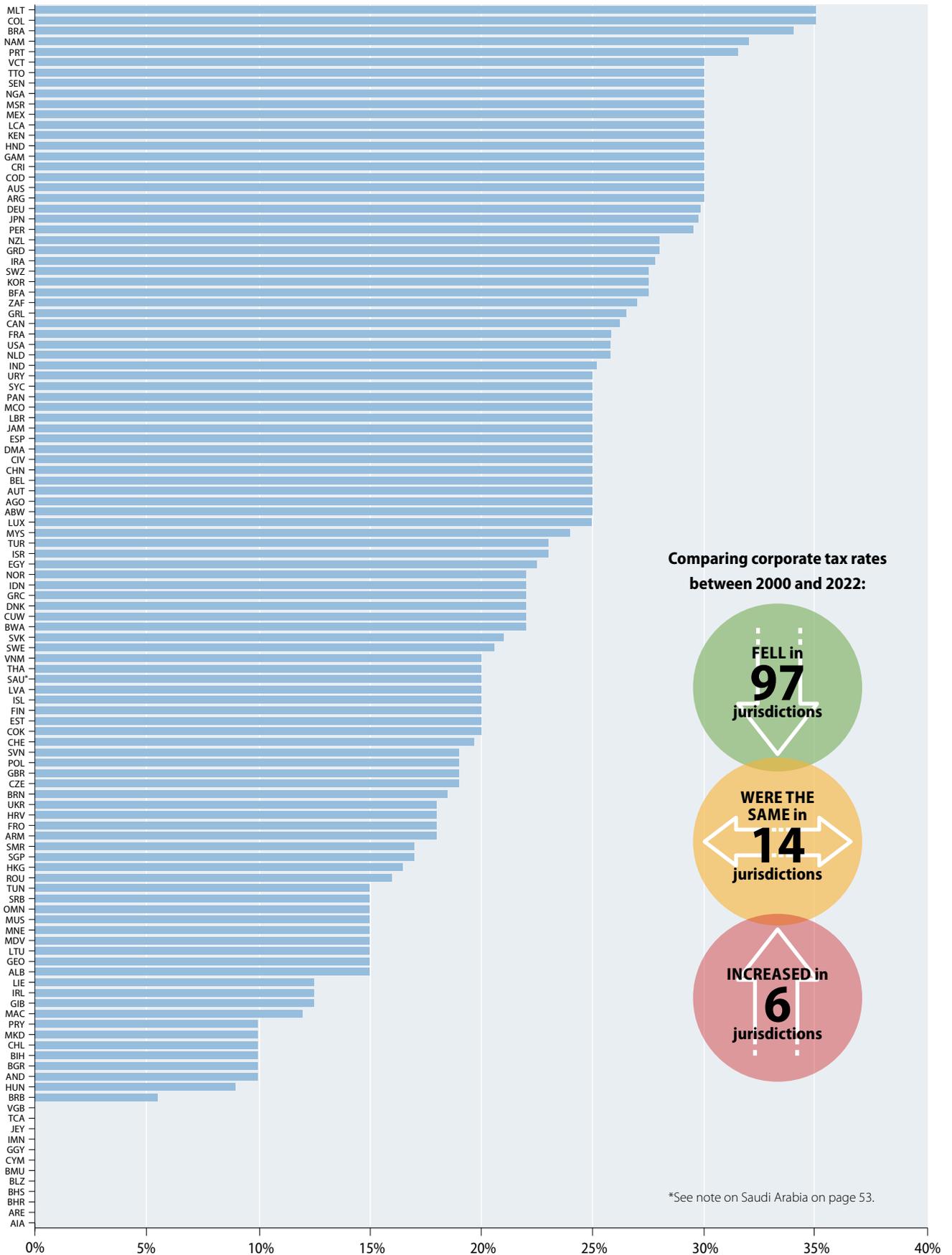
- Statutory CIT rates have been decreasing on average over the last two decades, although considerable variation among jurisdictions remains. The average combined (central and sub-central government) statutory tax rates for all covered jurisdictions was 20.0% in 2022, compared to 28.0% in 2000.
- Of the 117 jurisdictions covered in the 2022 data, 19 had corporate tax rates equal to or above 30% in 2022, with Colombia and Malta having the highest corporate tax rate at 35.0%.⁴
- In 2022, 12 jurisdictions had no corporate tax regime or a CIT rate of zero. Two jurisdictions, Barbados (5.5%) and Hungary (9%), had a positive corporate tax rate less than 10%. Hungary, however, also has a local business tax, which does not use corporate profits as its base. This is not included in Hungary's statutory tax rate, but it does mean that businesses in Hungary are subject to a higher level of tax than its statutory tax rate reflects.
- Comparing corporate tax rates between 2000 and 2022, 97 jurisdictions had lower tax rates in 2022, while 14 jurisdictions had the same tax rate, and six had higher tax rates (Andorra; the Cook Islands; Honduras; Hong Kong, China; the Maldives; and Oman).
- The largest increases between 2000 and 2022 were in the Cook Islands (20 percentage points (p.p.)) and the Maldives (15 p.p.). The Cook Islands and the Maldives did not previously have a corporate tax regime and introduced one during this time period.
- Comparing 2000 and 2022, 14 jurisdictions – Aruba, Barbados, Belize, Bosnia and Herzegovina, Bulgaria, Democratic Republic of the Congo, Germany, Gibraltar, Guernsey, India, Isle of Man, Jersey⁵, Paraguay and Tunisia – decreased their corporate tax rates by 20 p.p. or more. During this time, Guernsey, Jersey and the Isle of Man eliminated preferential regimes and reduced their standard corporate tax rates to zero and Barbados reduced its standard corporate tax rate to 5.5% after eliminating its preferential regime.
- From 2021 to 2022, the combined statutory tax rate decreased in five jurisdictions (France, Monaco, the Seychelles, South Africa, Switzerland, and Türkiye) and there were four increases across the 117 jurisdictions covered (Colombia, Gibraltar, Montenegro and the Netherlands).
- The jurisdictions with the largest decreases in the combined corporate tax rate between 2021 and 2022 were the Seychelles (a decrease of 5 p.p.) and France (a decrease of 2.6 p.p.).



4. However, Malta offers a refund of up to six-sevenths of corporate income taxes to both resident and non-resident investors through its imputation system. The corporate tax rate in Belize is 40% but as this rate applies only to the petroleum industry, the corporate tax rate in Belize has been included in this database as 0% to ensure consistency of treatment across all jurisdictions, as described in Box 3.

5. Jersey's current corporate income tax regime offers bands of 0%, and for certain targeted sectors, 10% and 20%.

FIGURE 4: **Statutory corporate income tax rates, 2022**



Box 3. STATUTORY CORPORATE INCOME TAX RATES

The *Corporate Tax Statistics* database reports statutory tax rates for resident corporations at the:

- central government level;
- central government level exclusive of any surtaxes;
- central government level less deductions for subnational taxes;
- sub-central government level;
- combined (central and sub-central) government level.

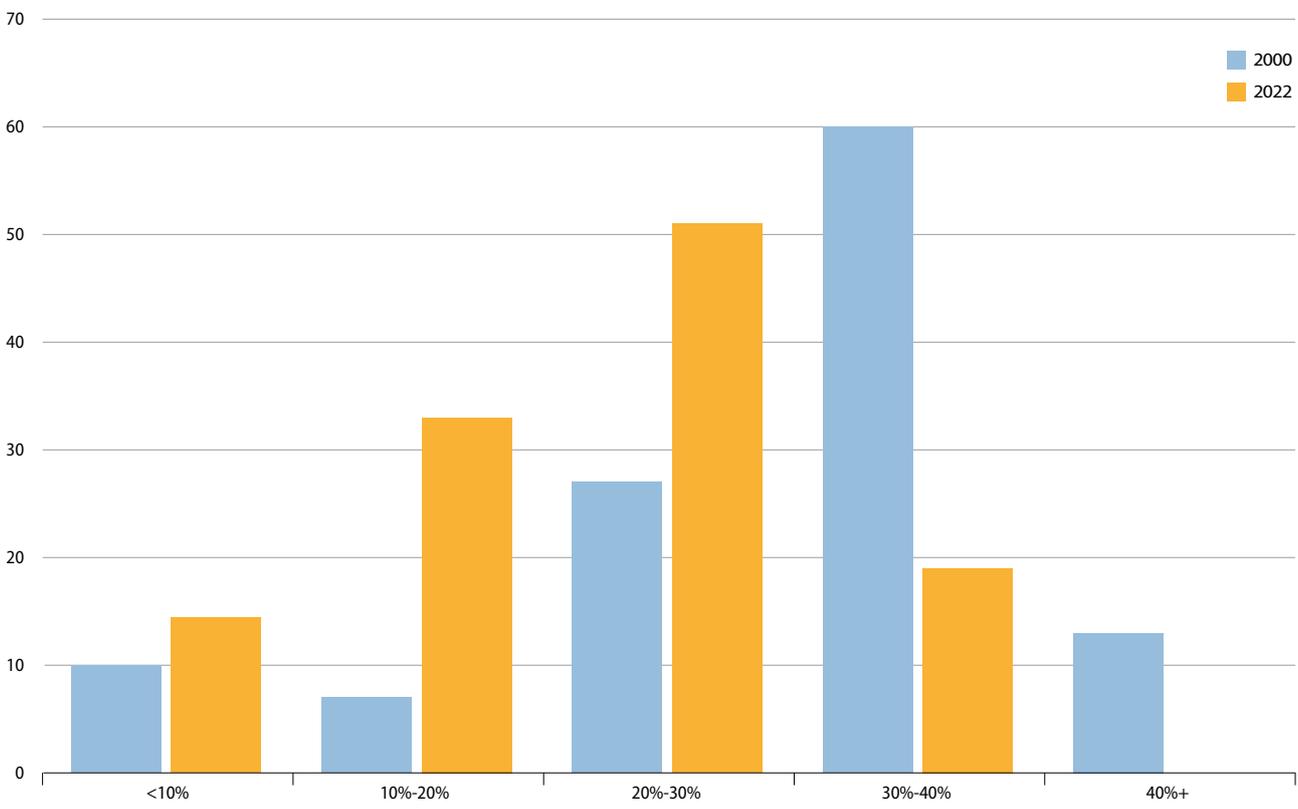
The standard rate, which is not targeted at any particular industries or income type, is reported. The top marginal rate is reported if a jurisdiction has a progressive corporate tax system. Other special corporate taxes that are levied on a base other than corporate profits are not included.

STATUTORY CORPORATE TAX RATES SINCE 2000

The distribution of CIT rates changed significantly between 2000 and 2022. In 2000, 13 jurisdictions had tax rates greater than or equal to 40%, while in 2022 there are no jurisdictions with tax rates greater than or equal to 40%.⁶ Around two-thirds (73 jurisdictions) of the 117 jurisdictions in the database had corporate tax rates greater than or equal to 30% in 2000 compared to less than one-fifth (19 jurisdictions) in 2022.

Most of the downward movement in tax rates between 2000 and 2022 was to corporate tax rates equal to or greater than 10% and less than 30%. The number of jurisdictions with tax rates equal to or greater than 20% and less than 30% almost doubled from 27 jurisdictions to 51 jurisdictions, and the number of jurisdictions with tax rates equal to or greater than 10% and less than 20% more than quadrupled, from seven to 33 jurisdictions.

FIGURE 5: **Changing distribution of corporate tax rates**



6. The corporate tax rate in Belize is 40% but as this rate applies only to the petroleum industry the corporate tax rate in Belize has been included in this database as 0% to ensure consistency of treatment across all jurisdictions, as described in Box 3.



The average statutory corporate tax rate declined more significantly in the OECD than in the three regional groupings (a decline of 9.2 p.p., from 32.3% in 2000 to 23.1% in 2022).

Despite the general downward movement in tax rates during this period, the number of jurisdictions with very low tax rates of less than 10% remained fairly stable between 2000 and 2022. There were ten jurisdictions with tax rates less than 10% in 2000, and 14 below that threshold in 2022.

There has, however, been some movement of jurisdictions into and out of this category, and these movements illustrate how headline statutory tax rates do not give a complete picture of the tax burden in a jurisdiction. Between 2005 and 2009, the British Virgin Islands, Guernsey, Jersey⁷ and the Isle of Man all moved from corporate tax rates above 10% to zero corporate tax rates. In all of these cases, however, before changing their standard corporate tax rate to zero, they had operated broadly applicable special regimes that resulted in very low tax rates for qualifying companies. Meanwhile, Andorra and the Maldives instituted corporate tax regimes and moved from zero rates to positive tax rates (10% in Andorra beginning in 2012 and 15% in the Maldives beginning in 2011). However, they also introduced preferential regimes as part of

their corporate tax systems that offered lower rates to qualifying companies. (Andorra and the Maldives have recently since amended or abolished their preferential regimes that were not compliant with the BEPS Action 5 minimum standard.)

CORPORATE TAX RATE TRENDS ACROSS REGIONS

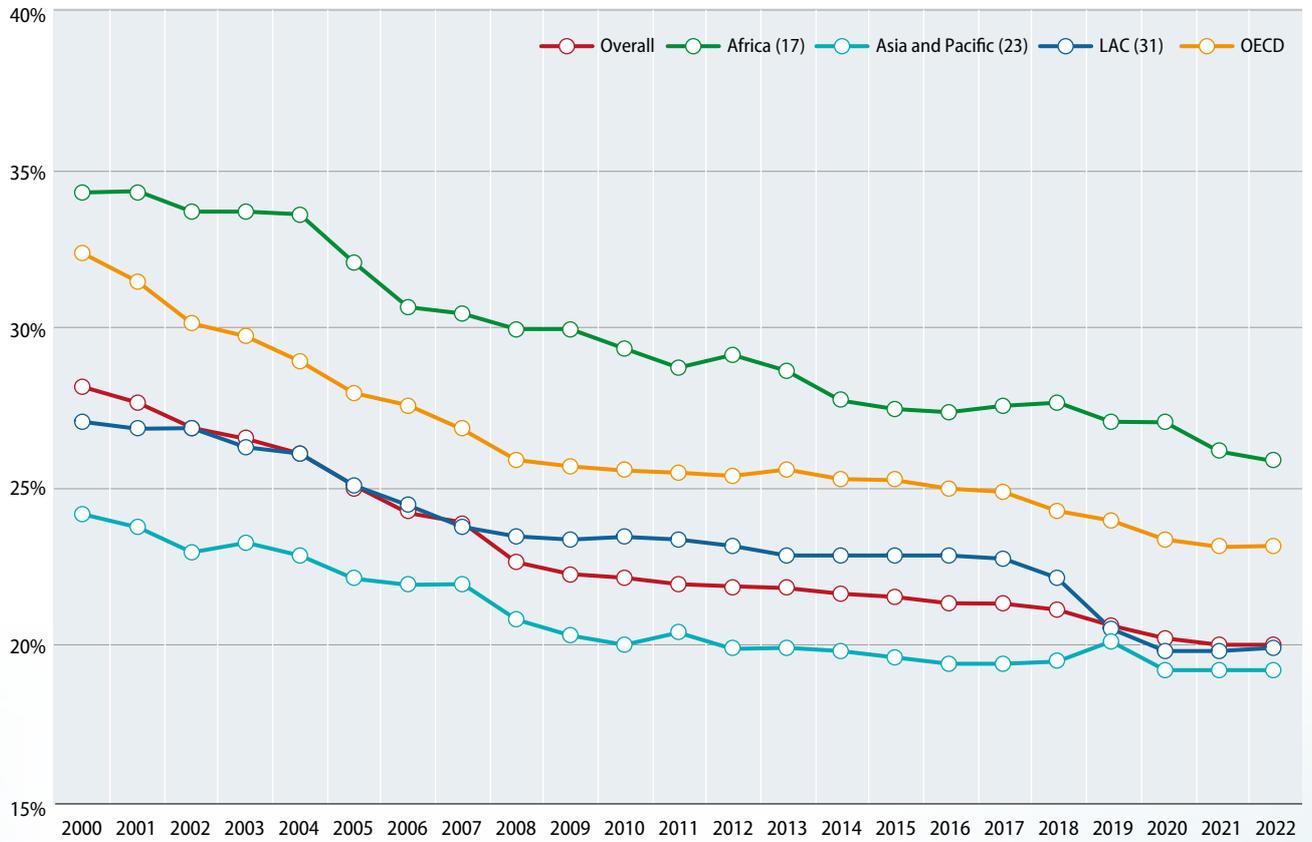
Since 2000, average statutory tax rates have declined across OECD member states and the three regional groupings of jurisdictions considered: African jurisdictions, Asian and Pacific jurisdictions and LAC jurisdictions.⁸

The grouping with the most significant decline has been the OECD (a decline of 9.2 p.p., from 32.3% in 2000 to 23.1% in 2022) followed by the African average with a decline of 8.4 p.p. in 17 jurisdictions, from 34.2% in 2000 to 25.8% in 2022. While the averages have fallen for each grouping over this period, significant differences between the averages for each group remain: the average corporate tax rate for Africa was 25.8% in 17 jurisdictions in 2022, compared to 23.1% for the

7. Jersey's current corporate income tax regime offers bands of 0%, and for certain targeted sectors, 10% and 20%.

8. As the sample of jurisdictions for which tax revenue data are available and the sample of jurisdictions for which statutory corporate tax rate data are available are not the same, the average corporate tax revenue and statutory tax rate data for the different regional groups should not be directly compared.

FIGURE 6: Average statutory corporate income tax rates by region



Percentage of jurisdictions with statutory corporate tax rates greater than, or equal to, 20%

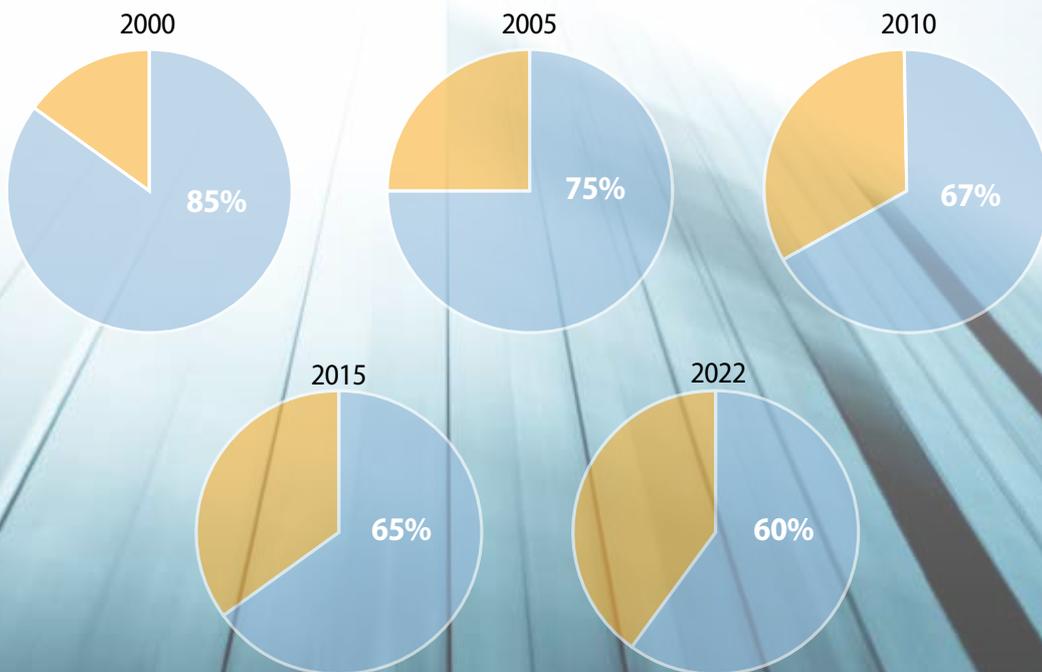
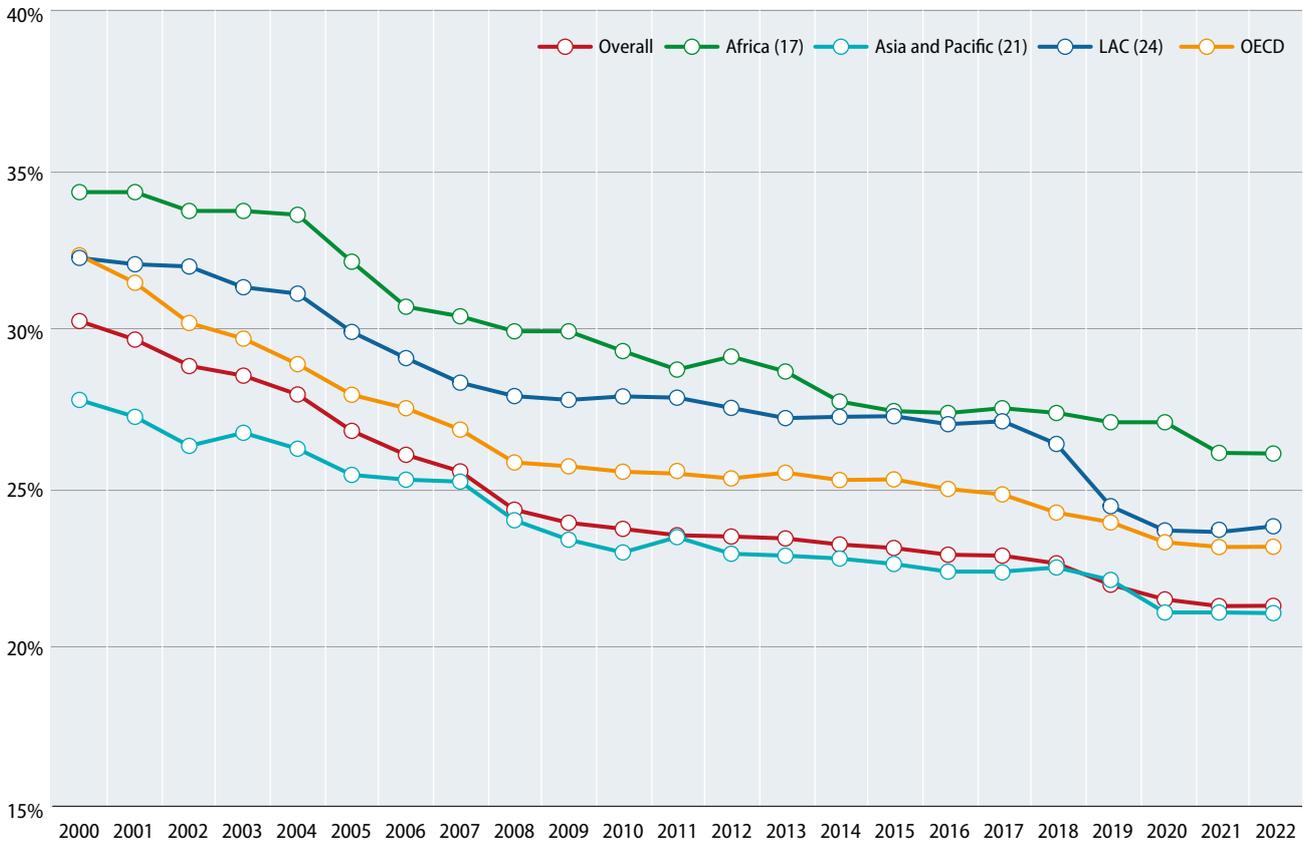


FIGURE 7: Average statutory corporate income tax rates by region excluding zero-rate jurisdictions



OECD, 19.9% in 31 jurisdictions for LAC and 19.2% for 23 jurisdictions in Asia and Pacific. In recent years, averages have stabilised in the OECD, LAC, and Asia and Pacific groupings.

The inclusion of jurisdictions with corporate tax rates of zero affects the average tax rate and has larger effects on some regions than on others, since zero-rate jurisdictions are not evenly distributed among the different groups.

Excluding zero-rate jurisdictions raises the overall average statutory tax rate by about 2.5 p.p. per year, while the general downward trend remains the same. From 2000 to 2022, the overall average statutory rate for non-zero rate jurisdictions declined from 30.2% to 21.3%.

The effect of excluding zero-rate jurisdictions varies by grouping. There are no zero-rate jurisdictions in the OECD or 17 African jurisdictions, and so the average

statutory tax rates of these groupings are not affected. However, two of the 24 Asian and Pacific jurisdictions and seven of the 31 LAC jurisdictions have or had statutory corporate tax rates set at zero. Therefore, the average statutory tax rates of the 21 Asian and Pacific jurisdictions with positive statutory tax rates and the 24 LAC jurisdictions with positive statutory tax rates are higher than the averages for those regions when all jurisdictions are included. The average statutory rates of the 21 non-zero-rate Asian and Pacific jurisdictions and the OECD jurisdictions are quite similar over the time period; meanwhile, the average statutory tax rate for the full group of 23 Asian and Pacific jurisdictions is 4-8 p.p. lower per year than the average statutory tax rate for OECD jurisdictions.

Excluding zero-rate jurisdictions results in the most striking difference in the LAC region. In 2022, the average statutory tax rate across all 31 LAC jurisdictions (19.9%) was 3.9 p.p. lower than the average statutory tax rate for the 24 LAC jurisdictions with positive CIT rates (23.8%). With the exclusion of zero-rate jurisdictions, the average of the remaining 24 LAC jurisdictions is higher than the OECD average and is second only to the average statutory rate for the 17 African jurisdictions.

Excluding jurisdictions with tax rates of 0%, the overall average statutory rate declined from **30.2%** in 2000 to **21.3%** in 2022.

THE STANDARD STATUTORY CORPORATE TAX RATE IS NOT THE ONLY CORPORATE TAX RATE

Standard statutory CIT rates provide a snapshot of the corporate tax rate in a jurisdiction. However, jurisdictions may have multiple tax rates with the applicable tax rate depending on the characteristics of the corporation and the income.

- Some jurisdictions operate preferential tax regimes with lower rates offered to certain corporations or income types.
- Some jurisdictions tax retained and distributed earnings at different rates.
- Some jurisdictions impose different tax rates on certain industries.
- Some jurisdictions have progressive rate structures or different regimes for small and medium sized companies.
- Some jurisdictions impose different tax rates on non-resident companies than on resident companies.
- Some jurisdictions impose lower tax rates in special or designated economic zones.

Jurisdictions with broadly applicable tax regimes available to international companies

Preferential tax regimes are especially important in understanding how standard corporate tax rates do not always capture the incentives that may exist to engage in BEPS behaviours. In particular, some jurisdictions offer or have offered very low rates through regimes that are available to international companies with relatively few restrictions, while maintaining high standard statutory CIT rates.

For example, a number of jurisdictions offer or have offered International Business Companies regimes. Companies qualifying for these regimes pay a reduced rate of tax relative to the standard statutory CIT rate. While that standard statutory tax rate may be quite high in these jurisdictions, qualifying international business companies were typically exempt from tax or paid tax at a very low rate. There are also special cases, like Malta, which offers a refund of up to six-sevenths of corporate income taxes to both resident and non-resident investors through its imputation system.

Except for the Maltese imputation system, which is not in the scope of the BEPS project, all of the regimes belonging to jurisdictions for which statutory CIT rate

data is available in the *Corporate Tax Statistics* database have been, or are in the process of being, amended or abolished to be aligned with the BEPS Action 5 minimum standard. These changes should greatly diminish the incentives these regimes provide for BEPS behaviour.

Taxes on distributed earnings

Another way in which standard statutory tax rates may not reflect the rates imposed on companies is if jurisdictions tax distributed earnings in addition to (or instead of) a CIT on all profits.

In some jurisdictions, there is a tax on all corporate profits when they are earned and an additional tax on any earnings that are distributed. This was the case in India, for example, where corporate profits, whether retained or distributed, were taxed at the standard rate, and an additional tax on dividend distributions raised the total tax rate on distributed profits. From 2020 companies are no longer subject to this dividend distribution tax which has led to a large reduction in the statutory CIT rate from 40.6% in 2019 to 25.2% in 2022.

In other jurisdictions, there is no tax on profits when they are earned, and corporate tax is only imposed when profits are distributed. This is the case in Estonia and Latvia, which both tax distributed profits at 20% and impose no tax on retained earnings. While a standard statutory rate of 20% is reported for both jurisdictions in the *Corporate Tax Statistics* database, the rate faced by corporations in these jurisdictions could be much lower and will depend on the proportion of profits that are distributed. In the case of both of these jurisdictions, where a corporation retains all profits and does not pay any dividends in a given period, it will not be subject to any CIT.



Corporate effective tax rates

Variations in the definition of corporate tax bases across jurisdictions can have a significant impact on the tax liability associated with a given investment. For instance, corporate tax systems differ across jurisdictions with regard to several important features, such as fiscal depreciation rules as well as other allowances and deductions. To capture the effects of these provisions on corporate tax bases and tax liabilities, it is necessary to go beyond a comparison of statutory CIT rates.

It is well understood that cross-jurisdiction competitiveness is not solely driven by the tax costs associated with an investment; many other factors, such as the quality of the workforce, infrastructure and the legal environment, affect profitability and are likely to have significant impacts on investment decisions. In measuring the competitiveness of jurisdictions, however, effective tax rates (ETRs) provide a more accurate picture of the effects of corporate tax systems on the actual tax liabilities faced by companies than statutory tax rates.

The *Corporate Tax Statistics* dataset presents “forward-looking” ETRs, which are synthetic tax policy indicators calculated using information about specific tax policy rules. Unlike “backward-looking” ETRs, they do not incorporate any information about firms’ actual tax payments. As described in more detail in Box 5, the ETRs reported in *Corporate Tax Statistics* focus on the effects of fiscal depreciation and several related provisions (e.g., allowances for corporate equity, half-year conventions, inventory valuation methods). While this includes fiscal depreciation rules for certain kinds of intangible property, namely acquired software, the effects of expenditure-based R&D tax incentives and intellectual property (IP) regimes are not accounted for in the baseline data discussed in this section. However, the following section presents forward-looking ETRs capturing the effects of R&D tax incentives on R&D investments.

In contrast, backward-looking ETRs are calculated by dividing actual tax payments by profits earned over a given period. They are calculated on the basis of historical jurisdiction-level or firm-level data and reflect the combined effects of many different factors, such as the definition of the tax base, the types of projects that firms have been engaged in, as well as the effects of possible tax-planning strategies. Although backward-looking ETRs may not reflect how corporate tax systems affect current incentives to invest, they provide information on how tax payments and profits of specific taxpayers or groups of taxpayers compare to each

Box 4. CORPORATE EFFECTIVE TAX RATES

The *Corporate Tax Statistics* database contains four forward-looking tax policy indicators reflecting tax rules as of 1 July for the years 2017-21:

- the effective marginal tax rate (EMTR);
- the effective average tax rate (EATR);
- the cost of capital;
- the net present value of capital allowances as a share of the initial investment.

All four tax policy indicators are calculated by applying jurisdiction-specific tax rules to a prospective, hypothetical investment project. Calculations are undertaken separately for investments in different asset types and sources of financing (i.e. debt and equity). Composite tax policy indicators are computed by weighting over assets and sources of finance. In addition, more disaggregated results are also reported in the *Corporate Tax Statistics* database.

The tax policy indicators are calculated for two different macroeconomic scenarios. Unless noted, the results reported in this brochure refer to composite effective tax rates based on the macroeconomic scenario with 3% real interest rate and 1% inflation.

Largest differences between the statutory CIT rate and the ETR due to fiscal acceleration (p.p., 2021)



Malta
6.6



Italy
6.5



Portugal
6.4



United Kingdom
6.4



Türkiye
4.2



Poland
3.5

KEY INSIGHTS:

- Of the 77 jurisdictions covered for 2021, 65 provide accelerated depreciation, meaning that investments in these jurisdictions are subject to EATRs below their statutory tax rates. Among those jurisdictions, the average reduction of the statutory tax rate was 1.6 p.p.; in 2021, the largest reductions were observed in Malta (6.6 p.p.), Italy (6.5 p.p.), Portugal and the United Kingdom (both 6.4 p.p.), Türkiye (4.2 p.p.) and Poland (3.5 p.p.). In contrast, fiscal depreciation was decelerated in six jurisdictions, leading to EATRs above the statutory tax rate. Among those jurisdictions, the average increase of the statutory tax rate was 5.1 p.p.; the largest increases were observed in Chile (10.9 p.p.), Botswana (9.6 p.p.) and the Czech Republic (7.8 p.p.).
- Among all 77 jurisdictions, eight jurisdictions had an allowance for corporate equity (ACE): Belgium⁹, Cyprus, Italy, Liechtenstein, Malta, Poland, Portugal and Türkiye. Including this provision in their tax code has led to an additional reduction in their EATRs of between 1.3 to 4.5 p.p.¹⁰
- The average EATR across jurisdictions (20.2%) is 1.2 p.p. lower than the average statutory tax rate (21.4%). The median EATR is 0.8 p.p. lower (21.2%) than the median statutory tax rate (22%). While half of the jurisdictions covered have EATRs between 15% and 28%, several LAC jurisdictions have EATRs at the higher end of this range due to the decelerating effect of their tax depreciation rules for acquired software (e.g., Argentina, Chile and Mexico).
- Effective marginal tax rates (EMTRs) are among the lowest in jurisdictions with an allowance for corporate equity (ACE), i.e. Belgium, Cyprus, Italy, Liechtenstein, Malta, Poland, Portugal and Türkiye.
- Three jurisdictions have decreased the generosity of their tax depreciation rules, resulting in an increase in their EMTRs in 2021 compared to 2020; the largest increase was observed in Norway (3.8 p.p.).
- Fifteen jurisdictions have increased the generosity of their tax depreciation rules, leading to lower EMTRs in 2021 than in 2020; this group includes Costa Rica (17.7 p.p. decrease), Germany (12.9 p.p.), the United Kingdom (9.0 p.p.), Iceland (2.4 p.p.), Denmark (1.6 p.p.) and France (1.6 p.p.). In addition, the EMTR also fell in 2021 in Colombia and Switzerland among others due to decreases in the statutory tax rate.
- Disaggregating the results to the asset level reveals that fiscal acceleration is strongest for investments in buildings and tangible assets. The average EATR across jurisdictions is 19.0% for buildings and 19.2% for tangible assets, lower than the average composite EATR (20.2%), which also includes acquired software and inventories. For the tangible asset category, which covers air, railroad and water transport vehicles, road transport vehicles, computer hardware, industrial machinery and equipment, most of this effect is driven by more generous tax depreciation rules for air, railroad and water transport vehicles, as well as for industrial machinery.
- Investments in acquired software are subject to very different ETRs due to significant variation in tax treatment across jurisdictions. In particular, intangibles are non-depreciable in Botswana, Chile and the Czech Republic, leading to strongly decelerated fiscal depreciation. On the other hand, the most generous treatment for acquired software is observed in Canada, Denmark, Germany, Hong Kong (China), Singapore and the United Kingdom, while Italy provides a specific tax credit for the acquisition of highly-digitalised intangible assets such as, among others, acquired software.

9. In 2021, Belgium legislated a notional interest rate of 0.0% resulting in an ACE with no effect during 2021.

10. This range excludes the case of Belgium.

other in the past. Due to data limitations, i.e. the lack of representative firm-level data and the identification of corporate tax bases in the national accounts, backward-looking ETRs are not included in the database.

FORWARD-LOOKING CORPORATE EFFECTIVE TAX RATES IN 2021

Forward-looking ETRs capture information on corporate tax rates and bases as well as other relevant provisions within a comparable framework. They provide an appropriate basis for cross-jurisdiction comparisons of the combined impact of corporate tax systems on the investment decisions of firms and are more accurate tax policy indicators than statutory tax rates.

The average EATR across jurisdictions (**20.2%**) is **1.2 p.p.** lower than the average statutory tax rate (**21.4%**).

Two complementary forward-looking ETRs are typically used for tax policy analysis, capturing incentives at different margins of investment decision making:

- EMTRs measure the extent to which taxation increases the pre-tax rate of return required by investors to break even. This indicator is used to analyse how taxes affect the *incentive to expand existing investments* given a fixed location (along the intensive margin).

- EATRs reflect the average tax contribution a firm makes on an investment project earning above-zero economic profits. This indicator is used to analyse *discrete investment decisions* between two or more alternative projects (along the extensive margin).

FORWARD-LOOKING EFFECTIVE AVERAGE TAX RATES

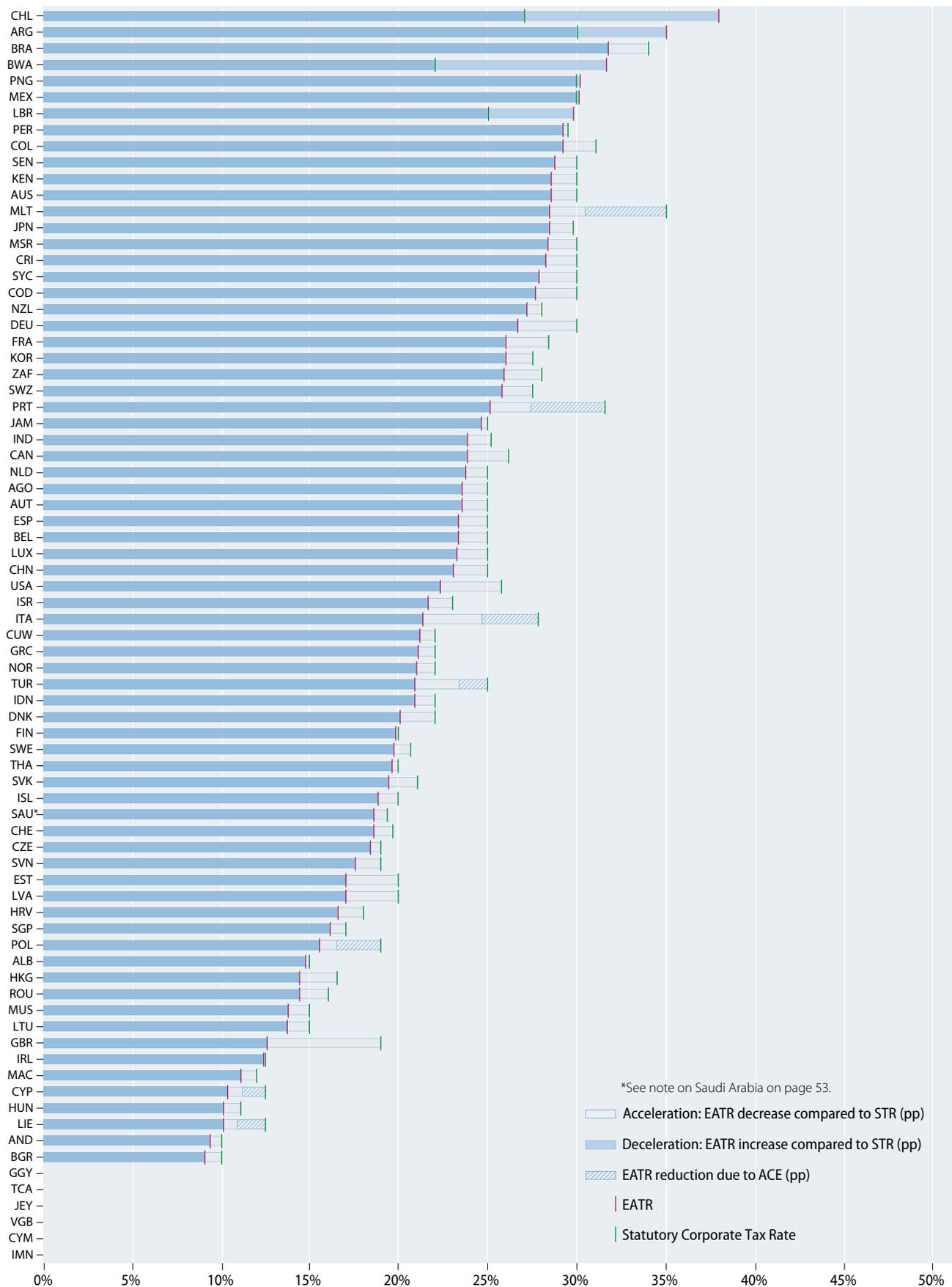
Figure 8 shows the composite EATR for the full database, ranking jurisdictions in descending order. In most jurisdictions, EATRs diverge from the statutory CIT rate; if fiscal depreciation is generous compared to true economic depreciation or if there are other significant base narrowing provisions, the EATR (and also the EMTR) will be lower than the statutory tax rate, i.e. tax depreciation is *accelerated*. On the other hand, if tax depreciation does not cover the full effects of true economic depreciation, it is *decelerated*, implying that the tax base will be larger and effective taxation higher.

Disaggregating the results to the asset level shows that fiscal acceleration is strongest for investments in buildings and tangible assets such as air, railroad and water transport vehicles or industrial machinery. For these asset categories, the average EATR across jurisdictions is around **19%**, lower than the average composite EATR (**20.2%**).

Among the **65** jurisdictions of the 77 jurisdictions in the database that provide accelerated depreciation, the average reduction of the statutory tax rate was **1.6 p.p.** in 2021.



FIGURE 8: Effective average tax rate: OECD, G20 and participating Inclusive Framework jurisdictions, 2021



Box 5. KEY CONCEPTS AND METHODOLOGY

Forward-looking effective tax rates (ETRs) are calculated on the basis of a prospective, hypothetical investment project. The OECD methodology has been described in detail in the OECD Taxation Working Paper No. 38 (Hanappi, 2018), building on the theoretical model developed by Devereux and Griffith (1999, 2003).

The methodology builds on the following key concepts:

- **Economic profits** are defined as the difference between total revenue and total economic costs, including explicit costs involved in the production of goods and services as well as opportunity costs such as, for example, revenue foregone by using company-owned buildings or self-employment resources. It is calculated as the net present value (NPV) over all cash flows associated with the investment project.
- **The user cost of capital** is defined as the pre-tax rate of return on capital required to generate zero post-tax economic profits. In contrast, the real interest rate is the return on capital earned in the alternative case, for example, if the investment would not be undertaken and the funds would remain in a bank account.
- The **tax-inclusive effective marginal tax rate** (EMTR) measures the extent to which taxation increases the user cost of capital; it corresponds to the case of a marginal project that delivers just enough profit to break even but no economic profit over and above this threshold.

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

- The **effective average tax rate** (EATR) reflects the average tax contribution a firm makes on an investment project earning above-zero economic profits. It is defined as the difference in pre-tax and post-tax economic profits relative to the NPV of pre-tax income net of real economic depreciation.

$$EATR = \frac{(Economic\ profit_{NPV}^{pre-tax}) - (Economic\ profit_{NPV}^{post-tax})}{(Net\ income_{NPV}^{pre-tax})}$$

- **Real economic depreciation** is a measure of the decrease in the productive value of an asset over time; depreciation patterns of a given asset type can be estimated using asset prices in resale markets. The OECD methodology uses economic depreciation estimates from the US Bureau of Economic Analysis (BEA, 2003).
- Jurisdiction-specific tax codes typically provide **capital allowances** to reflect the decrease in asset value over time in the calculation of taxable profits. If capital allowances match the decay of the asset's value resulting from it being used in production, then fiscal depreciation equals economic depreciation.
- If capital allowances are more generous relative to economic depreciation, fiscal depreciation is **accelerated**; where capital allowances are less generous, fiscal depreciation is referred to as **decelerated**. The NPV of capital allowances, measured as percentage of the initial investment, accounts for timing effects on the value of capital allowances, thus providing comparable information on the generosity of fiscal depreciation across assets and jurisdictions.

The cost of capital, EMTR, EATR as well as the NPV of capital allowances are all available for 77 jurisdictions in the *Corporate Tax Statistics* online database.



Box 6. ASSET CATEGORIES AND TAX PROVISIONS COVERED

The calculations build on a comprehensive coverage of jurisdiction-specific tax rules pertaining to four asset categories.

1. **Buildings** including non-residential structure such as, e.g., manufacturing plants, large engineering structures, office or commercial buildings
2. **Tangible assets** including five specific asset groups: road transport vehicles; air, rail or water transport vehicles; computer hardware; equipment and industrial machinery
3. **Inventories** including, e.g., goods or raw materials in stock
4. **Acquired software** such as computer programmes or applications that a company acquires for commercial purposes

For this edition of *Corporate Tax Statistics*, the data collection process for the tangible asset category has been disaggregated to further improve the cross-country comparability of the ETR data series. Since tangible assets are a particularly broad asset category, collecting disaggregated information on asset-specific tax rules ensures that the variation across specific assets is better captured within this category.

To allow comparison with the statutory tax rate, the share of the EATR (in p.p.) that is due to a deceleration of the tax base is shaded in light blue in Figure 8; reductions of the statutory tax rate due to acceleration are transparent. In addition, the reduction in the EATR due to an ACE is indicated as a dotted area.

The composite EATR corresponds to the combination of the unshaded and shaded blue components of each bar. Across the entire sample of jurisdictions, the EATRs range from around 37.9% in Chile to 0% in the British Virgin Islands, Cayman Islands, Guernsey, Isle of Man, Jersey and the Turks and Caicos Islands. Ranking just above these jurisdictions, Andorra, Bulgaria, Cyprus, Hungary and Liechtenstein have EATRs between 9% and 11%, the lowest non-zero rates in the sample.

Comparing the patterns of tax depreciation across jurisdictions shows that most jurisdictions provide some degree of acceleration, as indicated by the transparent bars; with the most significant effects being observed in jurisdictions with an ACE, such as Italy, Malta, Poland, Portugal and Türkiye among others, as well as

The following corporate tax provisions are covered:

- combined central and sub-central CIT rates;
- asset-specific fiscal depreciation rules, including first-year allowances, half-year or mid-month conventions;
- general tax incentives only if available for a broad group of investments undertaken by large domestic or multinational firms;
- inventory valuation methods including first-in-first-out, last-in-first-out and average cost methods;
- allowances for corporate equity.

The composite ETRs reported in this brochure are constructed in three steps. First, ETRs are calculated separately for each jurisdiction, asset category and source of finance (debt and equity); within the tangible asset category, ETRs are first calculated separately for each of the five disaggregated assets and then combined through an unweighted average. While the debt-finance case accounts for interest deductibility, jurisdiction-specific limitations to interest deductibility have not been covered in this edition. Second, an unweighted average over the asset categories is taken, separately for both sources of finance. Third, the composite ETRs are obtained as a weighted average between equity- and debt-financed investments, applying a weight of 65% equity and 35% debt finance.

in jurisdictions with larger accelerated depreciation provisions, such as Canada, France, South Africa, the United Kingdom and the United States. While fewer jurisdictions have decelerating tax depreciation rules, the effect of deceleration can become large in jurisdictions where acquired software is non-depreciable (e.g. in Botswana and Chile) or depreciable at a very low rate (e.g. in Argentina and to a lesser extent also in Mexico, Papua New Guinea and Peru).

The data series is currently available for five years, from 2017 to 2021 inclusive. Looking at the development of the composite EATR over this time period shows that the unweighted average composite EATR has declined steadily over this period (1.1 p.p.), from 21.3% in 2017 to 21.0% in 2018, 20.8% in 2019, 20.6% in 2020 before reaching a rate of 20.2% in 2021. The average statutory tax rate has declined somewhat less over the same time period (0.9 p.p.), from 22.3% in 2017 to 21.4% in 2021, implying that changes to the corporate tax base have had a larger overall impact than reductions in the headline rates.

Box 7. MACROECONOMIC SCENARIOS

The two main macroeconomic parameters used in the models, inflation and interest rates, interact with the effects of the tax system in various ways and can have significant effects on the effective tax rates (ETRs).

The *Corporate Tax Statistics* database contains ETR results for two different macroeconomic scenarios. In the first scenario, interest and inflation rates are held constant; the second scenario uses jurisdiction-specific macroeconomic parameters. While the former approach addresses the question of how differences in tax systems compare across jurisdictions holding other factors constant, the latter approach gives some indications about the effects of varying macroeconomic conditions on investment incentives as captured by the ETRs.

The results published in this brochure build exclusively on the macroeconomic scenario with constant 3% interest and 1% inflation rates, however, results from the other macroeconomic scenario are available in the online database.

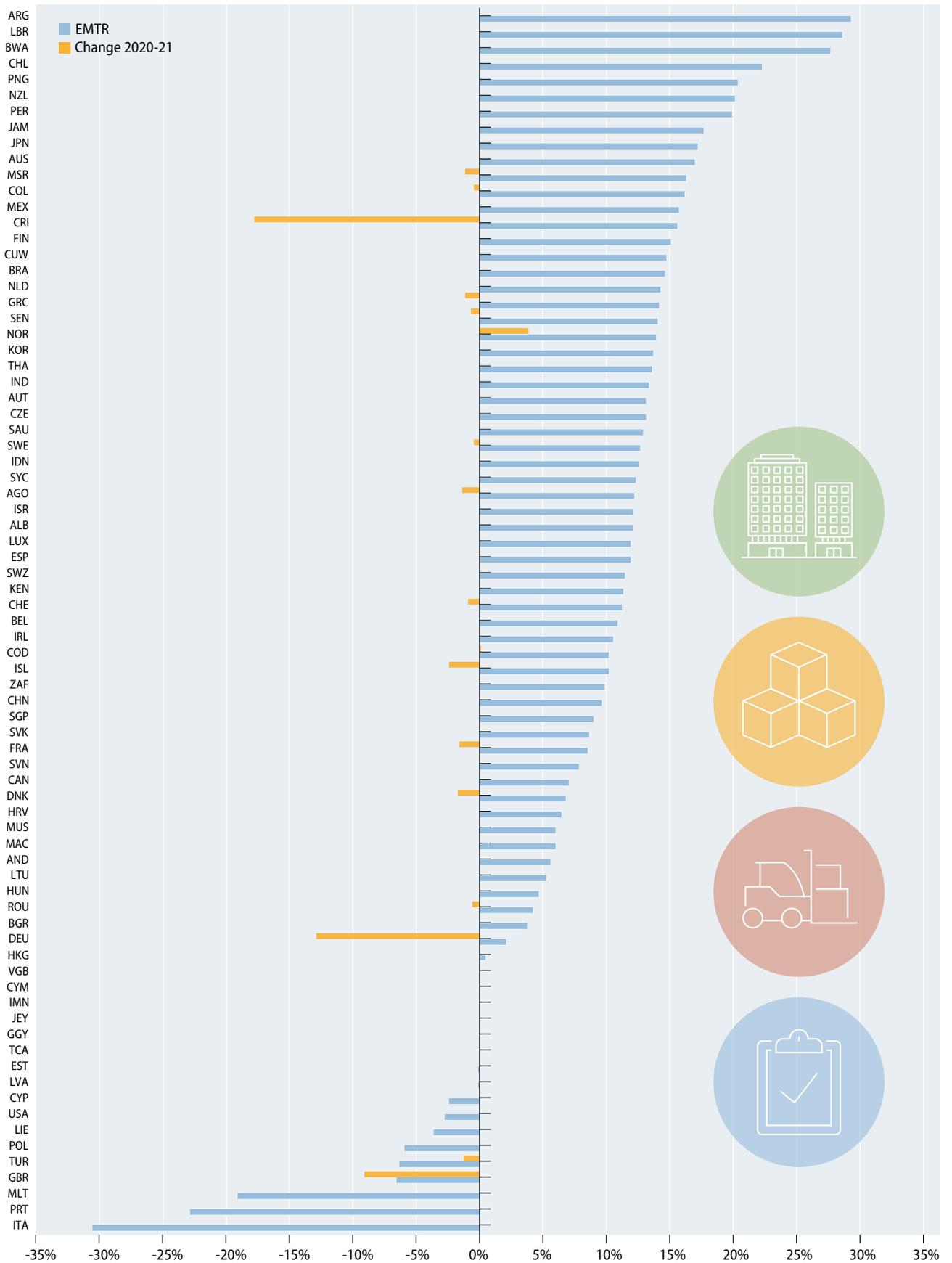
**EFFECTIVE MARGINAL TAX RATES**

Figure 9 shows the ranking based on the composite EMTR. As highlighted above, the EMTR measures the effects of taxation on the pre-tax rate of return required by investors to break even. While the effects of tax depreciation and macroeconomic parameters work in the same direction as in the case of the EATR, their impacts on the EMTR will generally be stronger because marginal projects do not earn economic profits (see Box 5). As a consequence, jurisdictions with relatively high statutory CIT rates and relatively generous capital allowances, notably Italy, Portugal, the United Kingdom and the United States, rank lower than in Figure 8. On the other hand, jurisdictions with less generous fiscal depreciation rules, including Argentina, Japan, New Zealand, Papua New Guinea and Peru (as well as Botswana, Chile, and the Czech Republic where acquired software is non-depreciable), are ranked higher based on the EMTR, as shown in Figure 9.

If investment projects are financed by debt, it is also possible for the EMTR to be negative, which means that the tax system, notably through interest deductibility, reduces the pre-tax rate of return required to break even and thus enables projects that would otherwise not have been economically viable. Figure 9 shows that the composite EMTR, based on a weighted average between equity- and debt-financed projects, is negative in 11 out of 77 jurisdictions; this result is due to the combination of debt finance with comparatively generous tax depreciation rules. For jurisdictions with an ACE, the composite EMTR will generally be lower because of the notional interest deduction available for equity-financed projects.

Comparing EMTRs in 2021 with the previous year shows that changes in the corporate tax provisions covered in the calculations had significant effects on EMTRs in several countries. On the one hand, some jurisdictions have decreased the generosity of their tax depreciation rules, resulting in an increase in the EMTRs in 2021 compared to 2020; this group includes Norway (3.8 p.p.), among others. On the other hand, a number of jurisdictions have increased the generosity of their tax depreciation rules, leading to a decrease in their EMTRs in 2021; this group includes Costa Rica (17.7 p.p.), Germany (12.9 p.p.), the United Kingdom (9.0 p.p.), Iceland (2.4 p.p.), Denmark (1.6 p.p.), France (1.6 p.p.) and Montserrat (1.1 p.p.). Several of these reforms were motivated by the goal of increasing business investment. In addition, the EMTR also fell in 2021 in Colombia and Switzerland among others due to decreases in the statutory tax rate.

FIGURE 9: **Effective marginal tax rate: OECD, G20 and participating Inclusive Framework jurisdictions, 2021**



EFFECTIVE TAX RATES BY ASSET CATEGORIES

The composite ETRs can be further disaggregated by asset categories; jurisdiction-level EATRs and EMTRs by asset categories are available in the online *Corporate Tax Statistics* database. Figure 10 summarises these data on ETRs by asset category. The upper panel provides more information on the distribution of asset-specific EATRs, comparing them to the distribution of statutory CIT rates. The first vertical line depicts information on the statutory CIT rates; it shows that the mean (i.e. the cross in the middle of the first vertical line) and the median (the light blue diamond) are around 21.4% and 22% respectively, while the 50% of jurisdictions in the middle of the distribution have statutory CIT rates between 17.5% and 28.0%.

The other four vertical lines in the upper panel of Figure 10 illustrate the distribution of EATRs across jurisdictions for each of the four asset categories: buildings, tangible assets, inventories and acquired software. Since there is more variation in economic and tax-related characteristics across tangible assets, this category summarises information on investments in several specific tangible assets, i.e., air, railroad and water transport vehicles, road transport vehicles, computer hardware, industrial machinery and equipment (see Box 6).

Comparing the four broader asset categories with the statutory CIT rate shows that the distribution of EATRs is more condensed for investments in buildings, with the middle 50% of the country distribution ranging between

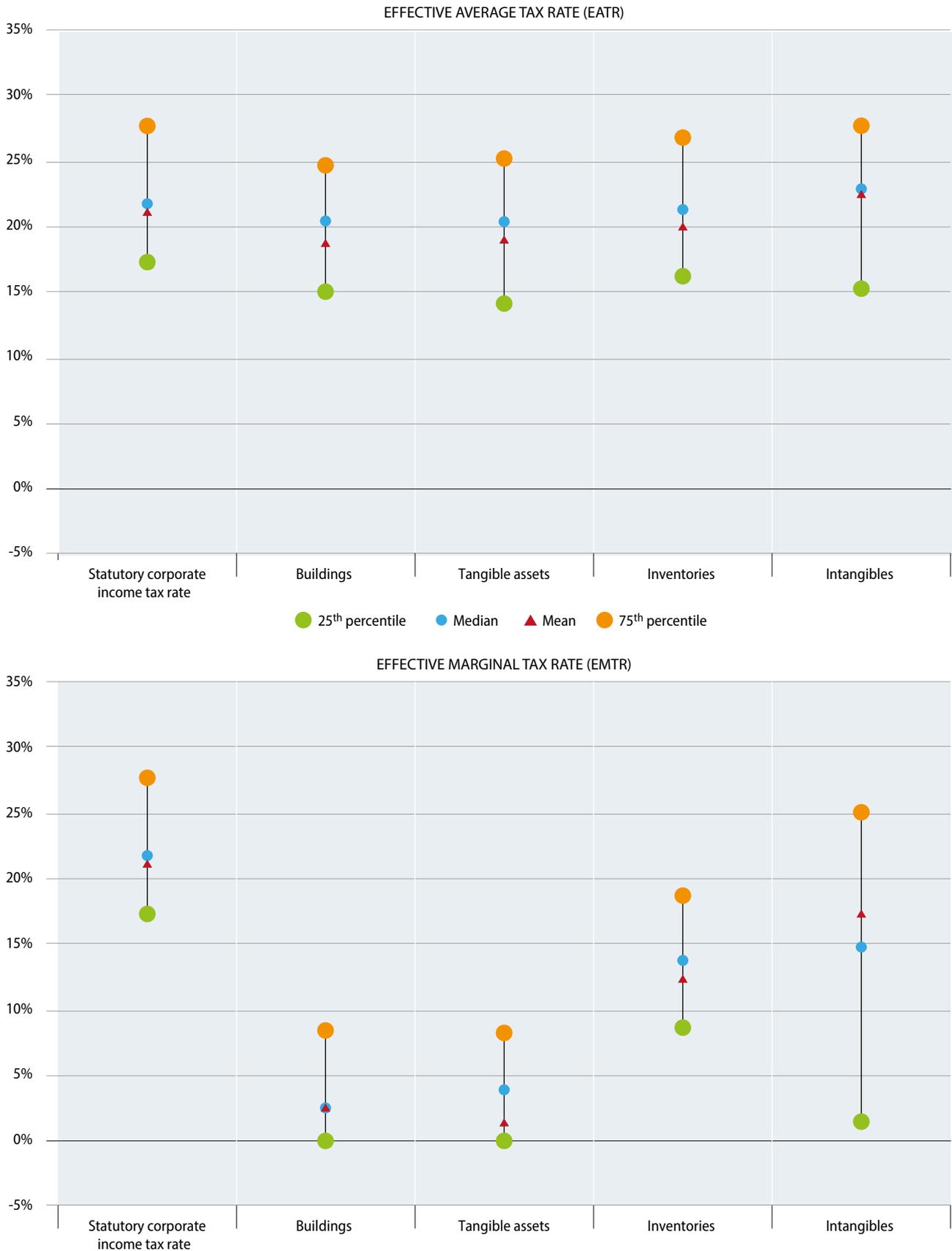
15.3% and 25.0%. For investments in tangible assets, the middle 50% of jurisdictions have EATRs between around 14.3% and 25.5%. However, the mean EATR (19.2%) on investments in tangible assets is around 1.4 percentage point lower than the median (20.6%), indicating that some jurisdictions have much lower EATRs on this type of investment. For investments in the other two asset categories, the distributions are similar to the statutory tax rate.

The lower panel depicts boxplots illustrating the EMTR distribution for each of the four broader asset categories. The following insights emerge from this graph.

- Investments in tangible assets benefit more often from accelerated tax depreciation than other investments; as a result, the EMTRs are generally lower and the distribution is more condensed compared to the statutory CIT rate.
- Investments in buildings are also often accelerated, with EMTRs ranging between 0% and 8.8% in half of the covered jurisdictions.
- Investments in inventories often benefit from lower EMTRs, compared to the statutory tax rate, although to a lesser extent than the first two asset categories.
- The tax treatment of investments in acquired software is subject to more variation across jurisdictions, which is reflected in the vertical line that stretches out more than the others, ranging from around 1.5% to around 24.7%.



FIGURE 10: **EATR and EMTR: Variation across jurisdictions and assets: OECD, G20 and participating Inclusive Framework jurisdictions, 2021**



Tax incentives for research and development (R&D)

Incentivising investment in research and development (R&D) by businesses ranks high on the innovation policy agenda of many jurisdictions. R&D tax incentives have become a widely used policy tool to promote business R&D over the last decades. Several jurisdictions offer them in addition to direct forms of support such as R&D grants or government purchases of R&D services. R&D tax incentives can provide relief to R&D expenditures, such as the wages of R&D staff and/or to the income derived from R&D activities, such as patent income. The indicators referred to in this section relate to expenditure-based R&D tax incentives. An overview of income-based tax incentives is available in the section on Intellectual Property regimes. The significant variation in the design of expenditure-based R&D tax relief provisions across jurisdictions and over time affects the implied generosity of R&D tax incentives.

Box 8. INDICATORS OF R&D TAX INCENTIVES

The *Corporate Tax Statistics* database incorporates two sets of R&D tax incentives indicators that offer a complementary view of the extent of R&D tax support provided through expenditure-based R&D tax incentives.

The first set of indicators reflects the cost of expenditure-based tax incentives to the government:

- Government tax relief for business R&D (GTARD) includes estimates of foregone revenue (and refundable amounts) from national and subnational incentives, where applicable and relevant data are available. This indicator is complemented with figures on direct funding of business R&D to provide a more complete picture of total government support to business R&D investment.
- Both indicators, compiled by the OECD Directorate for Science, Technology and Innovation, are available for 49 jurisdictions – OECD jurisdictions and 11 partner economies – for the period 2000-19.

The second set of indicators are synthetic tax policy indicators that capture the effect of expenditure-based R&D tax incentives on firms' investment costs (see Box 10):

- The effective average tax rate for R&D measures the impact of taxation on R&D investments that earn an economic profit.
- The user cost of capital for R&D measures the return that a firm needs to realise on an R&D investment before tax to offset all costs and taxes that arise from the investment, making zero economic profit.

- Implied marginal tax subsidy rates for R&D, calculated as 1 minus the B-Index, reflect the design and implied generosity of R&D tax incentives to firms for an extra unit of R&D outlay. The B-Index captures the extent to which different tax systems reduce the effective cost of R&D.

The second set of indicators are available for 49 countries, including OECD jurisdictions and 11 partner economies. Indicators of the user cost of capital and the EATR are available for 2019-2021 and refer to large businesses who are able to fully utilise their tax benefits. Large companies account for the bulk of the R&D in most OECD countries (OECD, 2022a; Dernis et al, 2019). The EATR and user cost for R&D are produced by the OECD Centre for Tax Policy and Administration and the OECD Directorate for Science, Technology and Innovation. The B-Index, compiled by the OECD Directorate for Science, Technology and Innovation, covers a wider group of firm scenarios (SMEs; large firms; profit and loss-making) over the 2000-2021 time period.

The average effective tax rates for R&D in this section extend the corporate effective tax rates shown in the previous section to include self-developed R&D assets. The OECD methodology to compute effective average tax rates for R&D is described in detail in an OECD Taxation Working Paper by González Cabral, Appelt and Hanappi, (2021) and to compute the B-Index is described in OECD (2022b).

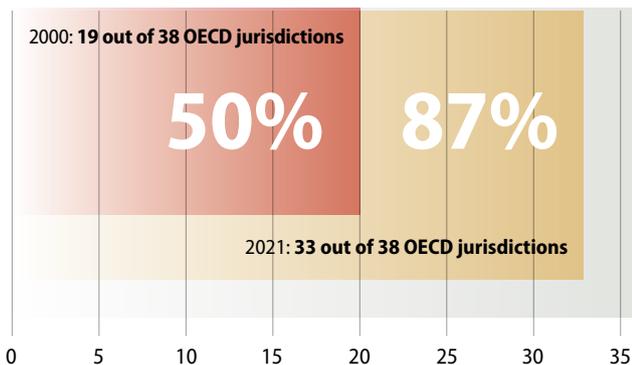
These indicators also feature in the OECD R&D Tax Incentive database compiled by the OECD Directorate for Science, Technology and Innovation.

KEY INSIGHTS:

- R&D tax incentives are increasingly used to promote business R&D with 33 out of the 38 OECD jurisdictions offering tax relief on R&D expenditures in 2021, compared to 19 in 2000.
- Most jurisdictions use a combination of direct support and tax relief to support business R&D, but the policy mix varies. Over time, there has been a shift towards a more intensive use of R&D tax incentives to deliver financial support for business R&D.
- The effective average tax rate for R&D in 2021 was lowest in the Slovak Republic, Ireland and Lithuania, providing greater tax incentives for firms to locate R&D investment in these jurisdictions.
- The cost of capital for R&D in 2021 was lowest in the Slovak Republic, Portugal and France where these jurisdictions provide greater tax incentives for firms to increase their R&D investment.
- Isolating the impact of R&D tax incentives, the largest preferential tax treatment for profitable and marginal R&D investments was offered in the Slovak Republic, France and Portugal in 2021.
- For profitable small and medium-sized enterprises (SMEs), implied marginal R&D tax subsidy rates were highest in Colombia, the Slovak Republic and Iceland in 2021.
- Nineteen OECD jurisdictions offer refundable (payable) tax credits or equivalent incentives. Such provisions explicitly target SMEs and young firms compared to large enterprises in Australia, Canada and France.
- R&D tax incentives have become more generous, on average, over time. This is due to the higher uptake and increased generosity of R&D tax relief provisions. While this trend stabilised between 2013 and 2019, an increase is again observed from 2020 and maintained through to 2021 with the first-time introduction of an R&D tax incentive in Germany in 2020 and enhancement of R&D tax relief provisions in a number of OECD countries and EU member states following the outbreak of the COVID-19 crisis.

A snapshot of R&D tax incentives in the OECD**1. A widespread policy-tool**

Number of jurisdictions offering tax relief to R&D expenditures:



Note: The count of OECD countries offering expenditure-based R&D tax incentives has been revised and no longer includes Israel's accelerated depreciation scheme for tangible assets under the Law for the Encouragement of Capital Investments (LECI) which being broad-based is no longer considered as a dedicated R&D tax incentive scheme.

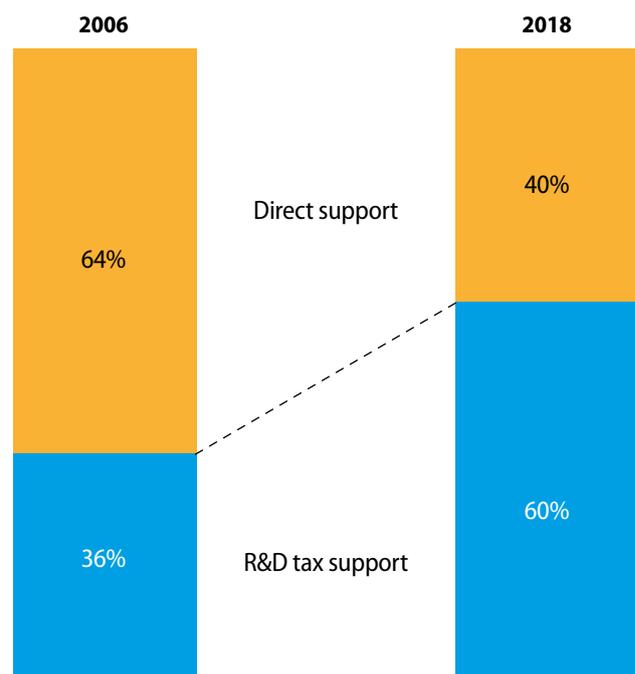
2. An increasing weight in public finances

Total cost to the government	2019	Increase from 2006
Tax Support	\$74 bn USD	166%
Direct Support	\$50 bn USD	0%

Note: Data refers to 2019 or closest year for which data is available and is expressed in current USD purchasing power parities (PPPs). Estimates of tax support exclude subnational R&D tax incentives as data was not available in 2006.

3. Governments' policy mix: a shift from direct to tax measures

The policy mix to support business R&D, OECD, 2006 vs 2018



Note: Estimates of tax support exclude subnational R&D tax incentives as data was not available in 2006. Data of tax support for Israel is not included as data is not available throughout time.

GOVERNMENT SUPPORT FOR BUSINESS R&D

Indicators of government tax relief for business R&D (GTARD) combined with data on direct R&D funding provide a more complete picture of governments' efforts to support business expenditure on R&D (BERD). Together, these indicators facilitate the cross-jurisdiction comparison of the policy mix provided by governments to support R&D and the monitoring of any changes over time.

Between 2006 and 2019, total government support (direct and national tax support) for business R&D expenditure as a percentage of GDP increased in 30 out of 49 jurisdictions for which relevant data are available. The United Kingdom, France and Belgium provided the largest levels of support in 2018. Subnational R&D tax incentives accounted for nearly 30% of total tax support in Canada in 2019, playing a comparatively smaller role in Hungary and Japan (nearly 20% and 1% of total tax support, respectively).

Most jurisdictions integrate both direct and indirect forms of R&D support in their policy mix, but to different degrees. In 2019, 16 OECD jurisdictions offered more than

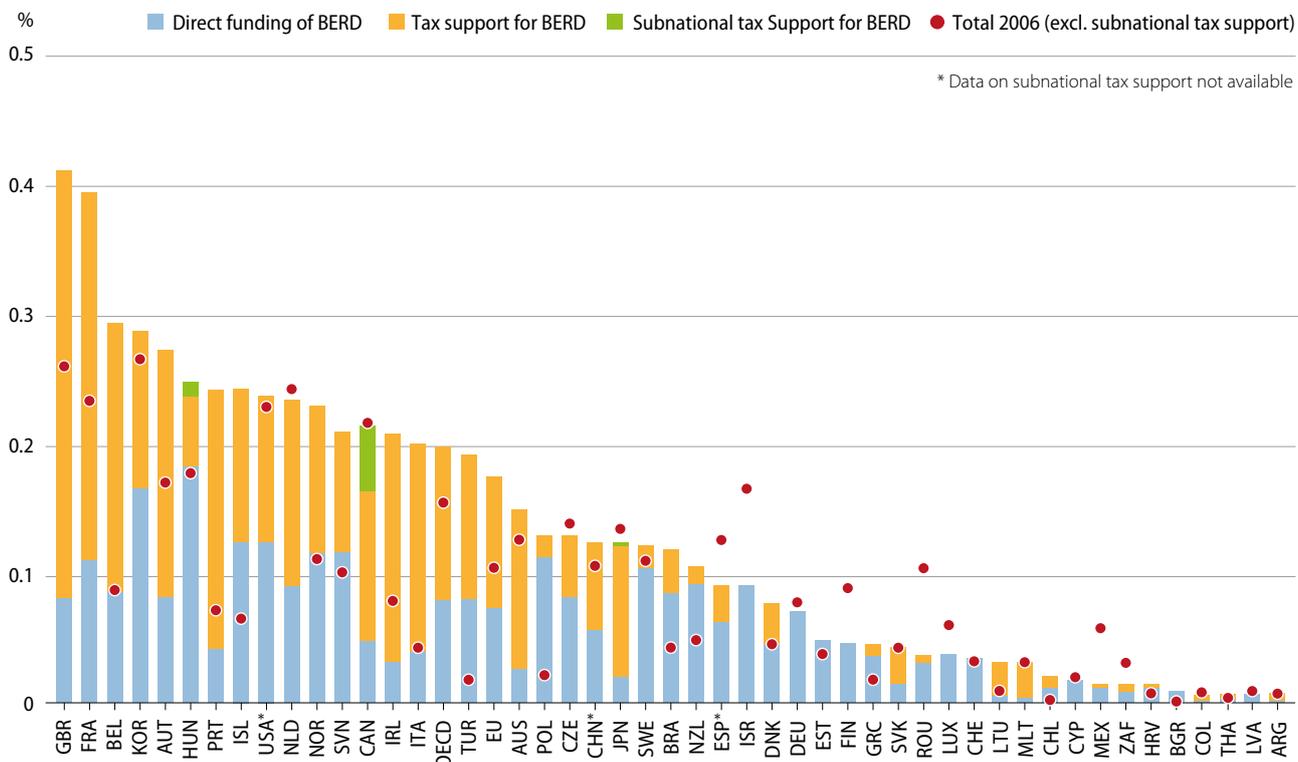
50% of government support for business R&D through the tax system, and this percentage reached 75% or more in six OECD jurisdictions: Australia, Colombia, Ireland, Italy, Japan and Portugal. Seven OECD jurisdictions relied solely on direct support in 2019. These are Estonia, Finland, Germany, Israel, Latvia, Luxembourg and Switzerland.

Combining time-series estimates of GTARD and direct funding helps illustrate variations in governments' policy mix over time. In recent years, many jurisdictions have granted a more prominent role to R&D tax incentives. Compared to 2006, the share of tax support in total government support in 2019 increased in 25 out of 36 OECD jurisdictions for which data are available. This implies a general shift towards less discretionary forms of support for business R&D, with some exceptions, e.g. Canada and Hungary increased their reliance on direct support.

Most jurisdictions use a combination of direct support and tax relief, but the policy mix varies. Eight out of 31 OECD jurisdictions that offered R&D tax relief in 2019 provided more than 75% of support for business R&D through R&D tax incentives.



FIGURE 11: **Direct government funding and tax support for business R&D (BERD) as a percentage of GDP, 2019**



Data and note: <https://oe.cd/ds/rdtax>. Time series data available for 2000-19.

Source: OECD (2022), R&D Tax Incentive Database, <http://oe.cd/rdtax> (accessed in September 2022).

MEASURING THE PREFERENTIAL TAX TREATMENT FOR R&D

R&D tax incentives exhibit very heterogeneous design features across jurisdictions, which come on top of existing differences in standard corporate income tax systems. Indicators based on forward-looking effective tax rates are therefore useful to capture in a synthetic manner the effect of taxation on firms' R&D investment incentives. By fixing the composition of the R&D investment, they enable comparisons of the preferential tax treatment provided for R&D investments across jurisdictions (Box 9).

This database provides a toolbox for policy-makers to analyse the incentives that firms face *through the tax system* to increase their R&D investment in a given country or to (re)locate their R&D functions, taking into account both the impact of underlying corporate taxation as well as specific R&D tax incentives. Indicators calculating the effective average tax rate (EATR) and the cost of capital for R&D are useful to analyse decisions at the extensive margin (e.g. whether or where to invest in R&D) and at the intensive margin (e.g. how much to invest in R&D), respectively. These indicators focus on the incentives faced by large firms among which R&D is heavily concentrated (OECD, 2022a, Dernis et al, 2019) and assume that firms are able to use their tax benefits in full.

Governments often introduce specific provisions to target particular firm types and to promote R&D among firms that may not be able to fully use their tax benefits.

Box 9. ASSUMPTIONS REGARDING THE R&D INVESTMENT MODELLED

In generating R&D assets, firms typically incur a mix of current costs and capital investments. The enhanced tax treatment for each component differs across jurisdictions (OECD, 2022b; González Cabral, Appelt and Hanappi, 2021). The modelling considers a fixed mix of 90% current expenditure (60% labour; 30% other current expenditure) and 10% capital (5% machinery and equipment; 5% buildings and land) to produce the R&D asset, reflecting average R&D input shares in OECD countries (OECD, 2022c). The composition of the R&D investment underpins the calculation of the B-Index, cost of capital and EATR for R&D indicators. A fixed project composition ensures that variations across jurisdictions can be attributed to taxation.

The B-Index, tightly related to the cost of capital, is another useful indicator to analyse R&D investment decisions at the intensive margin and to compare differences in the implied R&D tax subsidy rates among different firm types (SMEs and large firms) and profit scenarios (profit and loss). Box 10 provides an overview of the three indicators.

INCENTIVES AT THE EXTENSIVE MARGIN

Comparing the EATRs for R&D investments *across jurisdictions* gives insights into the incentives provided by the tax system for the location of profitable R&D investments (Panel A). The lowest EATRs for R&D investments carried out by large firms are observed in the Slovak Republic, Ireland and Lithuania, while the highest EATRs for R&D are observed in Mexico, Korea and Australia. Estimates of the EATR are typically lower for jurisdictions with lower statutory tax rates or more generous provisions affecting the tax base, including both standard tax provisions and those specific to R&D investments.

To assess the preferential tax treatment for R&D investments in relation to other investments, it is useful to calculate the EATR for a comparable investment to which R&D tax incentives do not apply. Where available, R&D tax incentives decrease the effective cost of R&D and reduce firms' EATRs, as shown in Panel A by the fact that the diamonds lie lower than the circles. The extent of the reduction, shown in Panel B, is explained by the generosity of the R&D tax incentives in each jurisdiction, which is closely linked to the design of these provisions. This figure includes only the impact of tax provisions in supporting R&D: modest reductions, as in Sweden or the United States, may occur in the context of higher reliance on direct forms of government support for R&D.

By taking the difference between the two EATRs, it is possible to gauge the preferential tax treatment offered to R&D in a given jurisdiction, in isolation from baseline tax provisions available to *all* types of investments. From a *within* country perspective, the preferential tax treatment for R&D investments is greatest in the Slovak Republic followed, by France and Portugal. The absence of bars, as in Costa Rica or Luxembourg, indicates that no preferential tax treatment for R&D is available in the jurisdiction relative to other investment types.

Box 10. THREE COMPLEMENTARY INDICATORS OF THE GENEROSITY OF R&D TAX SUPPORT

The cost of capital, the B-Index and the effective average tax rate (EATR) are conceptually linked and rely on the same modelling of R&D tax incentives. As indicators of the cost of R&D for a marginal unit of R&D outlay, the B-Index and cost of capital are used in the economic literature to assess firms' R&D investment decisions at the *intensive margin*, e.g. how much to invest in R&D.

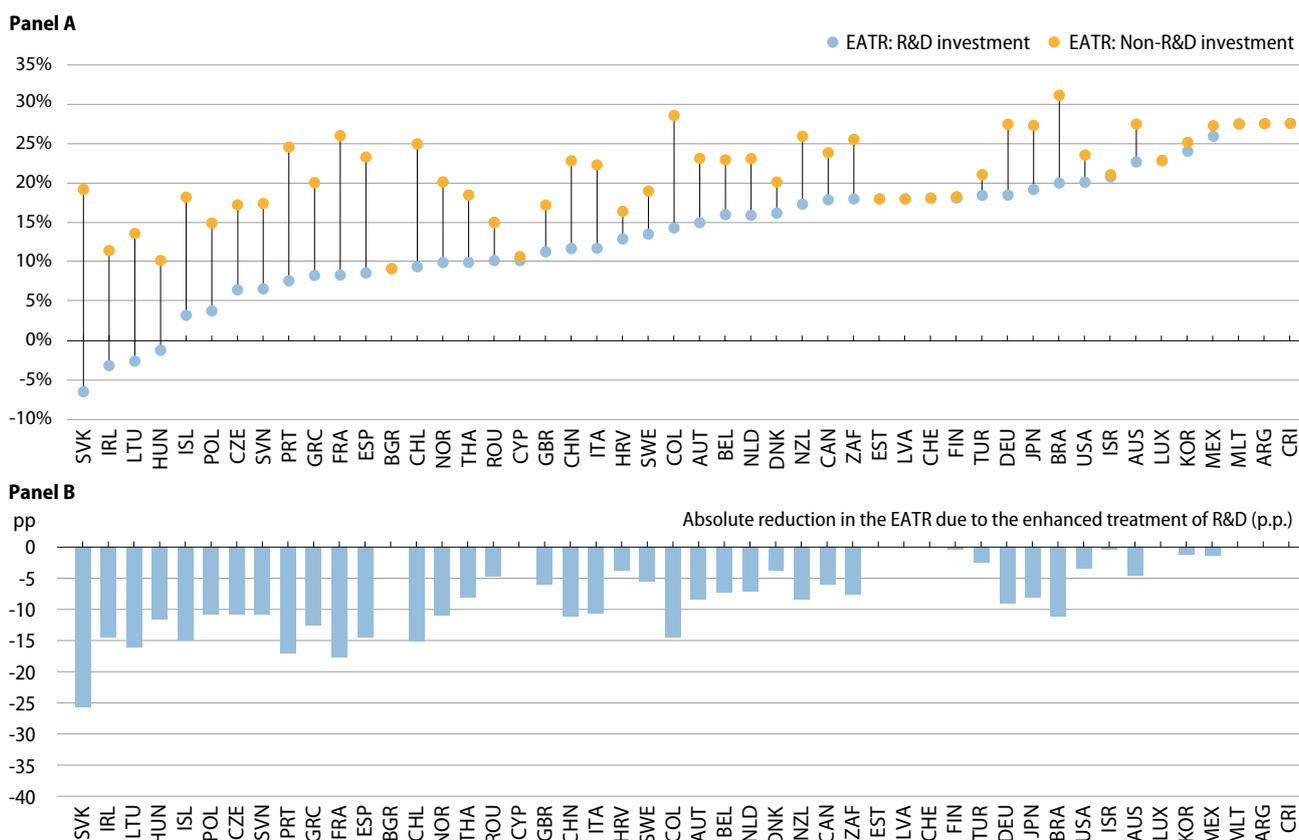
The **B-Index** offers a way of comparing the generosity of R&D tax incentives in reducing the upfront investment cost of an R&D investment while abstracting from the financing of the investment. By focusing on the tax component of the cost of capital, the B-index does not require assumptions on the depreciation rate of R&D, which is typically difficult to measure, and directly displays the variation in the tax treatment induced by R&D tax incentives.

The **cost of capital** complements and extends the B-Index indicator by accounting for additional costs and taxes relevant to the R&D investment. Since the cost of capital can in principle account for a variation in economic depreciation across assets and financing options, it also facilitates the analysis of different types of R&D projects. Finally, the cost of capital is also a stepping-stone in the calculation of the EATR.

By considering the taxation of a profitable investment, the **effective average tax rate** is relevant for the assessment of investment decisions at the *extensive margin* (where or whether to invest in R&D). Together, the three indicators offer a complementary set of indicators to assess the impact of taxation on firms' R&D investment decisions.

Source: Box 1 in González Cabral, Appelt and Hanappi (2021)

FIGURE 12: The effective average tax rate for R&D, 2021

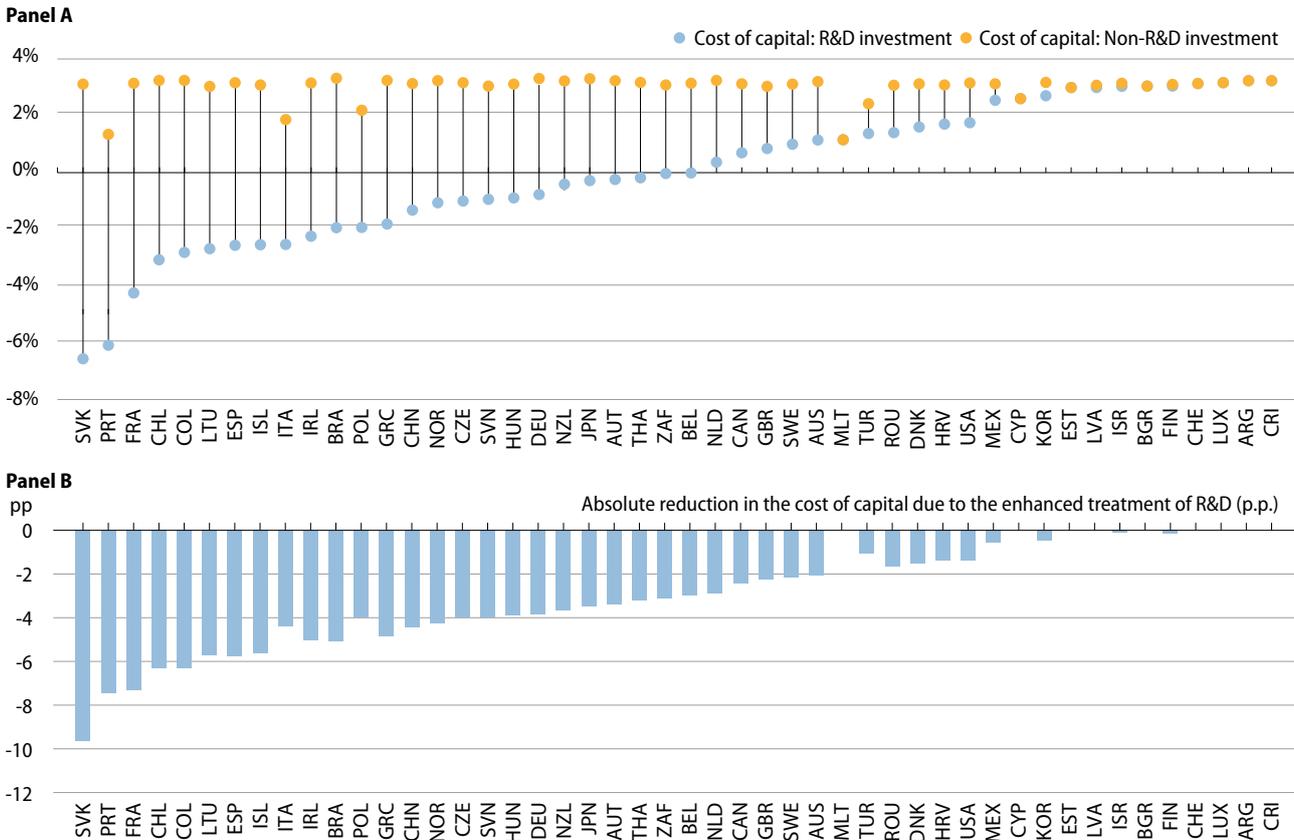


Note: Results refer to a macroeconomic scenario 3% real interest rate and 1% inflation and refer to an investment financed by retained earnings including the effect of allowances for corporate equity were available. In the non-R&D case, the EATRs lie close to the statutory tax rate due to the large current component in the R&D investment (see Box 9), except when allowance for corporate equity are available.



In OECD countries, R&D tax incentives reduce the EATR for R&D investments on average by **8.2 p.p.** from an average EATR of 21.3% and the cost of capital for R&D by **3.2 p.p.** from an average of 3%.

FIGURE 13: **The cost of capital for R&D, 2021**



Note: Results refer to a macroeconomic scenario incorporating a 3% real interest rate and a 1% inflation rate and refer to an investment financed by retained earnings including the effect of allowances for corporate equity where available. In the non-R&D case, the cost of capital lies close to the real interest rate due to the large current component in the R&D investment (see Box 9), except when an allowance for corporate equity is available.

INCENTIVES AT THE INTENSIVE MARGIN

Once established in a given location, firms decide upon the level of investment with reference to tax provisions that affect the intensive margin. The cost of capital for R&D is one relevant indicator of tax incentives at the intensive margin. Across the jurisdictions considered, the Slovak Republic, Portugal and France are the jurisdictions providing greater incentives through the tax system to increase the volume of R&D. Among jurisdictions offering R&D tax support, estimates of the cost of capital for R&D are highest in Finland, Korea and Mexico. Estimates of the cost of capital for R&D capture both the variability in standard tax provisions and those specific to R&D investments. R&D tax incentives reduce the cost of capital, with the extent of the reduction being affected by the generosity of R&D tax incentives. The absolute difference between the cost of capital for an R&D investment and a comparable non-R&D investment provides a within-country indication of the magnitude of R&D tax relief to marginal R&D investments, net of the standard tax treatment available to all investments.

This allows the preferential tax treatment for R&D to be isolated. The largest reductions in the cost of capital for R&D investments are observed in the Slovak Republic, Portugal and France, which are the jurisdictions with the lowest cost of capital estimates.

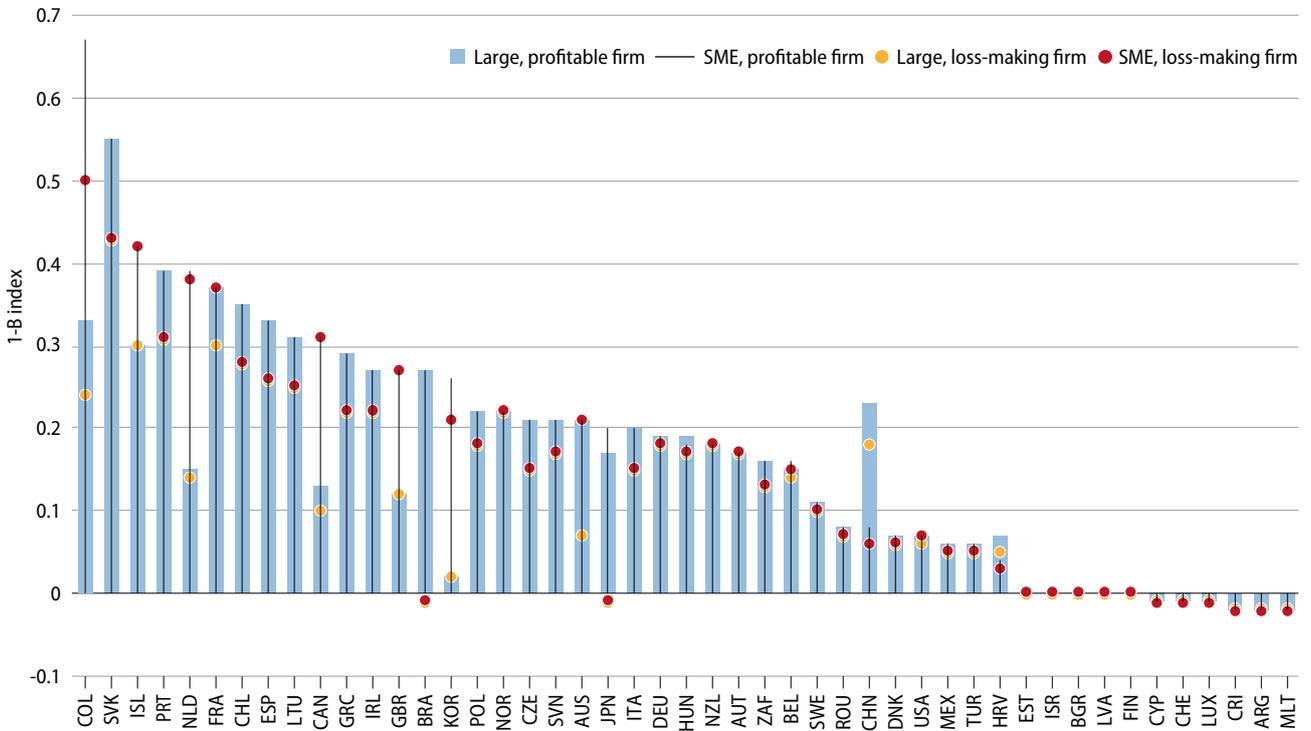
THE HETEROGENEITY OF IMPLIED R&D TAX SUBSIDY RATES

Implied marginal tax subsidy rates for R&D, based on the B-Index indicator (1-B-Index), provide a synthetic indicator of the expected generosity of the tax system towards an extra unit of a firm’s R&D investment. The more generous the R&D tax incentive is, the greater the value of the implied tax subsidy. R&D tax subsidies vary with business characteristics such as firm size and profitability.

Some jurisdictions, such as Australia or Canada, offer enhanced tax relief provisions for SMEs that are not available to large firms. This induces a gap in the expected R&D tax subsidy rates estimated for these two types of firms.

FIGURE 14: Implied marginal tax subsidy rates on business R&D expenditures, 2021

1-B-Index, by firm size and profit scenario



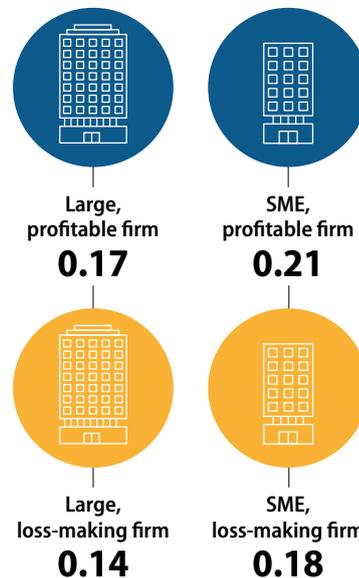
Data and notes: <https://oe.cd/ds/rdtax>. Modelling assumes a nominal interest rate of 10%.
 Source: OECD (2022), *R&D Tax Incentive Database*, <http://oe.cd/rdtax> (accessed in September 2022).

Refunds and carry-over provisions are common means of promoting R&D in firms that would not otherwise be able to utilise the support provided by the tax system. This may arise when firms do not have sufficient tax liability to offset earned deductions or do not draw a profit. Implied marginal subsidy rates are calculated under two scenarios: profitable firms (which are able to fully utilise the tax support available to them) and loss-making firms (which may not be able to fully utilise the tax support available to them) to reflect the varying impact of these provisions. Refundability provisions such as those available in Austria and Norway align the subsidy for profitable and loss-making firms. Compared to refunds, carry-over provisions, such as those available in Spain or Portugal, imply a lower subsidy for loss-making firms compared to profitable firms as the benefits may only be used in the future. In jurisdictions where no such provisions exist, such as Brazil or Japan, loss-making firms experience a full-loss of tax benefits.

Time-series estimates of implied marginal tax subsidy rates allow for a comparison of the evolution of R&D tax subsidy rates for different firm types from 2000-2021. The dataset allows an analysis of jurisdiction-specific and aggregate trends in the provision and generosity of R&D tax support by firm size and profit scenario. R&D

tax incentives have become on average more generous over time. Although between 2013 and 2019 subsidy rates had stabilised, an upwards trend is again observed from 2020. Persistently higher subsidy rates are offered over time to SMEs compared to large firms in both the profit scenarios considered (profitable and loss-making).

Average implied tax subsidy rates per dollar invested in R&D in OECD countries, 2021



Action 13 implementation

BEPS Action 13 is part of the transparency pillar of the OECD/G20 BEPS project, supporting jurisdictions in combating BEPS. In many cases, jurisdictions already have rules in place to deal with BEPS risks posed by MNE groups, but may not previously have had access to information to identify cases where these risks arise. BEPS Action 13 helps to address this by providing new information for use by tax administrations in high-level transfer pricing risk assessment and the assessment of other BEPS-related risks.

For the fiscal year 2018, 76 jurisdictions required mandatory filing of Country-by-Country Reports (CbCRs) for 2018. To date, more than 90 jurisdictions have laws in place introducing a reporting obligation in relation to CbCRs (see Figure 15).

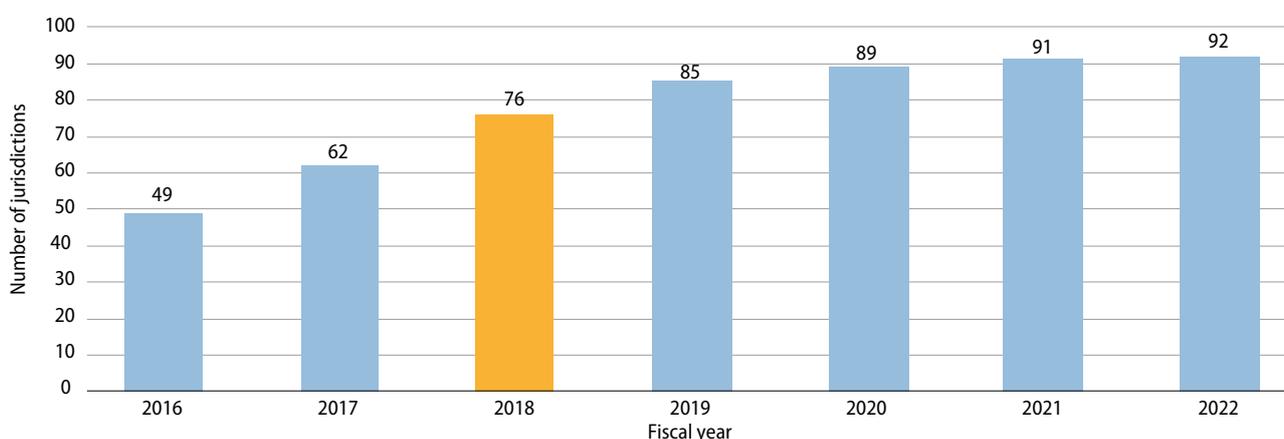
Feedback from tax administrations indicates that they are using CbCRs to combat BEPS, in combination with other tools: (i) to help identify MNE groups for possible audit, (ii) to help identify MNE groups that do not need to be audited (de-selection), and (iii) to help plan audits or other enquiries. The specific approaches adopted vary depending upon each tax administration's general approach to risk assessment. Two important points to note on the role of CbCRs include:

- **CbCRs may only be used in a high level risk assessment of an MNE.** CbCRs may not be used as evidence that BEPS exists or as a substitute for substantive enquiries, and should be used alongside other information available to tax administrations. It is unlikely that success in particular cases will be able to be attributed to CbCRs specifically.

- **There may be a significant time delay between a CbCR being filed and the outcomes of a transfer pricing audit.** CbCRs may be used for the purposes of a high level risk assessment and in planning a tax audit, but it will only be determined whether an MNE group is in fact engaged in BEPS once further enquiries are completed, which may take a number of years.

While CbCRs are an important tool, tax administrations are using them in concert with a range of other tools in their efforts to combat BEPS. The OECD has developed several tools to support tax administrations in using CbCRs and, in particular, in undertaking multilateral activity to risk assess MNE groups. These include regular CbCR risk assessment workshops; the CbCR Tax Risk Evaluation and Assessment Tool (TREAT) for tax administrations; a Tax Risk Assessment Questionnaire (TRAQ), which is used in the International Compliance Assurance Programme (ICAP) provided by a tax administration to an MNE group with an invitation to explain key indicators of possible risk; and the CbCR Effective Risk Assessment Handbook, released in 2017.

FIGURE 15: **Number of jurisdictions implementing mandatory CbCR filing by fiscal year**



Source: Action 13 Automatic exchange portal (<https://oe.cd/3Kj>)



Anonymised and Aggregated Country-by-Country Report Statistics

GENERAL DATA CHARACTERISTICS

Country-by-Country reporting was implemented as part of Action 13 of the OECD/G20 BEPS Project to support jurisdictions in combating base erosion and profit shifting (BEPS). While the main purpose of Country-by-Country Reports (CbCRs) is to support tax administrations in the high-level detection and assessment of transfer pricing and other BEPS-related risks, data collected from CbCRs can also play a role in supporting the economic and statistical analysis of BEPS activity and of multinational enterprises (MNEs) in general (see previous section for detail on Action 13).

Under Action 11 of the BEPS Project, acknowledging the need for additional sources of data on MNEs, jurisdictions agreed to regularly publish anonymised and aggregated CbCR statistics to support the ongoing economic and statistical analysis of MNEs and BEPS. The 2022 edition of *Corporate Tax Statistics* includes the third release of aggregated CbCR statistics, which are for the year 2018 and include CbCRs filed in 47 jurisdictions, covering almost 7 000 MNE groups. This new dataset contains a vast array of information on the global financial and economic activities of MNEs. A description of the CbCR data and how they are collected can be found in Box 11.

The aggregated CbCR data are subject to a number of limitations that need to be borne in mind when carrying out any economic or statistical analysis (see Box 12). Nonetheless, the data provide important information on MNEs and their activities relative to previously existing data sources:

- The CbCR data provide global information on MNEs' activities, with more granular information than is available in other data sources such as consolidated financial accounts.¹¹
- The CbCR data include information on MNE employees, related and unrelated party revenues, profits before tax, taxes accrued and taxes paid, stated capital, accumulated earnings, and tangible assets; variables that are not comprehensively described in other datasets for most jurisdictions.
- The data ensure inclusion of all global activities of included MNEs.
- At a minimum, the data allows for the domestic and foreign activities of MNEs to be separately identified.¹² Depending on the reporting jurisdiction, it allows for an analysis of MNEs' activities in investment hubs and developing jurisdictions thanks to a detailed geographical disaggregation.
- Information is reported by jurisdiction of tax residence and not jurisdiction of incorporation.
- The CbCR data provide cross-country information on MNEs' business activities (e.g. manufacturing, IP holding, sales) in different jurisdictions, allowing researchers to relate financial outcomes to these functions for the first time.

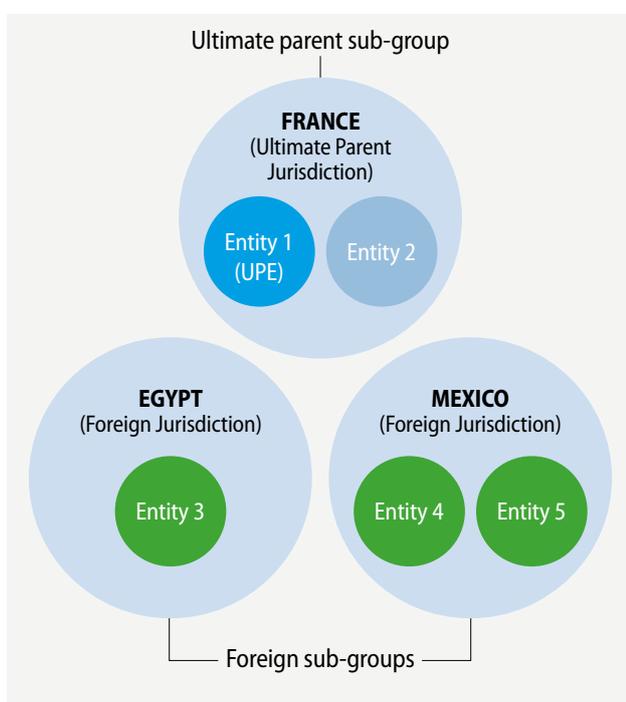
The CbCR data thus provide governments and researchers with important new information to analyse MNE behaviour, particularly in relation to tax, allowing for the construction of a more complete view of the global activities of the largest MNEs than is possible using existing sources.

11. In the case of the United States, CbCR data are less granular than IRS Form 5471, 8865, and 8858 data.

12. With the exception of stateless income, which could relate to either domestic or foreign activities.

MNE STRUCTURE

MNE group XYZ operates in France, Mexico and Egypt.
The ultimate parent entity is in France.



An **MNE group** is a collection of enterprises related through ownership or control such that the group is either required to prepare consolidated financial statements for financial reporting purposes under applicable accounting principles or would be so required if equity interests in any of the enterprises were traded on a public securities exchange.

An **entity** is any separate business unit of an MNE group that is included in the consolidated financial statements of the MNE group for financial reporting purposes.

The **ultimate parent entity (UPE)** directly or indirectly owns a sufficient interest in one or more other entities of the MNE group such that it is required to prepare consolidated Financial Statements.

A **sub-group** is formed by the combined entities of an MNE group operating in one tax jurisdiction.

Note: Definitions are adapted for brevity, further details are available in Action 13 Final Report (Annex IV to Chapter V, Transfer Pricing Documentation and Country-by-Country Reporting, Action 13 - 2015 Final Report <https://doi.org/10.1787/9789264241480-en>).

Box 11. THE ANONYMISED AND AGGREGATED CBCR STATISTICS AND HOW THEY ARE COLLECTED

The anonymised and aggregated CbCR statistics are constructed in two main steps. First, all large MNEs (i.e. with consolidated revenues of at least EUR 750 million) file CbCRs, typically with the tax administration in the jurisdiction of their ultimate parent entity (UPE). An MNE group is usually required to file its CbCR one year after the closing date of its fiscal year. Second, in each jurisdiction, tax administrations or other government bodies compile the different CbCR filings into a single dataset according to their specific confidentiality standards. This results in a single anonymised and aggregated dataset covering all the jurisdiction's MNEs subject to the filing requirement, which is shared with the OECD.

To construct the third aggregate set of data, covering CbCRs with fiscal years ending between 1 January 2018 and 31 December 2018, jurisdictions started receiving the 2018 CbCRs in January 2019. The OECD has worked closely with members of the Inclusive Framework to develop a common reporting template and to overcome a range of legal and technical issues to ensure that jurisdictions have been able to submit aggregate data to the OECD.

While there are 141 members of the Inclusive Framework, only 76 have implemented mandatory reporting for the fiscal year 2018. Of the jurisdictions receiving CbCRs, only 52 were estimated to have received a sufficient number of CbCRs to be able to provide aggregated statistics while ensuring taxpayer confidentiality. Of these 52, the third data release presents CbCR statistics from a total of 47 jurisdictions, including information on the activities of almost 7 000 MNE Groups (see Table 1).

To give an overview of the global activities of MNEs, jurisdictions have provided the OECD with anonymised and aggregated tabulations of the following information: number of CbCRs, number of sub-groups, number of entities, total unrelated and related party revenues (and their sum, total revenues), profit or loss before income tax, income tax paid (on a cash basis), current year income tax accrued, stated capital, accumulated earnings, number of employees, tangible assets other than cash and cash equivalents, and the main business activity (or activities) of each constituent entity. Aggregation is performed at the sub-group level according to certain sub-group or group characteristics and reported according to these different criteria in several tables (see Table 2).

TABLE 1: Sample composition and average values for key financial variables

Reporting Jurisdiction	Level of data disaggregation	Number of CbCRs	Unrelated party revenues	Tangible assets (other than cash)	Income tax accrued	Number of employees
1 Argentina	18 individual jurisdictions	21	4 361	5 958	71	9 103
2 Australia	76 individual jurisdictions	132	5 021	4 123	189	12 423
3 Austria	Continents	82	4 057	2 508	57	12 588
4 Belgium	15 individual jurisdictions	58	4 731	3 716	95	12 141
5 Bermuda	97 individual jurisdictions	58	5 061	4 831	100	14 318
6 Bulgaria	–	0	–	–	–	–
7 Brazil	34 individual jurisdictions	81	10 707	9 089	116	20 415
8 Canada	9 individual jurisdictions	220	5 703	5 729	100	14 526
9 Cayman Islands	147 individual jurisdictions	110	6 294	4 445	139	21 330
10 Chile	4 individual jurisdictions	32	4 648	4 053	196	21 846
11 China	123 individual jurisdictions	394	19 479	19 229	446	57 401
12 Czech Republic	All foreign jurisdictions combined	–	–	–	–	–
13 Denmark	110 individual jurisdictions	69	5 433	2 931	70	18 732
14 Finland	All foreign jurisdictions combined	52	4 896	1 836	77	11 469
15 France	88 individual jurisdictions	232	11 557	5 606	266	40 458
16 Germany	157 individual jurisdictions	387	9 433	5 405	147	24 591
17 Greece	Continents	19	3 426	2 253	49	9 859
18 Hong Kong, China	117 individual jurisdictions	167	5 198	7 781	191	17 197
19 Hungary	All foreign jurisdictions combined	5	7 901	2 948	66	18 005
20 India	88 individual jurisdictions	151	3 969	6 929	108	28 208
21 Indonesia	43 individual jurisdictions	28	5 361	147 724	333	20 420
22 Ireland	All foreign jurisdictions combined	61	7 029	2 858	134	28 023
23 Isle Of Man	Continents	7	1 776	1 051	10	9 729
24 Italy	103 individual jurisdictions	139	5 868	3 111	134	12 211
25 Japan	133 individual jurisdictions	861	7 797	3 651	194	18 947
26 Korea	All foreign jurisdictions combined	245	8 107	5 758	180	15 280
27 Latvia	10 individual jurisdictions	3	493	1 437	9	2 513
28 Lithuania	4 individual jurisdictions	4	1 244	1 107	7	5 972
29 Luxembourg	84 individual jurisdictions	147	4 962	2 024	35	12 325
30 Malaysia	23 individual jurisdictions	60	4 098	6 658	183	19 020
31 Mexico	73 individual jurisdictions	69	5 594	5 290	127	28 168
32 Netherlands	23 individual jurisdictions	165	11 000	4 823	180	24 371
33 New Zealand	All foreign jurisdictions combined	19	3 397	2 729	34	7 651
34 Norway	59 individual jurisdictions	61	4 623	4 110	244	7 171
35 Panama	33 individual jurisdictions	2	6 841	49 242	268	34 329
36 Peru	122 individual jurisdictions	26	15 942	6 097	461	30 321
37 Poland	2 individual jurisdictions	31	4 468	3 860	92	17 046
38 Romania	145 individual jurisdictions	4	28 625	7 744	354	58 396
39 Saudi Arabia	59 individual jurisdictions	18	23 286	18 007	5 474	16 759
40 Singapore	29 individual jurisdictions	79	4 342	4 100	85	11 313
41 Slovenia	4 individual jurisdictions	6	2 756	945	25	6 540
42 South Africa	35 individual jurisdictions	58	4 062	3 446	93	24 252
43 Spain	115 individual jurisdictions	132	5 809	5 848	122	20 840
44 Sweden	Continents	103	5 494	2 696	111	18 178
45 Switzerland	162 individual jurisdictions	138	8 730	4 859	136	19 468
46 United Kingdom	Continents	387	6 683	4 890	139	21 051
47 United States	140 individual jurisdictions	1 641	9 976	5 256	209	24 403

Note: Currency values (all values except the number of CbCRs and number of employees) are reported in millions of USD. Level of data disaggregation provided depends on data confidentiality standards applicable in each reporting jurisdiction. There were no CbCRs filed for MNE groups resident in Bulgaria, however, Bulgaria did provide statistics for the 3 surrogate filings received. Average values have not been calculated for the Czech Republic as the number of CbCRs has not been supplied for confidentiality reasons.

Source: 2018 Anonymised and Aggregated CbCR statistics

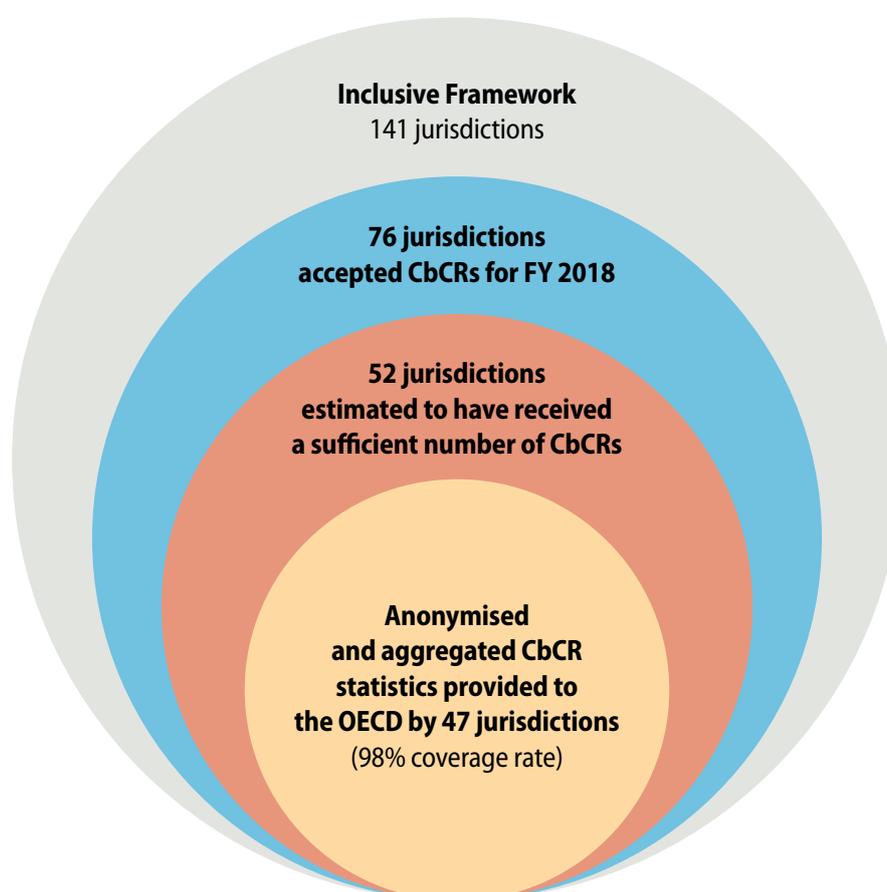
TABLE 2: **Content of anonymised and aggregated CbCR statistics**

CbCR table	Content	Jurisdiction coverage*	Description
Table 1A	Aggregate totals of all variables by jurisdiction	46	Reports variable totals for all sub-groups, obtained by aggregating sub-group variables according to their jurisdiction of tax residence (or jurisdiction groups, depending on confidentiality). The tables includes three panels aggregating all sub-groups, sub-groups with positive profits and sub-groups with negative profits.
Table 1B	Interquartile mean values of all variables by jurisdiction	34	Same structure as Table 1A but with interquartile mean figures based on the number of CbCR sub-groups.
Table 4	Aggregate totals of all variables by effective tax rate of MNE groups	34	Data is provided by effective tax rate of the MNE group and by tax jurisdiction. The level of disaggregation varies across jurisdictions, depending on confidentiality.
Table 5	Aggregate totals of all variables by effective tax rate of MNE sub-groups	37	Data is provided by the effective tax rate of the MNE sub-group. The level of disaggregation varies across jurisdictions, depending on confidentiality.
Table 6	Distribution points of MNE group size	28	Provides distribution points of MNE group size, as measured by unrelated party revenues, number of employees and tangible assets. The total size of an MNE group is determined by summing the relevant variables across all of its sub-groups.

Note: The collection of Tables 2 and 3, where the data is aggregated according to the MNEs sector and size, has been postponed. The Inclusive Framework will consider whether to expand the dataset to include these tables in future years. The effective tax rate of the MNE group and sub-group in Tables 4 and 5 should not be directly compared to the effective tax rates mentioned in the chapter on corporate effective tax rates.

* All submitting jurisdictions provided Table 1A except for Bulgaria where no CbCRs were filed for MNE groups resident in Bulgaria. Jurisdiction coverage for the other tables varies as described above.

COVERAGE OF ANONYMISED AND AGGREGATED CbCR DATA



Box 12. LIMITATIONS OF THE CbCR DATA AND ACTIONS TO IMPROVE THE QUALITY OF THE DATA

The aggregated CbCR data are subject to a number of limitations that need to be borne in mind when carrying out any economic or statistical analysis. Some limitations include that:

- Much of the data is too aggregated to allow detailed investigation of specific BEPS channels (e.g., there is no distinction between royalties and interest in related party payments, and no information on intangible assets).
- Often but not always, CbCRs are based on financial accounting data.¹³ Due to differences between financial and other permitted accounting rules and tax reporting rules, CbCR data might not accurately represent how items are reported for tax purposes. Differences in accounting rules could affect the comparability of CbCR data across jurisdictions.
- Several jurisdictions have not submitted aggregated CbCR statistics to the OECD for publication in this edition of *Corporate Tax Statistics*.
- There are a number of data deficiencies described in the disclaimer accompanying the data, which is available at <http://www.oecd.org/tax/tax-policy/anonymised-and-aggregated-cbcr-statistics-disclaimer.pdf>. In the absence of specific guidance, MNEs may have included intra-company dividends in profit figures, meaning that profit figures could be subject to double counting.
- While the inclusion of dividends in the profit figure is normal in separate financial accounting, in the context of corporate income tax analysis it can lead to biased results. For example, the tax treatment of repatriated dividends can differ across jurisdictions. As a distribution of post-tax profits, dividends are often lightly taxed or tax exempt.¹⁴ To evaluate the potential magnitude of included dividends, some jurisdictions have carried out their own independent analyses of this question.¹⁵
- In the case of stateless entities, the inclusion of transparent entities such as partnerships may give rise to double-counting of revenue and profit. On the other hand, the data may imply that stateless profit are untaxed, since this income is generally taxed at the level of the owner.
- CIT exempt companies such as pension funds or university hospitals are required to file CbCRs and as such are included in aggregated statistics, unless otherwise specified. The inclusion of these companies could distort the relationship between profits and taxes.

Some of the data limitations have already been addressed through revised guidance. For example, with respect to the double-counting of dividends, the guidance on CbCR implementation was updated in November 2019 to specify that intra-company dividends should be excluded from profit figures. However, because of the time lag in the revision of instructions with jurisdictions and in reporting, it is expected to take several years before these actions lead to



improvements in data quality. Other issues, e.g. the treatment of stateless entities, are the subject of ongoing discussion, including through the review of Country-by-Country Reporting (BEPS Action 13)¹⁶ that could lead to the collection of more detailed information through CbCR reports in the future. The OECD continues to work with members of the Inclusive Framework and other stakeholders to improve the quality and consistency of the data across jurisdictions. In light of these potential improvements, it is expected that the value and importance of the dataset in providing researchers and the public with a valuable tool for better understanding the global activities of MNEs and BEPS will continue to increase over time.

In addition to the limitations mentioned above, caution needs to be exercised when attempting to draw conclusions from the data for several reasons:

- Changes and potential trends in BEPS behaviour cannot be detected with a single year of data.

- In the short term, comparability between the 2016 and the 2017 and 2018 samples is limited, e.g. because of the move from voluntary to mandatory filing and differences in fiscal year coverage.¹⁷ In the longer term, changes to guidance will lead to changing treatment of some variables such as profits, also limiting the comparison of these variables over time.
- Even with additional years of data, a number of other events that affect the data may make it difficult to identify the effect of BEPS-related policies (e.g. COVID-19, and the United States' 2017 Tax Cuts and Jobs Act).
- Implementing BEPS measures takes time and the effects of these measures may not become evident until a few years after implementation.

13. Reporting MNEs may choose to use data from consolidation reporting packages, from separate entity statutory financial statements, regulatory financial statements, or internal management accounts. In some jurisdictions, taxpayers are permitted to use financial statements or records maintained for tax reporting purposes.

14. In the European Union, the Council directive 2011/96/EU limits the ability of EU Member States to tax received dividends in order to exempt dividends and other profit distributions paid by subsidiary companies to their parent companies from withholding taxes and to eliminate double taxation of such income at the level of the parent company.

15. Country specific analysis undertaken by Ireland, Italy, the Netherlands, Sweden and the United Kingdom are available at: Ireland: <https://oe.cd/3Kj>; Italy: <https://oe.cd/3Kk>; Netherlands: <https://oe.cd/3Kl>; Sweden: <https://oe.cd/3Km>; United Kingdom: <https://oe.cd/3Kn>.

16. The BEPS Action 13 report (<http://www.oecd.org/tax/transfer-pricing-documentation-and-country-by-country-reporting-action-13-2015-final-report-9789264241480-en.htm>) included a requirement that a review of the CbCR minimum standard be completed (the 2020 review). A public consultation meeting on the 2020 review of BEPS Action 13 was held virtually on 12-13 May 2020, where external stakeholders had the opportunity to provide input on the ongoing work.

17. The 2017 data and future releases cover fiscal years ending between 1 January and 31 December of the respective year while the 2016 data contains CbCRs for fiscal years starting between 1 January and 1 July 2016.

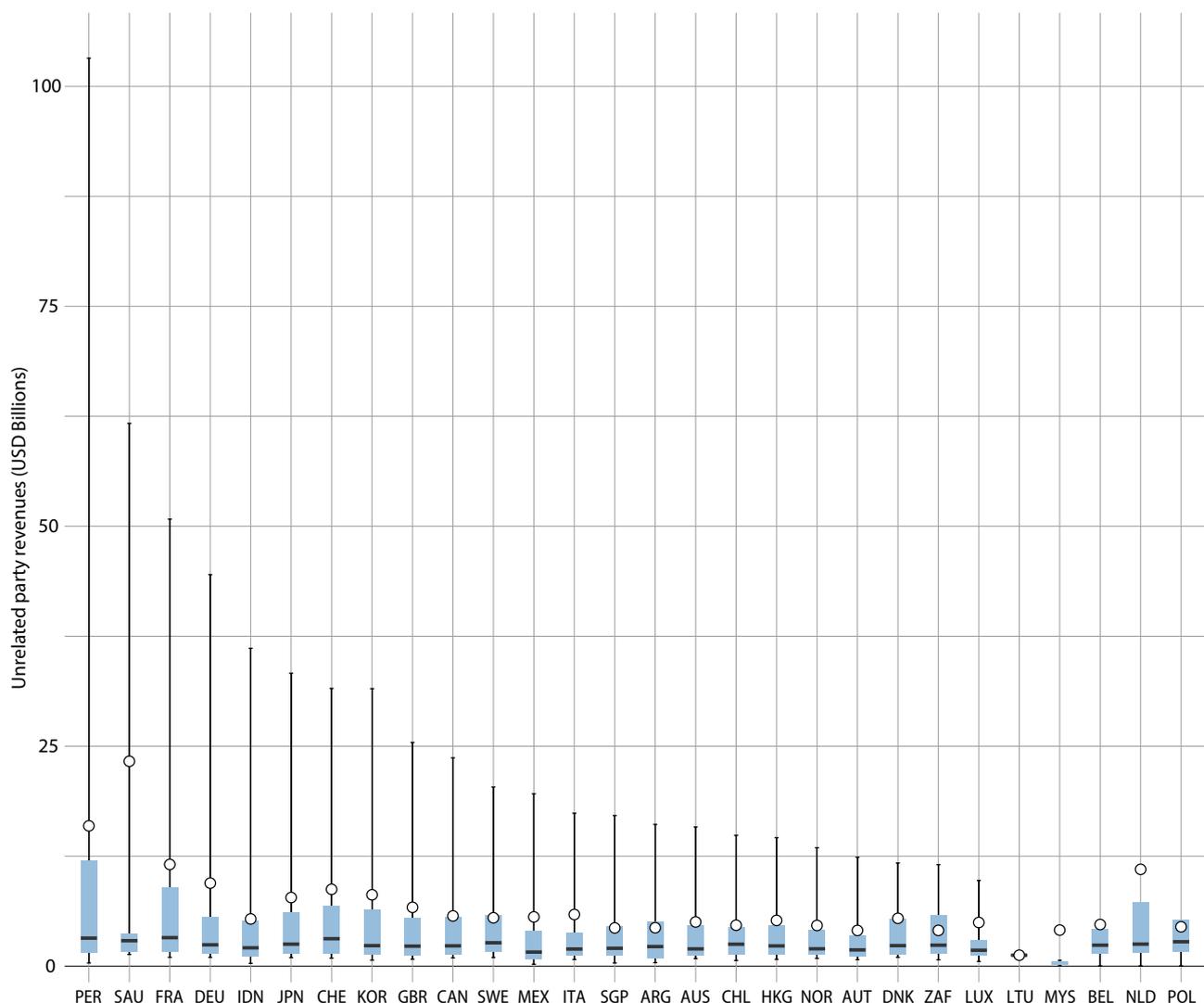


GENERAL OBSERVATIONS FROM CbCR DATA

The following descriptive statistics provide insight into some key features of the 2018 CbCR data:

- Anonymised and aggregated CbCR data provide an overview of where large MNE groups are headquartered.** Table 1 shows that, across the jurisdictions that submitted data, the United States and Japan host almost 40% of the headquarters of MNEs included in the sample. The number of reported MNEs varies considerably among jurisdictions, ranging from a minimum of two in Panama to 1,641 in the United States. The median number of reported MNEs per jurisdiction is 69.
- The size of MNE groups varies across the sample and includes a small number of relatively large MNE groups.** Figure 16 shows the distribution points of unrelated party revenues of MNE groups headquartered in each reporting jurisdiction. A common feature across all jurisdictions is that the mean MNE size in terms of unrelated party revenues is considerably larger than the median size, indicating that the underlying sample includes a small number of relatively large MNE groups.

FIGURE 16: **Distribution of MNE unrelated party revenues by ultimate parent jurisdiction**



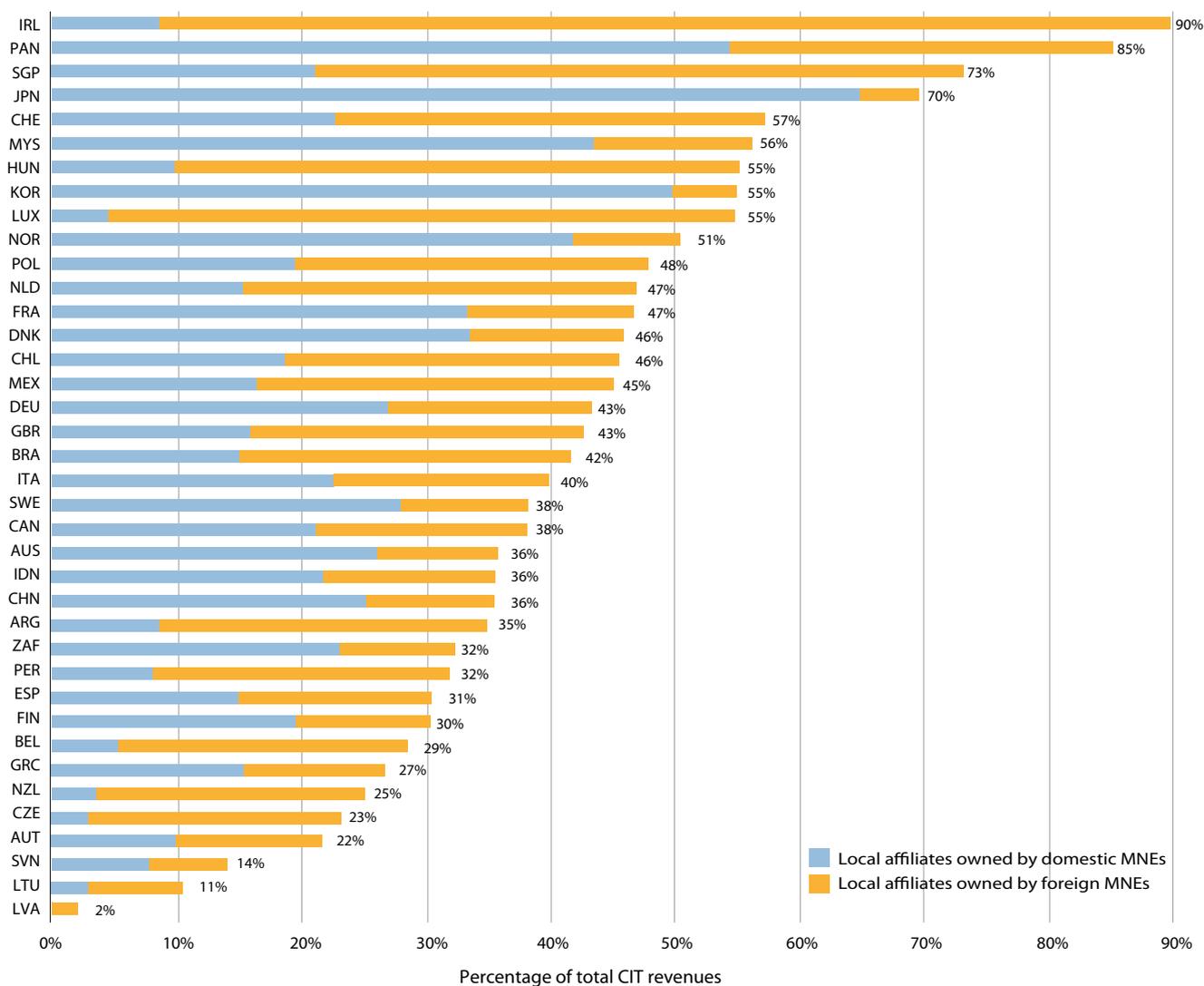
Note: The white dot represents the average value (obtained by dividing totals by the number of CbCRs), the blue boxes are delimited by the 25th and 75th percentiles, thus representing 50% of the sample within each jurisdiction. The horizontal black bar shows the median (50th percentile). The two whiskers indicate the 5th and 95th percentiles. Jurisdictions are ranked with respect to the 95th percentile. Country coverage reflects data availability in Table 6.

Source: 2018 Anonymised and Aggregated CbCR statistics

- **Foreign and domestic MNEs account for significant shares of corporate income tax (CIT) revenues in several jurisdictions.** Figure 17 reports total tax accrued based on CbCR statistics, as a fraction of the total national CIT revenues, taken from the OECD's

Global Revenue Statistics Database. The figure allows an examination of the relative importance of foreign and domestic MNE contributions as covered in the 2018 data.¹⁸

FIGURE 17: **MNEs' contribution to total CIT Revenues**



Note: The percentages above are calculated by dividing the amount of total tax accrued reported in CbCR statistics by total CIT revenues as reported in the OECD's Global Revenue Statistics Database. The figure shows total revenues of both domestic and foreign MNEs as a percentage of total CIT revenues, with jurisdictions ranked according to the total contribution of MNEs to CIT revenues. As there might be some timing differences in recording tax payments between tax accrued reported in CbCR data and CIT revenues reported in Global Revenue Statistics, percentages should be considered as indicative. Revenues from foreign MNEs are calculated as the sum of tax accrued reported in the jurisdiction by MNEs headquartered in other jurisdictions. Foreign MNEs' tax revenues should be considered as a lower bound as they can be reported exclusively where the geographical disaggregation is available at the jurisdiction level. Data for Bermuda; Cayman Islands; Hong Kong, China; Isle of Man; India; Romania; and Saudi Arabia are missing because these jurisdictions are not covered in the 2018 OECD Global Revenue Statistics data. The US ratio of MNE tax revenues to total tax revenues is not presented in this chart due to a one-time transition tax imposed as part of the 2017 Tax Cuts and Jobs Act, which created a mismatch between the numerator and denominator of this ratio. MNEs generally report this transition tax as part of income taxes accrued and income taxes paid on the CbCR. However, the US Bureau of Economic Analysis does not classify this transition tax as CIT revenue (<https://www.bea.gov/help/faq/1293>). Therefore, the ratio of income tax accrued in CbCR data to US CIT revenues would be significantly upward biased and not indicative of the amount of CIT revenue contributed by MNEs in 2018. This mismatch is likely to persist for a number of years as taxpayers can elect to pay the tax over several years. In the Austrian version of the relevant EU Directive the term "income tax accrued" was translated as "remaining income tax to be paid". As this relates to the structure of the Austrian corporate income tax payment system which requires several installments, this may result in an incomplete reporting. Therefore, the corporate tax payments of Austrian affiliates owned by domestic MNEs might be understated.

Source: 2018 Anonymised and Aggregated CbCR statistics and the OECD Global Revenue Statistics Database.

18. Foreign MNEs' contributions might be understated for two main reasons: first, some jurisdictions provided limited geographical disaggregation; second, the contributions of MNEs with parents headquartered in jurisdictions that did not provide data are missing.

KEY INSIGHTS FROM CbCR DATA

The third release of anonymised and aggregated CbCR data (2018) provides some fresh insights on BEPS.

Due to the limitations of the CbCR data (Box 12), considerable caution needs to be exercised when attempting to draw conclusions about BEPS from the data. This is especially the case given that this is only the third year for which anonymised and aggregated data have been provided. Three years of data can give only limited insights on changes and potential trends in BEPS behaviour. In addition, the comparability between the 2016 sample and the samples for 2017 and 2018 is limited due to the move from voluntary to mandatory filing in some countries and differences in fiscal year coverage (see Box 12).

Taking these caveats into account, the third release of CbCR statistics suggests some insights on BEPS:

- **There is evidence of misalignment between the location where profits are reported and the location where economic activities occur.** The data show significant differences in the distribution across jurisdiction groups of employees, tangible assets, and profits.¹⁹ Figure 18 presents the distribution of MNEs' foreign activities across jurisdiction groups.²⁰ For example, high and middle income jurisdictions account for a higher share of total employees (respectively 34% and 38%) and total tangible assets (respectively 37% and 24%) than of profits (respectively 27% and 18%). On the other hand, in investment hubs, on average, MNEs report a relatively high share of profits (29%) compared to their share of employees (4%) and tangible assets (15%). High income jurisdictions, middle income jurisdictions, and investment hubs account for 33%, 31%, and 11% of tax accrued, respectively.²¹

FIGURE 18: Jurisdiction groups' shares of foreign MNEs' activities



Note: The profit variable could include intracompany dividends in several instances and therefore be upward biased. The bars represent jurisdiction groups' shares of different variables (e.g. profit in group x/total profits booked in foreign jurisdictions) across all jurisdictions included in the CbCR sample. The percentages are calculated using Table 1A Panel A (all subgroups). "Other" reflects aggregate geographic groupings.

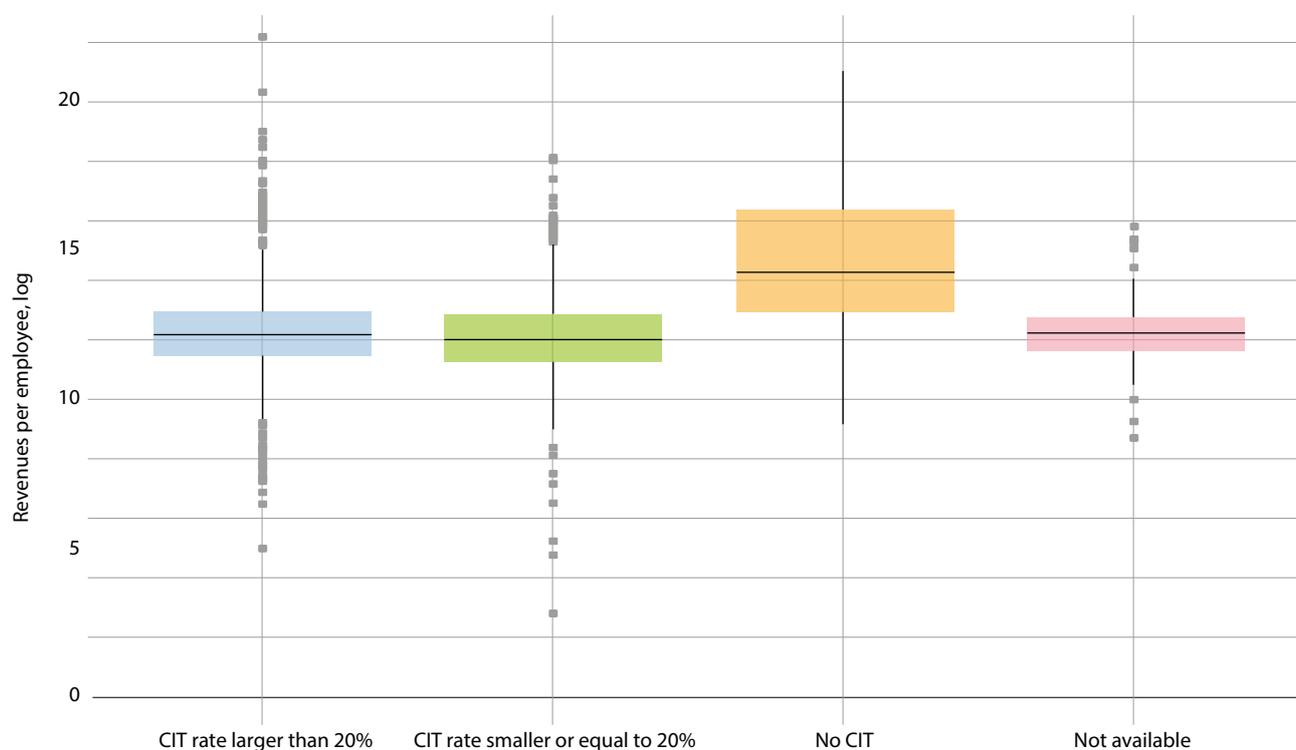
Source: 2018 Anonymised and Aggregated CbCR statistics

19. As indicated in Box 12, and described in greater detail at <http://www.oecd.org/tax/tax-policy/anonymised-and-aggregated-cbcr-statistics-disclaimer.pdf>, profits may be overestimated due to the inclusion of intra-company dividends. To evaluate the potential magnitude of included dividends country specific analyses are available at: Netherlands: <https://oe.cd/3Kp>; Ireland: <https://oe.cd/3Kn>; Italy: <https://oe.cd/3Ko>; Sweden: <https://oe.cd/3Kq>; United Kingdom: <https://oe.cd/3Kr>.

20. Jurisdiction groups (high, middle and low income) are based on the World Bank classification resulting in 61 high income jurisdictions, 104 middle income jurisdictions, and 29 low income jurisdictions. Investment hubs are defined as jurisdictions with a total inward Foreign Direct Investment (FDI) position above 150% of GDP and include Anguilla; Bahamas; Barbados; Bermuda; British Virgin Islands; Cayman Islands; Cyprus; Gibraltar; Guernsey; Hong Kong, China; Hungary; Ireland; Isle of Man; Jersey; Liberia; Luxembourg; Malta; Marshall Islands; Mauritius; Mozambique; Netherlands; Puerto Rico; Singapore and Switzerland.

21. Tax accrued depends on both effective tax rates and taxable profits in a jurisdiction.

FIGURE 19: Average revenues per employee: distribution within CIT rate groups

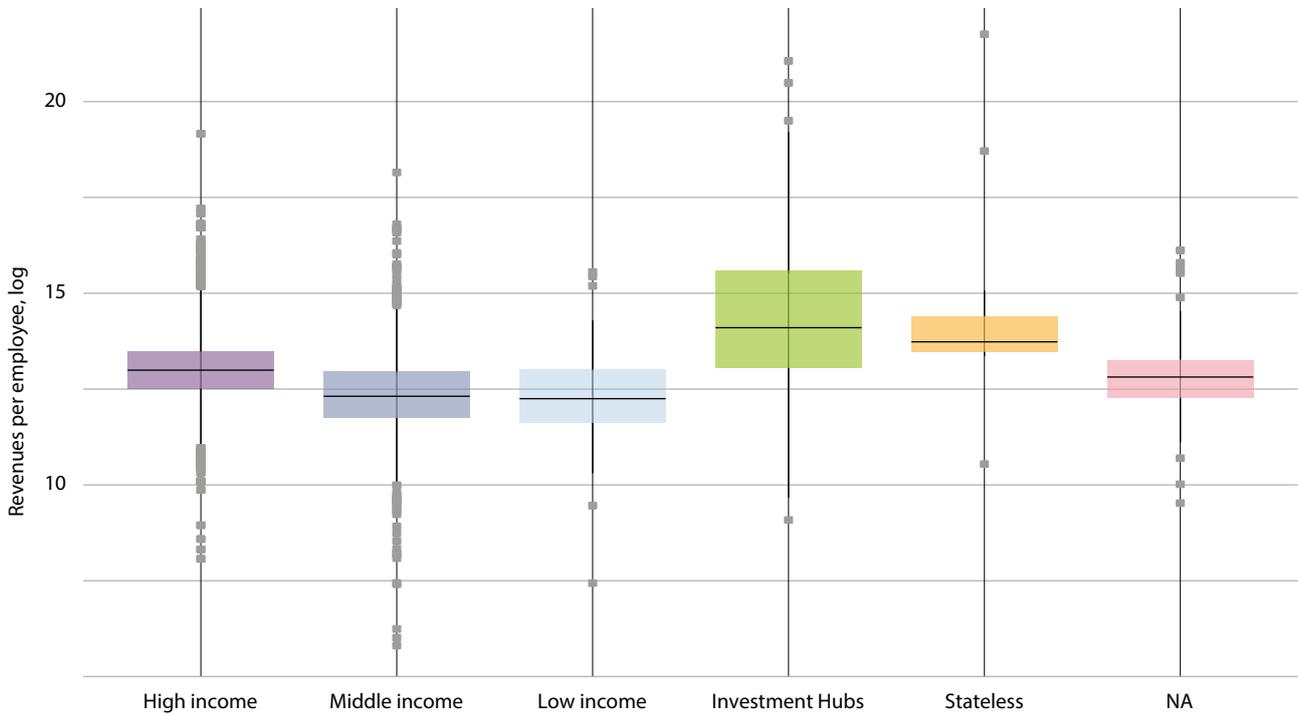


Note: Jurisdictions are grouped with respect to their combined CIT rate. The CIT rates in the category “CIT rates higher than 20%” range from 21% to 48.3%; CIT rates range between 10% and 20% in the category “CIT rates lower than or equal to 20%”. The boxplot displays the distribution of the logarithmic transformation of revenues per employee (in USD) within each CIT rate group. The boxes are delimited by the 25th and 75th percentiles, thus representing 50% of the sample within each group. The horizontal black bar shows the median (50th percentile). The two whiskers capture the largest values within a distance of 1.5 times the interquartile range (difference between the 25th and 75th percentile); all outlying points are plotted individually.

Source: 2018 Anonymised and Aggregated CbCR statistics

- **Revenues per employee tend to be higher where statutory CIT rates are zero and in investment hubs.** Figure 19 and Figure 20 show how the ratio of total revenues to the number of employees is higher in jurisdictions where the CIT rate is zero and in investment hubs. Please note that these figures report logarithms of the actual values for graphical reasons, as the levels in zero rate jurisdictions and investment hubs are far higher than the other country groups. The median value of revenues per employee in zero CIT rate jurisdictions is just over USD 2 million as compared to USD 295 000 for jurisdictions with CIT rates lower than 20%, and USD 340 000 for jurisdictions with CIT rates higher than 20%. In investment hubs, median revenues per employee are USD 1.5 million while in high, middle and low income jurisdictions median revenues per employee are USD 485 000, USD 225 000 and USD 208 000 respectively. While this may reflect differences in capital intensity or in worker productivity, it may also be an indicator of BEPS.
- **On average, the share of related party revenues in total revenues is higher for MNEs in certain jurisdictions.** Figure 21 plots the distribution of related party revenues as a share of total revenues, by jurisdiction group. On average, the share of related party revenues in total revenues is higher in investment hubs than in high, middle and low income jurisdictions. In investment hubs, related party revenues account for 35% of total revenues, whereas the average share of related party revenues in high, middle and low income jurisdictions is around 15%. While high levels of related party revenues may be commercially motivated, they are also a high-level risk assessment factor and could be evidence of tax planning.

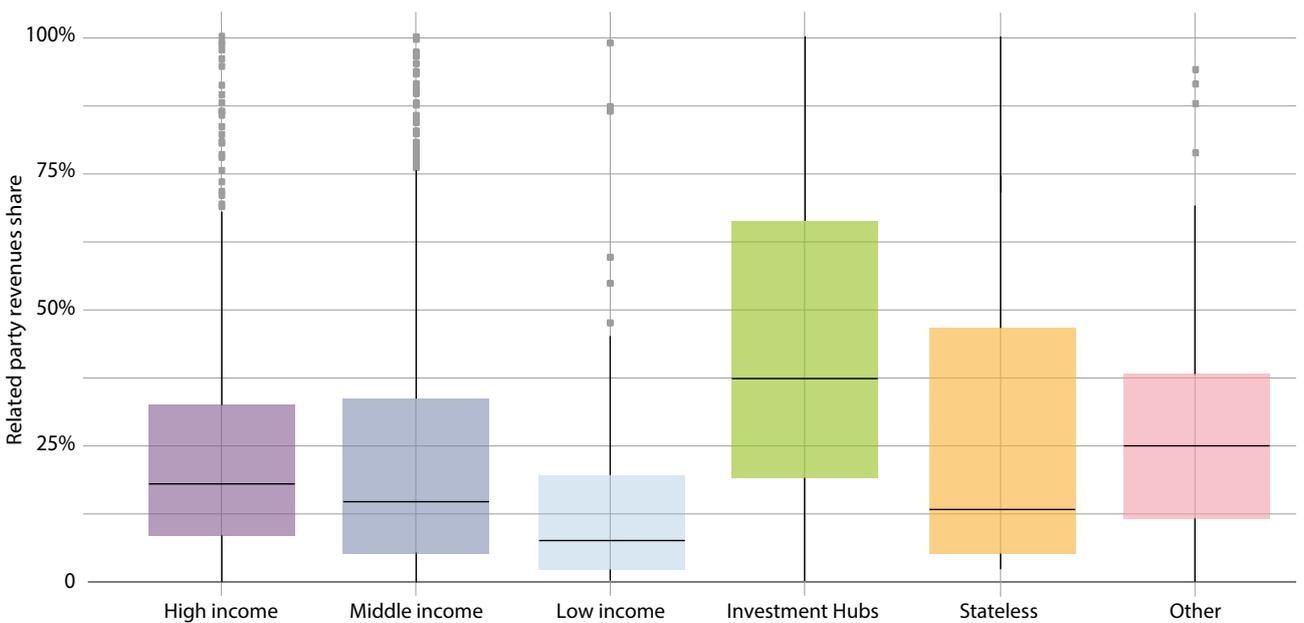
FIGURE 20: Average revenues per employee: distribution within jurisdiction groups



Note: The boxplot displays the distribution of the logarithmic transformation of revenues per employee (in USD) within each jurisdiction group. The boxes are delimited by the 25th and 75th percentiles, thus representing 50% of the sample within each jurisdiction group. The horizontal black bar shows the median (50th percentile). The two whiskers capture the largest values within a distance of 1.5 times the interquartile range (difference between the 25th and 75th percentile); all outlying points are plotted individually. "Other" reflects aggregate geographic groupings.

Source: 2018 Anonymised and Aggregated CbCR statistics

FIGURE 21: Average related party revenues shares: distribution within jurisdiction groups



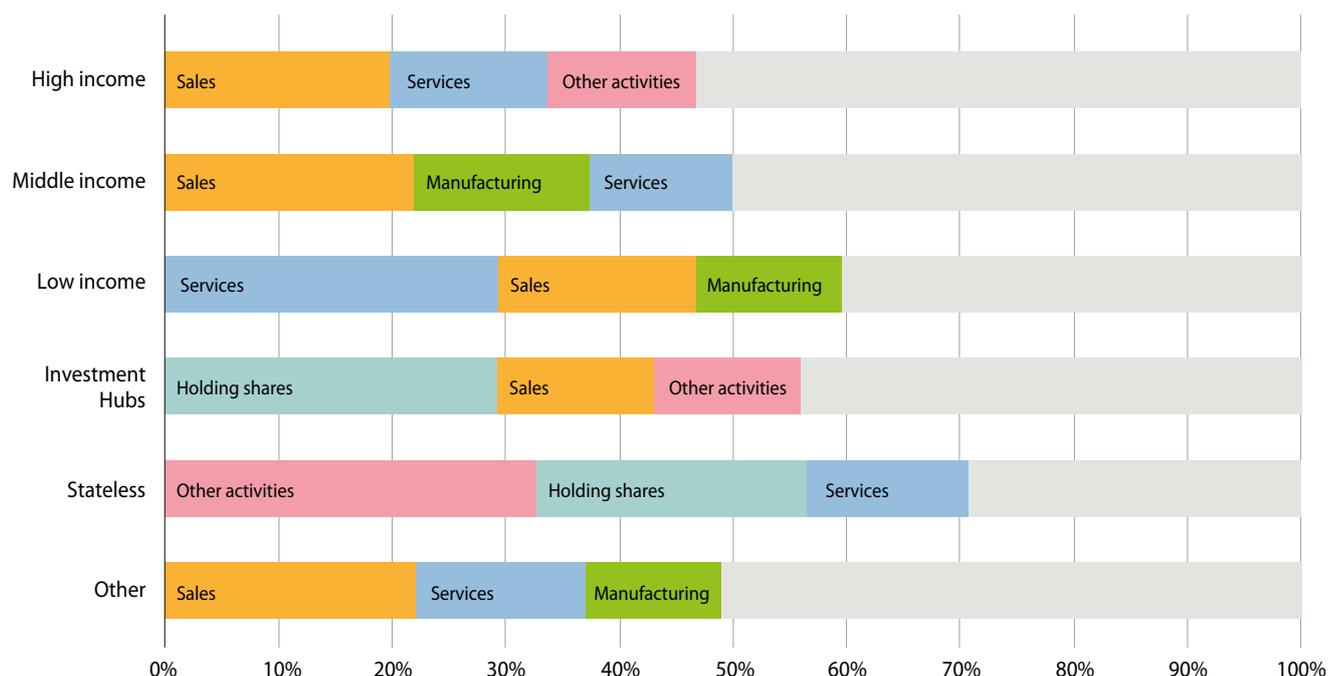
Note: The boxplot displays the distribution of related party revenues as a share of total revenues within each jurisdiction group. The boxes are delimited by the 25th and 75th percentiles, thus representing 50% of the sample within each jurisdiction group. The horizontal black bar shows the median (50th percentile). The two whiskers capture the largest values within a distance of 1.5 times the interquartile range (difference between the 25th and 75th percentile); all outlying points are plotted individually. "Other" reflects aggregate geographic groupings.

Source: 2018 Anonymised and Aggregated CbCR statistics

- **The composition of business activity differs across jurisdiction groups.** Figure 22 shows the share of main business activities in each jurisdiction group. In high, middle and low income jurisdictions, sales, manufacturing, and services are the most prevalent activities, while in investment hubs the predominant

activity is “holding shares” which also includes other equity instruments. A concentration of holding companies is a risk assessment factor and could be indicative of certain tax planning structures. However, as with related party revenues, this observation may also relate to genuine commercial arrangements.

FIGURE 22: **Top three business activities performed in jurisdiction groups**



Note: The ratios are calculated by dividing the number of the activities performed in a jurisdiction group by the total number of all activities performed in this jurisdiction group where data is available. For example, 20% of all activities performed in high income jurisdictions are in the “sales” category. Entities could be attributed to one or more of the following activities: research and development; holding or managing intellectual property; purchasing or procurement; manufacturing or production (manufacturing); sales, marketing or distribution (sales); administrative, management or support services; provision of services to unrelated parties (services); internal group finance; regulated financial services; insurance; holding shares or other equity instruments (holding shares); dormant; other activities. For the United States, other activities also includes holding or managing intellectual property; insurance; internal group finance; and research and development.

Source: 2018 Anonymised and Aggregated CbCR statistics

IMPROVED CbCR DATA AND ANALYSIS EXPECTED IN THE FUTURE

The publication of anonymised and aggregated CbCR data provides an important new source of data about MNEs and their global activities. While the most recent data includes an improvement in coverage and disaggregation, the coverage and quality of this new dataset is expected to continue to improve for future editions, as MNEs improve the consistency of their reporting, jurisdictions improve the consistency of their data collection practices and additional jurisdictions provide data, and as issues with the initial years of data collection are addressed.

Nonetheless, this third year of data provides important insights into the global activities of MNEs. The data

show that in 2018, there was misalignment of profits and economic activity, and variation of business activities and related party revenues that is suggestive of the existence of BEPS. While there is a time lag in the data, and the implementation of measures designed to combat BEPS has progressed strongly since 2018, these data nonetheless provide motivation for the need to continue to address remaining BEPS issues through multilateral action. Moreover, these data highlight the need to continue to measure and monitor BEPS and to strengthen the CbCR data in future years to further assist the international community in advancing the international tax agenda.



Intellectual property regimes

The *Corporate Tax Statistics* database also includes information on intellectual property (IP) regimes. Many jurisdictions have implemented IP regimes, which allow income from the exploitation of certain IP assets to be taxed at a lower rate than the standard statutory CIT rate.

IP regimes may be used by governments to support R&D activities in their jurisdiction. In the past, IP regimes may have been designed in a manner that incentivised firms to locate IP assets in a jurisdiction regardless of where the underlying R&D was undertaken. However,

the nexus approach of the BEPS Action 5 minimum standard now requires that tax benefits for IP income are made conditional on the extent to which a taxpayer has undertaken the R&D activities that produced the IP asset in the jurisdiction providing the tax benefits.

KEY INSIGHTS:

- Forty-one regimes were found to be not harmful and one was found to be harmful. Eight regimes were in the process of being amended or eliminated since they were not compliant with the BEPS Action 5 minimum standard. Three regimes were abolished in 2022 and a further four regimes were under review even though it had not yet been determined whether they were in compliance with the Action 5 minimum standard.
- Of the 41 non-harmful IP regimes, all 41 offer benefits to patents, 30 offer benefits to copyrighted software and 15 offer benefits to the third allowed category of assets that are restricted to SMEs.
- Tax rate reductions for the 41 non-harmful IP regimes range from a full exemption from tax to a reduction of about 40% of the standard tax rate.
- Seven of the eight regimes that are in the process of being amended or eliminated offer a full exemption from taxation for IP income while the fourth offers a reduction from 20% to 5%.

WHAT QUALIFIES AS AN INTELLECTUAL PROPERTY REGIME?

IP regimes can be regimes that exclusively provide benefits to income from IP, but some regimes categorised as IP regimes are “dual category” regimes. These regimes also provide benefits to income from other geographically mobile activities or to a wide range of activities and do not necessarily exclude income from IP.

The *Corporate Tax Statistics* database shows information both on regimes that narrowly target IP income and on regimes that offer reduced rates to IP income and other types of income. Of the 60 IP regimes contained in the database, 33 were reviewed by the FHTP as IP regimes only and 27 were reviewed as “dual category” regimes (IP and non-IP regimes).



60 IP regimes were in place in 45 different jurisdictions during 2022.

Box 13. INTELLECTUAL PROPERTY REGIMES

The information reported for each IP regime in the *Corporate Tax Statistics* database is:

- the name of the regime;
- the qualifying IP assets;
- the reduced rate that applies under the IP regime;
- the status of the IP regime as determined by the OECD's Forum on Harmful Tax Practices (FHTP).

The *Corporate Tax Statistics* database draws on the detailed information collected by the FHTP for its peer reviews of preferential tax regimes. The information and the status presented are correct as of July 2022. Changes to regimes that have been legislated in 2022 but are not effective until 2023 are not reflected in this edition of the database.

The information presented in this edition provides a basic description of the IP regimes in place in 2022. Future editions will incorporate the effects of IP regimes into the corporate effective tax rate analysis.

STATUS OF INTELLECTUAL PROPERTY REGIMES

On the basis of the features of the regime, IP regimes are found to be either: harmful (because they do not meet the nexus approach), not harmful (when the regime does meet the nexus approach and other factors in the review process), or potentially harmful (when the regime does not meet the nexus approach and/or other factors in the review process, but an assessment of the economic effects has not yet taken place). The peer review process is ongoing, and by 2022 the majority of regimes were fully aligned with the Action 5 minimum standard. These are listed with the status “Not harmful” or “not harmful (amended)”. Regimes that were already closed to new entrants in 2022 (according to the peer reviews approved by the Inclusive Framework in July 2022) were listed as “abolished” in the database, although continuing benefits may be offered for a defined period of time to companies already benefiting from the regime. In most cases, this grandfathering would end by 30 June 2023. There were three IP regimes abolished in 2022.

The *Corporate Tax Statistics* database contains information on 60 IP regimes that were in place in 45 different jurisdictions in the year 2022. Forty-one regimes in total were found to be not harmful; 24 of these regimes were found to be not harmful after having been amended to align with the Action 5 minimum standard. One regime

(in Trinidad and Tobago) was found to be harmful. Eight regimes are in the process of being amended or eliminated since they were not compliant with the BEPS Action 5 minimum standard. Four regimes are under review, since it has not yet been determined whether they meet the Action 5 minimum standard. This is the case with newly introduced IP regimes and IP regimes of jurisdictions that have recently joined the Inclusive Framework.

QUALIFYING ASSETS AND REDUCED TAX RATES

In the *Corporate Tax Statistics* database, qualifying assets of IP regimes are grouped into three main categories: patents, software and Category 3. These correspond to the only three categories of assets that may qualify for benefits under the Action 5 minimum standard: 1) patents defined broadly; 2) copyrighted software; and 3) in certain circumstances and only for SMEs, other IP assets that are non-obvious, useful and novel. The Action 5 Report explicitly excludes income from marketing related intangibles (such as trademarks) from benefiting from a tax preference. If a regime does not meet the Action 5 minimum standard, then the assets qualifying for the regime may not fall into the three allowed categories.

Of the 41 regimes found to be not harmful, 41 regimes cover patents, 30 cover software, and 15 regimes cover assets in the third category (Category 3). All nine regimes that are in the process of being eliminated or amended do not have any restrictions on the type of income that qualifies for a reduced rate, although there may be restrictions to certain industries or income types.

The reduction in the rate on IP income varies among the regimes, and some regimes offer different rates depending, for example, on the type of income (e.g., royalties or capital gains income) or size of the company.

Among the 41 regimes found to be not harmful, the tax benefit offered ranges from a full exemption to a reduction of about 40% of the tax rate that would have otherwise applied. The most common reduction is a 50% reduction. The reduced rates range from 0% (in 10



Reduced rates available under non-harmful IP regimes ranged from 0% to 18.75% in 2022. The magnitude of the reductions ranges from around 40% to a full exemption from tax.

jurisdictions) to 18.75% (Korea’s Special taxation for transfer, acquisition, etc. of technology; this IP regime offers reduced rates ranging from 5% to 18.75%). Seven of the eight regimes that are in the process of being amended or eliminated offer a full exemption from taxation for IP income while the fourth offers a reduction from 20% to 5%.

For each of the 41 non-harmful IP regimes, Figure 24 and Figure 25 show the lowest reduced rate offered under the regime and the tax rate that would otherwise apply.

Figure 24 shows those regimes with the status non-harmful, while Figure 25 shows the regimes that have been amended to be non-harmful. The tax rate that would otherwise apply is typically the standard statutory CIT rate, but it may not include certain surtaxes or sub-central government taxes. Similar to the reduced rate, the tax rate that would otherwise apply may also fall into a range, for example, if the standard statutory rate depends on the level of profits. Therefore, the tax rates shown in the figures are representative and do not detail the full range of tax reductions offered in each IP regime.

FIGURE 23: Status of intellectual property regimes in place in 2022

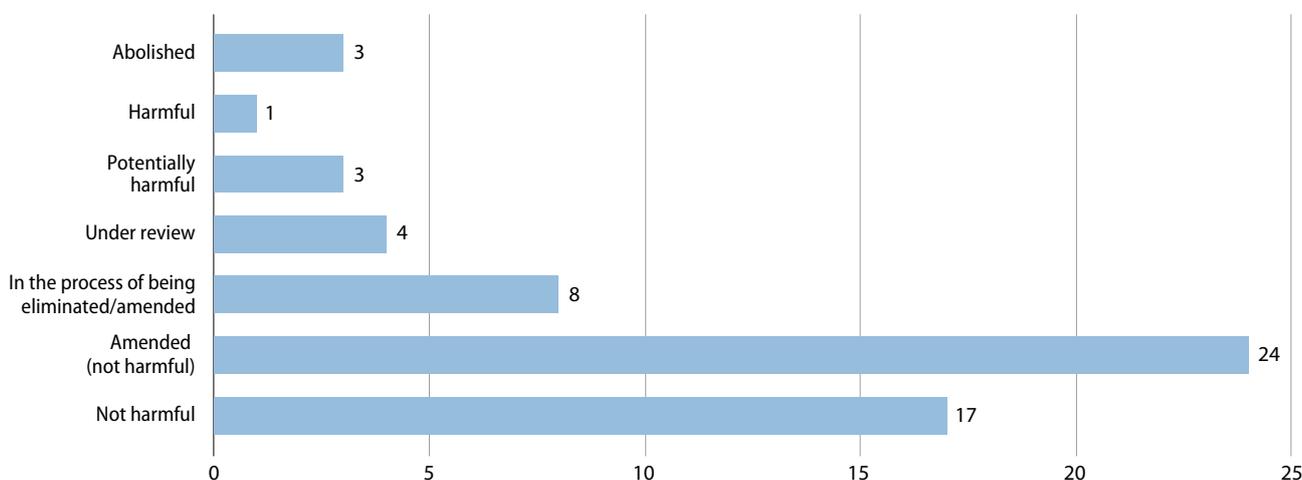
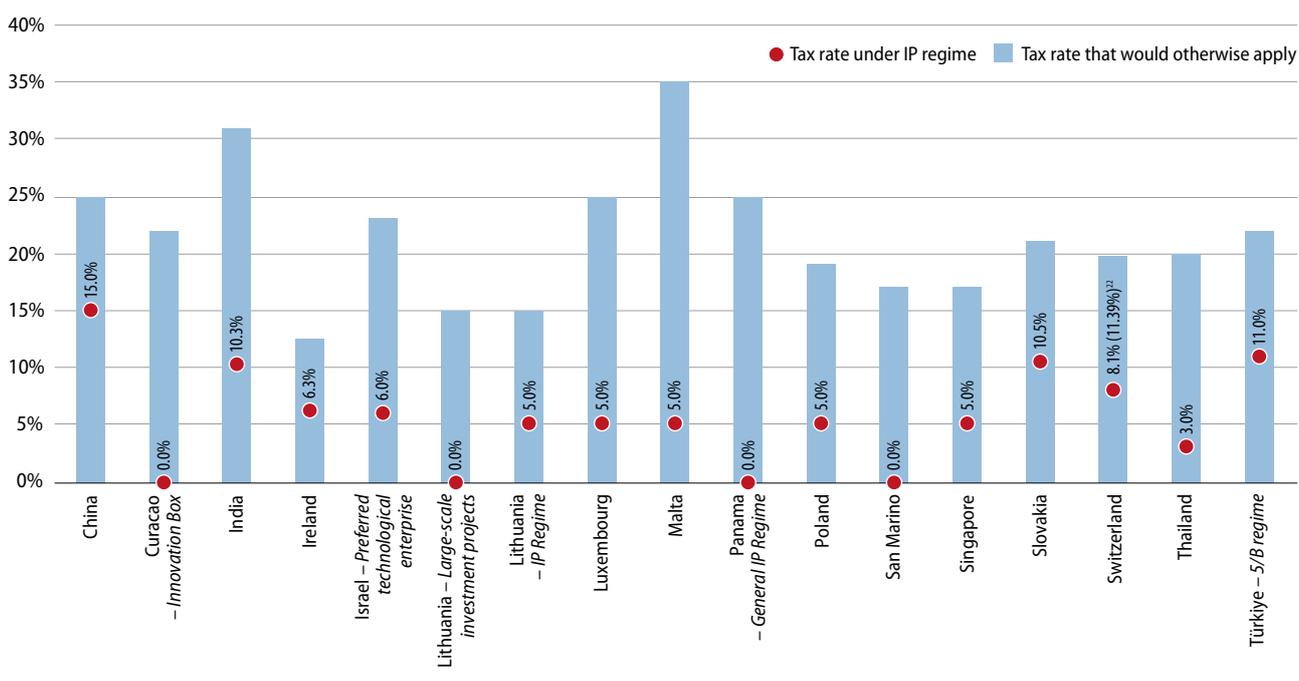
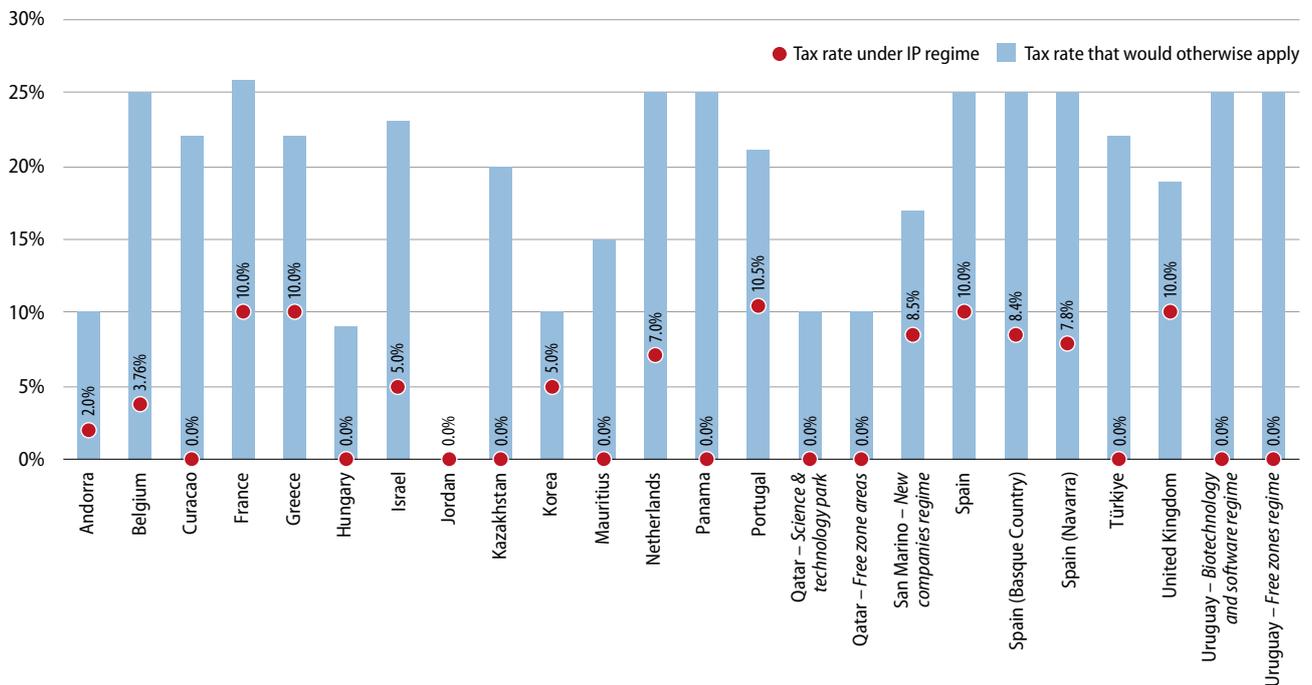


FIGURE 24: Reduced rates under non-harmful intellectual property regimes, 2022



22. IP income in Switzerland can benefit from a 90% exemption of qualifying IP income from cantonal taxation. However this exemption is subject to a cap: only 70% of a firm’s total profits (IP or non-IP) can be exempt. The 8.11% rate applies to qualifying IP income in the city of Zurich and assumes that the firm has sufficient other income (non-qualifying IP or non-IP income) that is taxed at higher rates so that it is not subject to the 70% maximum relief limitation. If the firm had enough qualifying IP income that the 70% maximum relief limitation did apply, the rate applied to IP income in the city of Zurich would increase steadily to 11.39% (100% IP Income).

FIGURE 25: **Reduced rates under non-harmful (amended) intellectual property regimes, 2022**

Withholding tax rates

Withholding taxes (WHTs) are levied on businesses when they make payments to other foreign or domestic business entities or individuals, e.g., in the form of dividends, interest, and royalties. Governments collect these taxes based on statutory or preferential treaty-based tax rates requiring businesses to withhold a fraction of cross-border payments in scope of the WHT.

Data on withholding taxes can be used to improve understanding of MNE decisions about investment, repatriation, finance and organisational structures among other tax policy issues. For example:

- WHTs increase the cost of repatriating profits earned in foreign jurisdictions thereby potentially discouraging MNEs' investment decisions at the extensive margin (i.e., *discrete investment decisions* between two or more alternative projects);
- differences in WHT rates between interest and dividend payments, both within and across locations, could affect MNEs' financing decisions;

- taxes levied on cross-border payments increase the cost of capital and could thus affect investments at the intensive margin (i.e., the *incentive to expand existing investments* given a fixed location).²³

Importantly, WHT data can also potentially provide insights on certain BEPS strategies such as treaty shopping or the strategic location of debt and intangible assets. The publication of WHT rates in *Corporate Tax Statistics* was envisaged in the 2015 BEPS Action 11 Report.²⁴

GENERAL DATA CHARACTERISTICS

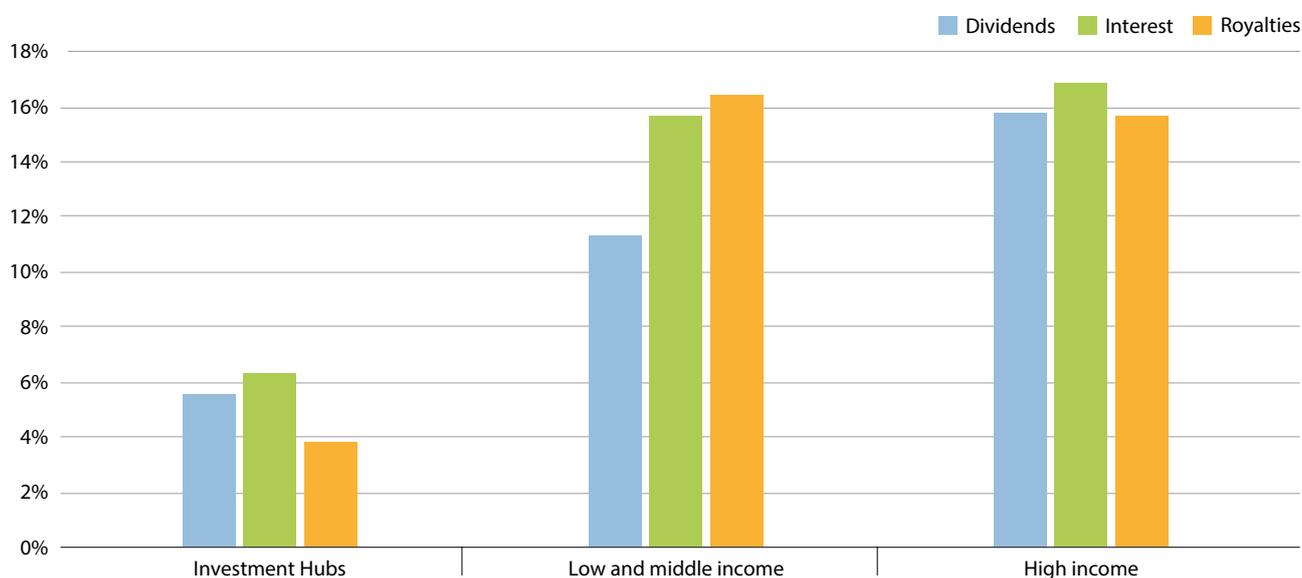
The 2022 edition of *Corporate Tax Statistics* includes the first release of WHT rate statistics. The dataset consists of tax rates on dividends, interest and royalty payments that are applicable as of the 2022 fiscal year. They were collected through a questionnaire completed by a number of delegates of Working Party No.2 of the Inclusive Framework on BEPS (IF). Where necessary, information was completed using public sources of information. In total, the dataset includes

23. Auerbach A.J., Devereux M.P., and Simpson H. (2010). Taxing Corporate Income. In Institute for Fiscal Studies and J. Mirrlees (Ed). *Tax By Design: The Mirrlees Review* (pp. 837-893). Oxford, Oxford University Press.

24. OECD (2015b), Measuring and Monitoring BEPS, Action 11 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264241343-en>

FIGURE 26: **Average withholding tax rates: dividends, interest, and royalties**

Investment hubs, low and middle, and high income jurisdictions, 2022



112 jurisdictions, including all OECD members. It is important to note that baseline withholding tax rates are often not applicable to cross-border transactions, particularly in cases where a tax treaty is in force between two jurisdictions.

WITHHOLDING TAX RATES ACROSS JURISDICTIONS

Figure 26 displays the average standard withholding tax rates applicable for dividends, interest, and royalty payments across the 112 IF jurisdictions covered. Jurisdictions are categorised in three groups: high income jurisdictions, low and middle income jurisdictions and investment hubs.²⁵ Figure 26 shows that the ranking of average standard WHT rates varies across jurisdiction groups. On average, low and middle income jurisdictions levy higher WHT rates on royalty payments while high income jurisdictions and investment hubs levy higher rates on interest. In particular, the following can be observed:

- **Dividends:** High income jurisdictions levy an average standard WHT on dividends of 15.7%, which is 4.4 p.p. larger than the average standard WHT rate on dividends in low and middle income jurisdictions (11.3%) and about three times larger than the average rate in investment hubs (5.5%).

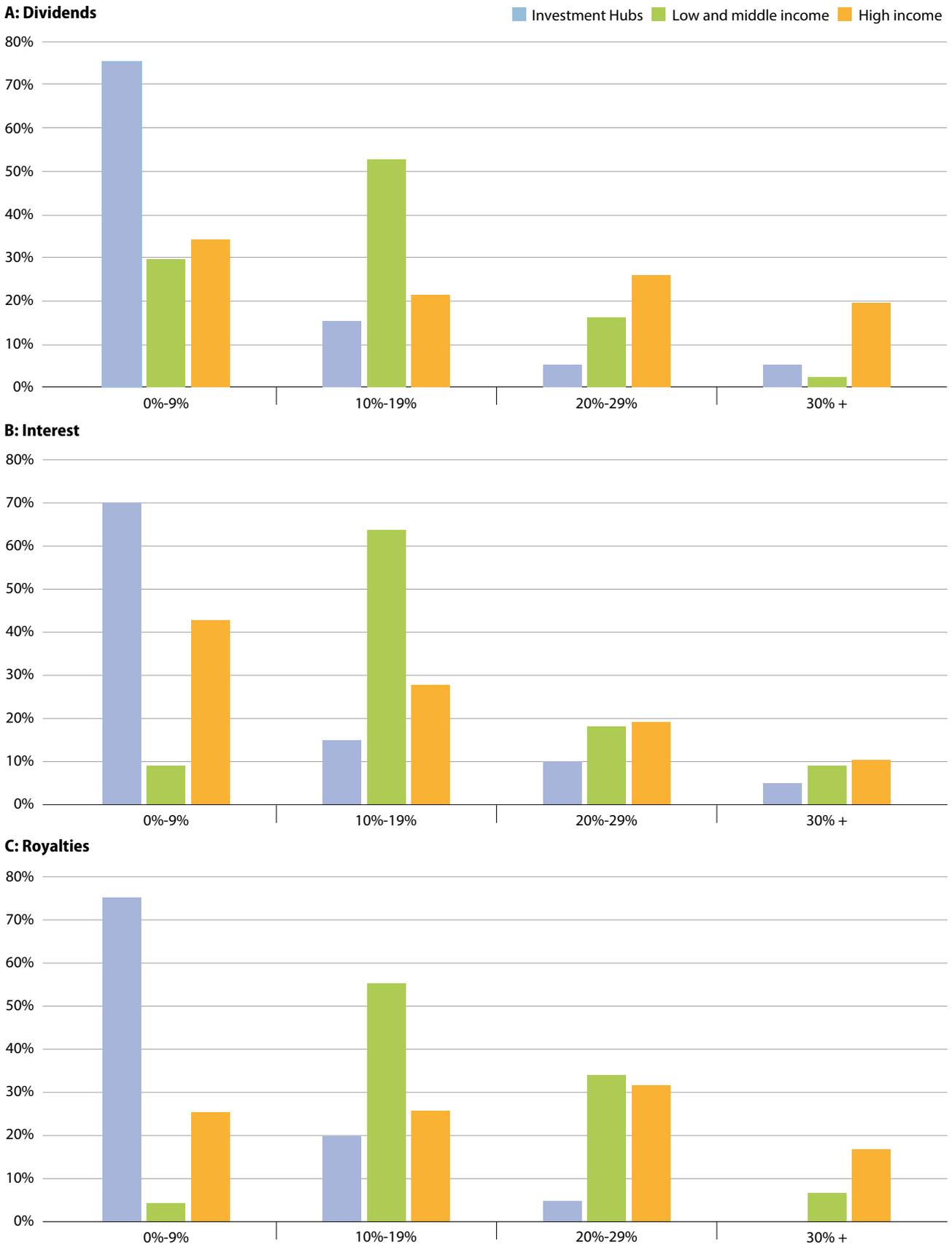
- **Interest:** Concerning interest payments, the average standard WHT rate in high income jurisdictions is 16.8% compared to 15.6% in low and middle income jurisdictions and 6.3% in investment hubs.

- **Royalties:** Royalty payments are subject to an average standard WHT rate of 15.6% in high income jurisdictions and 16.3% in low and middle income jurisdictions. These rates are considerably higher than the average standard 3.7% WHT rate applied to royalties in investment hubs.

Figure 27 depicts the density ratios of WHT rates for the three jurisdiction groups along four ranges of WHT rates. Density ratios capture the number of jurisdictions that levy a standard WHT rate in each range, as a share (expressed in p.p.) of the total number of jurisdictions in the dataset. Ratios are presented separately for each jurisdiction group as well as for each cross-border payment type. **Panel A** of Figure 27 shows the distribution of ratios for WHTs on cross-border dividend payments. Three quarters of the investment hubs covered in the dataset levy a WHT on dividends at a standard rate below 10%. This includes, among others, Anguilla (0.0%), Cyprus (0.0%), and Singapore (0.0%). Fifteen per cent of investment hubs levy a WHT on dividends at a standard rate between 10% and 20%.

25. The "high income" and "low and middle income" jurisdiction groups are based on the World Bank classification, with the resulting split: 47 high income jurisdictions and 44 low and middle income jurisdictions. Low and middle income jurisdictions are grouped together due to the low number of low income countries (two) in the dataset. Investment hubs constitute the third group. They are defined as jurisdictions with a total inward Foreign Direct Investment (FDI) position above 150% of GDP and include 20 jurisdictions. Montserrat is not included in the World Bank Classification and is omitted from the analysis presented in Figures 26 and 27.

FIGURE 27: **Density ratios of WHT rates: dividends, interest, and royalties**
 Investment hubs, low and middle, and high income countries, 2022





The remaining jurisdictions include Ireland and Switzerland, which levy a WHT on dividends at standard rates of 25.0% and 35.0%, respectively. Among low and middle income jurisdictions, more than half levy a WHT on dividends at a standard rate between 10% and 20%. Thirteen of the 44 jurisdictions in this group have standard WHT rates below 10%, including Brazil (0.0%) and Peru (5.0%). Of the low and middle income jurisdictions, only Jamaica (33.3%) has a standard WHT rate on dividends above 30%. The largest share of high income jurisdictions (about one third) levy WHTs on dividends at standard rates below 10%. This includes the United Kingdom (0.0%), Greece (5.0%), and Uruguay (7.0%), among others. In the remaining three ranges of standard WHT rates above 10%, the number of high income jurisdictions is between 9 and 12 jurisdictions for each range. At the top-end of the distribution are jurisdictions such as Chile (35.0%), the Czech Republic (35.0%), and Greenland (44.0%). As mentioned above, these rates do not account for any tax treaties that may exist.

Panel B of Figure 27 presents the spread of density ratios applicable to cross-border interest payments. The majority of investment hubs (70% of the group) levy a WHT on interest at a standard rate below 10%. Among others, this includes Bermuda (0.0%), Malta (0.0%), and the Netherlands (0.0%). Of the remaining six investment hubs, Barbados (25.0%) and Switzerland (35.0%) are at the top of the distribution of standard rates. Over 60% of low and middle income jurisdictions levy a WHT on interest at a standard rate between 10% and 20%. The bottom and top standard WHT ranges each include four low and middle income jurisdictions. The lower end of the distribution includes Paraguay (4.5%), Belize (5.0%), Georgia (5.0%), and Viet Nam (5.0%). The higher end includes Peru (30.0%), Jamaica (33.3%), Argentina (35.0%) and Mexico (35.0%). High income jurisdictions are concentrated in the lower parts of the distribution, with 42.6% of high income jurisdictions levying WHTs on interest at standard rates below 10%. In the higher tax

brackets, 27.7% of jurisdictions levy WHTs on interest at standard rates between 10% and 20%, 19.1% between 20 and 30% group, and 10.6% above 30%. Liechtenstein (0.0%), Monaco (0.0%) and Sweden (0.0%) are three of the 20 jurisdictions among the high income group that levy a WHT on interest at a standard rate below 10%. The highest standard WHT rate among high income jurisdictions is levied at the same rate (35.0%) in Chile, the Czech Republic, and the Slovak Republic.

The distribution of density ratios of WHTs on cross-border royalty payments are found in **Panel C** of Figure 27. Most investment hubs have standard WHT rates on royalties below 10%. This range includes Hungary (0.0%), Jersey (0.0%), and Hong-Kong (5.0%), among others. The upper tail of the distribution of investment hubs consists of Liberia (15.0%), Mauritius (15.0%), and Ireland (20.0%). Royalty payments are subject to WHTs at standard rates between 10% and 20% in about half of the low and middle income jurisdictions. The lower end of the distribution in this group consists of Belize and Georgia which both levy a WHT on royalties at a standard rate of 5.0%. The upper end includes Peru (30.0%), Jamaica (33.3%), and Argentina (35.0%). Almost one third of the high income group levies a WHT on royalties at a standard rate between 20% and 30%. Among the high income jurisdictions that levy the lowest standard WHT rates are Aruba (0.0%), Norway (0.0%), and the United Arab Emirates (0.0%). Belgium (30.0%), Italy (30.0%), and the United States (30.0%) are three of the eight jurisdictions that levy WHTs at a standard rate of 30% or above in this category.



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Note for Figures 4 and 8: The Kingdom of Saudi Arabia imposes a corporate income tax rate of 20% on a non-Saudi's share of a resident company or a non-resident's income from a permanent establishment in Saudi Arabia or income of a company operating in the natural gas sector. A higher corporate income tax rate is imposed as well on companies operating in the oil sector (i.e., 50% or higher). The Kingdom of Saudi Arabia also levies the Zakat on companies, which is an example of a tax on both income and equity. The Zakat is levied at 2.5% on a Saudi's share of a resident company (also applies to citizens of Gulf Cooperation Council countries with an established business in the Kingdom of Saudi Arabia), but since it is imposed on income and equity, it yields a higher rate in effective terms. The Saudi government considers the corporate Zakat as an equivalent to corporate income tax, levied on a different basis. It is also considered a covered tax for the purposes of the GloBE rules in the Pillar 2 Blueprint Report (OECD, 2020). For the calculation of the forward-looking ETRs, three different groups of taxpayers are considered: (i) foreign companies as well as domestic and foreign companies in the natural gas sector taxed at 20%, (ii) domestic and foreign companies in the hydrocarbon sector taxed at 50%, (iii) other domestic companies taxed through Zakat at 2.5%. The results for these three groups of taxpayers are weighted using the respective turnover shares as weights, i.e., 18.17% for group (i), 28.72% for group (ii) and 53.11% for group (iii).

Corporate Tax Statistics brings together a range of valuable information to support the analysis of corporate taxation and base erosion and profit shifting (BEPS) practices. This includes data on corporate tax rates, revenues, effective tax rates, and tax incentives for R&D and innovation amongst other data series. *Corporate Tax Statistics* also includes anonymised and aggregated Country-by-Country Report data providing an overview on the global tax and economic activities of thousands of multinational enterprise groups operating worldwide. Produced on an annual basis, *Corporate Tax Statistics* follows on from the OECD/G20 BEPS Project and its package of 15 measures adopted in 2015 to address tax avoidance. The project's Action 11 noted that the lack of available and high quality data on corporate taxation is a major limitation to the measurement and monitoring of the scale of BEPS and the impact of the measures agreed to be implemented under the OECD/G20 BEPS Project.



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