OECD Taxation Working Papers

The taxation of labour vs. capital income

A focus on high earners

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Corrigendum

An earlier version of this working paper was revised on 16 October 2023:

Figures 4, 5, 6, 7, 8, 9, 10, 11, and 13 updated for revised results for Spain.
Page 28, final paragraph: “29 OECD countries, with the largest changes in Chile, Japan, and Israel" changed to “28 OECD countries, with the largest changes in Japan, Sweden, and Israel”, changed “progressive tax rates on wages” to “tax rates on wages”.
Page 29, second paragraph: “In few countries (Colombia, Spain, and Switzerland)” changed to “In two countries (Colombia and Switzerland)”.
Page 34, second paragraph: “Colombia and Spain, on the other hand, have” changed to “Colombia, on the other hand, has”. “In these countries” changed to “In Colombia”.
Page 38, first paragraph: “In a further 12 countries” changed to “In a further 13 countries”.
Page 40, first paragraph: “in eight countries” changed to “in seven countries”. “In 12 other countries” changed to “In 13 other countries”.
Page 40, second paragraph: “somewhat higher in Spain, Switzerland, and Korea” changed to “somewhat higher in Switzerland and Korea”.

Abstract

This working paper presents novel analysis comparing in a consistent way the tax treatment of labour and capital income across OECD countries, through stylised effective tax rates (ETRs). It shows that dividend income and capital gains are generally subject to lower ETRs than wage income at the personal level. In many countries, capital income is also tax-favoured even when considering taxes paid by both firms and individuals, although the gap between labour and capital income taxation tends to be smaller than when considering only personal-level taxes. The gap between ETRs on labour and capital income varies between countries and grows with income levels in some. The paper highlights that differential tax treatment of labour and capital income can affect the efficiency and equity of tax systems.

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1 Introduction

Interest in the differential tax treatment of labour and capital income has grown in recent years. Many governments tax labour and capital income differently, in line with prevailing views that capital should be taxed more favourably than labour. However, new findings support arguments in favour of strengthening capital income taxation. Capital income taxation has also become more topical given the relative prominence of capital income sources among the wealthy. Against this backdrop, this paper examines the extent to which OECD tax systems lead to differential tax treatment between labour and capital income and identifies which tax features drive differences in their effective taxation.

To explore the differential tax treatment of labour and capital income in a consistent way across OECD countries, this paper presents novel estimates of stylised effective tax rates (ETRs). The stylised ETRs are the percentage of income that is payable in tax after applying all relevant tax rules. The ETRs incorporate all the features of tax systems that affect final tax payable. These include provisions that affect tax rates (e.g. statutory tax rate thresholds), tax bases (e.g. deductions, exemptions) and the final tax liability (e.g. credits). By incorporating tax rates and other provisions into a single indicator, ETRs provide a richer source of information about tax treatment than statutory rates or other provisions alone. As such, estimating ETRs makes it possible to compare the tax treatment of different income sources at different hypothetical income levels and across countries. In this paper, two types of ETRs are presented: ETRs that only take into account taxes paid by individuals and ETRs that take into account taxes paid by both firms and individuals.

The results show that capital income from shares is typically taxed at lower ETRs than wage income at the personal level, benefitting high income earners. In most countries, individuals pay lower effective tax rates on dividends or capital gains from shares compared to wage income. Various tax provisions can explain this difference. For example, in many countries, capital income is taxed at flat rates that are generally lower than tax rates on wage income. Dividend or capital gains income may also be fully or partially exempt from taxation or attract tax credits not available to wage earnings. The preferential tax treatment of capital income predominantly benefits high income earners who earn a greater share of their income from capital sources. In countries where wages are taxed at progressive rates, while capital income is taxed at flat rates, the gap between ETRs on labour and capital income also rises with income, implying that the higher the income level, the more preferential the tax treatment of capital income compared to labour income.

The gap between labour and capital income taxation tends to be smaller when taking into account taxes paid by firms. Taxes levied at the firm level – employer-level social security contributions (SSCs) paid for workers and corporate income tax (CIT) on corporate profits – add to the total tax burden on labour and capital. Taking firm-level taxes into account in addition to taxes paid by individuals on wage and dividend income shows that the tax treatment of capital income remains more favourable than that of labour income in many OECD countries. However, the gap between labour and capital income taxation is generally smaller than when considering only taxes paid by individuals. The differences in total tax burdens also vary between countries, and in some, the total tax burden on capital is higher than on labour.

This paper is linked to a broader OECD workstream on the taxation of high earners. In particular, the OECD is exploring how individuals, particularly high earners, may be able to take advantage of the preferential tax treatment of different sources of income. By identifying the extent to which certain forms of

income are tax-preferred, this paper lays the groundwork for the analysis of incentives for tax arbitrage. The OECD will also be undertaking more detailed work on capital gains taxation, looking in particular at income deferral incentives, building on the analysis in this paper. Future analysis will also consider potential policy trade-offs faced by governments and identify reform options that may help balance different policy priorities such as promoting growth and fairness.

The paper proceeds as follows. Following the introduction, Section 2 explains the context of this work and presents evidence of capital income concentration among high income earners. Section 3 discusses the different approaches to taxing capital and labour income across OECD countries. Section 4 explains the methodology for calculating ETRs, including key assumptions and limitations of the analysis. Sections 5 presents ETR results at the personal level, exploring what drives different ETRs across income sources, income levels, and countries. Section 6 shows how those results differ after including firm-level taxation in the analysis. Section 7 concludes and outlines areas of future OECD work on this topic.

2 Labour and capital income taxation: Context and background

Academic views regarding how to tax capital income are evolving. The appropriate tax treatment of capital income has been the subject of academic debate for many years. Following seminal works in the 1970s and 1980s, a prevailing view emerged that the optimal capital tax rate was zero (e.g. Atkinson and Stiglitz (1976[1]), Judd (1985[2]), and Chamley (1986[3])). These studies have often been used to justify lower taxation of capital than labour income. However, recent academic work has challenged such views, arguing that the modelling assumptions underlying past findings (e.g. capital income and wealth levels being determined mostly by differences in labour income, infinite time horizons, and individuals' ability to make consistent rational decisions) are too restrictive and invalidated empirically. Some, making different assumptions, conclude that the optimal tax rate on capital are in fact positive and in some cases substantial (see, for example, Aiyagari (1995[4]), Conesa, Kitao and Krueger (2009[5]), Gahvari and Micheletto (2016[6]), Gerritsen et al. (2020[7])).

Further arguments have emerged in favour of strengthening capital taxation. Recent work has argued that higher income taxes on labour compared to capital may create disincentives to accumulate human capital (Jacobs and Bovenberg (2010[8])) or promote excessive automation (Acemoglu, Manera and Restrepo (2020[9])). Others have suggested that in many countries increasing capital income tax may also limit tax avoidance by narrowing the gap between labour and capital income taxation and reducing incentives for income shifting (Pirttilä and Selin (2011[10]), Romanov (2006[11]), Harju and Matikka (2016[12]), Tazhitdinova (2020[13])). In addition, progress in the international exchange of information between tax authorities and other tax enforcement initiatives have improved governments' ability to tax mobile capital income by reducing the risks that taxpayers will shift their income and assets offshore in response to capital income taxation (O'Reilly, Parra Ramirez and Stemmer (2019[14]), Menkhoff and Miethe (2019[15]). Finally, particularly for high income earners, there remains no academic consensus that low capital income taxation is linked to higher rates of economic growth. Some studies find that cutting high income taxpayers' personal income taxes has positive growth effects (Mertens (2017[16]), Gemmell, Kneller and Sanz (2014[17])), while others find no significant correlation between the taxation of top income earners and growth (Hope and Limberg (2022[18]), Angelopoulos, Economides and Kammas (2007[19]), Piketty, Saez and Stantcheva (2014[20])).

Conversely, high labour income taxation may be distortive. Labour income taxation can be high, as will be shown in this paper. By adding to total labour costs, higher taxes on labour income can also discourage employment, while by reducing the take-home pay of workers, they may reduce incentives to participate in the labour market (OECD, 2011[21]). Recent academic findings have argued that labour supply elasticities are higher than previously thought, particularly for older workers and coupled women, and distortions from taxing labour are correspondingly high (Keane, 2022[22]).

Growing interest in the taxation of capital income is also explained by its concentration among high income earners and concerns about inequality. The composition of income varies widely along the income distribution. Employee and pension income tend to account for the majority of income among households in the bottom 90% of the income distribution and are typically the largest income sources

across countries (Figure 1).[1] While individuals in the top decile also earn a relatively large amount of employee income, capital income sources such as financial or rental income form a greater share of their income. However, the distinction between income compositions is most stark when considering the top 1% of income earners, who generally receive a greater share of their income from non-labour sources than those in the top 10% and the bottom 90%. For those individuals, employee and self-employment income generally comprise a smaller share of total income, while financial income and 'other income', which includes capital gains in the figure below, comprise a relatively greater share of income, and may even be underestimated in the data.[2] This is in line with evidence that significant capital gains accrue to individuals at the top of the income and wealth distributions (Advani and Summers (2020[23]), McNichol (2021[24]), Alstadsæter et al. (2021[25])). Recent empirical research has also shown that high income earners face effective tax rates that are lower than the top statutory tax rates (e.g. Congressional Budget Office (2021[26]), Advani and Summers (2020[23]), and Bach, Corneo and Steiner (2012[27])). Findings such as these, coupled with the high levels of income inequality in the OECD, have contributed to interest in the differential tax treatment of labour and capital income.[3]

Fiscal sustainability pressures may drive policy makers to reconsider capital income taxation. The taxation of personal income has been the subject of significant reform over the past few decades and the trend is likely to continue as countries seek to strengthen fiscal sustainability. Recent events such as the COVID-19 crisis, the widespread rise in inflation and increasing interest rates have already stretched many countries' budgets. The pressure is likely to continue, as fiscal expenditures grow with challenges like climate change and population ageing. Considered alongside changing academic views, these challenges may well prompt policy makers to reconsider capital income taxation as a means of addressing fiscal sustainability pressures.

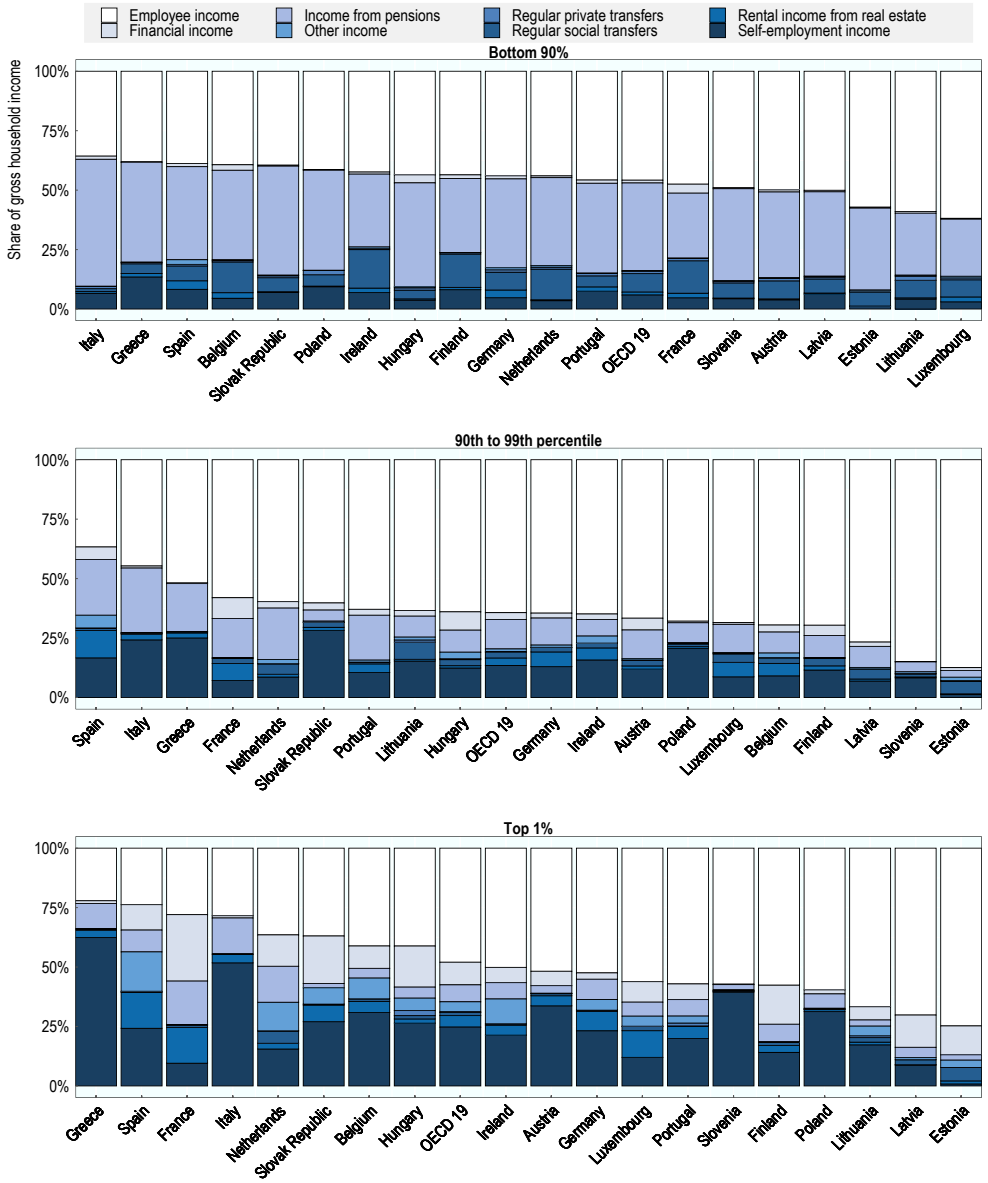
[1] The income composition data in this section is based on the European Central Bank's Household Finance and Consumption Survey. The survey provides information on EU countries but not on other OECD countries.

[2] The data shown may underestimate some categories of income for the top 1% of income earners, as the data relies on household surveys in which top income and wealth households tend to be underrepresented and may underreport their income. See, for example, the discussion in Ravallion (2022[41]) and Bartels and Metzing (2018[42]). Furthermore, there is significant uncertainty over the estimates of capital gains income, including the portion of "other income" that is made up of is capital gains and the overall reporting probability of capital gains, as well as how these factors may differ between countries. In some countries, income information is not based on survey data but partially derived from tax administration microdata (e.g. Finland, France, Estonia, Ireland, Italy, Latvia), which could affect the coverage of capital gains differently across countries. Further, the oversampling rate of the top 10% is very different across countries, which is important as capital gains are typically concentrated at the top (HFCN, 2020[43]).

[3] The Gini coefficient was on average 0.31 in OECD countries in 2019 (OECD, 2022[40]). Studies that have also shown that it is increasing. For instance, between the 1980s and the 2010s, the number of countries in which the top 1% of earners received more than 10% of total pre-tax income grew from one of 18 OECD countries to nine countries (Keeley, 2015[44]).

Figure 1. Income composition by income group across 19 OECD countries

Composition of gross household incomes – bottom 90%, next 9% and top 1% of income earners



Note: Data on the composition of gross household incomes were available for Austria, Belgium, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, and Spain. Households with negative income were removed. Categories of income are defined as follows. Employee income is total remuneration received from an employer in cash. Self-employment income refers to the net operating profit or loss earned by a self-employed person from their unincorporated enterprise. Rental income is rental income received net of costs such as mortgage interest repayments and maintenance. Financial income refers to interest and dividends from publicly traded companies, interest from assets such as bank accounts or bonds, and any income from private businesses not derived from self-employment. Income from pensions refers to income from public and private pension sources. Regular social transfers includes transfers such as unemployment benefits, illness subsidies, maternity leave, and child benefits. Regular private transfers comprises regular payments from private entities and/or other households, including child support. Other income captures remaining income such as capital gains or losses from the sale of assets, severance payments, insurance settlements, etc. although this information is missing for some countries and may be underestimated for some households. As the tails of a distribution are typically under-represented in survey data, the composition of top 1% income earners may be less reliable than the data for the other two income groups.
Source: European Central Bank, Eurosystem Household Finance and Consumption Survey Wave 2017

3 Approaches to taxing capital and labour income in the OECD

OECD countries have different approaches to taxing capital and labour income at the individual and firm levels. At the personal level, labour and capital income may be taxed either under the same tax rate schedule or separately. Countries can also have different approaches to levying SSCs at both the personal and firm levels. The level of integration between personal and corporate income taxes also varies. Indeed, some countries adjust personal-level taxation to account for corporate-level taxes on distributed profits and have different means of doing so. These tax design features, which are key drivers of ETRs, are discussed in this section.

At the personal level, the range of approaches to taxing personal income can be broadly divided between comprehensive and schedular income tax systems. Comprehensive income taxation involves the taxation of all realised income (e.g. labour and capital income) under the same tax rate schedule after allowable deductions. Comprehensive income tax systems typically apply progressive tax rates. On the other hand, schedular systems tax different types of income at different rates after allowable deductions. The most common type of schedular income taxation is dual income taxation, where labour and pension incomes are usually taxed together at progressive tax rates, and different types of capital income (e.g. dividends, rent) are taxed together, typically at lower flat rates. Some dual income tax systems apply different rate schedules to different types of capital income. Semi-dual systems tax most, but not all, forms of capital income at flat rates and tax other forms of capital income (e.g. imputed rent from owner-occupied property) together with labour income at progressive tax rates. There are other approaches to taxing personal income (e.g. expenditure tax approach, where taxation occurs only when income is spent), but in practice these only apply to specific categories of taxpayers or income (e.g. pensions), rather than a country's personal income tax (PIT) system as a whole.

Among OECD countries, dual income tax systems are the most common approach to taxation at the personal level. In practice, countries rarely operate "pure" tax systems; some forms of income may be excluded from the tax base or subject to a different tax treatment. Still, most countries fall broadly into the categories in Table 1. Dual income tax systems, which were first introduced in Scandinavian countries in the early 1990s and have since grown in popularity, apply in 17 of 38 OECD countries (Table 1). A smaller number of countries operate semi-dual systems, taxing some forms of capital income (e.g. capital income from non-business sources in Mexico) on a comprehensive basis. Comprehensive income tax systems are also relatively common, applying in eight countries. Six countries have other income tax systems that combine elements of comprehensive and dual income taxation, typically applying a flat tax rate to capital income but allowing taxpayers to choose to include capital income with total income subject to progressive PIT rates.

Table 1. Approaches to taxing personal income in the OECD

Classification of personal income tax systems in 38 OECD countries, 2022

Type of system	Comprehensive income tax system	Dual income tax system	Semi-dual income tax system	Other
Definition	Taxes all realised income (e.g., from labour, capital) together under the same rate schedule.	Taxes labour and capital income separately. Labour income is usually taxed at progressive rates and capital income is typically taxed at lower flat rates.	Taxes some forms of capital income with labour income and other forms of capital income separately.	Combines elements of comprehensive and dual income taxation.
Countries	Australia, Canada, Chile, Luxembourg[1] New Zealand, Switzerland, United Kingdom[2], United States[3]	Costa Rica, Denmark, Finland, Greece, Hungary, Iceland, Israel[4], Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Slovenia, Spain, Sweden[5], Türkiye	Belgium, Colombia, Czech Republic, Estonia, Ireland, Mexico, Slovak Republic	Austria[6], France[7], Germany[8], Japan[9], Korea[10], Portugal[11]

1. In Luxembourg, recipients of income from corporate bonds can opt for that income to be taxed separately at a 20% final withholding tax rate
2. The United Kingdom taxes income on a comprehensive basis but applies different tax rates to capital gains and dividend income. Separate allowances are available for savings, dividends, capital gains and property.
3. The United States taxes income on a comprehensive basis but applies different tax rates to long-term capital gains and some forms of dividends.
4. Interest income from corporate bonds is taxed at an individual's marginal rate rather than at flat rates, under certain circumstances (e.g. if the individual claims interest expenses as tax deductions, the individual is a material shareholder, an employee or service provider, the individual (lender) is a party that does not operate at arm's length from the entity).
5. Sweden taxes labour income progressively; a tax rate of 32% applies on the municipal level while and an additional tax of 20% applies at the central government level for incomes above SEK 537 200 in 2021. Capital income is taxed at a flat 30% statutory tax rate.
6. Austria applies a flat 27.5% withholding tax rate to capital income, but taxpayers can opt for capital income to be included in total income and taxed under the PIT schedule.
7. France applies a flat 30% tax rate to capital income (excluding rental income), but taxpayers can opt for this to be included in total income and taxed under the PIT schedule. Rental income is included in total income and taxed under the PIT schedule.
8. Germany applies a flat 25% withholding tax rate to capital income, but taxpayers can opt for this to be included in total income and taxed under the PIT schedule.
9. Japan applies a flat 20% tax rate to capital income. Taxpayers can opt for dividend income to be included in total income and taxed under the PIT schedule.
10. Korea applies a dual income tax system for taxpayers whose interest or dividend income does not exceed KRW 50 million per year and applies a comprehensive system above that threshold. Capital gains arising from the sale of listed shares of domestic incorporated firms are tax exempt while capital gains from over-the-counter transactions of listed and unlisted shares are taxed at flat rates.
11. Portugal applies a flat 28% withholding tax rate to capital income, but taxpayers can opt for this to be included in total income and taxed under the PIT schedule.

Source: OECD Questionnaire on Top Income and Wealth Taxation, 2022

In addition to general taxation, many countries levy SSCs at the individual and employer levels, adding to the total tax burden on labour. SSCs are compulsory payments made to general government that confer entitlement to receive a (contingent) future social benefit (for example, pensions, unemployment insurance benefits, and accident, injury and sickness benefits). SSCs tend to be earmarked to finance social benefits and are often paid to those institutions of general government that provide such benefits (OECD, 2022[28]). They are generally charged at flat rates, and often only up to a contribution ceiling, and may be deductible from gross income. When SSCs or payroll taxes are levied at the employer level, the incidence of those taxes can, at least partially, fall on employees. However, the extent to which employees

bear the burden of employer-level taxes continues to be the subject of debate. Countries generally levy employer-level SSCs or payroll taxes through the different designs summarised in Table 2.[4]

Table 2. Design of employee and employer SSCs

Design	Employee-level SSCs	Employer-level SSCs and payroll taxes
Uncapped flat tax rates	Costa Rica[1], Estonia, Finland[2], Hungary, Portugal, Slovenia	Australia (payroll taxes), Belgium, Costa Rica[1], Estonia[9], Finland, Hungary, Iceland, Ireland[10], Lithuania[11], Norway, Portugal, Slovenia, Sweden
Flat tax rates, all capped	Austria, Canada, Chile, Germany, Greece, Netherlands, Spain, Türkiye	Austria, Germany, Greece, Italy, Latvia, Luxembourg, Netherlands, Spain, Türkiye
Flat tax rates, some capped	Czech Republic, Japan, Korea, Latvia, Lithuania, Luxembourg, Poland, United States	Canada[12], Czech Republic, Japan, Korea, Poland[13], Slovak Republic, United States
Flat tax rates above an exemption threshold	Uncapped: Ireland, Norway Capped: Slovak Republic[3], Sweden	Austria (Payroll taxes), United Kingdom
Progressive tax rate schedule, all SSCs capped	Israel, Italy	Israel
Other	Belgium[4], France[5], Iceland[6], Mexico[7], Switzerland, United Kingdom[7]	France[5], Latvia[14] (payroll taxes), Mexico[15], Switzerland
No SSCs or payroll taxes	Australia, Colombia, Denmark, New Zealand	Chile, Colombia, Denmark, New Zealand

1. In Costa Rica, a flat tax applies to income that is subject to a minimum wage floor.
2. In Finland, the health insurance contribution for daily allowance is subject to an exemption threshold.
3. In the Slovak Republic, employee SSCs other than the health insurance contribution are capped at the maximum assessment base
4. Belgium levies flat-rate SSCs with a reduction for low-income earners. A special SSC applies and is subject to a progressive tax rate schedule.
5. France levies employer-level SSCs through a mix of progressive and flat rates with some contributions capped.
6. Employee SSCs in Iceland consist of a fee to the Retiree Investment Fund which is a fixed tax of ISK 12 334 if the individual's taxable income is at least ISK 1 938 025 for the year (exemption otherwise).
7. Mexico has flat and capped SSC rates, with a two-tiered system for sickness and maternity insurance contributions.
8. The United Kingdom applies a mix of flat rates after an exemption threshold. In 2021, National Insurance Contributions represented 12% of weekly earnings between GBP 184 and GBP 967 and 2% of weekly earnings above GBP 967.
9. If income is below a certain threshold, Estonia also levies employer SSCs as a lump sum payment for each employee of EUR 192,72 per month (split between pensions and health insurance on a 20:13 basis).
10. In 2021, the employers' contribution rate was 11.05%, but reduced to 8.8% in respect of employees earning less than EUR 398 per week.
11. In Lithuania, an additional rate applies with respect to employees who earn below a particular threshold.
12. In Canada, all SSCs are capped, but uncapped provincial-level payroll taxes may apply.
13. Poland levies flat payroll taxes in addition to employer-level SSCs.
14. Latvia levies lump sum payroll taxes in addition to employer-level SSCs.
15. In Mexico, employer SSCs are levied as a mix of flat rates and lump sum amounts calculated with reference to the Updated Metric Unit (*Unidad de Medida y Actualización*, or UMA)

Corporate income taxes, on the other hand, can add to the total tax burden on capital. Personal-level tax provisions that apply to capital income reveal a partial picture of the tax burden on capital owned by individual shareholders. Indeed, while corporations bear the legal burden of paying CIT, in the long run, much of the economic incidence falls on shareholders through lower after-tax returns on investment (Box 1). Countries can adjust personal-level taxation to account for corporate-level taxes on distributed profits through different approaches (Table 3). Dividend imputation systems, for example, explicitly integrate CIT and PIT by providing a tax credit at the shareholder level for income tax paid at the corporate

[4] The description of employer-level taxes relates to the income levels modelled in this paper and may not reflect the treatment of earners below the average wage. Different treatment for low-income earners may include (for some or all components of employer-level taxes) progressive SSC rates (Austria, Ireland), reductions in employer SSCs for low earners (Belgium), lump sum employer SSC payments for earners below a threshold (Germany, Korea, Slovenia, Türkiye), an income threshold below which employer SSCs do not apply (Mexico) or an exemption threshold for all taxpayers (Canada, United Kingdom).

level. Partial inclusion systems account for taxes paid at the corporate level by exempting a portion of dividend income from PIT. Across OECD countries, the most common approach is the classical system, where no explicit adjustment is made to account for CIT and countries tax dividends under the same rules as other capital income (dual income systems) or total income (comprehensive income systems). In some countries, this is in line with a trend toward lower corporate statutory tax rate which has reduced the perceived need to integrate CIT and PIT. Where lower personal income tax rates apply to dividend income, this may be seen as implicitly providing relief for CIT paid (OECD (2018[29])).

Table 3. Interaction between corporate and personal level taxation of dividend income

Type of system	Classical	Dividend imputation	Partial inclusion	Other
Definition	All distributed dividend income is taxable either under the PIT (shareholders remit the tax due) or under final withholding (tax is withheld by the distributing company and no further tax is payable at the shareholder level). There is no tax credit at the personal level for tax paid at the corporate level.	Distributed dividend income is grossed-up to approximate pre-tax corporate income. The tax payable on the grossed-up dividend is reduced by a tax credit that offsets the tax paid at the corporate level. Under partial imputation, the gross-up factor and/or the tax credit may be different from the rate of CIT paid.	A portion of distributed dividend income is tax exempt and the remainder is taxed under the PIT. There is no tax credit at the personal level for tax paid at the corporate level.	
Countries	Taxed at personal level: Colombia, Denmark, France, Iceland, Ireland, Japan, Lithuania, Luxembourg, Spain, Sweden, Switzerland, United Kingdom, United States Final withholding: Austria, Belgium, Costa Rica, Czech Republic, Germany[1], Greece, Hungary, Italy, Israel, Poland, Portugal[2], Slovak Republic, Slovenia	Full imputation: Australia, Mexico, New Zealand Partial imputation: Canada[3], Chile[4], Korea[5]	Estonia[6], Finland[7], Latvia[8], Türkiye[9]	Netherlands[10], Norway[11]

Notes: This table assumes dividends are earned by a tax resident from a publicly listed, domestic incorporated businesses.
1. Germany applies final withholding tax to dividend income, but taxpayers can opt for this to be included in total income and taxed under the PIT schedule.
2. Portugal applies a final withholding tax to dividend income, but taxpayers can opt for this to be included in total income and taxed under the PIT schedule. In this case, 50% of dividend income is exempt.
3. Canada applies a fixed rate gross-up factor (38%) that is not equivalent to the CIT rate. Both at the federal level and in Ontario (representative province), imputation tax credits are lower than the CIT rate and both the tax credits and CIT rates differ between the provincial and federal levels.
4. Chile applies a partial dividend imputation system to large companies, where shareholders receive a tax credit for 65% of CIT paid. A full dividend imputation system applies to small and medium companies.
5. Korea applies a gross-up factor and tax credit of 11%, which is below the CIT rate of 27.5%. Where combined interest and dividend income is below KRW 20 million, dividends are instead subject to a final withholding tax of 14%.
6. Estonia does not tax dividends at the personal level if CIT has been paid.
7. Finland exempts 15% of dividend income from listed companies.
8. Latvia does not tax dividends at the personal level if CIT has been paid.
9. Türkiye exempts 50% of dividend income.

10. Netherlands taxes the presumptive return on dividends, which varies between 1.82% and 5.53%. The deemed return rate depends on the deemed mix of lower return savings and higher return investments; the amount of investment income (and therefore the deemed return) rises with total equity.
11. Norway applies a rate of return allowance scheme. Shareholders receive a shielding deduction equal to a percentage of the cost price of the share. The percentage is set to approximate the risk-free return by reference to the interest rate for three month exchequer bills.
Source: OECD Questionnaire on Top Income and Wealth Taxation, Harding and Marten (2018[30]).

Box 1. Economic incidence of corporate and personal taxes

Theoretical background

While the statutory incidence of taxation describes who bears the legal burden of taxes, the economic incidence describes how the corresponding economic costs are shared between economic agents. The statutory incidence may differ from the economic incidence. Taxes on corporate profits could be borne by shareholders through lower after-tax returns. However, many academic sources suggest that workers likely bear part of the economic burden of corporate taxes, since lower investment may lead to lower productivity, ultimately reducing wages (Milanez (2017[31]), McKenzie (2017[32])). Consumers may also bear some of this incidence through higher prices (Baker et al. (2020[33])). In the long-run, the economy is assumed to transition towards economic incidence being shared among capital owners, workers and consumers according to their relative price responsiveness (see e.g. Fullerton and Metcalf (2002[34])).

Empirical findings

There are mixed findings in the empirical literature on who bears the final burden of income taxes. For example, a recent study based on German data finds that following a tax reform, about half of the CIT increase falls on shareholders (Fuest, Peichl, and Siegloch (2018[35])). Several studies relating to the United States find a wide range of estimates of the proportion of the CIT burden that falls on shareholders (Milanez (2017[31]) provides a review). In a similar vein, while some studies find that payroll taxes are almost fully borne by workers (Deslauriers et al. (2021[36])), other studies that look at the incidence of taxes and SSCs on labour find that at least part of that tax incidence may be borne by firms, particularly in the years immediately following reforms (see Melguizo and González-Páramo (2013[37]) for a review, (Bozio et al., 2019[38])).

4 Stylised effective tax rates: Methodology

This paper provides novel estimates of stylised effective tax rates (ETRs) that convey the cumulative effect of different tax provisions in a single indicator. ETRs refer to the percentage of an individual's income that is payable in tax, after applying all relevant tax rules. The indicators are stylised, ETRs based on hypothetical individuals, rather than backward-looking ETRs which would use data on actual taxes paid. Stylised ETRs are used to ensure comparability across OECD countries and for completeness, since sufficiently disaggregated administrative data is not available to calculate backward-looking ETRs for a number of countries. The ETRs in this paper are average effective tax rates.[5] This paper presents results from a custom-built OECD model to estimate ETRs payable by hypothetical individuals based on tax policy settings as of 1 January 2021.[6] It models the full range of taxes due based on those hypothetical individuals' incomes, including statutory tax rates and thresholds, provisions that change tax bases (e.g. deductions, exemptions) and those that reduce the final tax liability (e.g. credits).[7] [8] After taking these features into account, ETRs provide information about the tax rates hypothetical individuals effectively face based on their income. ETRs are therefore richer sources of information on the relative taxation of different sources of income than statutory tax rates or thresholds alone. They make it possible to draw insights into how the taxation of different income types and levels compares within and across countries. They also make it possible to identify the features of tax systems that drive differences in effective tax rate levels. In this regard, ETR analysis contributes novel findings to the understanding of the relative taxation of different sources and levels of income.

The scenarios modelled in this paper include four different income levels with different combinations of wage, dividend, and capital gains income, earned by a single working-age taxpayer with no dependents. To isolate the impact of tax provisions specifically related to different types

[5] This paper presents hypothetical average effective tax rates, which differ from other indicators presented by the OECD on the taxation of different sources of income that compare different types of investments. For example, previous OECD work has calculated marginal effective tax rates on different household savings types by considering the post-tax rate of return that would make an investment worthwhile at the margin (OECD, 2018[48]). Other work has also relied on measures of average and marginal effective tax rates to analyse the neutrality of corporate taxation across assets and sources of finance (Hanappi, 2018[49]).

[6] As such, the calculations do not reflect tax policy changes after this date. For a description of reforms since 1 January 2021, see Tax Policy Reforms (OECD, 2022[45]) (OECD, 2023[46]).

[7] The stylised ETRs draw on the rules governing countries' tax systems to measure the tax due on a hypothetical future income stream. This contrasts with backward-looking ETRs that draw on data (e.g. tax administration microdata) to measure actual taxes paid on income.

[8] The ETRs do not include taxes on wealth, although net wealth taxes in some countries bear similarities to income taxes. The ETRs do include special taxes levied on a per capita basis, such as broadcasting or audio-visual fees. The model assumes full take up of cash benefits and transfers where taxpayers meet the eligibility criteria, if applicable.

of income and to simplify the interpretation of results, the model does not contain family-based features of tax systems. The hypothetical taxpayer is single and has no children or other dependents and is not eligible for certain tax provisions such as child tax credits, spouse tax offsets, industry- or age-specific SSCs, etc.[9] ETRs are modelled for four levels of income (1, 3, 5 and 20 times the national average wage[10]) and for three types of income (wages, dividends, and capital gains on shares). Hypothetical, rather than empirically based, income levels and compositions are used for illustrative purposes, and higher income levels were included to focus on hypothetical ETRs for high earners. The simplified approach to income levels and composition ensures the ETRs are comparable across countries whose taxpayers have different earnings profiles and clearly illustrates the impact of tax provisions on different income streams.

This paper considers two types of ETRs – ETRs that reflect personal-level taxation and ETRs that integrate personal- and firm-level taxation. Personal-level taxes – direct taxes that an individual pays on the income they receive – provide information about the effective rates of taxation individuals face. However, they provide only partial information about the tax burdens of different income sources which may have been taxed at the firm level. As such, this paper also presents ETRs including both personal- and firm-level taxation.

The ETRs in Section 5 measure the taxes an individual pays as a proportion of the income they receive. ETRs are calculated for personal-level taxes only and help identify features of PIT and employee SSCs that drive differences in ETRs across different levels and compositions of income. The ETR is calculated as follows:

$$ETR = \frac{Final\ tax\ payable}{Gross\ income}$$

The components of the ETR are:

- *Final tax payable:* all direct taxes paid by individuals to federal and sub-central governments, including mandatory employee social security contributions, and net of exclusions, deductions, offsets, and credits.[11]
- *Gross income:* gross income from labour and capital income sources, excluding private cash transfers and in-kind benefits.

The ETRs in Section 6 expand on the personal-level ETRs in Section 5 by incorporating firm-level taxes into the analysis of wage and dividend income taxation. Section 6 calculates the total hypothetical taxes payable by the individual as well as any firm-level taxes that contribute to the total tax burden on labour and capital. In the case of wage income, the ETRs consider the cumulative PIT and employee SSCs on wages and taxes on labour applied at the firm level, such as employer SSCs and payroll taxes. In the case of dividend income, the ETRs consider the cumulative PIT on dividend income

[9] Tax system features available to couples or families often reduce the ETRs payable by a member of the couple. For example, in the United States, benefits for married taxpayers and those with children greatly increase the tax system's progressivity by reducing taxes for low- and middle- income taxpayers. These benefits include a standard deduction that is double for married taxpayers filing jointly and partly refundable child tax credits for low-income taxpayers.

[10] This working paper applies the national average wage figures as per the OECD's Taxing Wages Publication, which are available at the Taxing Wages – Comparative Tables dataset on OECD.Stat (see also OECD (2022[47])).

[11] The ETR calculation does not include non-tax compulsory payments (NTCPs), which are obligatory payments related to labour income that are not classified as taxes or compulsory SSCs, as per the OECD Revenue Statistics Interpretive Guide. They are generally compulsory payments to privately managed funds, welfare agencies or social insurance schemes outside general government. However, NTCPs increase the cost of labour relative to capital income. Consequently, including NTCPs in the ETR calculation would increase the difference between effective labour and capital taxation in a selection of countries.

received by the individual and CIT levied on shareholder profits. The cumulative individual- and firm-level taxes are then expressed as a proportion of income received by the individual plus firm-level taxes (see Figure 2 for more information), to arrive at integrated ETRs. As such, these integrated firm- and personal-level ETRs extend the analysis in Section 5 to measure the full tax burden on labour and capital.

The integrated ETRs are calculated as follows:

$ETR = \frac{Final\ tax\ payable}{Total\ cost\ of\ labour}$; *for the wage income scenario*

and

$ETR = \frac{Final\ tax\ payable}{Pre{-}tax\ distributed\ profits}$; *for the dividend income scenario*

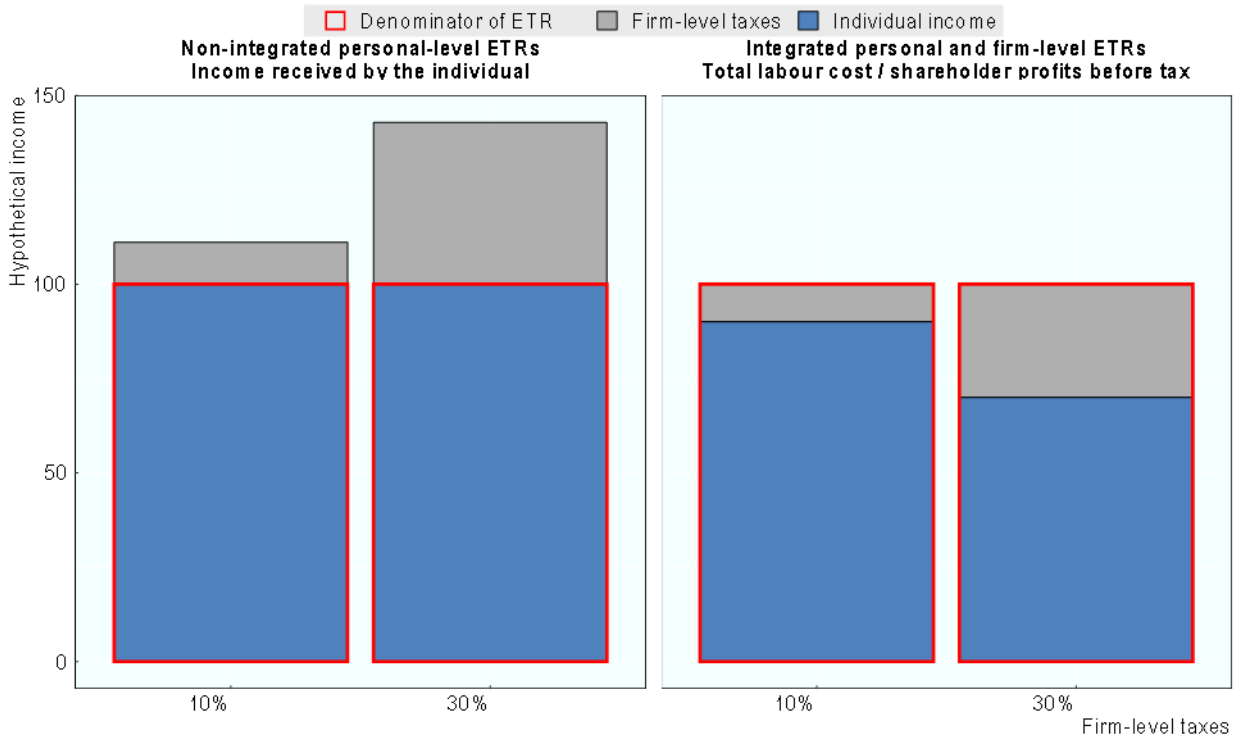
The components of the integrated ETRs are:

- *Final tax payable:*
  - At the individual level: all direct taxes paid by individuals to federal and sub-central governments, including mandatory employee social security contributions, and net of exclusions, deductions, offsets, and credits.
  - At the firm level: taxes paid by the firm on wage and dividend income, including mandatory employer SSCs and payroll taxes (wages), as well as CIT (dividends).
- *Total cost of labour (wage income scenarios)*: gross wage plus employers' SSCs and payroll taxes
- *Pre-tax distributed profits (dividend income scenario):* distributed dividends plus CIT

The integrated ETR analysis in this paper does not make assumptions about the incidence of firm-level taxes. As discussed in the previous section, academic studies generally agree that the burden of firm-level taxes is borne by workers, shareholders and consumers, but no consensus exists regarding the split between them (Box 1). This paper does not take a view on how tax burdens are shared. The incidence of firm-level taxes can affect the magnitude of total income received by workers or shareholders (i.e., the after-tax return on labour or capital), but the ETRs in this paper reflect tax payable for a *given* level of income. As such, the incidence of firm-level taxes does not affect the ETR estimates under the approach in this paper.

The denominators of the personal-level ETRs and the integrated personal- and firm-level ETRs are different, which means that the ETR results in Sections 5 and 6 are not directly comparable. Figure 2 shows the denominator outlined in red, to illustrate the definition of income used to calculate the non-integrated personal level ETRs (Section 5) and the integrated personal- and firm-level ETRs (Section 6). For the non-integrated personal-level ETRs (left panel), the denominator is income received by the individual. Two individuals who each earn USD 100 are comparable in the context of personal-level ETRs as the model disregards firm level taxes. However, two individuals receiving personal income of USD 100 are no longer comparable when integrating firm level taxes; the denominator (total labour cost or profits before tax) would be USD 111 in a country that applies a 10% firm level tax rate and USD 143 in a country that applies a 30% firm-level tax rate. For this reason, the denominator of the integrated personal- and firm-level ETRs (right panel) is total labour cost or profits before tax, which are set at the same value. The value of the ETR denominator is USD 100 in both countries, while personal-level income is USD 90 in a country that applies a 10% firm level tax rate and USD 70 in a country that applies a 30% firm level tax rate. The ETRs are therefore comparable across countries and across income streams within each section but are not comparable across Sections 5 and 6, due to the different denominator.

Figure 2. Illustrative example of denominator of non-integrated personal-level ETRs and integrated personal and firm-level ETRs



Source: OECD Secretariat calculation

The ETR model relies on several assumptions.

- The model assumes hypothetical individuals earn income from only the one or two sources modelled in the scenario.
  - ETRs calculated at the **personal** level assume individuals either earn wages, dividend income, capital gains income, or a combination of those income types.
  - ETRs calculated at the **integrated personal- and firm-levels** assume individuals earn only one type of income. This is to isolate the impacts of only one type of firm-level tax, to get a clearer picture how those firm-level taxes affect ETRs.

While disregarding significant income sources such as pensions is not realistic, nor is assuming compositions of income such as 100% capital income, simplifying this aspect of the model makes comparisons of ETRs on labour and capital income clearer.

- Dividends and capital gains income are assumed to be earned from a publicly listed incorporated business. The taxpayer is assumed not to have a majority interest nor participate in its management, and income is net of costs (e.g. brokerage fees).
- The integrated ETR scenarios assume that an individual receives dividends from a company that is domiciled and generates its profits in the country being analysed. As such, companies pay the top domestic statutory CIT rate, and not a lower effective tax rate that businesses, including subsidiaries of multinational firms, may face in practice. Further, the model does not consider provisions such as deductions that would reduce the effective CIT rate paid.

Stylised ETRs are valuable indicators but have limitations. The ETRs are hypothetical (that is, they measure taxes payable by hypothetical individuals rather than actual taxes paid) and static (that is, based

on the year that the individual has earned their income and disregarding dynamic or random effects). Therefore, ETRs do not account for potential behavioural responses such as income shifting and tax planning or tax evasion, which can be significant at the top of the distribution (Alstadsæter, Johannesen and Zucman (2019[39])). This means that stylised ETRs often represent upper bound estimates of the tax rates actually paid by individuals, particularly for the highest earners. Indicators calculated from administrative data sources, such as backward-looking ETRs that measure actual taxes paid by individuals relative to their gross income, would better reflect behavioural effects. The indicators also rely on hypothetical incomes calculated as multiples of average wages, and do not show effective tax rates across the actual income distribution. Furthermore, while SSCs are included in ETR calculations, they often confer direct benefits on individuals, particularly pension contributions that confer entitlements to deferred earnings. Finally, the ETRs in this paper do not account for non-income based taxes or non-tax features that can affect the relative favourability of different income sources, including for instance wealth taxes, transaction taxes, or non-tax compulsory payments. These considerations should be borne in mind when drawing any conclusions, such as incentives to shift tax bases, from differences in ETR results between income sources.

5 Stylised effective tax rates at the personal level

The ETRs presented in this section illustrate the extent to which PIT and employee SSCs payable vary across sources and levels of income. This section analyses differences in ETRs and identifies features of PIT and employee SSCs that drive those differences. In particular, it looks at whether capital income is taxed preferentially compared to labour income at the individual level and how this may vary depending on income levels. The ETR results in this section do not account for employer SSCs or CIT paid at the firm level, which are considered in the following section.

ETRs are modelled for different hypothetical scenarios:

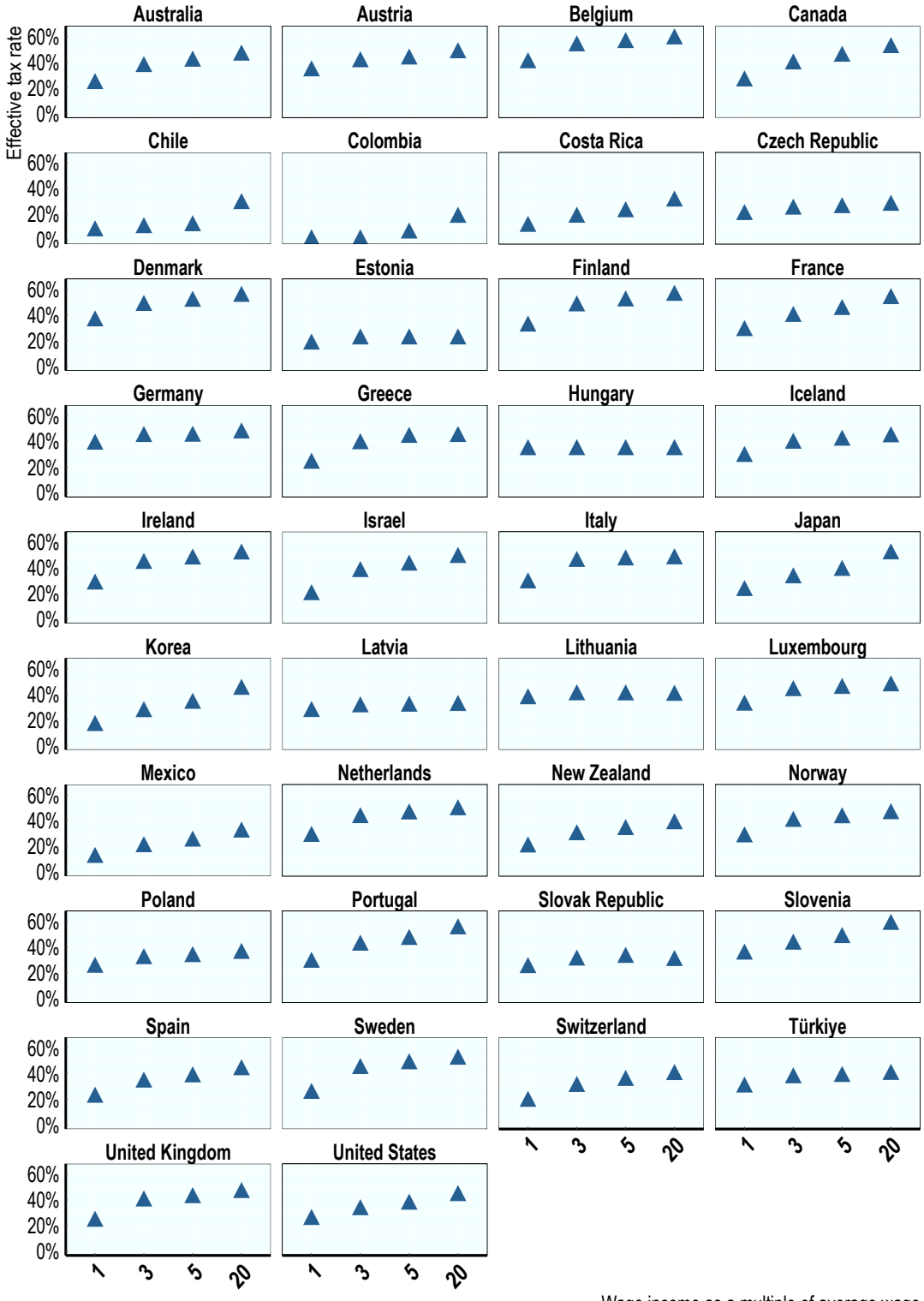
- **Section 5.1:** Individuals receiving only wage income;
- **Section 5.2:** Individuals receiving income from wages and dividends;
- **Section 5.3:** Individuals receiving income from wages and capital gains on shares;
- **Section 5.4:** Individuals realising capital gains on shares in one year or gradually over four years.

5.1. ETRs on wage income

In many OECD countries, high-income wage earners can face ETRs in the order of 40% to 50%. Figure 3 shows ETRs for wage earners across the income distribution by modelling individuals earning different multiples of the national average wage. Individuals face ETRs higher than 40% on their wage income if they earn at least five times the average wage in 20 OECD countries, and if they earn 20 times the average wage in 24 countries. In ten countries (Belgium, Canada, Denmark, Finland, France, Ireland, Japan, Portugal, Slovenia and Sweden), the ETRs for taxpayers earning 20 times the average wage exceed 50%. ETRs for taxpayers earning five times average wage are lower than 30% in only six countries, some of which operate a flat income tax rate or two-bracket income tax rate system with comparably low statutory tax rates (Czech Republic, Estonia) or tax systems in which top PIT rates apply at very high income levels (Chile and Colombia).

Figure 3. ETRs for individuals earning only wage income

Stylised effective tax rates for different levels of wage income across selected OECD countries, 2021



Note: Effective tax rates are calculated as per the methodology outlined in Section 4 and in Annex A. Income is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations.

The progressivity of taxes on wage income varies significantly across countries. In most OECD countries, high-income wage earners face higher ETRs than average wage earners, although the difference in tax burdens varies across countries. The largest differences between average income earners and those earning 20 times the average wage are observed in Japan (29 percentage points) and Israel (28 percentage points)[12], both of which operate highly progressive PIT systems. Most Eastern European and Baltic countries show relatively small differences in ETRs between average income earners and those earning 20 times the average wage (less than 10 percentage points) due to less progressive tax rate schedules. In Germany, differences between average income earners and those earning 20 times the average wage are also comparably low (9 percentage points), although tax rates are highly progressive at lower income levels (i.e. for taxpayers whose income is below the average wage). In most OECD countries, ETRs increase steadily across income levels. For seven countries, ETRs experience a sharp increase between taxpayers earning 1 and 3 times the average wage (Finland, Greece, Ireland, Iceland, Italy, Luxembourg and Sweden), while in Chile, Colombia and Costa Rica, the sharp increase in ETRs occurs between taxpayers earning 5 and 20 times the average wage.

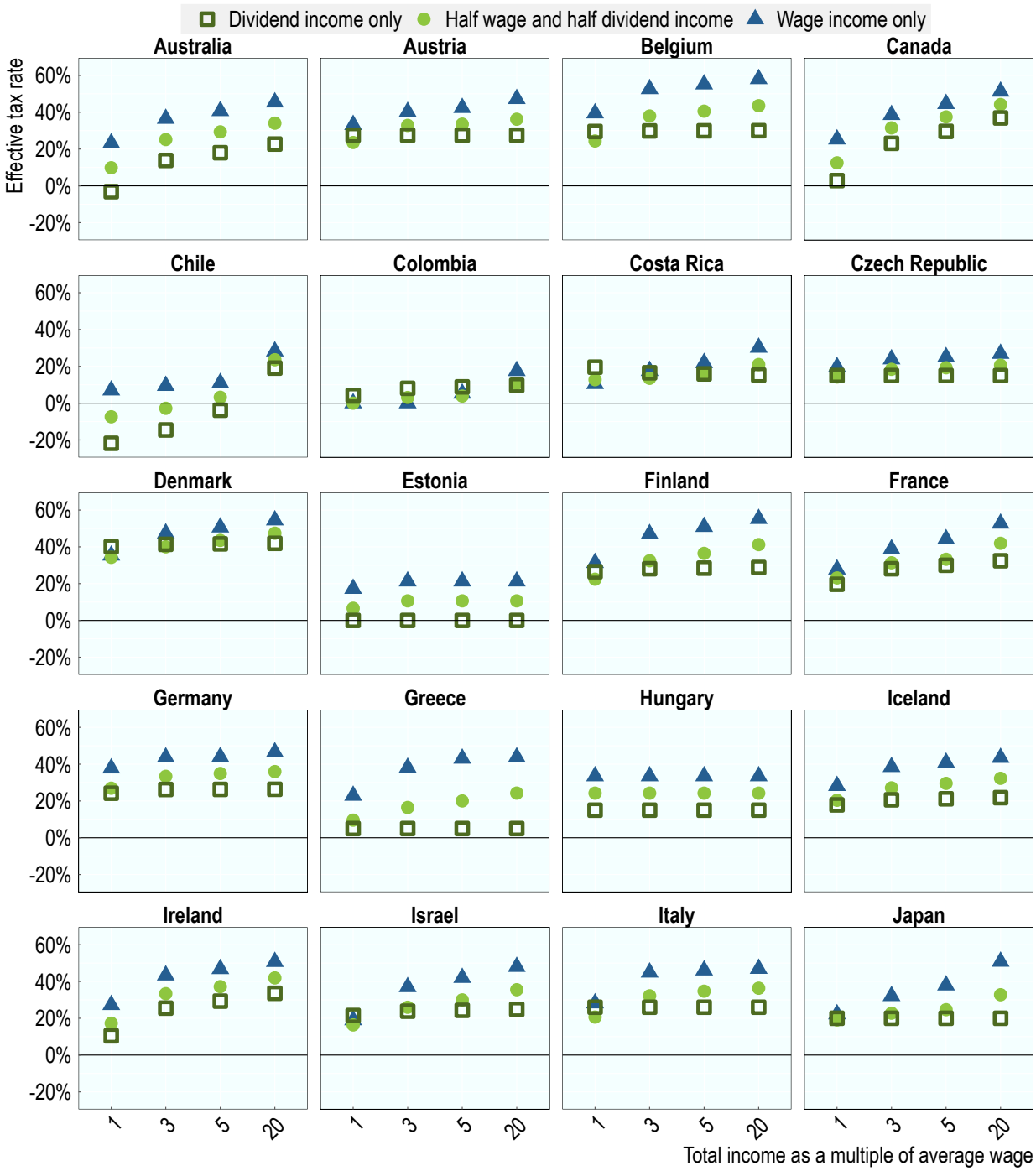
5.2. ETRs on dividend income compared to wage income

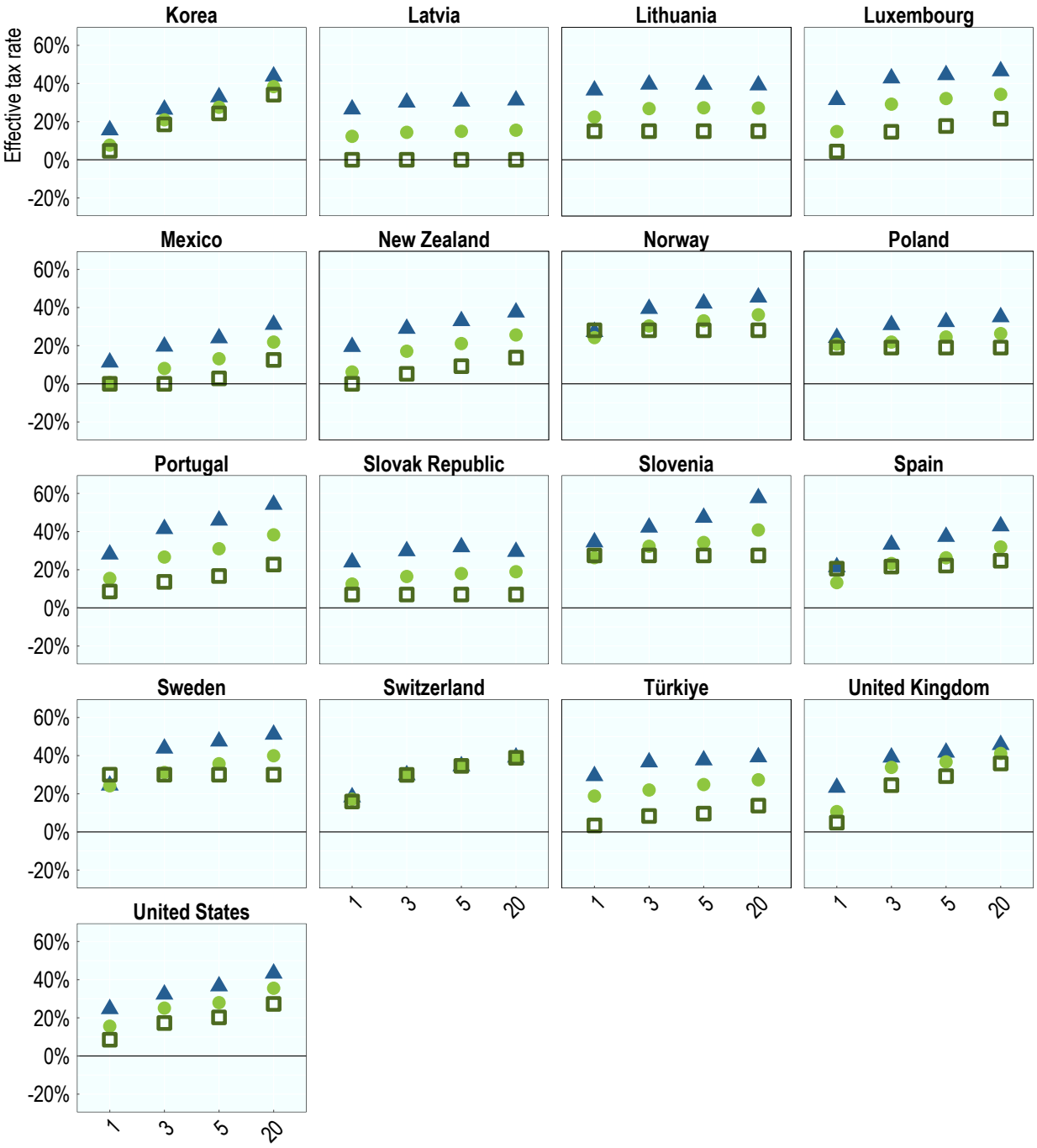
In nearly all OECD countries, dividend income is effectively taxed more favourably than wage income at the personal level. This section compares the ETRs for an individual earning only wage income, only dividend income or a combination of wage and dividend income (Figure 4). For most OECD countries and income levels, taxpayers who earn at least a portion of their income from dividends face lower ETRs than taxpayers earning only wage income. ETRs across all income levels are almost always lowest if taxpayers receive their income entirely from dividends.

[12] The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Figure 4. ETRs for individuals earning different combinations of wage and dividend income

Stylised effective tax rates for different levels of total income across selected OECD countries, 2021





Note: Effective tax rates are calculated as per the methodology outlined in Section 4 and in Annex A. The three hypothetical situations represented in the figure are that of an individual earning only wage income, an individual earning a combination of wage and dividend income (50/50 income split), and an individual earning only dividend income. Income is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. In countries with dividend imputation systems, the amount of distributed dividends are grossed-up to approximate pre-tax corporate income. Tax payable on grossed-up amounts is then reduced by a tax credit that offsets all or part of the corporate tax paid on distributed profits. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital

Source: OECD Secretariat calculations.

Depending on the country, different tax provisions explain why lower ETRs typically apply to combined dividend and wage income and dividend only income, compared to wage only income. These include:

- Dividend income is subject to a flat tax that is lower than the income tax rates payable on wage income for all income earners (Lithuania, Slovak Republic) or higher income earners (Austria, Belgium, Colombia, Costa Rica, Finland, Greece, Iceland, Israel, Italy, Norway, Poland, Slovenia)[13]
- Dividend income is subject to a more favourable progressive tax schedule than wage income (Spain, United Kingdom, United States)
- Taxpayers can choose the most favourable tax treatment, between a flat dividend tax rate (commonly more favourable for high income earners) or taxation under a progressive PIT schedule (commonly more favourable for lower income earners) (Germany, France, Japan, Portugal)
- Dividend income attracts tax exemptions or special deductions that do not apply to wage income (Belgium, Finland, France[14], Iceland, Luxembourg, Portugal, Türkiye, United Kingdom)
- Tax credits, such as imputation credits, are available to dividend income earners that are not available to wage income earners[15] (Australia, Canada, Chile, Ireland, Korea, Mexico, New Zealand)
- Dividends are not taxed at the personal level if CIT was paid at the company level (Estonia, Latvia)
- SSCs are not payable on dividend income (Austria, Belgium, Canada, Chile, Costa Rica, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Japan, Korea, Lithuania, Luxembourg, Mexico, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom, United States)[16]
- Sub-central government taxes which are payable on wage income are not payable on dividend income (Belgium, Denmark, Finland, Iceland, Italy, Sweden)
- Taxpayers in mixed labour and dividend income scenarios are eligible for certain provisions targeted towards low-income earners that disregard capital income (Belgium, Colombia, Portugal)
- Dividend income attracts a special shielding rate that approximates the risk-free rate of return (Norway)

ETR differentials between individuals who receive wages and those who receive dividend income vary across income levels. The gaps in ETRs grow along the income distribution in 28 OECD countries, with the largest changes in Japan, Sweden, and Israel. In these countries, the flat tax rates on dividends are significantly lower than tax rates on wages for the highest earners. In one country, Hungary, dividends and wages are both subject to a flat tax rate with no allowances. In eight countries, the gaps in ETRs fall

[13] The results for Finland only hold with respect to listed companies, as dividends from unlisted companies can be partly treated as wage income.

[14] Exemption applies only if taxpayers opt for progressive taxation; it is not available when dividends are taxed under flat rates.

[15] Personal level ETRs include dividend imputation credit for taxes paid at the corporate level but do not include these taxes, while integrated firm and personal level ETRs on dividends include both.

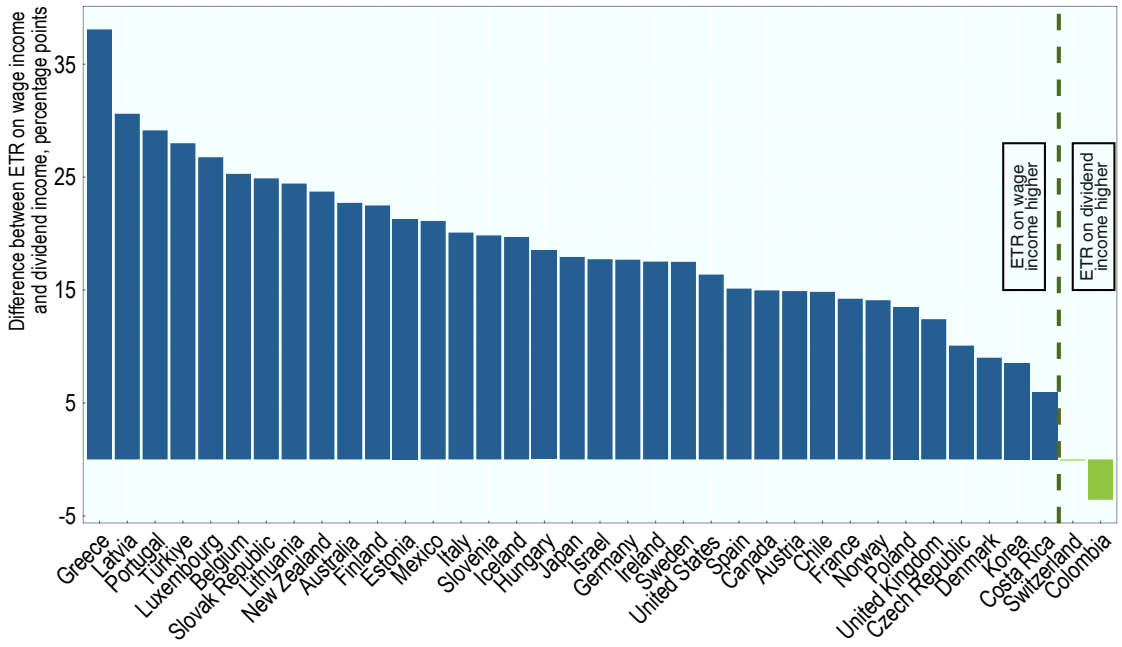
[16] France levies no social security contributions on capital income but applies social levies (CSG (*contribution sociale généralisée*)), CRDS (*contribution au remboursement de la dette sociale*), and the solidarity levy) which are not deemed to be social security contributions.

along the income distribution. Few cases exist where average wage earners may face higher effective tax rates on dividend income compared to wage income. This is generally the case where high exemption thresholds or tax allowances such as tax credits apply to average wage earners. For example, in Costa Rica and Colombia, average wage earners benefit from high tax exemption thresholds on wage income and lower PIT rates on wages (Costa Rica). However, this is not the case at higher incomes.

ETR differentials between wage and dividend income vary across countries. Figure 5 focuses on higher income earners, showing differences in ETRs for hypothetical individuals earning only wage and only dividend income equivalent to five times the average wage.[17] It shows that the largest ETR differences are observed in countries where dividend income is exempt or taxed at a flat rate that is much lower than marginal tax rates on the equivalent income from wages (e.g. Greece and Latvia). The ETR difference is also high in countries where relatively high SSC rates are payable on labour income but not on dividend income (e.g. Greece, Portugal and Slovenia), although SSCs can confer direct entitlement to social benefits (e.g. pension income or unemployment insurance). As Figure 4 has shown, in some countries, the gap in ETRs for wage and dividend income at five times the average wage is significantly higher than at lower income levels (e.g. Greece, Israel, Sweden). This highlights how the gap in ETRs can be particularly stark at higher income levels. In two countries (Colombia and Switzerland), the ETR on dividend income is higher than on wage income, due to exemptions and deductions on wage income that are not available for dividend income.

Figure 5. Difference in ETRs for individuals earning wage income and dividend income, OECD countries.

Difference in ETR, individual earning five times the average wage, 2021



Note: Effective tax rates are calculated as per the methodology outlined in Section 4 and in Annex A. The figure calculates the gap in ETRs between two hypothetical individuals – one earning only wage income and the other earning only dividend income, both at five times the average wage. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations

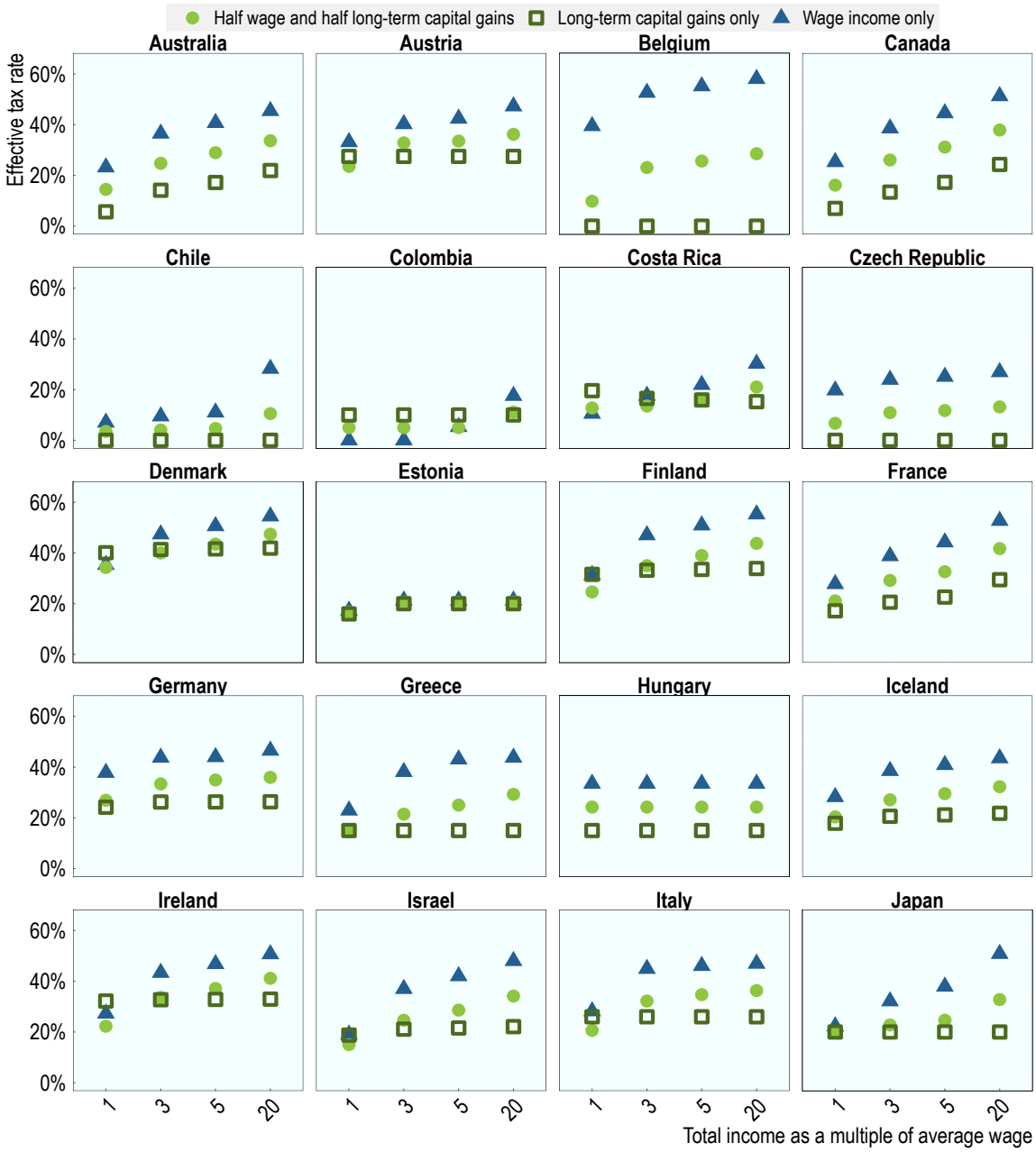
[17] Five times the average wage can represent different shares of the population across countries, and in some represents a minority of high-income earners.

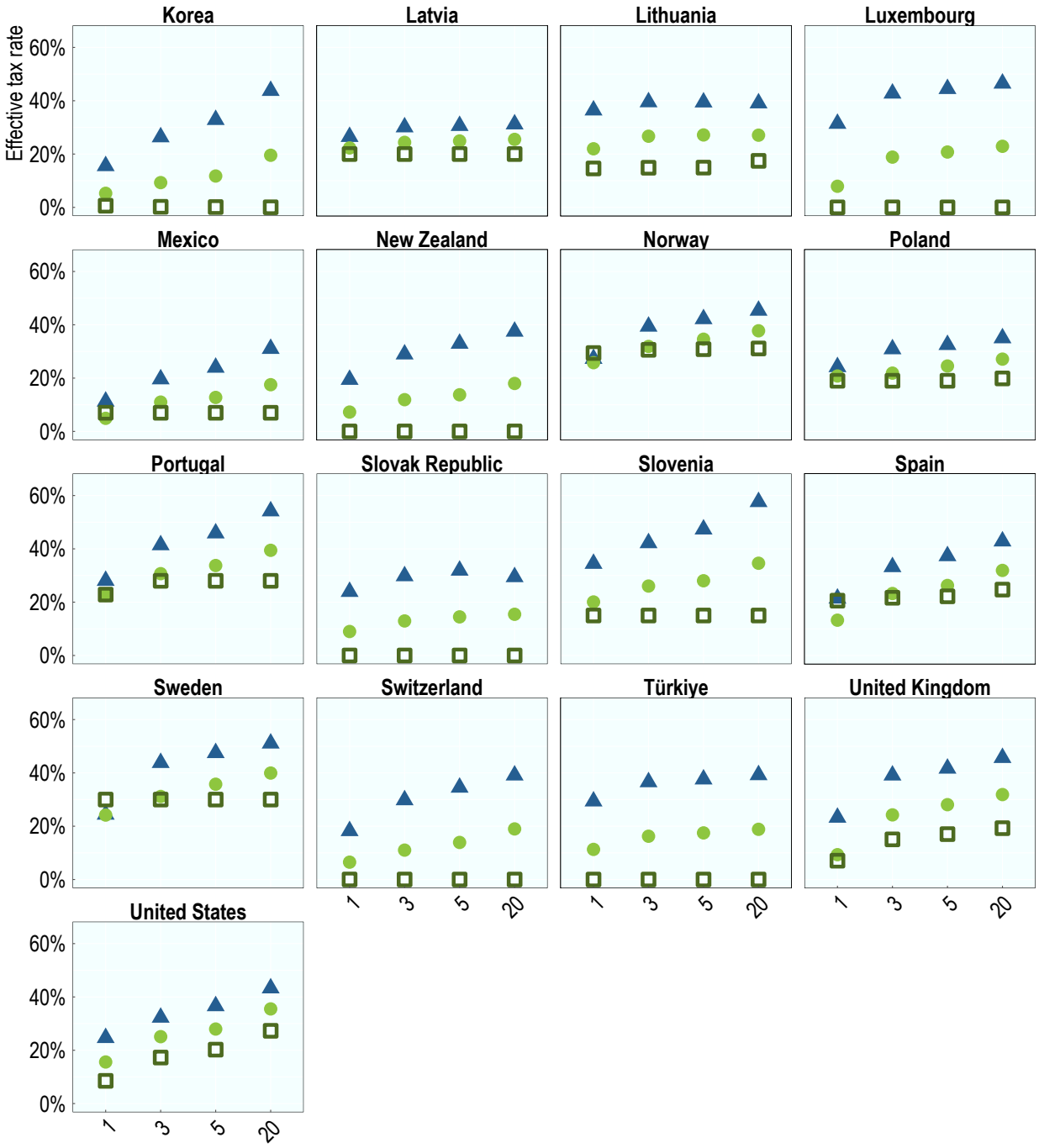
5.3. ETRs on capital gains on shares compared to wage income

Individuals who receive income from capital gains on shares face lower ETRs than people who earn only wage income. This section compares the ETRs for an individual earning only wage income, only capital gains income or a combination of wage and capital gains income. In almost all OECD countries, individuals across the income distribution face lower ETRs if they receive at least some of their income from capital gains on shares, compared to if they receive exclusively wages (Figure 6).

Figure 6. ETRs for individuals earning different combinations of wage and long-term capital gains income

Stylised effective tax rates for different compositions of income, 2021





Note: Effective tax rates are calculated as per the methodology outlined in Section 4 and in Annex A. The hypothetical situation represented in the figure is that of an individual earning only wage income, an individual earning a combination of wage and income from capital gains on the sale of long-term shares (50/50 split), and an individual earning only income from capital gains on the sale of long-term shares. Long-term capital gains are assumed to be held for a time period that attracts the long-term capital gains tax treatment for the relevant country. Income is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital.
Source: OECD Secretariat calculations

As is the case for dividend income, various tax provisions drive lower ETRs for income from capital gains on shares as compared with wage income. These include:

- Income from capital gains on shares may be subject to a flat tax which is lower than the marginal tax rates payable on wage income for all income earners (Latvia) or higher income earners (Austria, Colombia, Costa Rica, Greece, Iceland, Ireland, Israel, Italy, Japan, Korea, Norway, Poland, Slovenia)
- Income from long-term capital gains is subject to a preferential flat tax rate which is lower than the marginal tax rates payable on wage income (Slovenia)
- Income from capital gains on shares may be subject to a more favourable progressive tax schedule than wage income (Lithuania, Spain, United Kingdom, United States)
- Taxpayers can opt for the most favourable tax treatment, choosing between a flat capital gains tax rate (commonly more attractive to higher earners) or capital gains taxation under a progressive PIT schedule (commonly more attractive to lower earners) (Austria, Germany, France, Portugal)
- Income from capital gains on shares may attract exemptions or special deductions that do not apply to wage income. These include the full exemption of some capital gains from shares (Chile, Korea) or long-term capital gains (Czech Republic, Luxembourg, Slovak Republic, Türkiye), or the exemption of a portion of capital gains (Australia, Canada, France, Iceland, Lithuania, Ireland, United Kingdom)[18]
- Countries do not tax most capital gains from shares (Belgium, New Zealand, Türkiye, Switzerland)[19]
- SSCs may not be payable on income from capital gains on shares (Austria, Belgium, Canada, Costa Rica, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Ireland, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom, United States)
- Sub-central government taxes which are payable on wage income may not be payable on income from capital gains on shares (Belgium, Denmark, Finland, Iceland, Italy, Sweden)
- Taxpayers in mixed labour and capital gains income scenarios have greater eligibility for certain provisions targeted towards low-income earners that disregard capital income (Ireland)
- Capital gains are adjusted for inflation,[20] with high periods of inflation reducing the (real) taxable income from shares and thereby the ETRs (Israel,[21] Mexico, Norway)

[18] In France, the exemption applies only if taxpayers opt for progressive taxation; it is not available when taxpayers opt to have their capital gains on shares taxed under flat rates. In Chile, all capital gains income from shares that were traded on the stock market were exempt from PIT in 2021. However, this exemption was repealed in September 2022.

[19] Switzerland does not tax capital gains on shares if the investor is deemed to be a private investor (as opposed to a professional investor, which is determined with reference to criteria such as holding periods, capital gains percentage of income, etc). This paper assumes that assets are private assets if they have been held for the long term, or if they are gains from short-term assets that comprise 50% or less of an individual's income. ETRs on capital gains from assets that are deemed to be business assets would be close to the ETR on wage income. The ETRs also do not account for wealth taxes that would be payable on unrealised capital gains on shares in Switzerland.

[20] Some countries index capital gains for inflation to avoid taxing the inflationary component. This ensures only the real gain is subject to tax, which can be particularly important in periods of high inflation, although it can raise administrative complexities. ETRs may decrease as inflation rises in countries that allow indexation, as the ETRs measure the tax liability with respect to real capital gains as a share of the nominal gain.

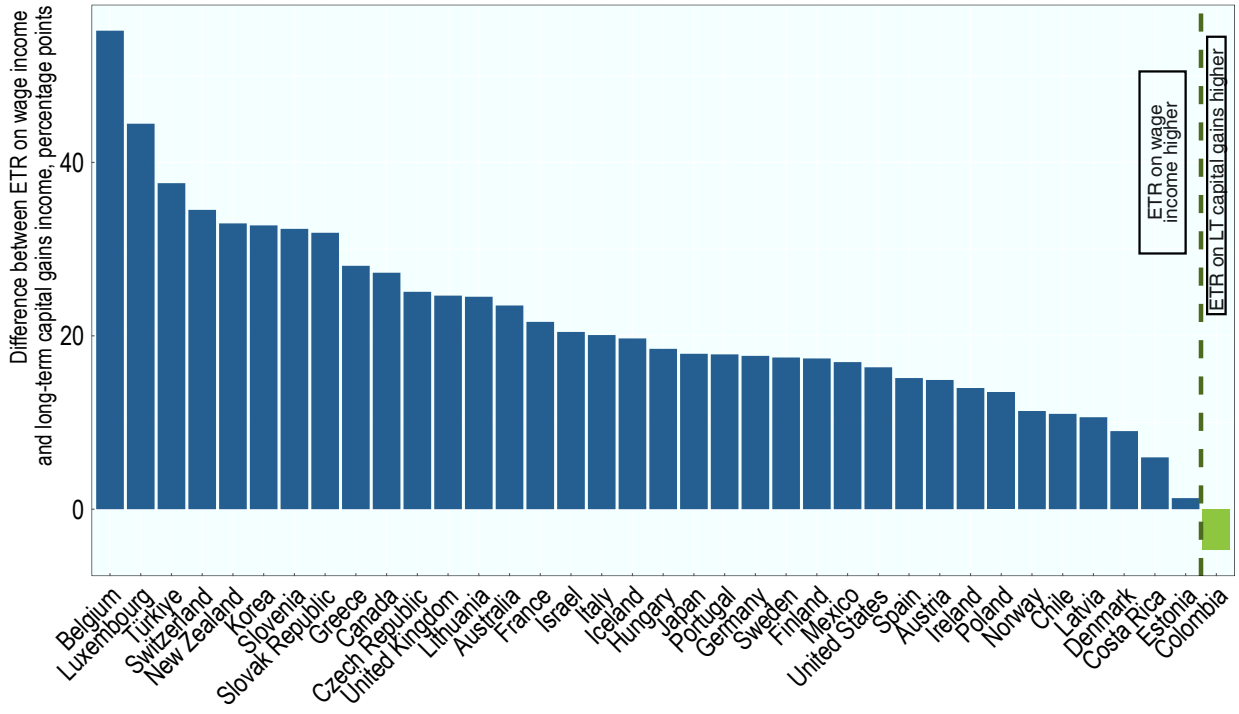
[21] Capital gains are indexed for inflation in Israel. The model applies an adjustment factor that is based on the TA-35 index compiled by the Tel Aviv Stock Exchange and inflation in Israel in the relevant period. As inflation was higher

The ETR differential between individuals who receive wage income only compared to some of their income as capital gains increases across income levels in almost all OECD countries. The difference in ETRs between income compositions increases significantly across income levels in countries that apply progressive tax rates to wage income while capital gains are taxed at a flat rate (e.g. Japan) or tax exempt (e.g. Chile, Türkiye). In contrast, ETR differentials remain relatively constant in countries such as those that apply flat PIT rates to wage income (e.g. Estonia, Hungary) and countries that allow for a deduction of a fixed portion of capital gains income (e.g. Australia, Canada).

ETR differentials between wage and capital gains income vary across countries. Figure 7 focuses on higher income earners, showing differences in ETRs for hypothetical individuals earning only wage and only capital gains income at five times the average wage. It shows that the difference is particularly notable in countries such as Belgium, Luxembourg, and Türkiye, where long-term capital gains benefit from full exemptions. Colombia, on the other hand, has higher effective tax rates on capital gains than on wage income. In Colombia, similar tax rates apply to wage income and long-term capital gains, and only minor provisions reduce the tax base.

Figure 7. Difference in effective tax rate for individuals earnings wage income and long-term capital gains income

Difference in ETR, individual earning five times the average wage, 2021



Note: Effective tax rates are calculated per the methodology outlined in Section 4 and Annex A. The figure calculates the gap in ETRs between two hypothetical individuals – one earning only wage income and the other earning only capital gains income from long-term shares, both at five times the average wage. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital.
Source: OECD Secretariat calculations

relative to return in the short-term (one year; 2021), compared to the long-term (ten years; 2012-2021), the ETRs on short-term capital gains are lower than ETRs on long-term capital gains.

In most countries, there is no distinction between the tax treatment of short-term and long-term capital gains, although there are notable exceptions.[22] In most countries modelled, preferential tax treatment applies to income from capital gains on shares irrespective of how long shares were held for. However, ETRs on long-term capital gains are different to those on short-term gains in 11 countries (Australia, Colombia, the Czech Republic, France, Israel, Luxembourg, Norway, Slovak Republic, Slovenia, Switzerland, and the United States).[23] Long-term capital gains are often taxed more favourably due to the availability of tax exemptions that are not available for short-term gains or long-term capital gains having a more favourable tax rate schedule.

5.4. ETRs on capital gains on shares realised gradually over four years, as compared with realising those gains in a single year

Individuals may face lower ETRs when their capital gains income is spread over several years. Figure 8 shows ETR results for hypothetical taxpayers either realising a long-term capital gain in a single year or realising the same overall capital gain over four years.[24] The results show that in around half of OECD countries, individuals would face lower overall ETRs on the same total capital gains if those gains were realised gradually as opposed to in one year. This leads to a particularly large decrease in ETRs in countries where progressive tax rate schedules apply to capital gains. This is because lower marginal tax rates apply in every year of realisation than would apply if capital gains are realised in a single year. The benefits of such a strategy are most likely to accrue to higher income earners who may be subject to top marginal PIT rates unless they realise capital gains gradually. In contrast, the ETR does not vary for individuals that realise their income over multiple years in 16 OECD countries where capital gains are either subject to flat tax rates or are tax exempt.

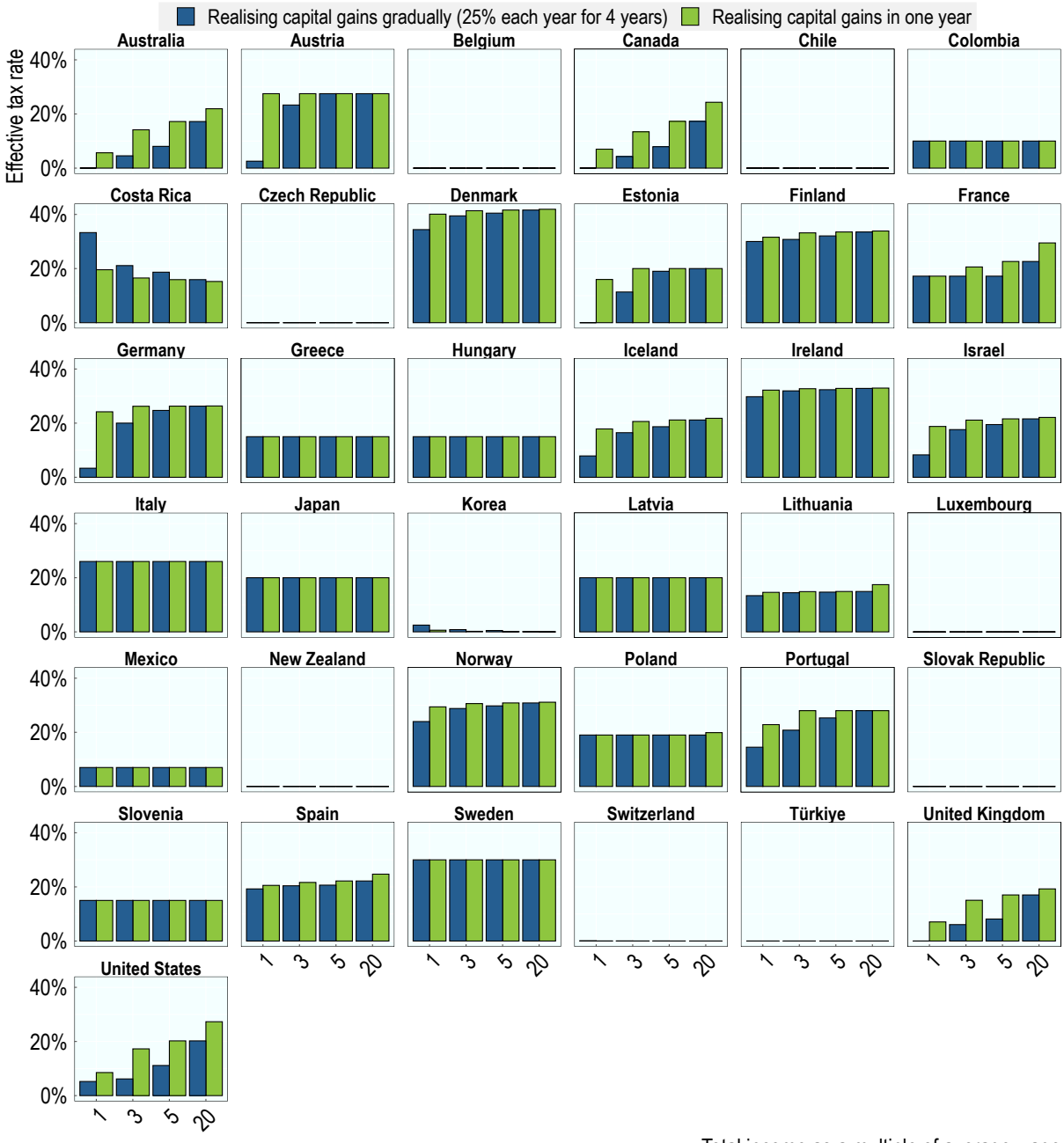
[22] Results comparing ETRs for short-term and long-term capital gains are available at 7Annex B.

[23] To limit double taxation of capital income between the firm and personal levels, Norway exempts the ordinary yield on shares via a shielding deduction. The shielding rate approximates the risk-free rate of return and is determined each year by the tax administration; only the income exceeding the ordinary yield is taxed at the personal level. While all capital gains are taxed at the same rate in Norway, the shielding rate can vary depending on the holding period.

[24] Income spreading is modelled for capital gains only, as taxpayers have greater control over the timing of capital gains compared to wage or dividend income.

Figure 8. Personal-level ETRs for individuals realising long-term capital gains over four years and individuals realising capital gains in a single year

Stylised ETRs when long-term capital gains are realised in one year compared with gradually over four years across OECD countries, 2021



Note: ETRs are calculated as per the methodology outlined in Section 4. The hypothetical scenarios represented in the figure are that of an individual receiving income only from long-term capital gains on shares. The results from the first scenario show the ETRs that would be payable if all long-term capital gains were realised in a single year. The results from the second scenario show the ETR that would be payable on the same value of capital gains if they were realised over four years (that is, one quarter of the capital gains are realised each year). Income levels on the x-axis refer to the value of the total capital gains income earned by the individual (whether in one year or in total over four years). The income level is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations.

6 Stylised effective tax rates at the personal and firm levels

Before being taxed at the personal level, income is often taxed at the firm level, adding to the total tax burden on labour and capital. Nearly all countries apply employer-level taxes on wage income, typically in the form of employer SSCs or payroll taxes. Employer SSCs are payments for employees' social benefits such as pensions and unemployment insurance, calculated based on employee characteristics such as salary, age and industry. Payroll taxes are a portion of a company's wage bill or a fixed amount per person, which do not confer entitlement to social benefits. All OECD countries also levy CIT on companies' profits. As discussed in section 3, employer-level SSCs, payroll taxes and CIT on company profits contribute to the total tax burdens on labour and capital.

Integrating firm-level taxes in effective tax rate calculations contributes to the comparison of taxes on labour and capital income. This paper has so far calculated ETRs based on personal-level taxes only. However, excluding firm-level taxes from the analysis presents a partial picture of the tax burdens on labour and capital. It also disregards important cross-country heterogeneity regarding the split of income taxation between individuals and firms. For example, some countries do not tax capital income at the individual level if it has been taxed at the firm level. Others compensate individuals at the personal level for the tax paid at the firm level, such as through dividend imputation credits (see discussion in Table 3 of section 3). In countries such as these, considering only personal-level taxes may lead to the conclusion that dividend income is more tax-preferred than in other countries. ETRs that integrate personal- and firm-level taxes therefore contribute to the analysis of relative tax burdens on labour and capital across OECD countries. To illustrate the differences in total tax burdens on labour and capital, this section compares integrated personal- and firm-level ETRs for wage and dividend income scenarios.[25] However, the integrated ETRs calculated in this section call for careful interpretation as they assume firms are standalone businesses that pay the top domestic statutory CIT rate, as discussed in section 4. In open economies, businesses operating in different countries are often subject to foreign CIT, leading to different effective tax rates payable. Those tax rates are not considered here for simplicity.

In many countries, dividend income is tax-preferred compared to wage income even after integrating firm-level taxes, but the gap between the integrated ETRs for wage and dividend income is generally smaller than at the personal level. In countries where this is the case, CIT rates are higher than employer SSCs, increasing the ETR for dividend income relative to wage income. However, this effect is not enough to counter the more favourable tax treatment of dividend income relative to wage income at the personal level. Indeed, Panel A of Figure 9 shows that in 17 OECD countries, integrated ETRs for wages are higher than for dividends even after accounting for firm-level taxes, across all levels of total

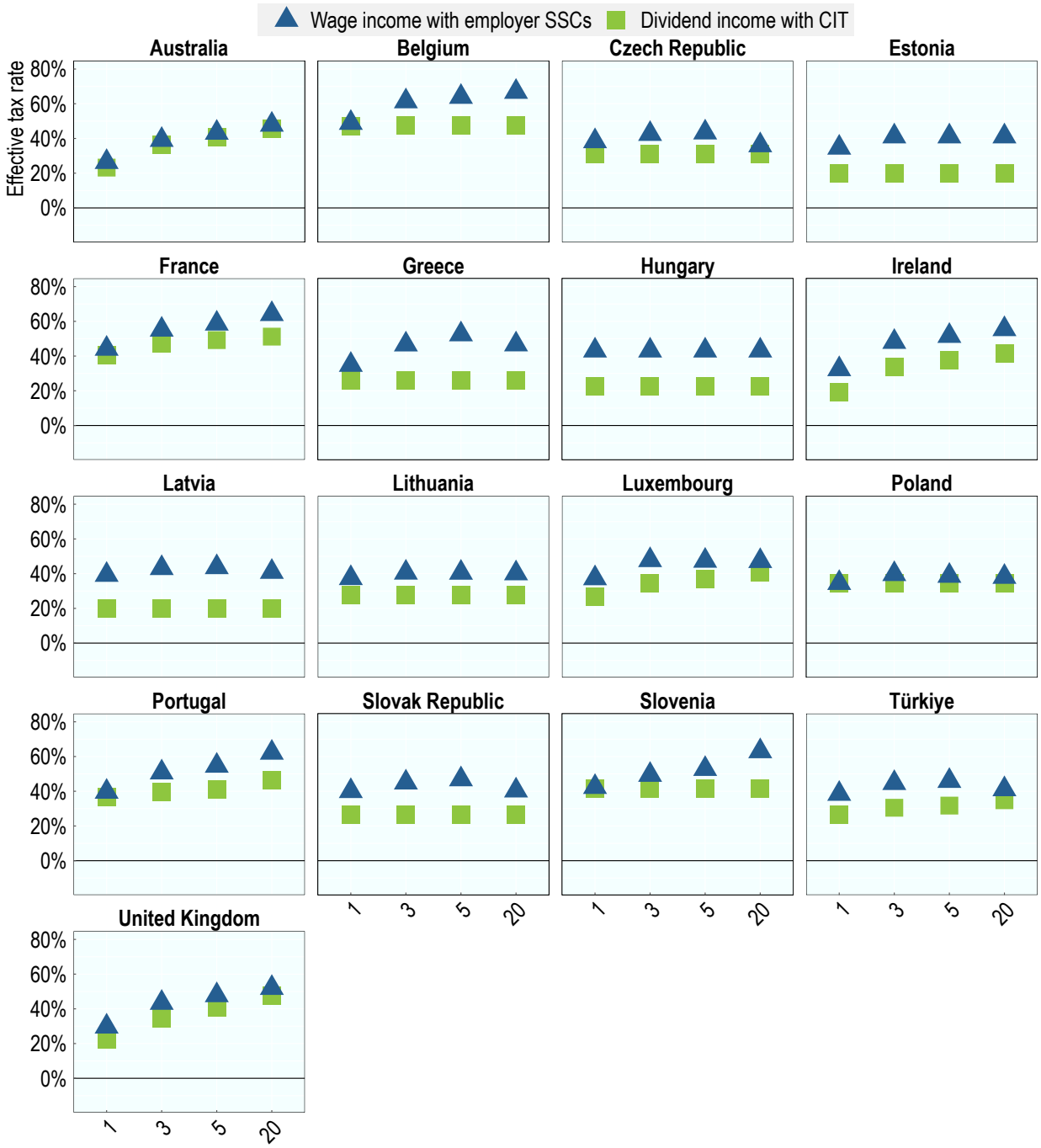
[25] While firm-level taxation is relevant to a scenario of capital gains on shares, only a scenario of dividend income taxation is considered here. It is possible to reverse-engineer CIT paid from dividend income, as it is a direct function of firm profits. But capital gains reflect many drivers of share value, so attributing CIT paid based on the value of capital gains income would be purely hypothetical. As such, this section only shows integrated firm- and personal-level ETRs for dividend income.

labour costs/profits modelled. In a further 13 countries, the ETR for wage income is higher for some levels of total labour costs/profits (Panel B of Figure 9).

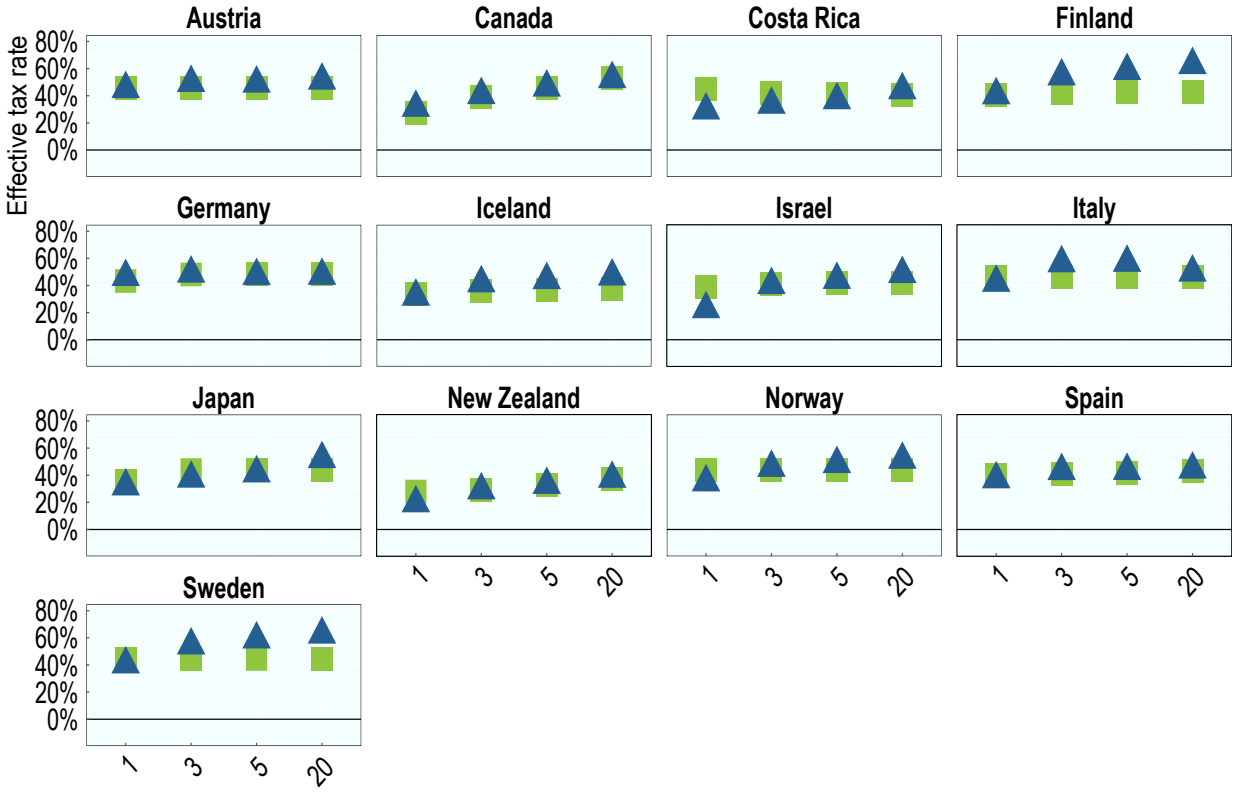
Figure 9. Integrated ETRs for individuals earning only wage income compared to individuals earning dividend only income

Stylised integrated effective tax rates for wage and dividend income, 2021

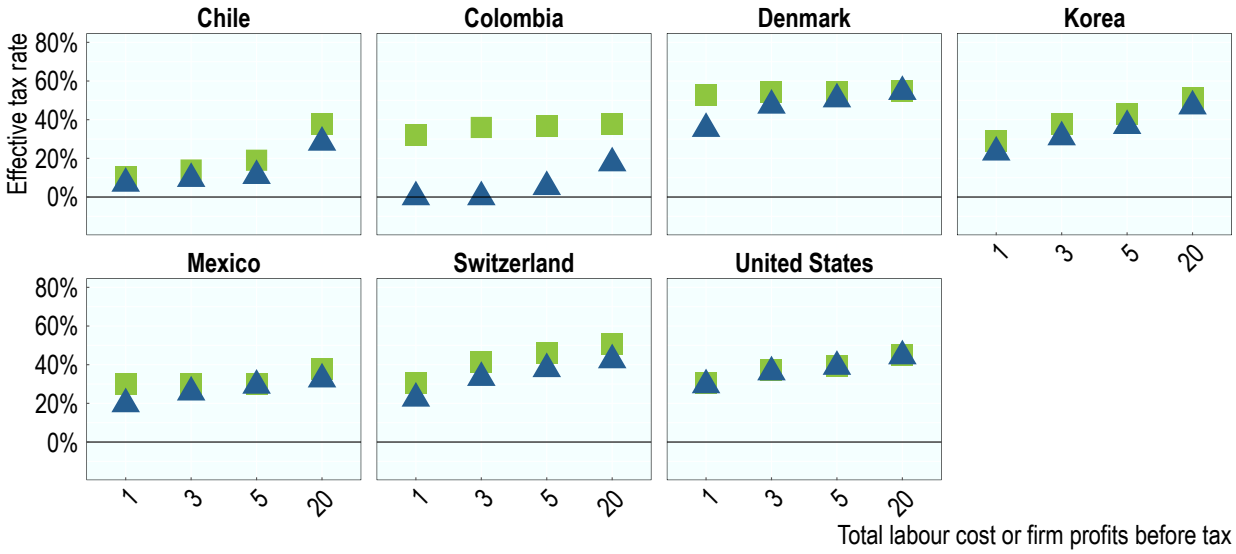
Panel A - The integrated ETRs for wages are higher than for dividends at all income levels modelled



Panel B – The integrated ETRs for dividends are higher than for wages at some income levels modelled



Panel C - The integrated ETRs for dividends are higher than for wages at all income levels modelled



Note: Integrated effective tax rates are calculated per the methodology outlined in Section 4 and Annex A. Total labour cost or firm profits before tax are calculated as a multiple of the national average wage. Companies are assumed to pay the domestic statutory corporate income tax rate. In the United States, executives with compensation that is non-deductible to a corporation face higher ETRs if they earn over USD 1 million, as the corporate rate would also apply to compensation over this amount. This could apply to the scenario of a taxpayer earning 20 times the average wage, yielding an effective tax rate in the order of 65%. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations

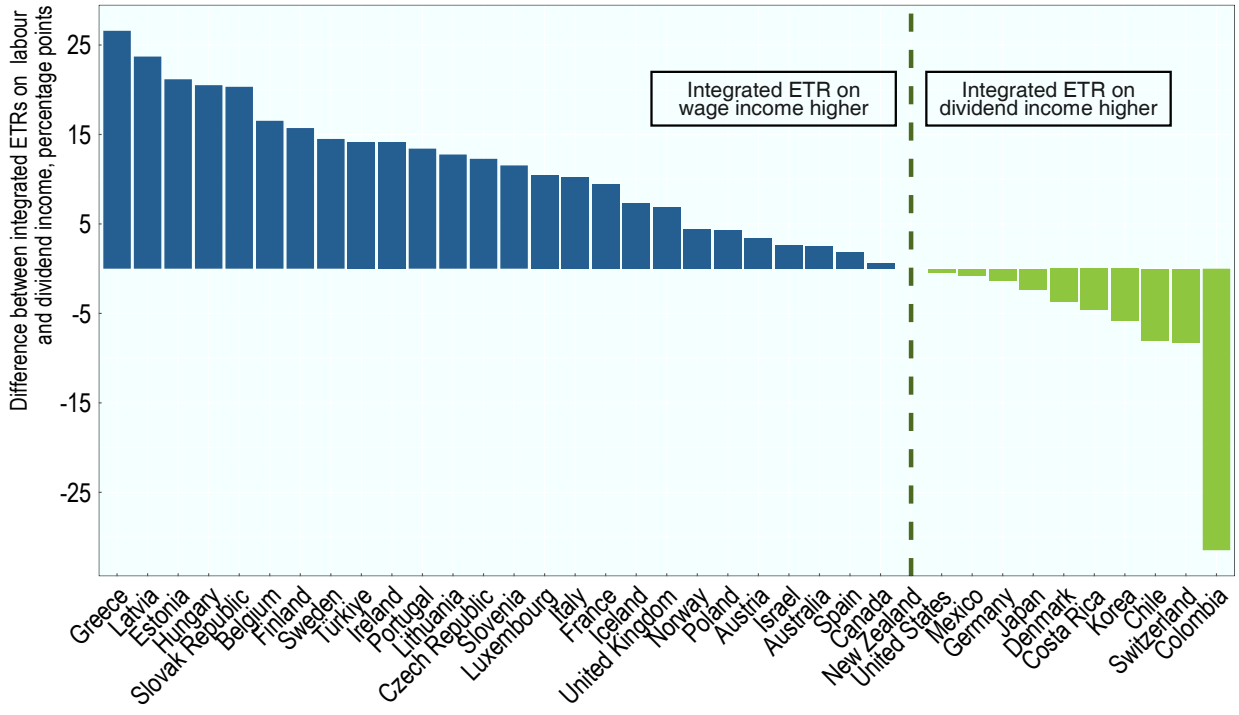
On the other hand, in seven countries, the integrated ETRs for dividend income are higher than for wage income at all income levels modelled (Panel C of Figure 9)**.** As already discussed, in countries where CIT is levied at a higher rate than employer SSCs, the gap between the integrated ETRs for wage and dividend income is narrower than the gap between personal-level ETRs on wages and dividends. However, in a minority of countries, CIT is significantly higher than employer-level SSCs and the ETR gaps at the personal level between wage and dividend income are typically already small or sometimes negative. Wage income is therefore taxed more favourably than dividend income. In countries such as these, scenarios that consider only personal-level taxes show that dividend income is tax preferred relative to wage income, but integrating firm-level taxes reverses this conclusion. In 13 other countries, the integrated ETR for dividend income was higher for some, but not all, levels of total labour costs / firm profits before tax (panel B). This is often the case because the difference in ETRs based on personal-level taxes is already small at lower income levels. Integrating firm-level ETRs pushes the integrated ETR for dividends higher than labour for only the lower end of the distribution. This is the case in Iceland, Israel, and Norway.

Comparing the integrated ETRs for wage and dividend income across OECD countries reveals significant heterogeneity. Figure 10 focuses on higher income levels, showing the differences in integrated ETRs for wage and dividend income at five times the average wage. In most countries, at high income levels, dividend income is taxed preferentially compared to wage income when accounting for firm-level taxes. The largest gaps are in Greece and Latvia, primarily reflecting differences in ETRs at the personal level.[26] The integrated ETRs are similar or identical in countries like Australia, Canada, and New Zealand, which have dividend imputation systems. On the other hand, the integrated ETR for dividend income is significantly higher than for wage income in Colombia, but is also somewhat higher in Switzerland and Korea. In these countries, the gap in the ETRs is relatively small at the personal level, while CIT is levied at higher rates than employer-level SSCs. Therefore, at high income levels, integrating firm-level taxes shows that wage income is taxed preferentially compared to dividend income in these countries.

[26] These personal-level features include lower tax rates on dividend income than on wage income, or SSCs not being payable on dividend income, as outlined in Section 5.2. It should be noted that SSCs can confer entitlement to social benefits (e.g. pension income or unemployment insurance) that are not available to individuals earning non-wage income.

Figure 10. Difference in integrated ETRs for wage income and dividend income

Difference in integrated ETRs when total labour cost or shareholder profits are five times the average wage.



Note: Integrated effective tax rates are calculated per the methodology outlined in Section 4 and Annex A. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations

Firm-level tax design affects the relative progressivity of the total tax burdens on labour and capital. In the hypothetical scenarios modelled, dividend income taxation is as progressive across the personal and firm levels as it is at the personal level. For dividend income, the difference between integrated and non-integrated ETRs is equal to the statutory CIT rate. For example, the difference between the integrated and non-integrated ETRs is equal to 25 percentage points for a country with a 25% CIT rate. Therefore, integrating CIT into the ETR calculations does not unwind any progressivity in the design of dividend taxation. Rather, the degree of progressivity depends purely on features of personal-level tax. The same is true for the total tax burden on labour in countries that levy flat and uncapped employer-level SSCs, such as in Ireland, Slovenia, and Sweden. In other countries, employer SSCs are capped, so employer-level taxes are smaller shares of the total cost of labour as that cost increases. This makes the total tax burden on labour income less progressive, or even regressive, compared to personal-level taxation. In some countries this results in a total tax burden on labour income that declines after a certain wage level (e.g. in Greece, Italy, and Türkiye), is generally flat across the income distribution (e.g. Austria, Germany, Poland, and Spain) or increases with income but slower than without employer-level taxes (e.g. Canada, Japan and the United States). A comparison of ETRs before and after firm-level tax integration is available in Figures 12 and 13 of Annex C.

7 Conclusion and next steps

This paper contributes novel estimates of stylised effective tax rates across OECD countries. Using a model that simulates tax payable by hypothetical individuals in all OECD countries, this paper presents ETRs for taxpayers earning different levels and types of income (wage, dividends, and capital gains). These indicators account for statutory tax rates as well as tax provisions that affect the definition of the tax base (e.g. deductions, exemptions) or reduce tax payable (e.g. credits). The paper presents ETRs for personal-level taxes only and ETRs that integrate personal- and firm-level taxes. These stylised ETRs make it possible to infer how tax policy design drives differences in effective taxation depending on taxpayers' income levels and composition. While the ETR results do not reflect actual taxes paid by taxpayers and do not capture individuals' behavioural responses to taxation, they are nonetheless informative as they show ETR upper bounds.

The paper shows that dividend income and capital gains are generally subject to lower ETRs than wage income at the personal level. In nearly all countries and for all income levels, personal-level ETRs for individuals who receive at least some income from capital sources, such as dividends or capital gains on shares, are lower than ETRs for individuals who earn only wages. The gap between ETRs on labour and capital income often grows with income levels. Various features of tax systems can drive these lower ETRs on capital income, including flat tax rates on capital income that are lower than marginal tax rates on labour income, special exemptions or deductions for capital income sources, and the availability of tax credits. The analysis also shows that in some countries, particularly where progressive tax rates apply to capital gains, ETRs on capital gains are lower when taxpayers realise capital gains over several years rather than in a single year.

When taking into account taxes paid by both firms and individuals, capital income generally remains tax-favoured in many countries although the gap between labour and capital income taxation may be narrower than when considering only personal-level taxes. To illustrate the differences in total tax burdens on labour and capital, this paper compares integrated ETRs for wage and dividend income after accounting for firm-level taxes. It shows that in many countries, dividend income is taxed more favourably than wage income, although less so than when considering only personal-level taxes. That is because firm-level taxes on profits (CIT) are often higher than firm-level taxes on labour income (employer SSCs and payroll taxes). However, the results also reveal significant variation, with large differences in the extent to which dividend income is taxed-preferred compared to wage income across countries. Some countries exhibit higher total tax burdens on capital compared to labour for some or all income levels.

These results have significant implications for both efficiency and equity, but further work will be needed to identify potential reform options. High ETRs on labour may have distortive effects, while taxes on capital income, which tend to be lower, may be less distortive than previously thought. Such distortions can reduce the efficiency of tax systems. The differential tax treatment between labour and capital income may also incentivise taxpayers to engage in income shifting. From an equity perspective, different ETRs for capital income compared to wage income reduce horizontal equity, as taxpayers with similar income levels but earning their income from different sources are taxed differently. It can also reduce vertical equity, as capital income is concentrated at the top of the distribution, meaning that high earners benefit disproportionately from preferential capital income tax treatment. A key challenge for policy makers is balancing these implications with other policy objectives such as promoting savings, investment

and economic growth. Further work will be needed to explore potential trade-offs involved in pursuing different policies and identify reform options that help balance competing policy objectives.

These ETR results lay the groundwork for further OECD work on the taxation of different forms of income and the taxation of high earners. This paper considers scenarios where individuals receive a given combination of labour and capital income. However, high income earners are particularly responsive to tax differentials. Considering their behavioural responses to tax settings is key to assessing the dynamic effects of tax systems and determining the taxes actually paid by individuals. A separate working paper will therefore delve deeper into tax arbitrage incentives and behaviours, looking at how taxpayers, and more specifically business owners, exploit differentials in the tax treatment of different types of income to minimise their tax burdens. Another working paper will explore in more detail the functioning and impacts of capital gains taxes, and in particular how they encourage individuals to strategically time the realisation of gains. This work will build on the preliminary analysis presented in this paper and previous OECD work on the taxation of income and wealth.

Further work could also extend the results presented in this paper. Scenarios could be extended to include couples and households with children, who can benefit from tax provisions aimed at families. Additional scenarios could also show the ETR differential between wages and dividends or capital gains received from a small or medium sized business. As will be shown in upcoming OECD work, these differentials present tax arbitrage opportunities for business owners, who may be incentivised to shift income between business organisational forms and across types of income. Further work could also explore how the incidence of firm-level taxes affect calculations of ETRs, through their impact on after-tax returns on labour or capital. Finally, the calculations of integrated personal- and firm-level ETRs for dividend income in this paper assumed firms were domestic incorporated standalone businesses subject to the domestic statutory CIT rate. Future work could relax this assumption to show integrated ETRs that use alternative CIT rates that are closer to the true effective CIT rate paid by businesses, including subsidiaries of multinational firms.

Annex A. Key modelling assumptions by country

A number of key assumptions regarding tax settings or provisions underlie the OECD's top income and wealth model. The annex first sets out the assumptions that relate to all countries, then Table A.1 and Table A.2 describe country-specific assumptions.

The modelling includes assumptions for all countries regarding the type of income received by taxpayers. The scenarios involving a working-age individual receiving wage income assume the following (Sections 5.1, 5.2, 5.3, 5.4, and 6):

- Wages are received from a domestic incorporated firm
- The individual receiving the wage is a resident taxpayer
- The worker does not have any shareholding in the firm or participate in running the business

The scenarios involving a working-age individual receiving dividend income (Section 5.2 and 6) assume the following:

- Dividends are received from shares in a domestic incorporated firm, and not a large business, including a subsidiary of a multinational firm, that may be subject to a lower effective CIT rate than the domestic CIT rate.
- The shares are publicly traded on the country's stock exchange.
- The individual to whom the dividend is paid is a resident taxpayer.
- The shareholder does not have a significant shareholding in the firm or participate in running the business.

The scenarios involving a working-age individual receiving income from capital gains on shares (Sections 5.3 and 5.4) assume the following:

- The capital gain relates to shares in a domestic incorporated firm.
- The shares are publicly traded on the country's stock exchange.
- The ETR calculations disregard costs and other expenses incurred at purchase or disposition.
- Long-term capital gains on shares are assumed to have been held for a time period that, in the country modelled, is deemed to be a long-term gain and thereby may receive favourable tax treatment for long-term capital gains. As such, this share holding period can depend on the country. Where multiple long-term rates or exemptions are available, the shares are assumed to be held for a period of time that attracts the mid-point of the long-term capital gains tax rates, unless otherwise specified.
- No losses are assumed to have been carried forward to be deducted against the capital gains income.

Where taxes to sub-central governments are modelled, the chosen representative jurisdiction is the same as what is chosen in the Taxing Wages model. The sub-central jurisdictions for relevant countries are outlined in the table below.

Table A.1. Sub-central government taxation

Sub-central government jurisdictions considered in the model of top income and wealth taxation, following the choices in the OECD Taxing Wages publication.

Country	Relevant sub-central government
Belgium	Weighted average of Brussels Capital Region
Canada	Ontario
Denmark	Unweighted average of local tax rates
Finland	Weighted average of local tax rates
Iceland	Unweighted average of local tax rates
Italy	Rome / Lazio
Japan	Tokyo ward
Korea	Local rates are uniform in practice
Norway	Local rates are uniform in practice
Spain	Autonomous Community of Madrid
Switzerland	Canton of Zurich
Sweden	Unweighted average of local tax rates
United States	Detroit, Michigan

Source: OECD Taxing Wages publication, OECD Questionnaire on Top Income and Wealth Taxation, 2022
Notes: The effective tax rates for the United States rely on flat-rate state (4.25%) and local (2.4%) tax rates in Detroit, Michigan, in line with the OECD Taxing Wages publication. However, the calculations may understate the effective tax rates under the combined U.S. federal, state and local tax system as many other states impose higher top rate rates on high-income taxpayers. For example, California has a top rate of 13.3% (plus a local income tax in San Francisco) and New York has a top rate of 10.9% (plus 3.875% in New York City).

Table A.2. Country-specific assumptions in OECD top income and wealth model

Country	Scenarios of individuals receiving wage income	Scenarios of individuals receiving dividend income	Scenarios of individuals receiving income from capital gains on shares
Australia	Superannuation contributions are classified as NTCPs and are not included in the ETR calculations.	Dividends received are fully franked. Dividends received are not received from a small business which would be subject to the lower small business company tax rate.	Long-term capital gains refer to gains on the sale of shares held for more than one year. They therefore attract the 50% capital gains discount. Short-term capital gains refer to gains on the sale of shares held for less than one year. They therefore do not receive the 50% capital gains discount.
Austria	The model follows the methodology in the OECD Taxing Wages publication to divide wage income into current income and non-current income.		Shares are assumed to be purchased after 1 January 2011. Taxpayers are assumed to opt for taxing capital gains under the normal income tax schedule if this will lower their liability, in which case income from capital gains will be considered current income.
Canada	Private pension contributions are made to the Canada Pension Plan (rather than the Quebec Pension Plan).	Dividends are eligible dividends.	

	Employer are assumed to have a payroll over CAD 400 000 and as such a 1.95% health tax rate applies to all individuals' employer level SSCs.		
Chile		Dividends are assumed to be received from a company that falls under the General Regime (Regime A). As such, the company would have paid a 27% company tax (*impuesto de primera categoría*).	The capital gain on shares corresponds to a share in a publicly listed that is highly traded on the share market. In 2021, capital gains from these shares were treated as exempt income.
Colombia		Profits for dividend distribution are assumed to have been taxed on the corporate level.	Short-term capital gains refer to gains on the sale of shares held for less than two years. Long-term capital gains refer to gains on the sale of shares held for more than two years.
Czech Republic			Long-term capital gains refer to gains from sale of shares held for more than three years.
Denmark	The hypothetical individual is not a member of the church and therefore does not pay church tax.		
Estonia		Dividends are assumed to be paid out of after-tax profits, taxed at a CIT rate of 25% at the firm level; therefore, dividend income received at the personal level is tax exempt. The basic exemption applies to all income. It is first applied to wage income, then any leftover exemption is applied to dividend income and then capital gains income.	The basic exemption applies to all income. It is first applied to wage income, then any leftover exemption is applied to dividend income and then capital gains income.
France		When given the choice of being taxed at the flat rate on dividends or being taxed at marginal rates, individuals opt to be taxed such that they would pay the lower total amount of taxation. Dividends are assumed to be earned from listed companies with revenue above EUR 250 million. If the tax payer opts to be taxed at marginal rates, a deduction for CSG contributions (contribution sociale généralisée) applies to the taxpayer	When given the choice of being taxed at the flat rate on capital gains on shares or being taxed at marginal rates, individuals opt to be taxed such that they would pay the lower total amount of taxation. If the tax payer opts to be taxed at marginal rates, a deduction for CSG contributions (contribution sociale généralisée) and an exemption for holding long-term shares apply to the taxpayer. While the CSG deduction applies in the following taxation year, for simplicity, it is assumed to apply in the same year as the ETR calculations. Short-term shares are assumed to be held for less than one year and do not attract a tax exemption.

			Long-term shares are assumed to be held for more than 8 years. The individual therefore bought their shares before 1 January 2018 so they are eligible for a rebate for holding shares for a certain amount of time. As such, a 65% tax exemption applies to capital gains income if the taxpayer opts to be taxed at marginal rates.
Germany	Individual is not a member of the church and therefore does not pay church tax.	An annual investor allowance reduces taxable income from capital sources. It is assumed to first apply to income from dividends and then any remaining allowance is applied to income from capital gains on shares. However, the scenarios modelled do not include a situation where an individual receives income from both dividends and capital gains on shares. The individual is not a member of the church and therefore does not pay church tax. When given the choice of being taxed at the flat rate on dividends or being taxed at marginal rates, individuals opt to be taxed such that they would pay the lower total amount of taxation. This choice applies to all capital income.	An annual investor allowance reduces taxable income from capital sources. It is assumed to first apply to income from dividends and then any remaining allowance is applied to income from capital gains on shares. However, the scenarios modelled do not include a situation where an individual receives income from both dividends and capital gains on shares. The individual is not a member of the church and therefore does not pay church tax. When given the choice of being taxed at the flat rate on dividends or being taxed at marginal rates, individuals opt to be taxed such that they would pay the lower total amount of taxation. This choice applies to all capital income.
Iceland	Individuals do not make additional non-compulsory pension payments.	Dividends are paid from resident limited liability companies and therefore are not subject to withholding tax. Companies are listed on a regulated securities market or a market for financial instruments of non-operating individuals and are therefore eligible for the basic capital income exemption.	Companies are listed on a regulated securities market or a market for financial instruments of non-operating individuals and are therefore eligible for the basic capital income exemption.
Ireland	Universal social charge payment calculation assumes that the individual is not someone who (a) is aged 70 years and over or (b) holds full medical cards		
Israel			Capital gains are adjusted for inflation. The model calculates an inflation adjustment factor in the hypothetical scenarios based on the historical growth in a stock market index and historical monthly CPI figures for the relevant holding periods of shares. The stock market index used is the TA-35 index, which is computed by the Tel Aviv Stock Exchange and tracks the performance of 35 large companies listed on stock exchanges in Israel.
Japan	Individual does not work in		

	the following sectors for (the purposes of social security contributions calculations): business of agriculture, forestry and fisheries, the rice wine brewing business, and construction business. The local tax (personal inhabitant's taxes) rates represent the standard rate. Local authorities do not levy the per-capita rate and the income based tax on a taxpayer whose previous year's income does not exceed the relevant specified amount. Following taxing wages, the minimum amount for Tokyo ward is used.		
Latvia		The distributing company is assumed to pay CIT in Latvia, which leaves the dividend income tax-exempt at the shareholder level.	
Luxembourg		Taxable dividend income qualifies for a proportional 50% exemption (eligibility conditions are assumed to be met).	All capital gains are considered realized from assets held for at least 6 months (long-term), and as such tax-exempt.
Mexico			Shares are assumed to be sold on the domestic stock market and thus taxed at a 10% rate. Further, no holding period applies for the relevant tax rate. Short-term shares were held for 1 year and long-term shares were held for 10 years. Income from capital gains on shares is calculated by adjusting gross capital gains income by an inflation factor.
Norway		To estimate the shielding deduction that is available to a hypothetical individual earning dividend income, the individual is assumed to earn a dividend whose yield is based on the iShares MSCI Norway ETF, as at the last available date of that year. As such, a corresponding cost price is calculated for the share from which a dividend was received. The value of the deduction is then calculated as: Deduction = shielding rates * (dividend amount / dividend yield) To avoid double-counting of shielding deductions, it is assumed that 50% of the available shielding amount is used with respect to dividend income and the other 50%	Long-term capital gains refer to gains on the sale of shares held for at least ten years. The shielding deduction on long term capital gains income is assumed to be equal to the sum of the annual deductions available over the 10 preceding years. The annual deduction is calculated as follows: To calculate the share value that corresponds to the capital gains, the shares are assumed to track the Oslo Bors All Share index as determined by the closing price of this index on the last day of each year. The annual available deduction is calculated by applying the shielding rate determined by the Norwegian tax authorities to the shielding base,

		is available to capital gains.	which is the acquisition price stepped up every year for unutilised shielding allowances. The deduction is assumed not to exceed the value of the capital gains on the share for that year, such that it does not result in losses. Any unused shielding deduction amounts in one year are assume to roll over to subsequent years. To calculate the shielding deduction on short term capital gains income, the share is assumed to track the annual growth rate of the Oslo Bors All Share index as determined by the closing price of this index on the last available day of each year. This makes it possible to calculate the assumed share price of a share that earned a certain level of capital gains income in a given year. The value of the shielding deduction is then calculated as: Deduction = shielding rate * (capital gains amount / share growth rate) To avoid double-counting of shielding deductions, it is assumed that 50% of the available shielding amount is used with respect to dividend income and the other 50% is available to capital gains.
Portugal		A taxpayer may decide if capital gains, dividend incomes, or both are taxed according to marginal rates or under the withholding tax. Taxpayers are assumed to select the taxation method that results in the lowest tax liability.	A taxpayer may decide if capital gains, dividend incomes, or both are taxed according to marginal rates or under the withholding tax. Taxpayers are assumed to select the taxation method that results in the lowest tax liability.
Slovak Republic		Dividends relate to profits from 2017 onwards.	Shares underlying long-term capital gains have a holding period which exceeds one year.
Slovenia			Long-term capital gains are derived from the disposal of asset, held between 10 to 15 years and taxed at a rate of 15%. Short-term capital gains correspond to assets held less than 5 years. A capital gains tax rate of 27.5% applies.
Switzerland			Capital gains are assumed to be from private assets. All long-term capital gains are assumed to be non-taxable. Short-term gains are assumed to be private assets and assumed to be exempt from tax if they comprise half or less of an individual's total income for the

			year.
Türkiye		Income is derived from full-fledged taxpayer company.	
United Kingdom	The individual does not live in Scotland and therefore not subject to the Scottish tax regime.		
United States	Individuals opt for the standard deduction and do not itemize their deductions.	Dividends are qualified dividends and are therefore subject to concessional tax rate.	The stock is not a qualified small business stock in a C corporation. Long-term capital gains are assumed to be held for more than one year, to qualify for preferential rates that apply to long-term capital gains. Short-term capital gains are assumed to be held for less than one year, and therefore do not qualify for preferential rates that apply to long-term capital gains.

Annex B. Comparison of effective tax rates on short-term and long-term capital gains

Figure 11. ETRs for individuals with wage and short-term capital gains income and wage and long-term capital gains income

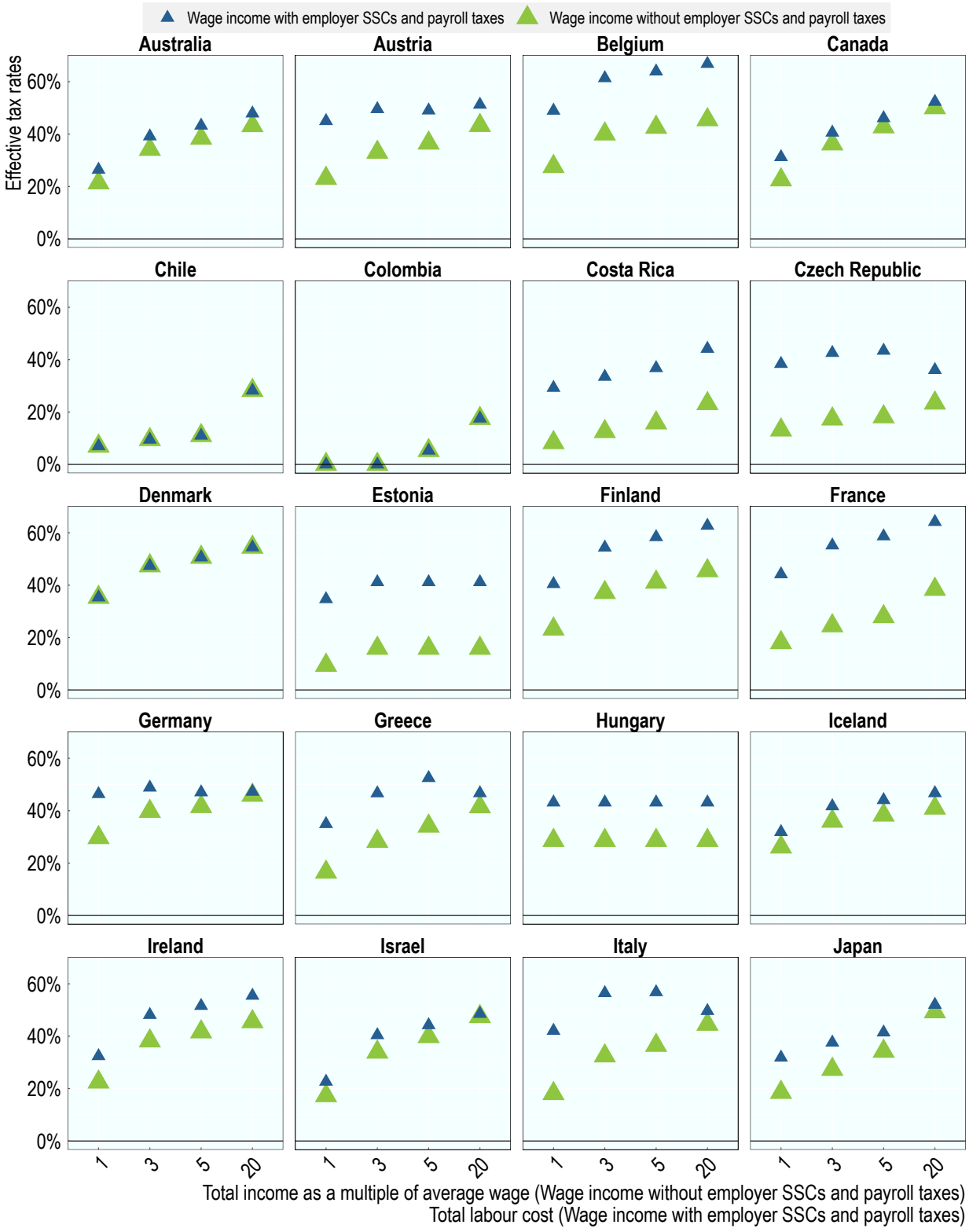
Stylised effective tax rates for different compositions of income, 2021

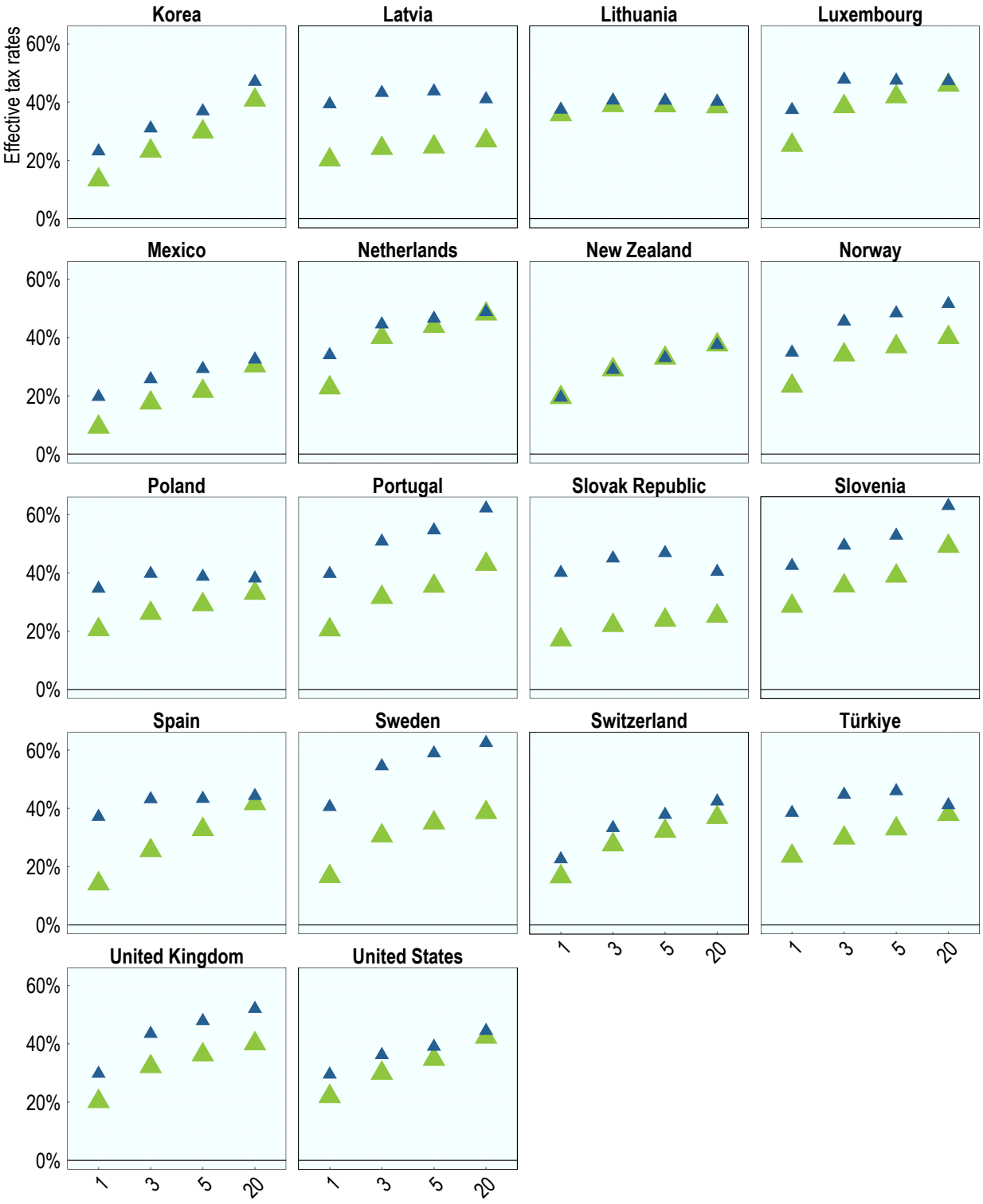
Note: Effective tax rates are calculated as per the methodology outlined in Section 4 and in Annex A. The hypothetical situation represented in the figure is that of an individual earning a combination of wage and income from short-term or long-term capital gains on the sale of shares (50/50 split). The average wage calculation follows the approach in the OECD Taxing Wages publication. ETRs on capital income are not included for the Netherlands. Data can be accessed at oe.cd/taxation-labour-capital
Source: OECD Secretariat calculations

Annex C. Comparison of ETRs before and after integrating firm-level taxes

Figure 12. Integrated and non-integrated ETRs by income levels for individuals earning only wage income

Stylised integrated and non-integrated effective tax rates for wage income, 2021

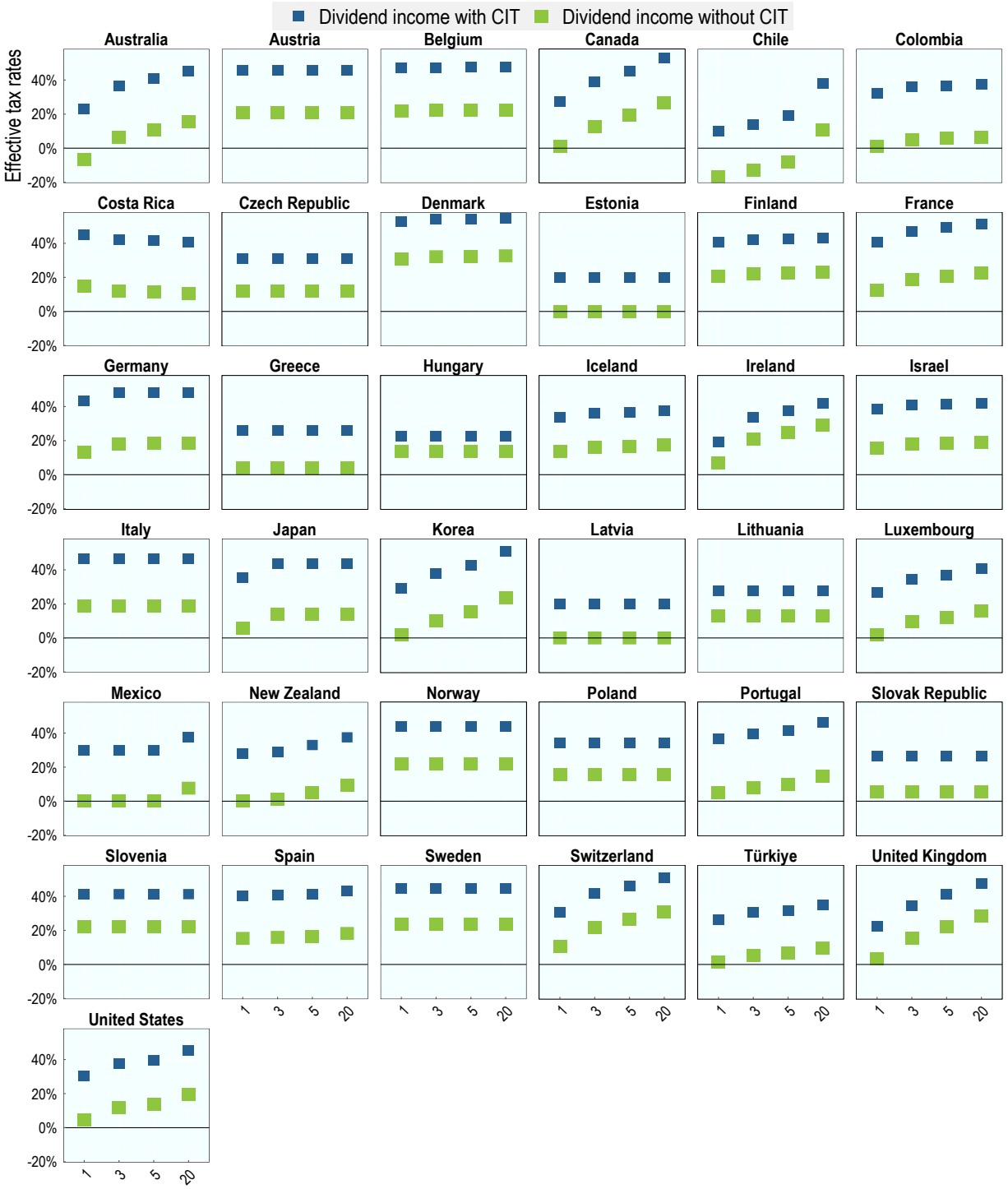




Note: Integrated ETRs are calculated per the methodology outlined in Section 4 and Annex A. Income is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. In the United States, executives with compensation that is non-deductible to a corporation face higher ETRs if they earn over USD 1 million, as the corporate rate would also apply to compensation over this amount. This could apply to the scenario of a taxpayer earning 20 times the average wage, yielding an effective tax rate in the order of 65%.
Source: OECD Secretariat calculations

Figure 13. Integrated and non-integrated ETRs by income levels for individuals earning only dividend income

Stylised integrated and non-integrated effective tax rates for dividend income, 2021



Note: Integrated ETRs are calculated per the methodology outlined in Section 4 and Annex A. Income is calculated as a multiple of the national average wage, following the approach in the OECD Taxing Wages publication. ETRs on capital income are not included for the Netherlands.
Source: OECD Secretariat calculations

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