Tax design for inclusive growth in OECD countries

This note was prepared by Sarah Perret (OECD) for the Expert Group Meeting on "Addressing inequalities and challenges to social inclusion through fiscal, wage and social protection policies", held at UN Headquarters in New York on 25–27 June 2018. This note draws on previous OECD work on taxation and inclusive growth, as well as on a forthcoming report on tax, inclusive growth, and the future work prepared for the Argentinian G20 Presidency.

Globalisation and technological change, including digitalisation and advances in automation, have generated substantial increases in quality of life for many households, and have reduced poverty rates in many emerging economies. Global integration, new technology and flexible work arrangements create benefits for society and offer significant opportunities to improve well-being. Consumers face a wider range of consumption goods of higher quality at cheaper prices. Flexible work arrangements can provide workers with opportunities to better reconcile work and broader life priorities across the life-cycle. Equally, businesses face increased opportunities to innovate and sell their goods and services to a global market.

While these changes have resulted in increased incomes and increased opportunities, these benefits have not been shared equally. Despite recent improvements in economic performance, many economies continue to experience low productivity growth and often stagnating wages, as well as increased levels of inequality. Moreover, technological changes may shift labour demand towards jobs that will require greater use of cognitive skills for which many workers are not currently adequately trained. This may lead to increased gaps in wages, access to stable and secure work and life opportunities between those with high, medium and low skills. New technologies may also facilitate the rise of non-standard employment and the "gig economy", challenging traditional work arrangements and social protection systems. These factors may further exacerbate inequality.

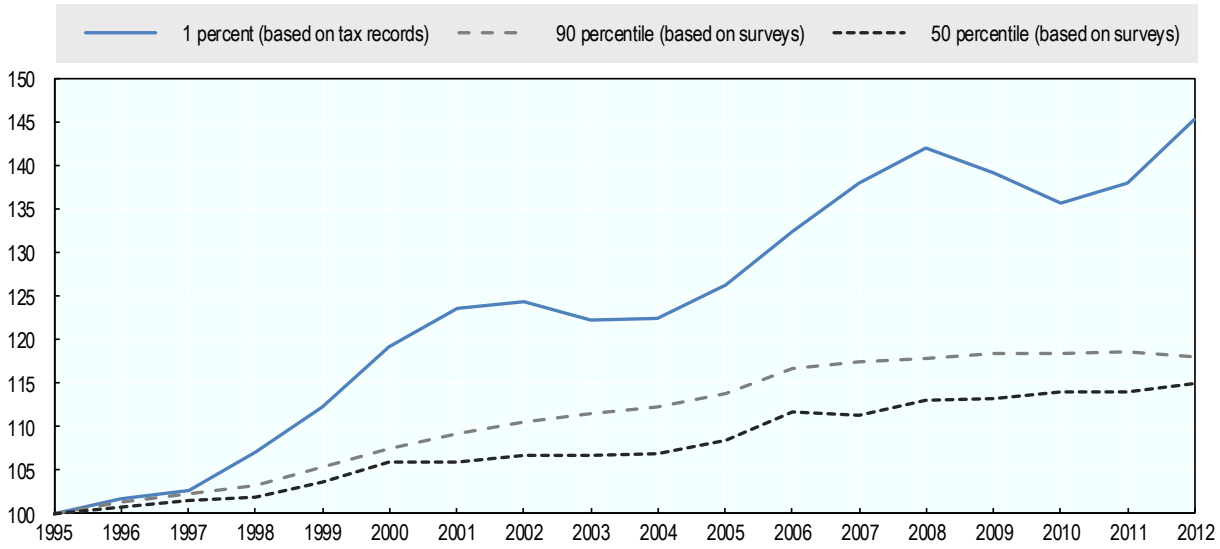
In this context, this short paper explores the role that tax policy can play to support more inclusive economic growth. It has sometimes been argued that tax policy can support equity or efficiency but not both. Trade-offs between equity and efficiency objectives often exist, whereby policies that reduce inequality may be harmful to growth, and growth-friendly policies can increase inequalities. However, this paper argues that there are many options for countries to simultaneously enhance efficiency and equity and highlights ways to foster more inclusive growth. This short paper also argues that the efficiency and equity effects of tax policies should not be examined in isolation but should be assessed in the wider context of countries' overall tax and transfer systems. Rather than the efficiency and equity effects of a single tax policy, what matters is the effects on growth and inclusiveness of countries' overall tax and transfer systems (Brys et al., 2016).

The current state of play

Globalisation and technological change have generated substantial increases in the quality of life for many, and have fostered growth and well-being (OECD, 2018a). Globalisation has helped increase the size of the global economic pie. It has increased aggregate global wealth, lifted more than a billion people out of extreme poverty and provided one of the strongest convergences in per-capita incomes between countries in the world's history. Command over new production technologies also provides the opportunity for greener production, safer jobs (with some hazardous work performed by robots), new and more customised goods and services, and faster productivity growth.

Nevertheless, these benefits and opportunities have not been shared equally, with stagnating wages in many OECD countries and rising income inequality. Despite the potential of new technologies to boost long-term productivity, productivity growth has been slowing, resulting in stagnant wages for many in OECD countries (OECD, 2017a and OECD, 2015b) and growing inequality between workers (OECD, 2015a). Even the modest productivity increases that have occurred have not resulted in higher wages for most workers (OECD, 2016). Figure 1 shows evidence from tax records that highlight substantial increases in the income share of the top 1% in a number of OECD countries. The top 1% gained 45% more during 1995-2011 in real wages; three times above the average growth in real median wages in OECD countries.

Figure 1. Wages of top 1% of income earners diverged from the average, the median and the 90th percentile for select countries

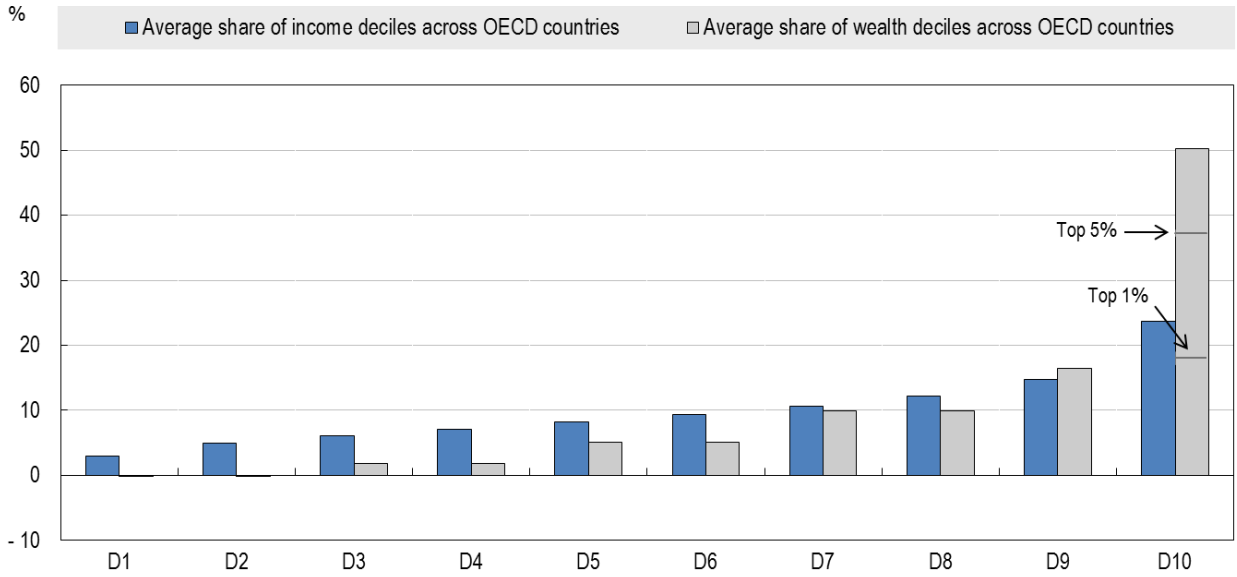


Note: Indices based on unweighted average for nine OECD countries: Australia (1995-2010), Canada (1997-2000), Spain (1995-2012), France (1995-2006), Italy (1995-2009), Japan (1995-2010), Korea (1997-2012), Netherlands (1995-1999) and US (1995-2012), for which data on wages of the top 1% of income earners are available. All series are deflated by the same total economy value added price index
Source: OECD Earnings Database, Schwellnus et al. (2017).

In addition to income inequality, there is some evidence that wealth inequality has increased and assets are overall much more unequally distributed than income. While it is very difficult to assess wealth distribution trends over time, some evidence

points to increasing wealth inequality in recent decades. Piketty (2014) compiled data from eight OECD countries from the 1970s onwards and concluded that, like income, private wealth has tended to become more unequally distributed in recent decades. Several factors have contributed to this rise, most notably the increase in stock and housing prices relative to consumer prices. More generally, in OECD countries for which data is available, household wealth is much more concentrated than income (Figure 2).

Figure 2. Distribution of household disposable income and wealth across income and wealth deciles



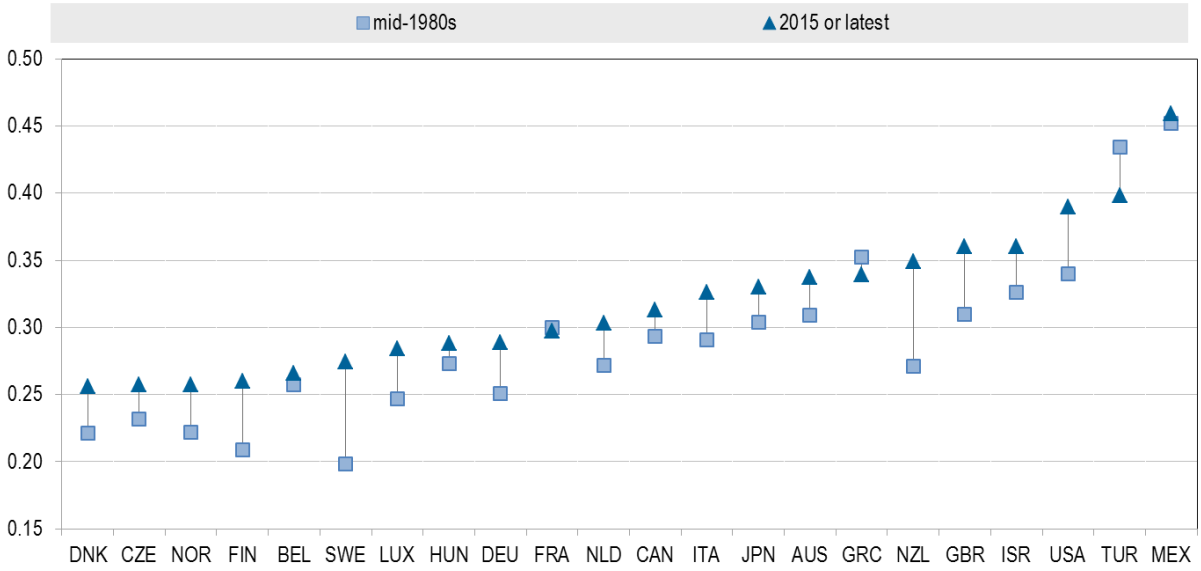
Note: OECD18 includes Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Italy, Korea, Luxembourg, the Netherlands, Norway, Portugal, the Slovak Republic, Spain, the United Kingdom and the United States.
Source: OECD (2015), *In it Together*

Globalisation and technological change affect the distribution of the benefits of economic growth. While globalisation and offshoring have led to net job growth overall in many advanced countries, they have also generated significant job losses, often concentrated in certain geographic locations and involving a reallocation of jobs between sectors and types of skills (Kovak, Oldenski and Sly, 2017). Technological changes also have fundamental consequences for the distribution of the benefits of economic growth. New and more productive jobs are generated, but many existing jobs disappear and some skills become obsolete (Rodrik, 2016; Felipe, Mehta and Rhee, 2014). The "superstars" theory suggests that globalisation and rapid progress in information technology have helped make the market for top performers global. Employers want to hire not only skilled workers but the best of them from the global market, leading to growing wage gaps between those with high and low skills.

However, policy factors have also played an important role. If globalisation and technological change were the main factors explaining the rise in inequality, rising inequality and top income shares should have been observed across all market economies, but this has not been the case. Income inequality has only increased modestly or changed very little in countries like Belgium and France even though these countries were affected

by globalisation and technological change as much as Anglo-Saxon countries, which experienced a sharper increase in inequality (Figure 3).

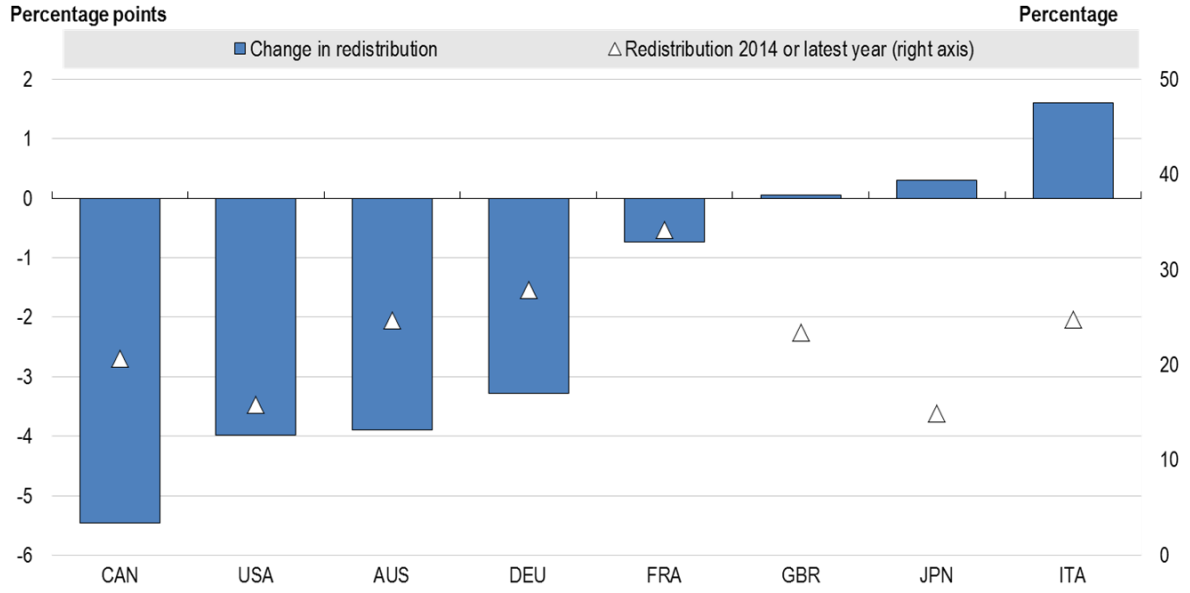
Figure 3. Disposable income Gini coefficients, mid-1980s and 2015 (or latest available year) in 22 OECD countries



Source: OECD Income Distribution Database

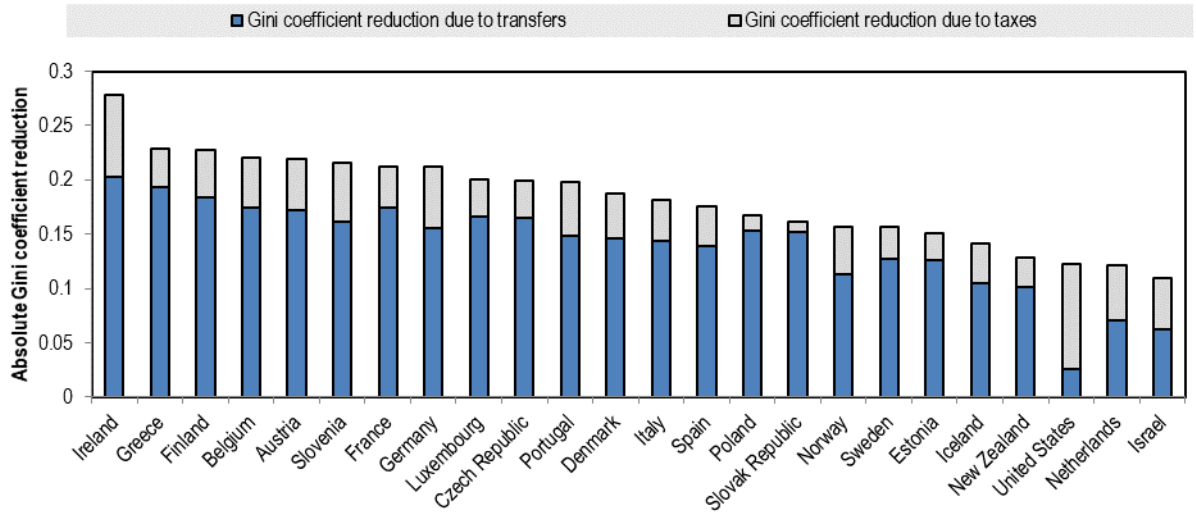
The decline in the redistributive role of tax and transfer systems is one of the policy factors that have affected the distribution of income. Across OECD countries, over the last two decades, redistribution through taxes and transfers has gone down both on average and in the majority of countries for which data going back to the mid-1990s is available (Figure 4). The bulk of the decline occurred between the mid-1990s and the mid-2000s. This decline was primarily associated with a decline in the redistributive effect of cash transfers (Causa and Hermansen, 2017), which overall play a much bigger role in narrowing income gaps than taxes (Figure 5).

Figure 4. Changes in redistribution for the working-age population, mid-1990s to 2014 or latest available year



Source: Causa and Hermansen (2017) based on OECD Income Distribution Database

Figure 5. Redistributive impact of taxes versus cash transfers in OECD countries, 2012

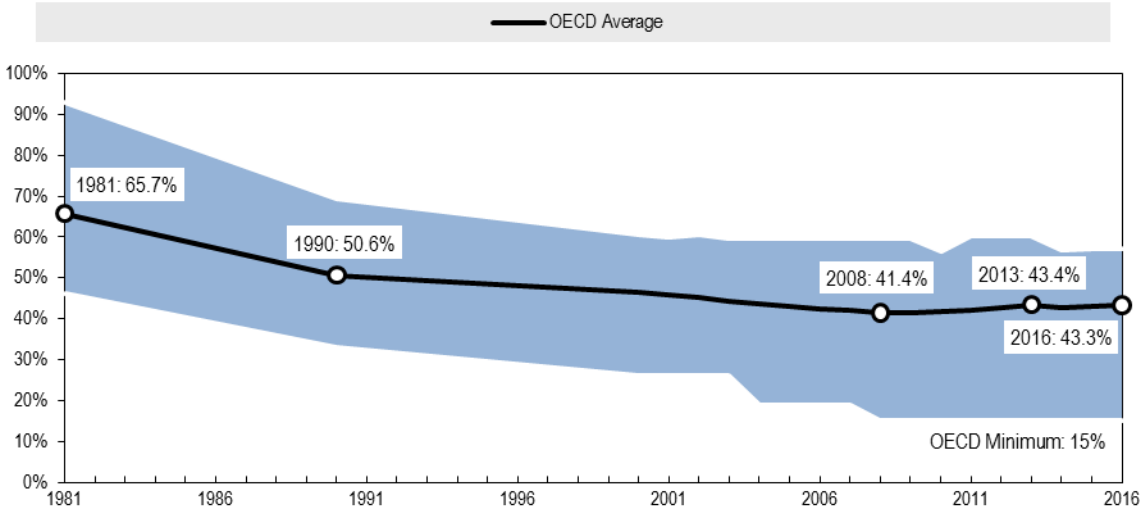


Source: Brys et al. (2016) based on OECD Income Distribution Database.

Changes in tax policy over the past thirty years have also had an impact on trends in the distribution of income and wealth. There has been a strong and continuous decline in top personal income tax (PIT) rates across countries. The OECD-wide average top PIT rate declined from 65.7% in 1981 to 50.6% in 1990 and to 41.4% in 2008 (Figure 6). The trend towards declining top PIT rates has nevertheless reversed slightly in recent years, with the average top PIT rate in the OECD reaching 43.3% in 2016. At the same time, taxes on capital income have also fallen. Some countries introduced dual income tax

systems, which tax personal capital income at flat and lower rates compared to labour income. The unweighted average statutory CIT rate declined from 47% in 1981 to 24% in 2017; the unweighted average tax rate on dividend income for distributions of domestic source profits also fell from 75% to 42%. Finally, while inheritance and gift taxes are still applied rather widely, several countries have reduced or abolished them since the mid-1990s. Overall, these changes have contributed to making OECD tax systems less progressive over the last three decades.

Figure 6. Combined top statutory personal income tax rates in the OECD area, maximum, minimum and average, 1981 to 2016



Note: Combined statutory rates include both central and sub-central tax rates
Source: OECD Tax Database

Increases in inequality not only undermine fairness and perceptions of well-being, but can also have potentially negative consequences for growth, especially where inequality is already high. High levels of income inequality can reduce growth through diminished productivity and those with low levels of income and wealth might face insufficient opportunities for skills investments. Where levels of inequality become too high, public perception that the returns to growth are not fairly shared may create increased disquiet among citizens as to the merits of globalisation, generating political tensions in some countries.

Increased levels of job obsolescence also undermine well-being and may create increased pressure on public finances. In advanced economies, where economic shocks hit particular regions or sectors, public finances may be placed under strain by demands for expanded social protection in response to the new or changing social risks.

Tax policy options for more inclusive economic growth

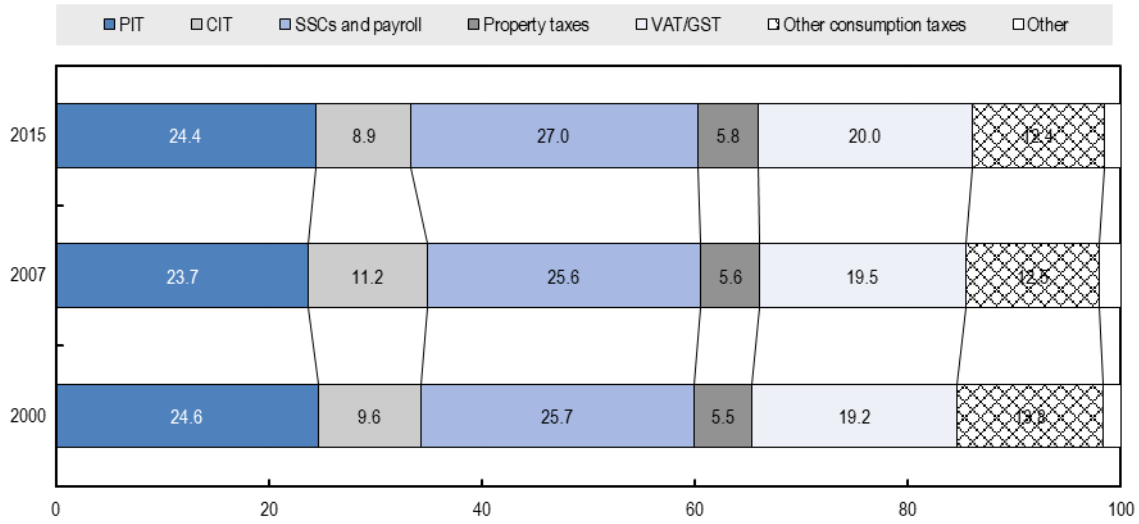
Boosting workforce participation and adapting to the changing nature of work

Taxes on labour income – including both social security contributions (SSCs) and PIT – are the largest source of tax revenues in OECD countries. Overall in the OECD, SSCs and payroll taxes accounted for 27.0% of total tax revenues in 2015. PIT

was the second largest source of tax revenues, accounting on average for 24.4% of total tax revenues (Figure 7). Thus, together, they account for more than half of tax revenues in OECD countries. VAT also plays a major role, making up one fifth of the OECD's average tax mix in 2015, while other consumption taxes accounted for around 12.4% of the tax mix. On the other hand, taxes on corporate income and property are much less significant sources of tax revenues on average, respectively accounting for 8.9% and 5.8% of the OECD average tax mix in 2015.

Figure 7. OECD average tax mix in 2000, 2007 and 2015

Tax revenues expressed as a share of total taxation

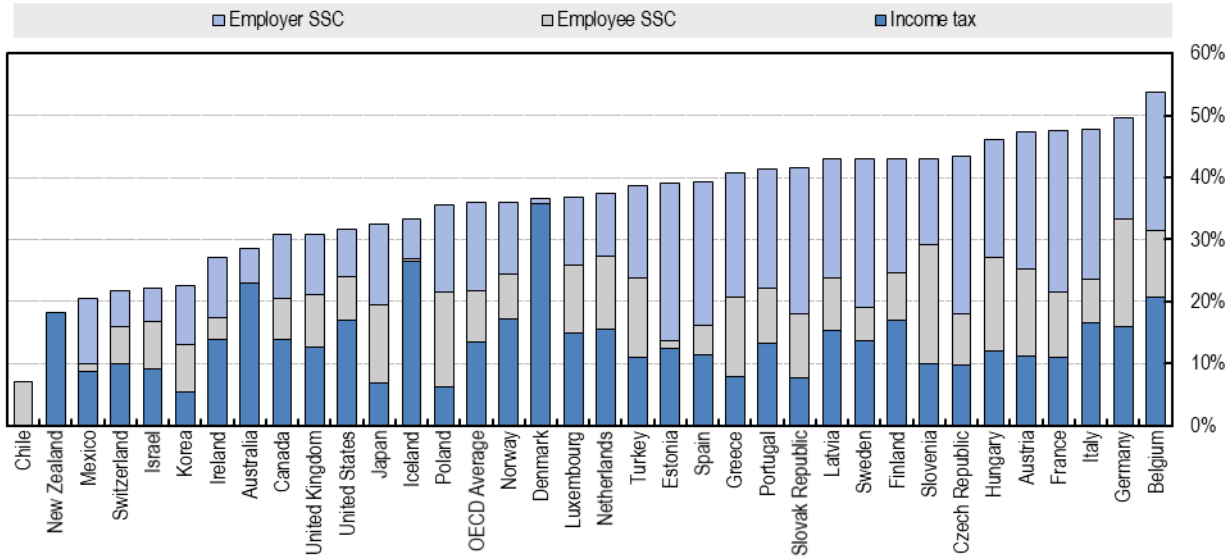


Source: OECD Revenue Statistics Database.

High taxes on labour income can hamper job creation and work incentives. Taxation distorts the labour market by driving a wedge between the total labour costs faced by employers and the return to employees, thus affecting both labour demand and supply decisions, and therefore the level of employment. In many OECD countries, high tax wedges – which measure the total tax payments on labour income as a percentage of total labour costs – imply both potentially significant reductions in labour demand, as well as significant disincentives for workers to participate in the labour force (Figure 8).

Figure 8. Tax wedge for employees earning the average wage in 2017

Tax wedges expressed as % of labour costs



Source: OECD Taxing Wages Database

To encourage more inclusive growth, efforts should be made to lower the tax burden on labour income, especially at the lower end of the income distribution. Tax measures such as earned income tax credits (EITCs) – i.e. work-contingent tax credits for low-income workers – and targeted SSC cuts have been widely used across OECD countries. Designed correctly, both EITCs and SSC reductions targeted at low-income workers have the potential to improve labour market participation, raise progressivity at the bottom of the income distribution and ultimately reduce poverty. Empirical evidence shows that the overall impact of these policies on employment is positive. Measures that lower the labour tax wedge and therefore raise after-tax earnings are particularly effective for workers that tend to have high labour supply elasticities including young workers, women and the low-skilled.

In addition, new forms of work present challenges for taxation. A challenge for the taxation of labour income in a rapidly changing economy is the increasing proportion of the workforce earning some or all of their income outside of traditional employee-employer relationships, though the share of the population engaged in non-standard work arrangements is currently low (OECD, 2015a). Non-standard work arrangements often offer cost advantages for firms, some of which are directly linked to the tax system, such as reduced SSCs, or none at all. This means that tax factors may be driving sub-optimal changes in labour contract choice. This is particularly relevant in sectors that have been more deeply affected by digitalisation. An increasing number of jobs traditionally performed by employees are now performed by self-employed contractors.[1]

These changes may create particular challenges for social protection systems substantially financed through SSCs. Entitlements to social protection may diminish if

[1] The impact of digitalisation on CIT and VAT are discussed further in the Interim Report of the Task Force on the Digital Economy and so are not addressed in detail in this note.

individuals' SSC contribution histories become irregular, reducing their entitlements and lowering social protection, for example with respect to unemployment, disability and retirement (OECD, 2015a). This would have the effect of reducing the insurance role that SSC-financed social insurance plays in many societies.

Reduced contributions may also undermine the fiscal sustainability of social insurance systems. Potential increases in self-employment as a result of changes in the labour market could result in a narrowing of the SSC base. In many countries self-employed workers pay SSCs at lower rates compared to standard employees. Increases in self-employment have the potential to substantially lower SSC revenues in the absence of policy changes. The fiscal sustainability challenges of social insurance systems will be exacerbated by population ageing.

These new forms of work – as well as the high levels of SSCs in general – may require shifting part of the financing of social benefits away from SSCs towards other taxes. This could allow more of the burden of social insurance financing to come from less distortive taxes such as taxes on consumption and property. Efforts to become less reliant upon SSCs could also encourage labour market participation and reduce tax differentials between standard and non-standard work arrangements. The case for expanding the financing of social benefits beyond SSCs is strongest when the benefits received by taxpayers are only weakly linked to the amount of SSCs paid, as is the case with health insurance and family allowances for instance. On the other hand, benefits for retirement, disability and unemployment, which tend to be more strongly related to earnings, could continue to be financed in large part through SSCs. More generally, reform to social insurance financing can be an opportunity to expand social protection coverage to those in non-standard work, the self-employed, and other groups who may not have regular SSC patterns such as migrants.

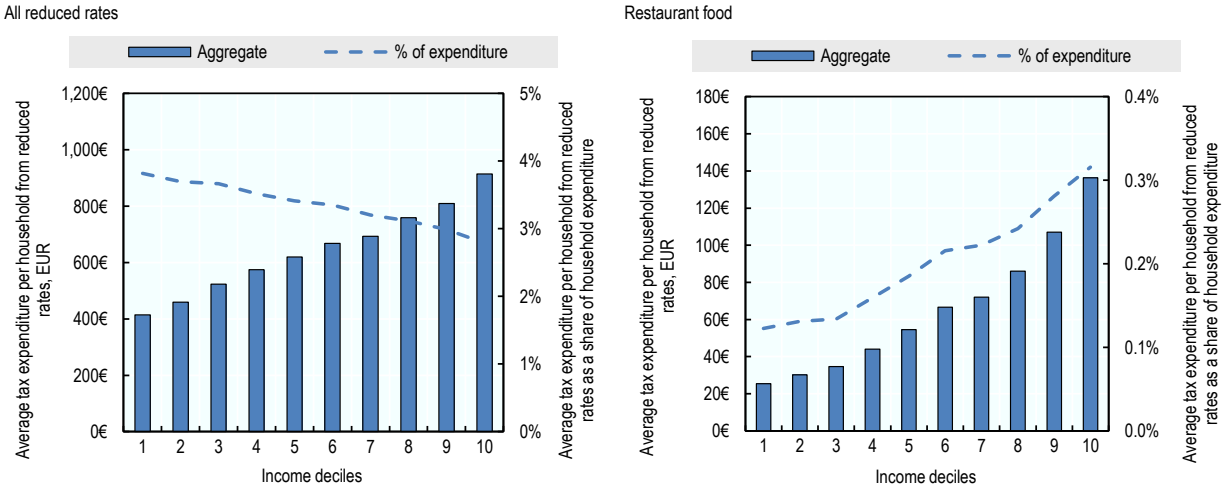
Broadening tax bases by removing regressive tax expenditures

Removing or reducing tax expenditures that disproportionately benefit high-income groups may help achieve both greater efficiency and a narrower distribution of disposable income. Raising marginal PIT and other marginal tax rates on high earners might not bring in much additional revenue, because of the potentially negative effects of higher top marginal tax rates on high earners' work intensity, career decisions, savings choices and tax avoidance or evasion. Instead, the focus should be on raising average rates without raising marginal rates by removing tax expenditures that primarily benefit the wealthy.

A number of tax expenditures could be scaled back. These include for instance tax relief on mortgage interest especially in countries that do not tax imputed rent, tax incentives to promote private pension savings or the reduced taxation of capital gains from the sale of a main or secondary residence. For progressive taxes, turning tax allowances into credits can increase progressivity as the value of tax credits does not increase with marginal tax rates. Another way of capping tax relief is through a limitation on the total amount of tax deductions that can be claimed each year by high-income individuals. Countries could also go further in taxing as ordinary income all forms of remuneration including fringe benefits, the private use of a company car, carried interest and stock options as high-income earners tend to benefit disproportionately from these forms of remuneration and the unequal tax treatment of different forms of income encourages changes in remuneration choices and tax planning.

Other tax expenditures that could be reconsidered include reduced VAT rates, particularly with respect to non-essential goods and services such as hotels, restaurants, and certain cultural products (see Figure 9). Many countries offer reduced VAT rates on food and other basic items to enhance equity by alleviating the tax burden on the products that form a larger share of poorer households' expenditures. Although these reduced VAT rates are often not well targeted in the sense that they generally end up providing greater benefits in absolute terms to richer households, they may still provide greater support to the poor as a proportion of household income or expenditure. The more problematic reduced VAT rates are the ones for non-essential products, such as reduced VAT rates seeking to promote labour-intensive industries (e.g. reduced VAT rates for hotel and restaurant services) or access to culture (e.g. reduced VAT rates on theatre, cinema). These preferential VAT rates tend to be regressive, benefiting the rich more both in aggregate terms and as a proportion of expenditure.

Figure 9. The value of VAT tax expenditures across the income distribution - average tax expenditure per household from reduced rates (EUR), 2010



Source: The Distributional Effects of Consumption Taxes in OECD Countries (OECD/KIPF, 2014[51]).
Note: Unweighted average for Austria, Belgium, Czech Republic, Estonia, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Slovakia, Slovenia, Spain, Turkey, and United Kingdom. Figures are from 2010 for all countries except Austria (2009), Germany (2008), Ireland (2004), and Netherlands (2004).

Some studies also indicate that the use of regressive fuel subsidies should be curtailed, especially in middle-income countries, where they can be used as a poor means of poverty reduction (Arze del Granado, Coady and Gillingham, 2012). These targeted rate reductions also raise administrative costs and compliance burdens. Where base broadening makes households worse off, the affected individuals and households should be adequately compensated. For example, in emerging economies especially, the removal of fuel subsidies could be combined with an expansion in support for those with low incomes to address poverty concerns (IMF, 2017).

Ensuring tax bases remain as broad as possible requires that countries continually evaluate the distributional and efficiency implications of tax expenditures. Tax expenditures can favour the politically connected, especially where governance is weak. Tax expenditures can be subject to limited scrutiny and poor evaluation, particularly where their impacts are not measured in a transparent way. Such an evaluation could be

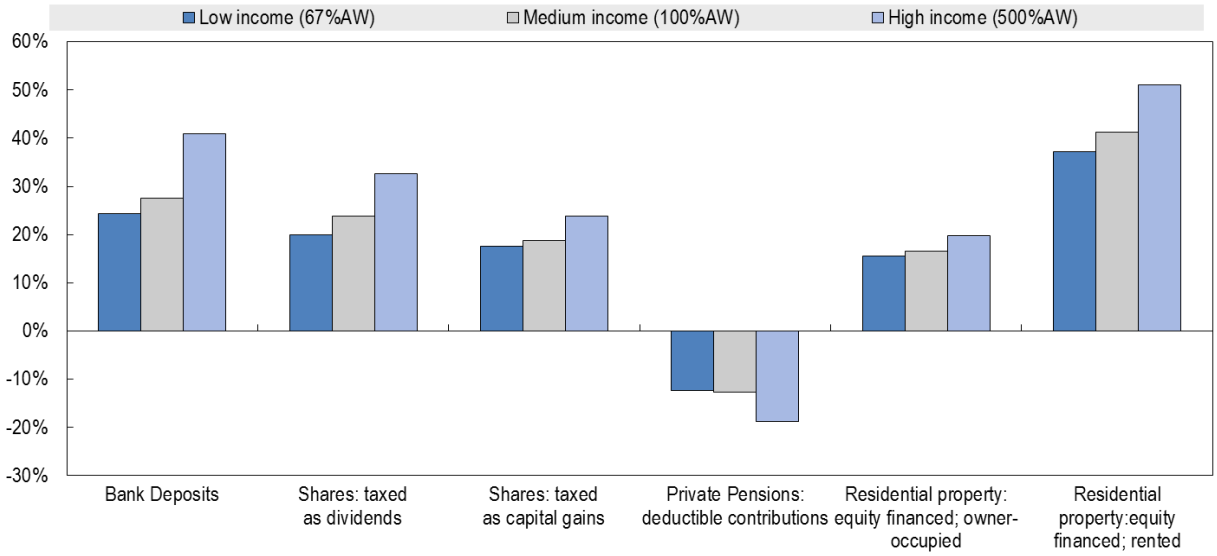
an integral part of a yearly tax expenditure report that presents the costs of tax expenditures in terms of revenue foregone.

Effectively taxing capital income and wealth

A more effective taxation of personal assets and capital income could also contribute to strengthening the efficiency and fairness of tax systems. As discussed earlier, wealth inequality has been shown to be higher than income inequality, and there are widespread calls for raising capital taxation in response to increasing income and wealth inequality. Recent advances in the theoretical economic literature highlight the importance of effective capital taxation as part of the overall tax mix (Stantcheva, 2014; Saez and Stantcheva, 2017). Capital taxation can have negative impacts on incentives to save and invest, however, so countries need to carefully balance efficiency and equity considerations. While countries do not necessarily need to tax capital at higher statutory rates, there are strong arguments for broadening the base of capital taxation to raise both efficiency and equity.

In practice, the taxation of income from savings generally lacks coherence in most OECD and G20 countries (OECD, 2018b). Figure 10 shows substantial tax differentials across assets, which are likely to result in significant distortions in the allocation of savings, as well as expanded opportunities for tax planning. In addition, the taxation of households is often regressive, as current tax systems often favour the savings of households that are financially better-off (e.g. highly taxed bank accounts vs. more lightly taxed savings in investment funds, pension funds and shares). There are opportunities for countries to increase coherence and consistency of capital taxation across assets and thereby improve both the efficiency and fairness of their tax systems.

Figure 10. Marginal effective tax rates across asset types, average across 40 countries, 2016



Note: METRs are based on a taxpayer earning the average wage, holding an asset for ten years. Inflation rates are set at the OECD average level.
Source: Taxation of Household Savings (OECD, 2018).

Among existing property taxes, recurrent taxes on immovable property have a number of advantageous features. The immobility and visibility of the tax base limit potential behavioural responses to the tax as well as tax avoidance and evasion opportunities. Property taxes can also act to some extent as a "benefits tax", with limited distortive effects. Indeed, taxes that are closely linked to local public good provision can be viewed to some degree as a payment for services. Empirically, recurrent taxes on immovable property have been found to be one of the least damaging taxes for long-run economic growth (OECD, 2010). Well-designed recurrent taxes on immovable property can also prevent over- investment in housing by aligning the tax burden on housing with the tax burden on other savings vehicles. From an equity perspective, finally, recurrent taxes on immovable property based on regularly updated property values are also progressive, as those with high levels of income are more likely to have more housing wealth (O'Connor et al., 2015).

Despite their advantages, revenues from recurrent property taxes remain low in most countries. Property taxes can be politically sensitive due to their high salience and the liquidity problems they might create. Governments can avoid these issues by spreading tax payments throughout the year and by allowing deferral or special tax credits for taxpayers (especially the elderly) who face liquidity constraints. Fiscal decentralisation may have also played a role in keeping property taxes low as sub-central governments may find it difficult to raise property taxes due to local tax competition. Certain types of arrangements across levels of government may permit central governments to raise more revenue from property taxes, while continuing to enable sub-central governments to retain an important source of revenue. Another reason for keeping property taxes low is to support home ownership, especially for the principal residence. For these reasons, some governments may choose to continue providing tax concessions for home ownership. However, care should be taken to avoid the negative efficiency and equity consequences of such policies.

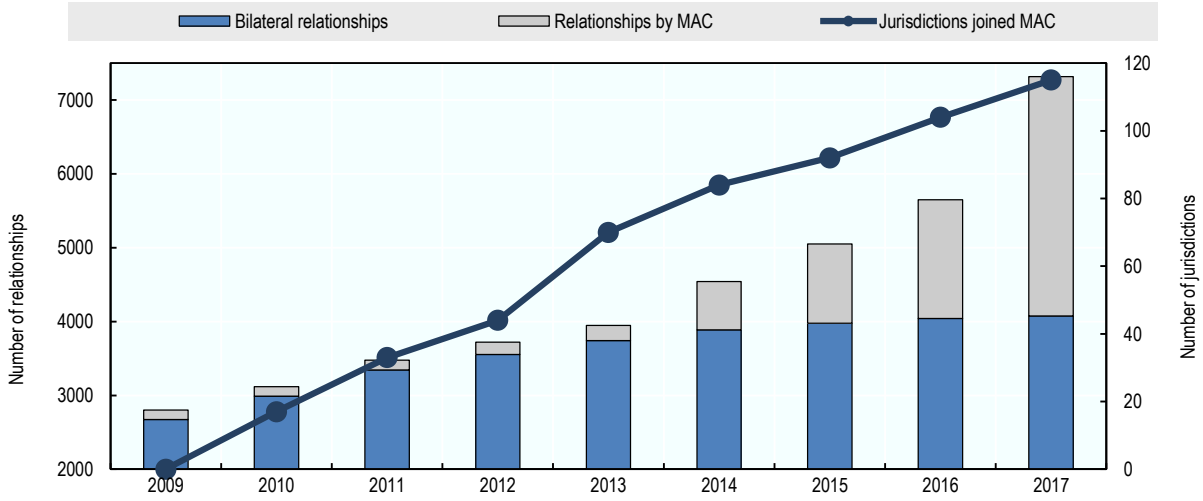
There is also a case for re-examining inheritance taxes from an inclusive growth perspective. 26 of the 35 OECD countries had taxes on wealth transfers in 2017 (OECD, 2018c). However, revenues from inheritance, estate, and gift taxes have been very low and have declined over time, from an average across the OECD of 1.1% of total taxation in 1965 to 0.4% today. Low revenues reflect the fact that inheritance, estate, and gift tax bases are often narrowed by numerous exemptions and deductions, and avoidance opportunities are widely available, especially for families with high levels of high income and wealth. Nevertheless, there is a pro-inclusive growth case for strengthening wealth transfer taxes, especially inheritances taxes. Not only are inheritance taxes less distortionary than personal and corporate income taxes, but by reducing and dispersing wealth holdings on death, they can also play an important role in strengthening equality of opportunity and limiting inter-generational inequality.

Net wealth taxes are sometimes cited in the public debate as a way to address wealth inequality. However, when combined with personal income tax on capital income and taxes on wealth transfers, they can result in very high effective tax rates on certain assets and can have an adverse impact on growth (OECD, 2018c). Implementing wealth taxes can also present challenges, especially where assets are illiquid, and may be costly to administer. Nevertheless, wealth taxes can be an effective policy substitute in instances where a country, for other policy reasons, does not have broad-based capital income taxes, including a tax on capital gains, and a well-designed inheritance tax (OECD, 2018c).

A crucial challenge in the area of capital taxation is ensuring that taxation is effective, especially by preventing offshore tax evasion. To address this issue, the OECD Global Forum on Transparency and Exchange of Information for Tax Purposes has developed two international standards for the exchange of information for tax purposes: the Exchange of Information on Request (EOIR) and the Automatic Exchange of Information (AEOI). By strengthening their exchange of information networks, countries are reducing the extent to which individuals and companies are able to use offshore accounts and structures to avoid and evade taxes (see Figure 11). While this demonstrate clear progress on tax transparency, there must be a continued focus on furthering the implementation of these standards.

Continued work is required to ensure that information exchange is as effective as possible and that tax authorities have the capacity to use the information being exchanged to effectively tackle tax evasion. Policymakers also need to be vigilant in preventing efforts to frustrate or circumvent new systems for exchanging information on tax matters and in particular could consider putting in place mechanisms to disclose schemes designed for this purpose.

Figure 11. Expansion in the coverage of exchange of information networks



Source: Global Forum on Transparency and the Exchange of Information for Tax Purposes

Addressing aggressive tax planning by multinational enterprises (MNEs) is also critical, as these behaviours undermine both fairness and the trust in tax systems. Tax planning by MNEs can also generate benefits that accrue to large incumbent firms over smaller firms and new entrants and in doing so reduce business dynamism. The OECD/G20 Base Erosion and Profit Shifting (BEPS) project seeks to address tax avoidance by closing some of the loopholes that are most commonly used by businesses to artificially shift their profits to low-tax jurisdictions and avoid taxes. The BEPS package sets out a variety of measures including new minimum standards, the revision of existing standards, common approaches that will facilitate the convergence of national practices, and guidance drawing on best practices. To ensure the consistent implementation of the BEPS package across countries, the Inclusive Framework on BEPS was created in 2016 and now brings together over 110 countries committed to addressing aggressive corporate tax planning.

Supporting small businesses

Some aspects of the tax system can inadvertently disadvantage small and medium-sized enterprises (SMEs) relative to larger companies, such as the fixed costs associated with tax and regulatory compliance. Therefore, countries generally provide SMEs with support through the tax system. However, some of these support measures may have negative effects. For instance, many countries use reduced corporate income tax rates to support SMEs, which may discourage SMEs from expanding for tax reasons. While reduced CIT rates may be justified if SMEs face market imperfections – including a limited access to equity-financing or more expensive external financing as a result of limited or hard-to-value collateral – they can be distortive as they may give businesses an incentive to remain small or to split up into different businesses to continue benefitting from the preferential tax treatment.

Efforts to support SMEs should be provided in ways that do not impede their growth, such as through simplified or presumptive taxation and efforts to reduce compliance and administrative burdens rather than through reduced tax rates. Moreover, competition policy is often a more targeted means of promoting competition than tax policy. It is also essential that efforts to support SMEs are subjected to rigorous evaluation to ensure their effectiveness (OECD, 2015c).

Making better use of environmentally related taxes

More revenues could be raised through environmentally-related taxes. In 2014, revenues from environmentally-related taxes varied widely across OECD countries, from 0.06% of GDP in Mexico to 4.1% of GDP in Denmark. Despite variation across countries, green tax revenues remain comparatively low. On average, across all OECD countries, environmentally-related taxes raised 2.2% of GDP in 2014, a share roughly similar to their levels in 2005 (2.2%) and 1995 (2.2%).

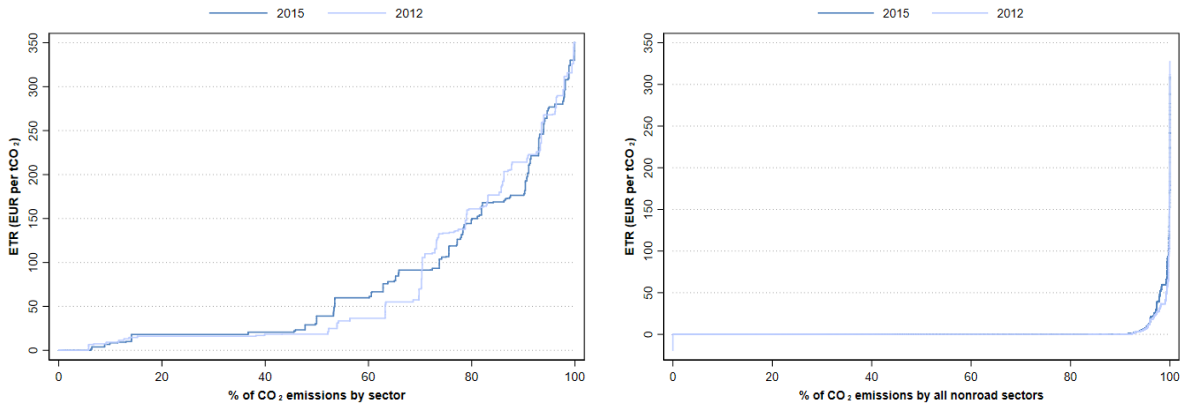
In the area of environmental taxation, one of the arguments has been that green taxes can generate a so-called "double dividend". By raising environmentally-related taxes, not only can governments achieve better environmental outcomes, but they may also be able to use the additional revenue from green taxes to reduce more distortive taxes, such as taxes on labour income (see above) and thereby generate a double dividend.

Road fuel taxes contribute significantly to environmentally-related tax revenues, and tax rates exceed those on other fuels and sectors by far (Panel A, Figure 12). In 2015, in the 42 OECD and G20 countries for which comparable data is collected by the OECD, nearly all carbon emissions from energy use in road transport were subject to a tax. Overall, effective tax rates exceed a low-end estimate of the climate costs of carbon emissions of EUR 30 per tCO_2 for 50% of emissions (OECD, 2018d). These findings do not imply that tax rates on road fuels are high enough or excessive, however, because this estimate of EUR 30 per tCO_2 only considers climate costs and does not take into account the other negative side effects of fuel use in road transport such as congestion and air pollution.

There is clear potential, however, for raising taxes on energy use outside of road transport, where effective tax rates on carbon emissions are much lower. Outside of road transport, 81% of emissions are untaxed, and rates are above the low-end estimate of climate costs for just 3% of emissions (Panel B, Figure 12). This is very concerning since

85% of carbon emissions from energy use in 42 OECD and G20 economies occur outside of road transport.

Figure 12. Proportion of carbon emissions from energy use subject to different levels of effective tax rates in the road and non-road sectors, in 2012 and 2015



Note: All tax rates are expressed in 2012 prices. Carbon emissions from biomass emissions are included.
Source: OECD (2018d).

It should be mentioned that where taxes on carbon emissions might have negative distributional consequences, a solution could be to offset them through compensating transfers (Flues and van Dender, 2017; Flues and Thomas, 2015). Moreover, as evidence suggests that pollution and climate change disproportionately impact those on low incomes, in the longer run, policies to reduce carbon emission are likely to have positive distributional effects and be beneficial for inclusive growth.

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