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Tax Design for Inclusive Economic Growth

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ABSTRACT

Tax Design for Inclusive Economic Growth

This paper examines how the design features of countries' tax systems can be strengthened to support inclusive economic growth. In the context of the OECD's New Approaches to Economic Challenges (NAEC) initiative, this paper seeks to re-assess the policy recommendations stemming from the 2008 *Tax and Economic Growth* report, which focused on the impact of taxes on economic growth from an efficiency perspective, to more explicitly take account of equity considerations. Drawing on recent developments in the academic literature and in countries' tax policies, the paper examines how the basic design aspects of each tax can be improved to better achieve inclusive growth. It also looks at how the interactions of taxes with other factors – both within and beyond tax systems – affect their efficiency and equity outcomes. The paper more generally emphasises the need to look at tax and benefit systems as a whole to fully assess the efficiency and equity implications of tax policies. The inclusive design of domestic tax policies needs to go hand in hand with the implementation of international tax rules and mechanisms that prevent tax evasion and tax avoidance. It also requires measures that strengthen the functioning of the tax administration and incentivise agents to operate within the formal economy. The paper lays the groundwork for future empirical work to support tax design for inclusive growth.

RÉSUMÉ

Fiscalité et croissance économique inclusive

Ce document analyse comment les pays peuvent améliorer la conception de leur système fiscal de manière à soutenir une croissance économique inclusive. Dans le contexte de l'initiative de l'OCDE relative aux nouvelles approches face aux défis économiques (NAEC), ce document s'attache à réévaluer les recommandations d'action découlant du rapport de 2008 sur la fiscalité et la croissance économique, qui examinait l'incidence des impôts sur la croissance du point de vue de l'efficience, en prenant plus spécifiquement en compte les questions d'équité. En s'appuyant sur les évolutions récentes dans les ouvrages universitaires et dans les politiques fiscales nationales, ce rapport examine comment améliorer les aspects conceptuels fondamentaux de chaque impôt pour favoriser la croissance inclusive. Il étudie également les interactions des impôts avec d'autres facteurs – au sein des systèmes fiscaux et au-delà – et leurs effets sur les résultats en matière d'efficience et d'équité. Plus généralement, ce document souligne la nécessité d'appréhender les systèmes de prélèvements et de prestations dans leur globalité afin de mesurer précisément l'incidence des politiques fiscales sur l'efficience et l'équité. La conception inclusive des politiques fiscales nationales doit aller de pair avec la mise en œuvre de règles et mécanismes fiscaux internationaux permettant d'empêcher la fraude fiscale et d'inciter les agents à investir la sphère de l'économie formelle, conjugués à des mesures visant à renforcer le fonctionnement des administrations fiscales. Ce document jette les bases des travaux empiriques que l'OCDE entreprendra à l'appui d'une conception des impôts au service de la croissance inclusive.

TAX DESIGN FOR INCLUSIVE ECONOMIC GROWTH

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1. Introduction

The OECD's *Tax and Economic Growth* (OECD, 2008) report has been a key evidential base for the OECD's tax policy advice to member countries since its release. The report presented a "tax and growth ranking" of four major categories of taxes in terms of their negative impact on long-run GDP per capita. Recurrent taxes on immovable property were found to be least harmful for economic growth, followed by consumption taxes (including environmentally-related taxes and other property taxes), personal income taxes, and corporate income taxes.

Recently, there have been calls to move away from a narrow focus on economic growth towards a greater emphasis on inclusiveness. These calls have been sparked by the rise in income and wealth inequality over the last 30 years as well as the economic crisis which caused the largest downturn in several generations. Other challenges such as climate change, ageing populations and international migration will also have significant distributional consequences that will need to be addressed by governments. All these challenges will require policies that aim not only at fostering growth, but at supporting growth which is inclusive.

Inclusive economic growth can be defined as economic growth that delivers progress to society as a whole. It implies that the benefits of increased prosperity and productivity are shared more evenly between people and translate into an increase in well-being across society. It should be mentioned, however, that policies that make the distribution of income more equal are not always fairer. Some differences in income may be fair in the sense that they reflect differences in effort and personal tastes for leisure (Cappelen and Tungodden, 2012).

As increases in well-being are difficult to quantify, income indicators are typically used to measure inclusive growth. However, inclusive growth should not be evaluated only in terms of GDP growth or GDP per capita; it should also be seen as economic growth which generates opportunities for all segments of the population to work, develop and deploy skills, and contribute to society. In addition, inclusive growth puts emphasis on a more dynamic definition of equity, which takes into account the impact of policies on people's income and well-being over their lifecycle as well as on well-being across generations.

More specifically with regard to tax policy, inclusive economic growth is related to managing trade-offs between equity and efficiency. Growth-enhancing tax reforms might come at certain costs in terms of meeting equity goals so tax design for inclusive growth requires taking into account the distributional implications of tax policies. In this paper, tax design for inclusive growth is defined as tax policy which reconciles efficiency and equity considerations. This can be achieved either by minimising the trade-offs between efficiency and equity – meaning by reducing the equity costs of efficient tax reforms or by lowering the efficiency costs of equitable tax reforms – or by implementing tax reforms that enhance efficiency and equity simultaneously.

In the context of the OECD's New Approaches to Economic Challenges (NAEC) project, this paper seeks to re-assess the analysis and policy recommendations stemming from the *Tax and Economic Growth* report to more explicitly take account of equity considerations. Drawing on new empirical analysis as well as developments in the academic literature and in countries' tax policies, the paper puts efficiency and equity considerations on an equal footing.

The paper emphasises the need to look at tax and benefit systems as a whole to fully assess the efficiency and equity implications of tax policies and to design tax reforms for inclusive growth. The paper examines whether the basic design aspects of each tax can be improved to better achieve inclusive growth but also looks at how the interactions of taxes with other factors affect their efficiency and equity outcomes. The paper argues that factors both within and beyond tax systems may determine the effects of

tax reforms on efficiency and equity. Tax system factors include the behavioural responses to tax changes including the impact on tax incidence, income shifting/ tax planning opportunities, the international tax rules which a country has implemented, the way taxes are remitted to the tax administration and the organisation and strength of the tax administration. Also non-tax system factors, including initial levels of inequality and a country's stage of development, non-tax drivers and the size and characteristics of the informal economy, the social preferences for redistribution and the existence of compensation mechanisms, may determine the effects of tax reforms on efficiency and equity. This suggests the need for an overall tax systems approach to tax design for inclusive growth.

By looking at each tax separately as well as at tax systems as a whole, this paper identifies a number of tax policy principles to better reconcile efficiency and equity goals and ultimately support inclusive growth. These principles are grouped into four broad pillars: (1) broadening tax bases; (2) strengthening the overall progressivity of the fiscal system; (3) affecting pre-tax behaviours and opportunities; and (4) enhancing tax policy and administration. These principles identify where inclusiveness and growth goals are aligned or where tax design can contribute to significantly reducing efficiency-equity trade-offs.

This paper lays the groundwork for future empirical work to support tax design for inclusive growth. A number of the policy options discussed in the paper will need to be further examined and subjected to additional empirical testing. The last section suggests areas for future work in tax policy analysis in particular in relation to tax incidence, behavioural responses to tax changes and the distributional effects of taxes.

This paper proceeds as follows: Section 2 gives background information on trends in inequality and the use of taxes and transfers to reduce it. Section 3 provides a tax-by-tax discussion on tax design that supports inclusive growth. It discusses the efficiency and equity implications of each tax and offers options to reconcile both objectives. Section 4 argues that, while a tax-by-tax assessment is critical, the possibility of reconciling efficiency and equity through tax policy will depend on the interaction of many elements within and beyond tax systems. Finally, Section 5 draws together the key messages from these analyses and provides a set of broad tax policy principles for inclusive growth.

2. Trends in inequality and redistribution via the tax and transfer system

This section provides an overview of trends in inequality across OECD countries. It shows that both income and wealth inequality have increased and that wealth is even more concentrated than income. It also examines the redistributive impact of fiscal policy. In many OECD countries, fiscal policy – in particular transfers – play a critical role in reducing income inequality. Finally, this section shows that the redistributive impact of taxes and transfers has evolved over time – decreasing after the mid-1990s but picking up again following the financial and economic crisis which started in 2008 – and has been more effective at offsetting income disparities at the bottom than at the top of the income distribution.

2.1 Trends in inequality across OECD countries

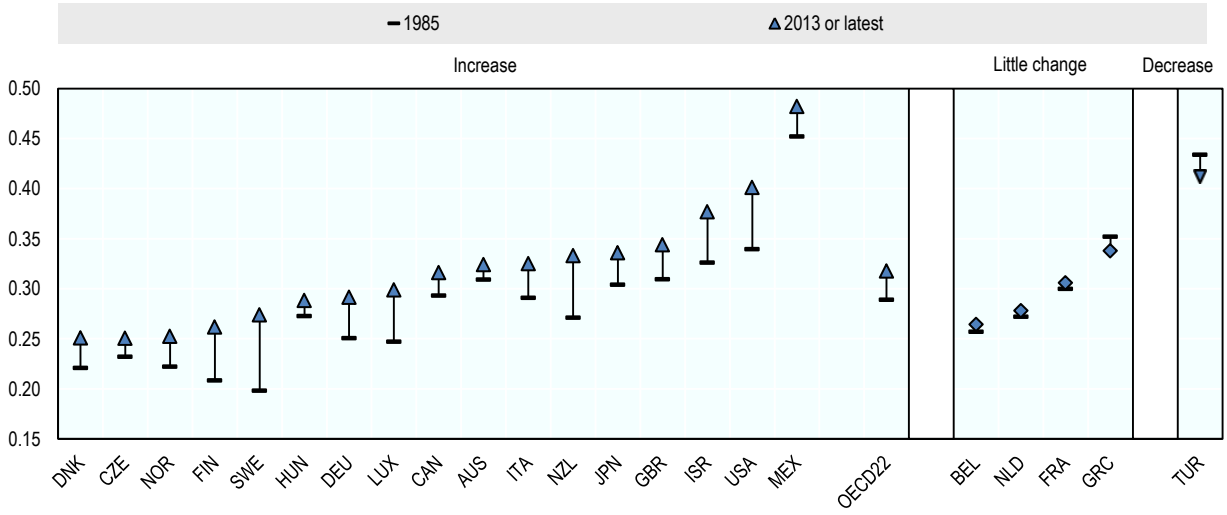
Income inequality has increased

Inequality in disposable incomes has increased in most OECD countries over the last three decades (Figure 1). The Gini coefficient of income inequality stood at 0.29 on average across OECD countries in the mid-1980s. By 2013, it had increased by about 10% or 3 points to 0.32, rising in 17 of the 22 OECD countries for which long-time series are available (OECD, 2015b).

Nevertheless, trends in income inequality have been different across OECD countries. Inequality first started to rise in the late 1970s and early 1980s in some English-speaking countries, in particular in the United Kingdom and the United States, as well as in Israel. From the late 1980s, the trend towards

increasing income inequality became more widespread, with widening income gaps not only in countries experiencing high levels of inequality but also in countries that have traditionally been more equal such as Germany, Denmark and Sweden, where inequality rose faster than in any other OECD country in the 2000s (OECD, 2011a). On the other hand, inequality levels saw very little change in France, Hungary, Greece and Belgium. Finally, Turkey and Chile experienced a fall in inequality, which is consistent with trends in other emerging countries where inequality is very high but generally declining.

Figure 1. Disposable income Gini coefficients, mid-1980s and 2013 (or latest available data)

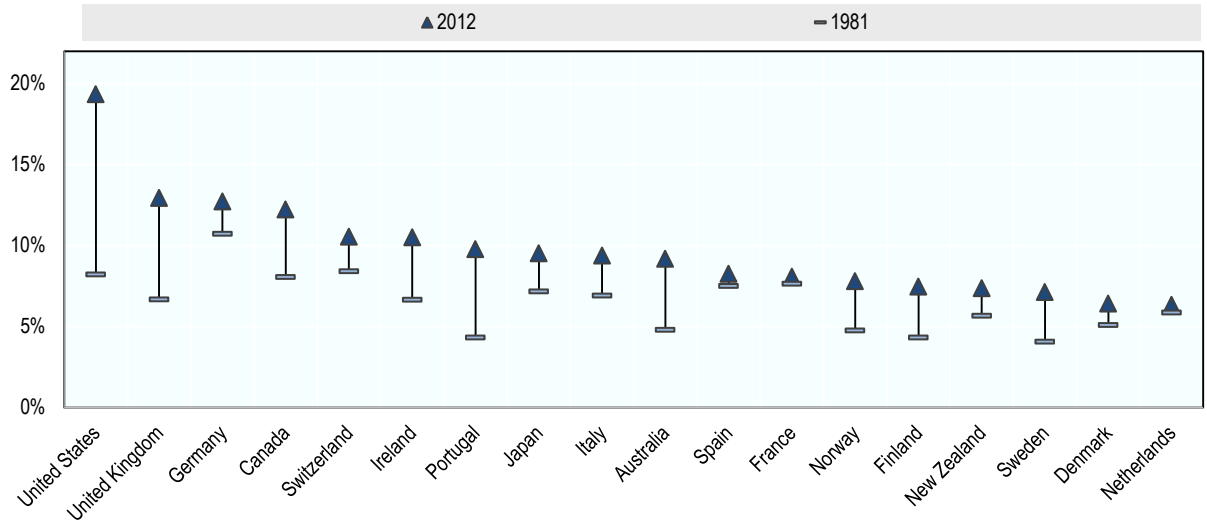


Source: *In It Together* (OECD, 2015b)
Note: "Little change" in inequality refers to changes of less than 1.5 percentage points

In most OECD countries, the gap between the extremes of the income distribution has reached its highest level since the early 1980s. Gini coefficients are more sensitive to changes in income shares in the middle than in the tails of the income distribution. Therefore, an analysis of inequality at the extremes of the income distribution is a useful complement to Gini coefficients. The richest 10% of the population in the OECD now earn 9.5 times the income of the poorest 10%, compared to a ratio of 7:1 in the 1980s (Cingano, 2014). The share of the top 1% of incomes in total income also increased significantly in most countries (Figure 2).

The rise was most remarkable in the United States, where the income share of the richest 1% more than doubled between 1980 and 2012, reaching almost 20%. Top earners in other English-speaking countries including Australia, Canada, Ireland and the United Kingdom, also experienced a significant increase in their share of total income (Förster et al., 2014). More surprisingly, the income shares of the top 1% increased by 70% and now reach about 7-8% in Finland, Norway and Sweden which have traditionally been characterised by a more equal income distribution (Förster et al., 2014). By contrast, top earners' income shares grew much less in some of the continental European countries including France, the Netherlands and Spain (OECD, 2015b). It should be mentioned, however, that in most countries there is a relatively high degree of variation over time regarding who is in the top decile and centile categories.

Figure 2. Share of top 1% incomes in total pre-tax income, 1981-2012 (or closest)



Source: OECD (2015b), OECD calculations based on the World Top Income Database

A distinguishing feature of top earners' income is the share of capital income in their total income. For the vast majority of individuals, wages are by far the largest component of income. Not surprisingly, however, the weight of wages tends to fall higher up the income ladder while the share of capital gains, capital income and business income increases (Förster et al., 2014). Patterns are nevertheless different across countries. For instance, the top 0.01% receive about 20% of their income from capital in Canada while this share reaches almost 60% in France (OECD, 2014a).

In addition to widening income inequalities in the upper half of the distribution and a growing share of income earned at the very top, there has been a greater incidence of poverty at the very bottom of the income distribution, with headcount measures of relative poverty rising in a majority of OECD countries in the last decade (OECD, 2008). Another significant trend at the bottom of the income distribution, which was reinforced during the crisis years, is that young people are increasingly replacing the elderly as the group facing the greatest risk of poverty (OECD, 2015b).

Concerns about a shrinking middle class, along with those of its relative impoverishment, have also been present in the United States and more recently in Europe. However, income polarisation, which can be defined as the clustering of the population away from middle incomes around two opposite poles at the low and high-end of the income distribution, has varied across countries. Highly equal countries have experienced a strong increase in polarisation (e.g. Sweden, Finland and Denmark), while countries characterised by high inequality have experienced a decrease in polarisation (e.g. Turkey, Mexico and Chile). In other countries, patterns have been mixed, with some countries seeing growing polarisation (e.g. Japan, United States, Australia, Germany, Israel) and others observing a decrease (e.g. Austria, Belgium, Czech Republic, Hungary, Ireland, the Netherlands, New Zealand, Portugal, Spain) (Causa et al., 2014).

Increasing inequality has been attributed to a range of factors including the globalisation and liberalisation of factor and product markets, skill-biased technological change, increases in labour force participation by low-skilled workers, declining top marginal income tax rates[1], the increasing bargaining

[1] While top PIT rates have been declining over time, it should be noted that 22 out of 34 OECD countries have increased their top PIT rate since the crisis of 2008; the unweighted average top PIT rate was 41.2% in 2008 which increased to 43.6% in 2014. For more information on top PIT rates, including the differences in income

power of high earners and the growing share of high-income couples and single-parent households (OECD, 2008). It is important to note, however, that some of these developments have also been found to be important drivers of economic growth (Chen and Ravallion, 2010; Milanovic, 2012).

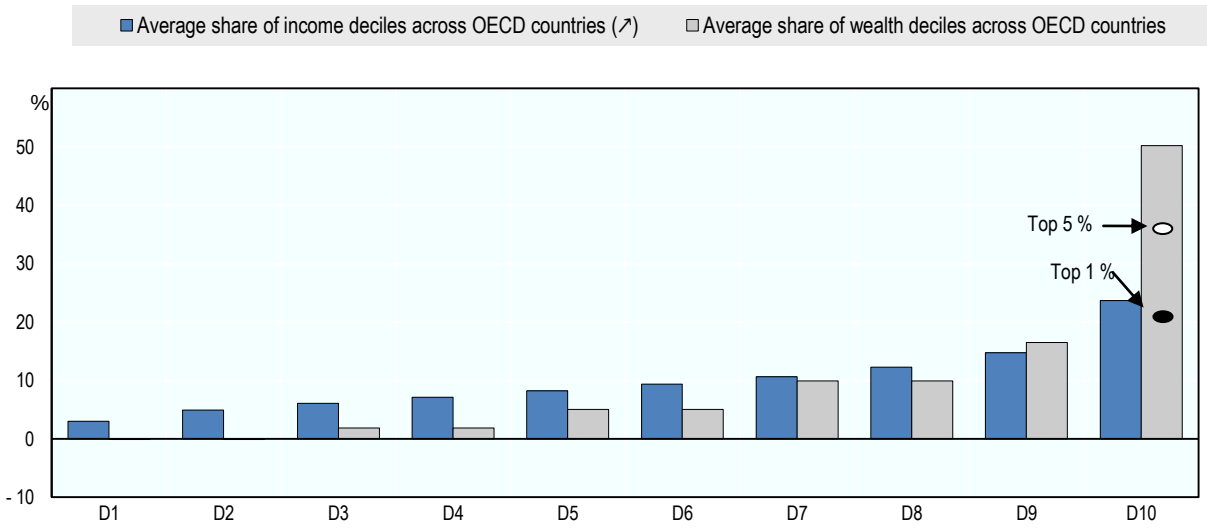
Wealth inequality has also increased and is significantly higher than income inequality

While trends are difficult to assess given the limited number of countries with reliable and comparable data, studies have shown that household net wealth (i.e. financial assets and real estate minus debt) has increased substantially over the last four decades in advanced countries. Using comparable data for eight countries, Piketty and Zucman (2013) show that the average ratio of net household wealth to national income grew by almost 80% between 1970 and 2010, with the smallest increase recorded in the United States (by 21%) and the largest in Italy (by 180%). This rapid growth in wealth has been explained, among other factors, by asset-price booms and a significant increase in private savings (IMF, 2014).

In all OECD countries, wealth is much more unequally distributed than income. For instance, in the 18 OECD countries for which comparable data is available, the bottom 40% own only 3% of total household wealth (Figure 3). In comparison, their share of total household income is 20%. At the other end of the spectrum, the top 10% of the wealth distribution hold half of total household wealth and the wealthiest 1% own almost a fifth. The wealth share of the top centile in the wealth distribution is almost as large as the income share of the top decile in the income distribution (OECD 2015b).

Figure 3. Distribution of household disposable income and net wealth across income and wealth deciles

Average of 18 OECD countries, 2010 or latest available year



Sources: OECD (2015) based on OECD Wealth Distribution Database and OECD Income Distribution Database

With regard to the composition of net wealth, non-financial assets account for the largest share of household wealth. Survey data suggests that non-financial assets such as primary residences and other real estate represent between 70 and 90% of total household wealth in developed countries (IMF, 2014). It is only at the top of the wealth distribution that financial assets start representing a significant source of wealth (OECD, 2015b).

levels where the top PIT rates start to be levied in OECD countries, see: http://www.oecd.org/ctp/tax-policy/tax-database.htm.

Generally, there is evidence that equity matters for growth, in particular for long-term growth

While it is commonly agreed that some degree of inequality is necessary to provide incentives for investment and economic growth (Barro, 2000; Forbes, 2000), there is increasing evidence that high levels of income inequality are detrimental to the pace and sustainability of growth (Berg and Ostry, 2011; Ostry, Berg, and Tsangarides, 2014; OECD, 2015b). Berg and Ostry (2011) find that growth spells are robustly associated with more equality in the income distribution. Income equality can support long-term growth by ensuring a greater level of political and social stability, which is good for investment, but also by encouraging the accumulation of human capital as the health and education conditions of the poor tend to be better in a more equal society. Higher income equality may also raise domestic demand and boost physical capital accumulation (IMF, 2015). On the other hand, income inequality may breed inequality of opportunity, for instance by limiting investments in education.

Inequality at the bottom of the income distribution seems particularly harmful for growth. Biswas et al. (2015) find that a reduction of income inequality between low and median incomes improves economic growth but that a reduction of income inequality through taxation between median and high-income households reduces economic growth. Drawing on harmonised data covering the OECD countries over the past 30 years, Cingano (2014) finds that income inequality has a negative and statistically significant impact on subsequent growth but that what matters most is the gap between low income households and the rest of the population. The study does not find evidence that higher incomes pulling away from the rest of the population is harmful for growth. Analysis based on OECD PIAAC data suggests that one key channel through which inequality negatively affects economic performance is by undermining education opportunities for children from poor socio-economic backgrounds, lowering social mobility and hampering skills development (Cingano, 2014; OECD, 2015b).

2.2 Trends in redistribution via tax and transfer systems

Fiscal policy plays a significant role in reducing income inequality in most OECD countries

Taxes affect inequality through many channels (Box 1). The most direct way in which taxes redistribute income is by narrowing the distribution of disposable (post-taxes and transfers) income. However, taxes can also more indirectly reduce market (pre-taxes and transfers) income inequality, for instance by encouraging labour market participation and upskilling or by limiting the perpetuation of income inequality across generations. Taxes also contribute to redistributing income across individuals' lifecycles. More generally, taxes raise revenues which are used to finance public programmes that reduce inequality.

Box 3. Channels through which taxes affect the income distribution

Taxes raise revenue which can be used to finance expenditure which can be used to reduce inequality

- Taxes raise the revenue necessary to finance public spending programmes that will reduce inequality. It is important to note, however, that the amount of public funds available for compensation will be lower than the amount of revenues collected through taxes, in particular due to the costs of administering tax and transfer systems.

- Taxes can raise revenues that will enhance equity even when they are not progressive. In fact, in some cases, an increase in regressive taxes might still be the best solution if the expenditures they finance are highly progressive and if the efficiency costs of redistribution through progressive taxes are too high (IMF, 2014).

Taxes can reduce disposable (i.e. after taxes and transfers) income inequality

- The most direct way in which taxes redistribute income is by narrowing the distribution of disposable (after taxes and transfers) income.

- Tax measures that lead to a narrower distribution of disposable income include among others a progressive personal income tax (PIT); base broadening by removing or scaling back tax expenditures which benefit high income recipients disproportionately (such as deductions for private pension savings and preferential tax treatment of immovable property) and by taxing all forms of remuneration including fringe benefits, carried interest and stock options as ordinary income; turning tax allowances into tax credits as the value of tax allowances increases with marginal tax rates while the value of refundable tax credits is equal for all taxpayers. Taxing assets through wealth taxes can also lead to a narrower distribution of disposable income. Finally, ensuring that wealthy taxpayers pay their taxes by removing opportunities for tax avoidance and evasion can reduce post-tax inequality.

Taxes can affect market (i.e. before taxes and transfers) income inequality

- More indirectly, tax measures can narrow the pre-taxes and transfers distribution of income. This occurs through the impact of taxes on economic agents' incentives, behaviours and opportunities, which in turn have an impact on the pre-tax earnings distribution.

- To reduce pre-tax income inequality, tax measures can support labour market participation of low-income households, secondary earners, pensioners, etc. Tax measures such as social security contribution (SSC) cuts and earned income tax credits (EITCs) targeted at low-income workers obviously affect the after-tax income distribution but they can also affect the pre-tax income distribution by encouraging more people to join the labour market or to work harder and more businesses to hire such workers. Such measures may also reduce gender inequalities as second earners – who are predominantly female – tend to be more responsive to labour tax changes.

- Tax policies may have opposite effects on different types of inequality. Indeed, tax measures that may have a desirable impact from an equity point of view after taxes and transfers may have detrimental efficiency – and possibly equity – consequences before taxes and transfers. For instance, higher income taxes can be good from an equity perspective after taxes and transfers, but they might affect pre-tax income by generating disincentives to work: people might end up choosing to work less and earn less. In other words, some tax policies might narrow the *ex post* income gap on a static basis but, by doing so, reduce incentives to work, save and earn income in the first place, resulting in a wider gap on a pre-tax market income distribution dynamic basis.

- Reducing pre-tax income inequality can also be done by ensuring greater *equality of opportunity*. Tax measures that encourage education and upskilling might promote greater equality of opportunity and reduce pre-tax income inequality. Upskilling is critical to reducing wage dispersion and increasing employment rates. Education and upskilling can also increase the mobility between income groups across generations. However, in cases where differences in pre-tax income reflect differences in ability, greater equality of opportunity may not significantly contribute to reducing inequality.

- Equality of opportunity and inter-generational mobility can also be promoted by taxing wealth transfers through taxes on inheritance and gifts. Taxing wealth transfers can help reduce the perpetuation of income inequality across generations. From the perspective of intergenerational social mobility, taxing inheritances is preferable to taxing estates since what matters is how much a person receives from others, not how much a person leaves to others, and taxing inheritances would reduce income inequality.

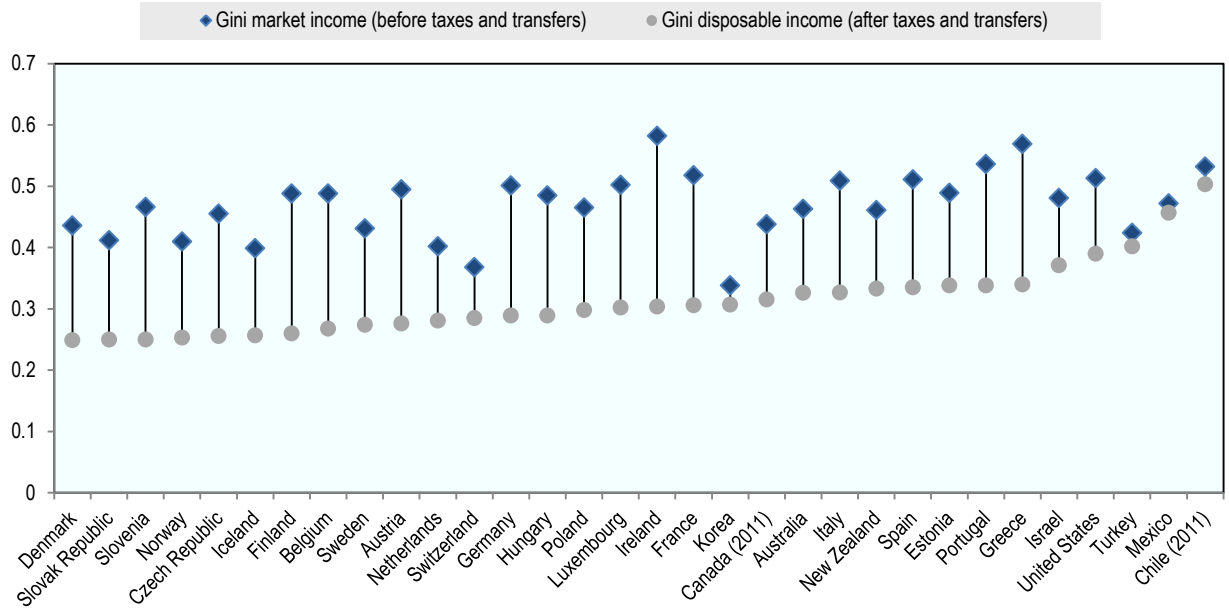
The tax system can redistribute income across individuals' lifecycles

- The tax system redistributes income across taxpayers' lifecycles. This can be described as intra-personal redistribution as opposed to inter-personal redistribution. Bovenberg et al. (2012) show, for instance, that about three-quarters of redistribution in Denmark involve redistribution over individuals' lifecycles as opposed to redistribution from lifetime rich to lifetime poor.

- The typical tax instruments to redistribute income across individuals' lifecycles are SSCs which are paid to finance future benefits, in particular pensions. Indeed, pensions primarily aim at redistributing income over the lifetime of individuals – those with higher incomes contribute more but will also receive higher pensions.

This section focuses on the impact of the fiscal system on the distribution of disposable income inequality and shows that taxes and transfers have a significant redistributive impact on average across the OECD (Figure 4). Inequality in income after taxes and transfers, as measured by the Gini coefficient, was about 25% lower than for income before taxes and transfers on average in the late 2000s. For the same period, poverty measured after taxes and transfers was 55% lower than before taxes and transfers (OECD, 2012).

Figure 4. Gini coefficients before and after taxes and transfers in OECD countries, 2012

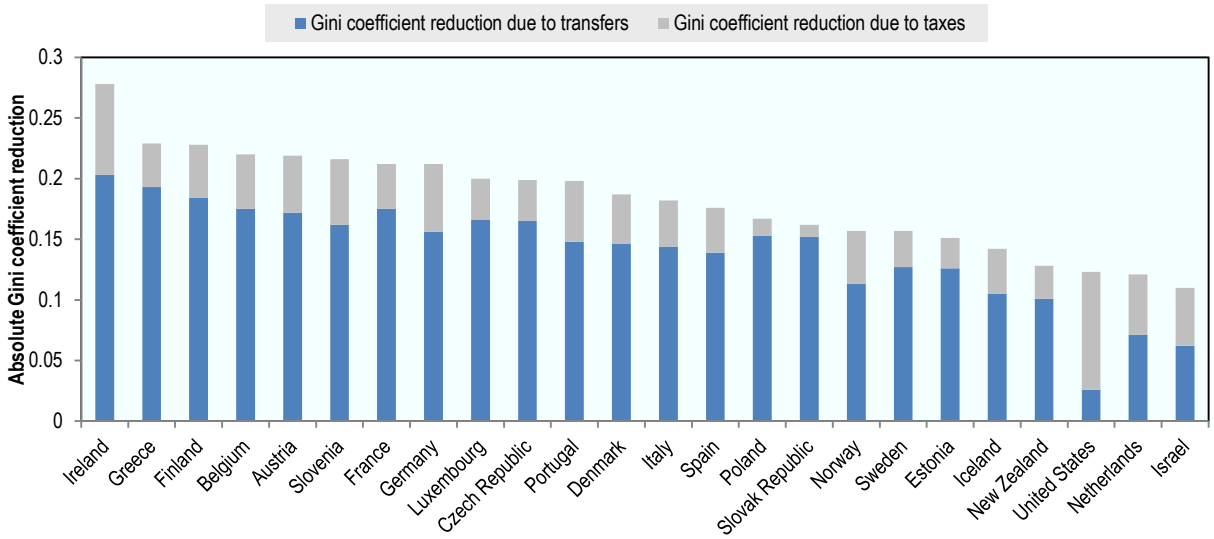


Source: OECD Income Distribution Database
Note: Data from 2011 for Canada and Chile

However, the redistributive role of tax and transfer systems differs across countries. In 12 (European) OECD countries, the tax and transfer system reduced inequality by at least 40% in 2012. The strongest reduction was achieved in Ireland where income inequality was reduced by almost half after taxes and transfers. By contrast, there are a few OECD countries, including Turkey, Mexico, Chile and Korea, where taxes and transfers play a very limited redistributive function (Figure 4).

At present, the largest part of fiscal redistribution comes from the expenditure side of the budget, although income taxes also play an important role in many countries and, of course, taxes provide the necessary funds to pay for the inequality reducing transfers. Although there are methodological limitations to disentangling the impact of taxes and transfers, it is estimated that on average in the OECD, three quarters of the reduction in inequality between market and disposable incomes are due to transfers. Taxes, in particular personal income taxes and social security contributions (SSCs), account for the remaining quarter of redistribution (Figure 5). The United States is an outlier, with taxes playing a larger role than transfers in reducing income inequality. Indeed, one of the specificities of the American system is its heavy reliance on tax provisions, in particular the earned income tax credit (EITC), to provide support to low-income groups. While the much greater role of transfers in redistribution in many countries should be kept in mind when discussing the role of taxes in promoting inclusiveness, it is also important to remember that the distributive impact of taxes will strongly depend on their specific design, as shown by the US example.

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



Source: OECD Income Distribution Database – N.B.: no data for Australia and Switzerland

In-kind public social services (e.g. education and healthcare services) are not taken into account here but they play a significant role in redistribution. On average, governments spend as much on public social services as they do on cash benefits (around 13% of GDP). There are even some countries, including English-speaking and Nordic countries as well as Korea and Mexico, that spend significantly more on such services than on cash benefits. While their primary purpose is not redistribution but the provision of a good education, basic health care and decent living standards for all, social services are in fact redistributive. Across the OECD, they are estimated to reduce income inequality by one-fifth on average (OECD, 2011a).

It should be noted that the redistributive impact of taxes and transfers is lower when taking a longer time horizon. The decline in the effectiveness of taxes and benefits at reducing inequality from a lifecycle perspective results from the fact that a large part of redistribution occurs over individuals' periods of life (intra-personal redistribution) rather than across individuals (inter-personal redistribution) (IFS, 2014). In Denmark, for instance, about three-quarters of the taxes collected to finance the various social transfers are returned to the individual taxpayer via various benefits at different points in the lifecycle. Even though there might be a more limited degree of lifetime income redistribution in other OECD countries, there is evidence that a significant part of redistribution is income that taxpayers transfer to themselves over the course of their life rather than redistribution between the lifetime rich and the lifetime poor (Bovenberg et al., 2008).

Fiscal redistribution has been more successful at offsetting inequalities in the lower parts of the income distribution

From the mid-1980s to 2005, redistribution systems appeared more successful at offsetting growing income gaps at the bottom of the income distribution. Immervoll and Richardson (2011) find that redistribution systems were on average relatively effective at slowing down trends towards widening income gaps when these trends were largely due to falling incomes at the bottom (as was the case in many countries between the mid-1980s and the mid-1990s).

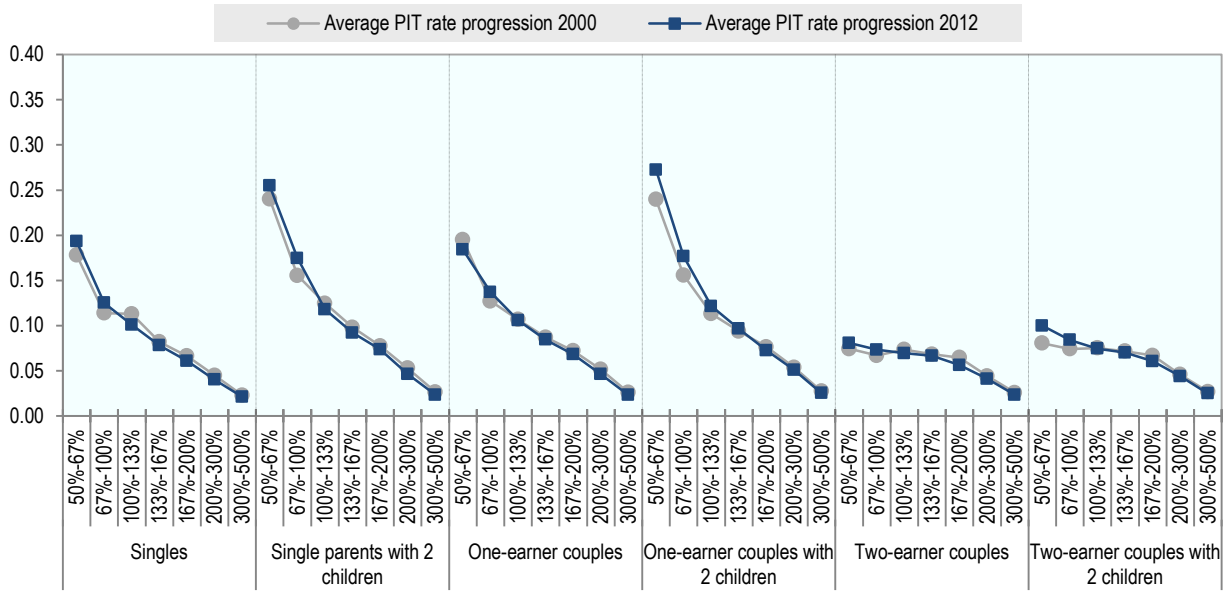
Tax and benefit systems were less successful at offsetting growing inequality in the upper parts of the income distribution. An important implication of their result is that if policies remain unchanged,

redistribution systems will likely remain less effective at offsetting income disparities at higher income levels (Immervoll and Richardson, 2011).

On average, tax progressivity has increased at the bottom of the income distribution but decreased at the top

OECD (2014b) analysis shows that the statutory progressivity of labour taxes increased and is higher at the bottom of the income distribution. While statutory progressivity differs from effective measures of progressivity based on actual taxpayer data and does not in itself reflect the redistributive impact of taxes, it sheds some light on the role of tax policy in redistribution. Figures 6 and 7 show average PIT rate and tax wedge progression – i.e. the change in average tax rates over a particular income interval – for six family types and seven income intervals on average in the OECD in 2000 and 2012. Both PIT and the tax wedge are more progressive at the bottom of the income distribution. Both figures also show that, between 2000 and 2012, progressivity increased at lower income levels while there were either no or minor regressive changes at higher income levels. This increase in progressivity at the bottom was largely due to measures such as family-related provisions, in-work benefits, SSC cuts targeted at low-income workers and higher tax-free allowances. Even if these results are averages and hide significant cross-country variations, they are in line with the discussion in Immervoll and Richardson (2011).

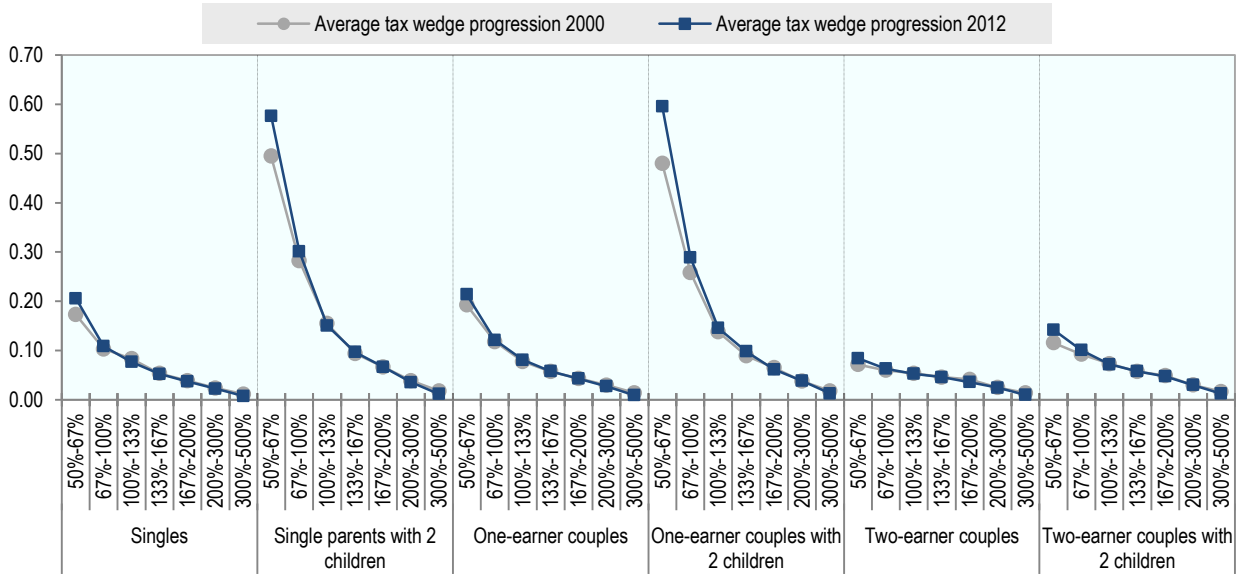
Figure 6. Average PIT rate progression across the OECD in 2000 and 2012 for 6 household types, by income intervals



Source: OECD Taxing Wages 2014

Note: The average PIT rate and tax wedge progression indicators are defined as (AETR X2% AW – AETR X1% AW) / (X2% AW – X1% AW) where AETR X1% AW and AETR X2% AW are the average effective tax rates or tax wedges corresponding to the two different income levels X1 and X2 respectively. The income levels are expressed as multiples of the AW. The indicators are calculated for 6 different household types and 7 income intervals. In case of two-earner couples, it is assumed that one partner earns 67% of the AW while the other partner's earnings vary between 50% and 500% of the AW. The indicator measures how the average PIT rate of the average tax wedge increases per percentage point increase in income, measured as a multiple of the AW, over the X2% AW – X1% AW income range. The value of this indicator is zero, and hence the slope of the AETR is locally flat, in case of a proportional tax (over that particular income range). The higher the values, the more progressive the tax (over that income range).

Figure 7. Average labour income tax wedge progression across the OECD in 2000 and 2012 for 6 household types, by income intervals



Source: OECD Taxing Wages database

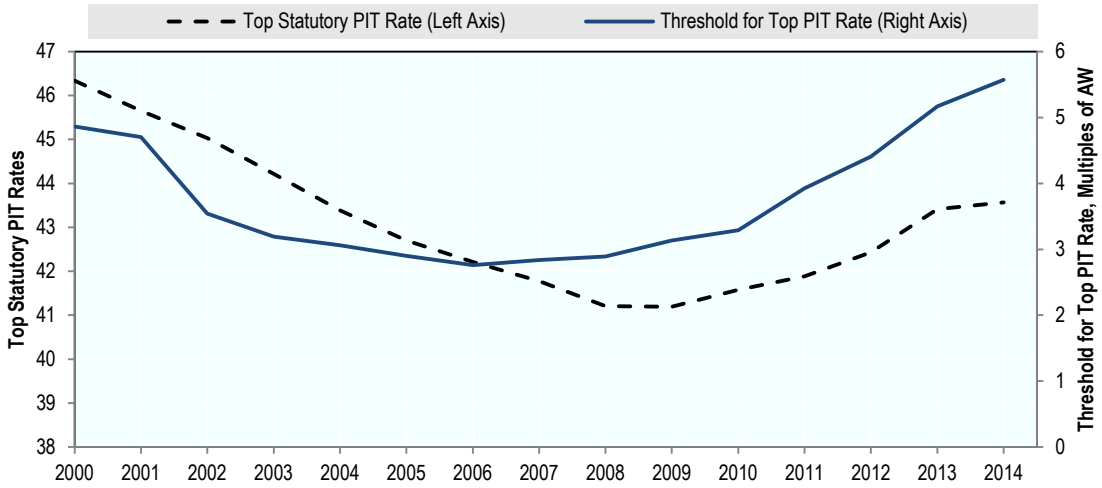
At the other end of the income distribution, there has been a steep decline in top PIT rates over the past 30 years across the OECD. The OECD unweighted average top PIT rate fell from 67% in 1981 to 49% in 1994 and 41% in 2009. However, the decline in top marginal PIT rates has not been uniform across countries (Table 1). In some countries, much of this reduction occurred in the 1980s but in some countries, like France and Germany, governments made more modest and gradual reductions. It is worth noting that the countries that made bigger and earlier cuts also saw bigger rises in the shares of top incomes, although the causal relationship remains unclear (OECD, 2011a). The trend towards declining top PIT rates has nevertheless reversed in recent years (Figure 8).

Table 1. Top statutory PIT rates (%), 1981-2014

	1981	1990	2000	2010	2014
Australia	60	47	47	45	45
France	60	57	53	40	45
Germany	56	53	51	45	45
Italy	72	50	49	43	43
Japan	75	50	37	40	40
United Kingdom	60	40	40	50	45
United States	70	28	40	35	39.6

Source: OECD Tax Database.
Note: Top federal labour tax rates used for the United States. The combined central and sub-central tax rates can be found in Table I.7 of the OECD Tax Database from 2000 onwards.

Figure 8. Trends in top PIT rates, OECD unweighted average



Source: OECD Tax Database

Other taxes affecting top income earners have gone down too, lowering the overall progressivity of tax systems. Some countries introduced dual income tax systems which tax capital income at flat and lower rates compared to labour income. The unweighted average statutory CIT rate declined from 47% in 1981 to 25% in 2013 and the unweighted average tax rate on dividend income for distributions of domestic source profits fell from 75% to 42%. Wealth taxes have been abolished in about a third of the OECD countries since the mid-1990s (including Austria, Denmark, Germany, the Netherlands, Finland, Iceland, Luxembourg, and Sweden). In the few OECD countries that still tax net wealth, the tax only applies to a small fraction of the population. Finally, while inheritance and gift taxes are applied rather widely, several countries have reduced or abolished them since the mid-1990s (Joumard et al., 2012).

With fiscal consolidation, there is scope for tax policy to play a bigger role in income redistribution

While transfers have played a considerably larger role in redistribution than taxes, countries' more limited fiscal space may imply that governments will have to target public spending more at those who need it the most. In addition, governments may want to increase the progressivity of their tax system in order to reduce inequality.

As pointed out before, the distinction between the 'tax side' and the 'spending side' of fiscal policy should not be overstated. The distinction is sometimes unclear, especially in the context of the wide use of tax expenditures by the wealthy and the increase in the use of refundable tax credits such as EITCs to redistribute income at the lower end of the income distribution. Indeed, it is sometimes difficult to say whether such policies belong to the 'tax' or the 'transfer' side of fiscal policy.

3. Tax design for inclusive growth: a tax-by-tax assessment

In principle, tax policies should aim to be efficient, i.e. to limit distortions in economic behaviour which may in turn hamper economic growth. Tax systems should therefore be as neutral as possible to minimise discrimination in favour of, or against, any particular economic choice. In certain cases, however, there may be good reasons justifying non-neutralities in the tax system, such as correcting market failures and internalising negative externalities.

A parallel but potentially conflicting objective of tax policy is equity. There are different forms of equity – horizontal equity, which requires that taxpayers in an equal situation pay an equal amount of tax; and vertical equity, which requires that taxpayers with a greater ability to pay tax pay relatively more tax. Greater efficiency in tax systems is usually consistent with stronger horizontal equity, while governments are often faced with trade-offs between efficiency and vertical equity. Other notions of equity, such as intergenerational equity, which is linked to the notion of sustainable development in relation to the environment, the state of public finances, etc. and gender equity, which refers to fairness between men and women, are increasingly having an impact on tax policy design as well.

As mentioned in the introduction, the *Tax and Economic Growth* report (OECD, 2008) presented a "tax and growth ranking" of major categories of taxes in terms of their negative impact on long-run GDP per capita. For each tax, this section summarises the main findings of the *Tax and Economic Growth* report, discusses distributional implications and provides options for tax design that would support more inclusive growth.

3.1 Property taxes

OECD countries impose a range of taxes on property. Most prominent are recurrent taxes on immovable property, which are typically a key source of revenue for local government. Inheritance, gift and property transaction taxes are also common in OECD countries. A smaller number of countries impose a tax on some measure of net wealth.

Tax and growth findings

The empirical analysis in the OECD's *Tax and Economic Growth* report found recurrent taxes on immovable property to be the least damaging tax to long-run economic growth, as compared to consumption taxes, other property taxes, personal income taxes and corporate income taxes. Furthermore, recurrent taxes levied on households were found to have less adverse effects than those levied on businesses (though this latter finding was based on a somewhat smaller number of countries than the overall results due to data limitations).

These empirical findings are consistent with the strong theoretical case for certain recurrent immovable property taxes. Recurrent taxes on immovable property of households can be an efficient form of taxation because the tax base – typically land and improvements – is highly immobile, and consequently there is limited behavioural response to the tax. This is particularly the case for land, which is in fixed supply. Indeed, theory would argue for a pure land tax over a property tax as this would not discourage investment in capital improvements. In practice though, most countries tax both land and improvements, often due to difficulty in assessing separate values.

Additionally, a recurrent immovable property tax can act to some extent as a "benefits tax", which means that there is a strong link between the tax paid and the public services received (Oates and Schwab, 1988). In the extreme, where taxes are directly linked to local public good provision, they effectively become a payment for services (i.e. they are no longer a tax according to the OECD's definition of a tax), and so are expected to have a smaller distortive impact on behaviour. Furthermore, when used to fund local public services, they may increase the accountability of local governments. Recurrent immovable property taxes are also difficult to evade due to the highly visible nature of immovable property (except for evasion by hiding immovable property improvements) and can also contribute to more efficient land usage.

Turning to other property taxes, the empirical analysis in the *Tax and Economic Growth* report grouped together inheritance taxes, net wealth taxes and property transaction taxes, finding that this group of taxes is less favourable to economic growth than recurrent taxes on immovable property and

consumption taxes, but more favourable than personal and corporate income taxes. While the empirical analysis did not make a distinction between these taxes, the report concluded that inheritance taxes could be expected to be the least distortionary of these three taxes, while property transaction taxes were considered highly distortionary. Net wealth taxes were considered less distortionary than property transaction taxes but more distortionary than inheritance taxes.

The conclusion that property transaction taxes are highly distortionary and therefore highly damaging to economic growth follows from the well-known Diamond and Mirrlees (1971) finding that taxing intermediate transactions is inefficient. As such it is always preferable to tax the income and services provided by assets than their purchase or sale. In both cases, taxation discourages ownership of the asset, but a transaction tax also discourages transactions that would allocate the asset more efficiently. Imposing a transaction tax on a house will, for example, discourage the owner from moving to an area with better labour market opportunities.

Net wealth taxes will not discourage efficient transactions but will discourage savings (though their impact on life-cycle savings can be reduced if an exemption is set sufficiently high).They may also be circumvented through tax avoidance or evasion by moving wealth offshore. Inheritance taxes, meanwhile, will have a similar impact to net wealth taxes, but as they are only levied at the end of a person's life, they will avoid taxing most life-cycle savings. Furthermore, they will be less distortionary than net wealth taxes because a significant part of inheritances are likely to be unplanned and hence not influenced by inheritance tax rules.

Distributional effects

Recurrent taxes on immovable property

Despite their more limited negative impact on growth, a number of distributional concerns have made it difficult to increase recurrent immovable property taxes. Perhaps most pertinently, concern is often raised about the impact of property taxes on asset-rich but cash-poor households. A substantial property tax bill combined with a low income (as may often be the case with retirees, for instance) may result in a property needing to be sold in order to pay the tax. Unsurprisingly, many property taxes have concessions targeted at low-income groups to minimise this concern.

Concern is also often raised that property taxes impose an unfair burden on middle-income families. As mentioned in Section 2, this is because middle-income families tend to hold a high proportion of their wealth in immovable property (i.e. the family home) whereas top earners may hold a significant proportion of their wealth in more liquid forms that are not subject to property taxes.

A further concern related to property taxes is that they may be perceived as unfair because they rely on valuations which are often outdated and do not accurately reflect market values. Indeed there are only a few OECD countries that regularly update (and use these updated) housing values for taxation purposes. Even when they are updated regularly, concerns are often held over the uncertainty created by the need to estimate valuations – in the absence of a market transaction, an estimate is necessary and will always be open to some debate. A related problem is that reform then becomes difficult as those that have experienced relatively higher property value growth will be more strongly against revaluation.

The overall distributional impact of recurrent immovable property taxes depends on the incidence of the tax. Three views have been put forward in the literature. The "old" view (Simon, 1943) views the property tax as an excise tax on housing services, and leads to a conclusion that the property tax is regressive. The "new" view (Brown, 1924; Mieszkowski, 1972) views it as a tax on capital income, and hence a progressive tax – as capital income represents a greater proportion of higher income households'

incomes.[2] That said, if investment in property increases at a lower rate than income (for example, because higher income households purchase larger amounts of land relative to buildings) then the tax burden as a percentage of income could exhibit a U-shaped pattern.[3] Finally the "benefits tax" view (Hamilton, 1976) argues that the tax is actually a user charge for local public goods and therefore has limited distributional consequences. This view is an extension of the Tiebout (1956) local public good theory and suggests that, with perfect mobility, taxpayers will select their location based on their preferred level of public good provision.

The empirical evidence is not definitive regarding these three possibilities. There is strong evidence of tax capitalisation effects (i.e. taxes lowering assets' pre-tax market values) (Oates, 1969; Fischel, 2001). However, as Mieszkowski and Zodrow (1989) point out, this is consistent with both the new and benefit view. Meanwhile, Carroll and Yinger (1994) find evidence that property taxes with statutory incidence on renters are passed back to owners in terms of lower rent, thereby supporting the "new" view.

Finally, in addition to tax incidence, home ownership patterns will affect the distributional effects of recurrent taxes on immovable property. A recent OECD study shows for instance that, in Ireland, a shift in the tax mix towards residential property taxes may have an adverse effect on the income distribution because of Ireland's high rates of home ownership throughout the income distribution (O'Connor et al., 2015). By contrast, in a country where home ownership is highly concentrated at the top of the income distribution, an increase in recurrent taxes on immovable property will have less negative distributional effects on low and middle-income households.

Property transaction taxes

There is little empirical evidence on the distributional effects of immovable property transaction taxes. Homeownership is lower for lower income people and property transaction taxes increase with the value of the property, indicating that they might be somewhat progressive. On the other hand, the value of the immovable property as a percentage of lifetime income is not necessarily increasing in income across the entire income distribution, possibly pointing to an inverse U-shaped relation. Moreover, property transaction taxes are borne more heavily by those that need to move more often for their employment – and these may well be poorer workers with less job security. Overall, the distributional effects of immovable property transaction taxes are unclear and more empirical analysis is needed.

2. More precisely it is viewed as a two-component tax – a tax on all capital, which is progressive, and a local adjustment effect that could be progressive or regressive. However the second component is small compared to the former so the overall effect is always a progressive one.

3 . Though not necessarily as a percentage of the property value or of wealth. This begs the question as to what is the appropriate base against which to measure a tax and determine the degree of progressivity. The base of a property tax is the property value, not income. Measured against the property value the average tax burden will increase where there is a minimum threshold or a progressive tax schedule based on the value of the property. Where income is the preferred metric for measuring progressivity/regressivity, then life-time rather than current income is preferable because it will better reflect a taxpayer's ability to pay tax. For example, a retired taxpayer may have relatively low current income but higher lifetime income (and hence higher ability to pay) due to higher income levels earned in previous years. This previous income will be reflected in higher levels of wealth (and/or consumption), and hence wealth might be considered a better proxy for lifetime income than current income. As previously discussed, though, low current income may create liquidity concerns.

Recurrent taxes on net wealth

There is a strong case on distributional grounds for taxing net wealth.[4] As mentioned in Section 2, household net wealth has increased substantially over the last four decades in advanced countries and wealth is much more unequally distributed than income. It is arguable that additional value (beyond the income it generates) is gained from wealth and hence this should be taxed. For example, wealth may bestow social status and power, or provide an insurance value against unexpected future needs (Boadway et al., 2010). Such value though, is difficult to estimate and is more likely to occur only at the very upper end of the wealth distribution. A wealth tax may also be justified as a means of increasing equality of opportunity – on the basis that wealth, in of itself, confers opportunities in society that those without wealth do not benefit from such as access to finance and education.

Nevertheless, there are also some distributional concerns associated with a net wealth tax. Indeed, a net wealth tax suffers from many of the same problems as recurrent taxes on immovable property. In particular, a substantial wealth tax bill combined with a low current income may result in assets needing to be sold in order to pay the tax, although the magnitude of the liquidity issue depends on how liquid assets are and on the level of the wealth tax. Net wealth taxes may also be perceived as unfair because wealthier people with diversified asset holdings may be able to reduce their wealth tax burden, whereas the middle class for whom most wealth is tied up in immovable property are less able to do so.[5]

Valuation problems also pose a problem for net wealth taxes. Property valuations are often outdated as discussed previously, while some other assets (e.g. pension savings, imputed rent, artwork, jewellery) may be hard to value, and may as a consequence be exempted from the tax base.

Inheritance taxes

There is a clear case on distributional grounds for taxing wealth transfers on death. They can be justified as a means of reducing long-run inequality by both reducing and dispersing wealth holdings on death, and of increasing equality of opportunity. Standard welfare analysis also suggests taxing wealth transfers on the basis that the donor, the recipient, or both benefit from the transfer. In fact, theory suggests distinguishing between anticipated and unanticipated transfers, and taxing the former more than the latter – on the basis that intentional transfers benefit the donor as well as the recipient (Boadway et al., 2010). That said, unintentional transfers by definition have no impact on behaviour and so can be taxed more heavily without efficiency cost. In any case, determining the intent of a donor is extremely difficult, so for administrative reasons countries do not distinguish between the two, leading to all transfers being taxed together.

A growing optimal tax literature (Cremer and Pestieau, 2006) tries to take account of both equity and efficiency goals to draw insights about inheritance taxation. The optimal tax rate generally depends on a number of factors including the intent of the donor and the weights placed on the donor and recipients' welfare. In some cases, the literature suggests substantial tax rates. For example, adopting a Rawlsian welfare function, Piketty and Saez (2013) find that the optimal inheritance tax rate could be as high as 60%.

However, where inheritance taxes exist, rates are generally low, exemptions and special arrangements numerous, and revenues limited. On average, revenues in the OECD have declined over time from 0.35%

4 . Taxing gross rather than net wealth would be simpler to implement, but would not accurately match taxpayers' ability to pay. Note though that taxing net wealth does open up avoidance opportunities – for example by borrowing to purchase exempted assets or to purchase (undeclared) assets offshore.

5 . For example by purchasing an asset exempted from the net wealth tax.

of GDP in 1970 to less than 0.15% today. There may be more potential, however, as illustrated by France and Belgium for instance, where revenue yields are respectively 0.4 and 0.65% of GDP (IMF, 2014).

Tax design for inclusive growth

Recurrent taxes on immovable property

A shift towards recurrent taxes on immovable property will typically be a pro-growth reform but there is uncertainty regarding the distributional implications of such a shift. Adequate tax design can help make a tax shift towards recurrent taxes on immovable property more inclusive. In particular, relief can be provided to low-income households. This can be achieved by applying a relatively generous basic allowance – although this should be applied to the property owner rather than the property itself, which may increase administrative costs. Alternatively, an income-tested property tax credit can be provided. Even if a tax credit approach is adopted, there is still merit in applying a basic allowance or exemption to remove from the base very low value properties on which little tax revenue would be generated. A third approach is to allow deferral until death of the taxpayer or sale of the property for older taxpayers.

OECD countries have used these types of measures to increase the progressivity of their property taxes. For instance, regressivity is reduced in some US states by a flat dollar amount exemption (e.g. homestead exemptions) or a tax credit to support low-income families. Similar tax relief is provided in some Canadian provinces and municipalities. In France, the largest recurrent tax on immovable property (*taxe d'habitation*) has become slightly progressive since 2000 – at least for the lower part of the income distribution – thanks to generous income and family-related tax relief (Joumard et al., 2012).

Progressivity can also be enhanced by applying a mildly progressive rate schedule, again applied to the owner not the property. If increases in property tax are funding reductions in progressive personal income taxes then this may be particularly attractive as a means of maintaining, or at least limiting the reduction in, the overall progressivity of the tax system.

Allowing the tax to be paid in instalments rather than as a lump sum may help with liquidity problems and may reduce the unpopularity of the tax due to the decreased visibility.[6] Payment can, for example, be linked to other regular payments made to local government such as for water usage or electricity.

Any increases in recurrent taxes on immovable property need to be accompanied by the updating of property values to ensure they fairly reflect the true value of the property. Preferably valuations should occur annually or at least regularly (e.g. every five years or less) with inflation adjustments made between valuations.

To further reduce the distortionary effects of the tax, it can at least in part finance the provision of local public goods, thus becoming partially a benefits tax. As this may also reduce the effective degree of progressivity of the tax, it could be combined with the application of a mildly progressive rate schedule as suggested above.

As an alternative or complement to a recurrent tax on immovable property, countries could tax the return on residential immovable property jointly with other income from capital at slightly progressive personal capital income tax rates. This approach would strengthen equity as well as efficiency by ensuring neutrality between different forms of household savings. An "owner-occupied housing allowance" could

6 . The unpopularity of the property tax may in large part be due to its visibility. This is because, unlike most other taxes (e.g. personal income taxes that are typically withheld at source), property taxes are typically paid in one large payment.

be set such that the part of the owner-occupied immovable property which delivers “basic” services is exempt from tax, meaning that low-income households living in a small house would not have to pay additional tax. The allowance could also include a component covering the depreciation of the property, as an approximation of the costs incurred by households to earn the imputed immovable property income. The “owner-occupied housing allowance” could replace the deduction for mortgage interest (if any) as such relief is typically not available to other household savings. The imputed net return on second (and additional) houses as well as the actual rents received from let property could be included in this capital income tax base at the personal level. Recurrent taxes on immovable property levied at the sub-central level could then be designed to be deductible from the capital income tax liability at the central government level. This would allow countries to maintain both taxes and encourage them to design sub-central recurrent taxes on immovable property as benefits taxes for sub-central services received.

Property transaction taxes

Taking account of efficiency concerns, there does not seem to be a strong case for immovable property transaction taxes. Indeed, property transaction taxes are highly distortionary. In addition, their distributional impacts are uncertain. While they are an easy form of tax to administer due to the visibility of the transaction and market valuation, they should be avoided where alternative pro-inclusive growth revenue sources are available. There may be limited cases, however, where well-designed property transaction taxes may help curb speculative behaviours and over-investment in housing markets.

Recurrent taxes on net wealth

While there may be a case for net wealth taxes on equity grounds, the same approximate distributional effects can be achieved by taxing personal capital income without generating similar efficiency costs. As mentioned already, a wealth tax creates liquidity problems and penalises holders of low-return assets compared to the taxation of personal capital income. Indeed, wealth taxes do not tax the actual return earned on assets but are equivalent to the taxation of a presumptive (i.e. fixed) return. In other words, a wealth tax is imposed irrespective of the actual return earned, which implies that the effective tax rate decreases when actual returns increase. It is true, though, that wealth taxes tax wealth on accrual, compared to income taxes which typically tax capital gains upon realisation. However, countries typically do not provide relief for wealth losses; i.e. excess wealth taxes paid when the value of the wealth has decreased is not refunded. Countries also tax “net” wealth, which means that debt is deductible from the tax base. If the wealth tax base is narrow (i.e. there are many exemptions for pension savings, owner-occupied houses, art, jewellery, etc.), taxpayers will have an incentive to invest their savings in tax-exempt assets and finance savings in other assets through debt. While from an equity perspective it makes sense to tax “net” wealth, it implies that individuals will face an incentive to keep on borrowing funds for investment purposes as long as the return on the investment exceeds the interest that has to be paid. This may raise financial stability concerns, especially during economic downturns.

There are additional issues related to the definition of the tax base and wealth valuation. An important question is whether assets that taxpayers accumulate in their corporations should be taxed. This would be highly distortive. On the other hand, if such assets are not taxed, wealthy taxpayers may avoid taxes by setting up corporations to accumulate their wealth tax-free. Wealth taxation also poses valuation challenges in particular for assets that are not commonly traded. In addition, because wealth valuation is done at a particular date (typically at the beginning and/or end of the year), temporary upswings or downswings in value may affect wealth tax bases.

Another major concern regarding both capital income taxes and net wealth taxes is the geographic mobility of capital and the potential for tax evasion via moving capital offshore and not declaring the capital or income. This is a concern from a tax perspective as well as from a growth perspective due to the

potential fall in domestic capital investment (although domestic capital that is moved offshore can be reinvested in the country through a foreign shell company). A second concern is that taxpayers themselves may move to a lower tax jurisdiction to reduce their tax burden.[7]

The move to the Automatic Exchange of Financial Account Information in Tax Matters (AEOI) led by the OECD with close to 100 participating countries, addresses the first concern – suggesting an increased ability to tax both capital and capital income. However, AEOI may exacerbate the risk of taxpayers changing residences or citizenship – as they can no longer reduce their tax burden through tax evasion simply by moving their capital offshore. That said, taxation is only one of the many factors that affect taxpayers' location decisions and there is only limited evidence of tax-induced migration (although there are examples of extremely rich taxpayers moving jurisdiction for tax purposes). As such, the move to AEOI can be expected to reduce the mobility of capital and thereby to reduce the responsiveness of capital to tax changes. Ultimately, the AEOI helps lower the efficiency costs of taxing capital and capital income while also improving horizontal and vertical equity (see also Section 3.5).

If a net wealth tax is to be implemented or enhanced as part of an inclusive growth reform, then a number of distributional concerns need to be addressed through the design of the tax. First, relief can be provided to current low-income households who would otherwise face a liquidity problem in paying the tax. This can be achieved in the same way as for a recurrent immovable property tax, either by applying a relatively generous basic allowance, an income-tested tax credit, or to allow deferral until death of the taxpayer or sale of the asset for older taxpayers. Once again, allowing payment by instalments may also help with liquidity problems and reduce the unpopularity of the tax due to its decreased visibility. A relatively generous basic allowance will also target the tax more closely at large wealth holders. This can both avoid taxing lifecycle savings and reduce administrative costs.

Second, care needs to be taken with regard to any exemptions from the base of the wealth tax as these will both create distortions in the choice of savings vehicles and opportunities for tax avoidance. Many countries exempt certain hard to value assets such as artwork, while residential property is also often exempted for political reasons. However, where politically feasible, the base should be kept as broad as possible, including residential property, but with the generous allowance noted above. Some countries currently apply different rates for different asset classes. This again should be avoided due to the resulting distortion in savings decisions.

Mildly progressive wealth tax rates would introduce additional progressivity. If increases in wealth taxation are funding reductions in progressive personal income taxes then this may be a means of maintaining, or at least limiting the reduction in, the overall progressivity of the tax system.

Inheritance taxes

Overall, taking account of distributional concerns strengthens the case for a shift in the tax mix towards inheritance taxes. Not only are inheritance taxes less distortionary than direct income taxes, but they can help achieve intergenerational equity goals. As with other property taxes, design is key in ensuring that inheritance taxes are conducive to inclusive growth.

Inheritance taxes can, in practice, be designed as a tax on the donor's estate or on the recipients.[8] As part of a more inclusive growth reform, inheritance taxes levied on the recipient could be adopted rather

7. A global rather than national wealth tax as proposed by Piketty (2013) would alleviate this problem, but is unlikely to be politically feasible to implement.

than on the estate. Differentiated rates could be applied depending on the relation between the donor and the recipient; a minimum amount of the inherited wealth is typically exempt from tax.

A gift tax can minimise the ability of taxpayers to avoid the inheritance tax through in-life gifts. For administrative purposes this should apply only above a relatively generous minimum threshold. To prevent non-avoidance related gifts from bearing a tax burden, an exemption could be applied to gifts made more than, for example, five years before death.[9]

Unlike other property taxes, there may be less of a concern regarding liquidity as inherited immovable property may have multiple recipients and thus would be sold to divide the value amongst the recipients. (Boadway et al, 2010). Where the recipient is a spouse the transfer will almost always be exempt, but there may be merit in considering applying deferral of tax until sale of the property for non-spouse co-habitees. Liquidity may also be a problem for transfers of small family businesses.

3.2 Consumption taxes

OECD countries impose a range of taxes on consumption. All member countries except the United States impose a value-added tax (VAT)[10], while most impose excise taxes on a range of health-related and environmentally-related expenditures. This section deals with the first two. Environmentally-related taxes are considered in Section 3.3.

Tax and growth findings

The OECD's *Tax and Economic Growth* report ranked consumption taxes as the second least damaging to economic growth after recurrent taxes on immovable property and before other property taxes and personal and corporate income taxes. This result is consistent with the strong theoretical case for consumption taxes. In particular, pure consumption taxes do not affect the return on savings decisions or the choice between different savings vehicles, although consumption taxes will still impact labour supply decisions in the same manner as income taxes. Furthermore, as exports are zero-rated, with immediate refund of VAT on purchased business inputs, a pure VAT will not affect international competitiveness. Meanwhile, the underlying design of a VAT can minimise the ability for fraud making it an effective mechanism for collecting tax in most OECD countries. A broad-based VAT will also avoid distorting consumption choices and minimise compliance and administrative costs.[11] Excise taxes on alcohol and

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8 . Technically, an inheritance tax is a tax on the recipient(s), while an estate tax is a tax on the deceased's estate; however the term inheritance tax is often used as a blanket term for wealth transfer taxes on death. For example the UK's "Inheritance Tax" is technically an estate tax (Boadway et al., 2010).

9. Such an approach has been adopted in the United Kingdom where gifts made seven years before death are exempt from gift tax. Prior to completion of this seven year period, gifts are designated as "potentially exempt transfers". Taper relief (lower rates of gift tax are applied) is provided for gifts occurring 3-7 years prior to the death of the donor.

10. The vast majority of states in the United States impose sales taxes at the subnational level. Their inclusive growth impact might be different than the impact of the VAT. For instance, an estimated 40% of the American state sales taxes fall on business inputs, rather than household final consumption (Cline, Phillips and Neubig, 2013).

11. Although it is theoretically optimal to apply different VAT rates depending on (i) the responsiveness of consumption to price changes (to minimise consumption distortions) and (ii) the degree of complementarity with leisure (to minimise labour supply distortions), in practice it is not feasible to accurately determine either a schedule of price and cross-price elasticities or a schedule of complementarities. As such, a broad-based, single rate VAT is generally seen as preferable from an efficiency perspective.

tobacco are applied to a relatively inelastic base and also act to internalise negative health-related externalities, making them a highly efficient source of tax revenue.

Distributional effects

VAT

Despite the strong pro-growth case for increases in consumption taxes, distributional concerns often make it difficult for governments to implement VAT reforms.[12] In particular, VAT has typically been perceived as a highly regressive tax, bearing disproportionately on the poor. This conclusion follows from the analysis of VAT burdens measured as a percentage of current income across the income distribution for a single year. Numerous European country studies (Leahy et al., 2011; Ruiz and Trannoy, 2008; O'Donoghue et al., 2004) adopt this analytical approach, and as a result conclude the VAT is a highly regressive tax. In contrast, studies that present VAT burdens as a proportion of current expenditure, as a proxy for lifetime income or lifetime well-being, across either the income or expenditure distribution (e.g. IFS, 2011; Metcalf, 1994) tend to find that VAT systems are relatively proportional, or even slightly progressive.

As has been highlighted by various authors (IFS, 2011; Creedy, 1998; Metcalf, 1994; Caspersen and Metcalf, 1994), the problem with the current income approach is that it fails to account for savings behaviour. More specifically, it ignores the fact that income that is saved this year will still incur VAT when it is eventually consumed (as this VAT cannot be captured by an analysis based on data from a single year).[13] Similarly, current expenditure, and the VAT incurred on it, may have been funded from income earned in a previous year. As higher income households tend to save a greater proportion of their income than lower income households, this tends to bias current income-based VAT burden results downwards at higher income levels – hence the common conclusion that the VAT is regressive.

To take account of the impact of saving/future consumption behaviour, a lifetime (or at least multi-period) analysis is necessary. Ideally, this would involve the calculation of both lifetime income and lifetime VAT burdens. In the absence of such information, measuring VAT burdens as a percentage of current expenditure rather than current income can be expected to give a closer estimate of the lifetime distributional effect of the VAT.[14] Measuring VAT burdens as a percentage of expenditure identifies how reduced VAT rates and exemptions move actual VAT burdens away from what would be due under a perfectly broad-based single-rate system (where all households would pay the same proportion of their expenditure in VAT).

Recent OECD research (OECD/KIPF, 2014) uses a household expenditure micro-data set of unprecedented size to examine the distributional effects of VAT following both income and expenditure approaches for 20 OECD countries. The results broadly confirm the dichotomous results from the previous smaller-scale studies: the VAT appears to be regressive when measured as a percentage of current income in all 20 countries, but is generally either proportional or slightly progressive (as a result of the impact of the reduced VAT rates targeted at goods and services particularly consumed by the poor) when measured

12. That said, a number of countries have engaged over the last decade in shifts in the tax mix away from income taxes towards consumption taxes.

13. However, not all income will eventually be consumed by the individual who has earned it; some of it might be passed onto relatives at time of death. Moreover, wealth in itself may provide non-pecuniary (status, etc.) consumption benefits which are not taxed under the VAT.

14. This is especially the case for those households which, over their life-time, largely consume their life-time income but less for households that own large amounts of dynastic wealth. Further work may study the distributional impact of VAT when VAT burdens are expressed as a percentage of wealth.

as a percentage of current expenditure. Savings patterns are also shown to be consistent across all 20 countries, with savings rates increasing as income increases. As such, the report concludes that the VAT is generally either proportional or slightly progressive on a lifetime basis. That said, results for Estonia, New Zealand and the Slovak Republic show that broad-based VAT systems that have few or no reduced VAT rates or exemptions can still produce a small degree of regressivity on a lifetime basis in case higher incomes consume goods and services which are taxed more generously under the VAT as, for instance, consumption benefits of second houses, air travel, etc.

Of course the conclusion that the VAT is generally proportional or slightly progressive does not necessarily mean that the VAT, when considered in isolation, is a fair tax. Assuming diminishing marginal utility of consumption, a proportional VAT will still have a greater negative impact on the welfare of the poor than the rich. A proportional VAT may also have a greater welfare cost on credit constrained households than on those with full access to finance. However, these are not reasons to consider the VAT regressive. Rather, they are reasons to consider increasing the progressivity of the tax/benefit system as a whole.

In response to perceived regressivity, many countries (particularly in Europe) have introduced reduced rates of VAT for various consumption items. To the extent that such reduced rates are targeted at consumption items that make up a greater proportion of the expenditure of poor households than rich households, they can be expected to have a progressive effect in that they give a greater relative tax reduction to the poor than to the rich. However, because richer households consume more in aggregate terms than poorer households, rich households can still be expected to gain more in aggregate terms from a reduced VAT rate (though still less in relative terms). Furthermore, if a reduced rate is provided for goods or services that the rich consume proportionately more of than the poor then that reduced VAT rate will actually have a regressive effect.

OECD research (OECD/KIPF, 2014) also investigates the impact of reduced VAT rates, and shows that, depending on the particular product, all of the above possibilities can be true. Most, if not all, of the reduced rates that are introduced for the distinct purpose of supporting the poor – such as reduced rates on food, water supply and energy products – do have the desired progressive effect. However, despite this progressive effect, these reduced VAT rates are still shown to be a poor tool for targeting support to poor households: at best, rich households receive as much aggregate benefit from a reduced VAT rate as do poor households; at worst, rich households benefit more in aggregate terms than poor households. Furthermore, reduced rates introduced to address social, cultural and other non-distributional goals – such as reduced rates on restaurant food and hotel accommodation – often provide so large a benefit to rich households that the reduced VAT rate actually has a regressive effect.

Alcohol and tobacco excise taxes

The report (OECD/KIPF, 2014) also examined the distributional effects of the three most common excise taxes used in OECD countries – those on alcohol, tobacco and transport fuels. Results for the 20 countries covered in the report show that total excise tax burdens (on alcohol, tobacco and transport fuels) are almost always regressive when measured as a percentage of current income, and in most cases are either regressive or roughly proportional when measured as a percentage of current expenditure. Further analysis shows some heterogeneity amongst the taxes: tobacco taxes typically exhibit a regressive pattern (on both a current income and expenditure basis), while alcohol taxes are far more mixed across countries – in some cases exhibiting a regressive pattern but in others a progressive pattern. Meanwhile transport fuel taxes are also to an extent mixed, though they tend to more often exhibit a progressive pattern (see Section 3.3 for further discussion on transport fuel taxes), possibly also because low-income households have changed their transportation habits more significantly than richer households, for instance by shifting away from car use towards public transport, where such substitutes are available.

A small number of countries also impose health-related taxes on soft drinks and certain non-nutritional food products such as biscuits, chocolate and ice cream. Evidence on the distributional effects of such taxes is sparse – suggesting the need for further research on which policy recommendations could be based.

Tax design for inclusive growth

VAT

The new distributional evidence above strengthens the case for a shift in the tax mix towards VAT, even if the equity implications of a tax shift towards VAT also depend on other factors. VAT is a comparatively efficient source of tax revenue and the distributional impacts are less significant than has previously been considered to be the case for a large majority of taxpayers. That being said, an increase in VAT accompanied by a decrease in PIT, which is clearly progressive, may have negative distributional effects. In addition, many OECD countries have already shifted their tax mixes towards VAT, which means that the scope for further raising VAT rates may be limited.

As with any reform, design will be crucial in any shift towards greater reliance on VAT. First, countries should continue to strengthen the design, administration and enforcement of the VAT such that the VAT is an efficient tax on final consumption rather than a tax on business inputs. This includes providing a full and timely refund of VAT paid on business inputs and implementation of the International VAT/GST Guidelines. These guidelines were developed by the OECD to address the inefficiencies and inequities that arise from national VAT systems being applied in an internationally uncoordinated way.[15]

Second, before considering an increase in the standard VAT rate, countries should look to broaden the VAT base by removing reduced VAT rates and exemptions. While there is a strong case for removing all reduced VAT rates, it is particularly important to remove those that give a proportionately larger tax saving to the rich than to the poor, such as reduced rates on restaurant food, hotel accommodation, books and cultural activities such as theatre and cinema.

Third, part of the revenue raised from broadening the base or increasing the standard rate should be used to compensate low-income households as poorer households will still be hit harder than the rich even by a proportionate tax. A potential compensation mechanism could be an income-tested tax credit or benefit payment targeted to lower income households. The level of the income-tested tax credit or benefit should be set so that the average low-income household is fully compensated for the VAT increase, but should not be set high enough to fully subsidise low-income households that are made worse off purely because their consumption choices led them to consume unusually large amounts of a previously subsidised good or service. If the impact of income-tested withdrawal of the tax credit/benefit on work incentives is of particular concern then a phase-out can start at a lower rate than otherwise would be the case, but this comes at a cost of either reduced compensation for some low-income households or that some middle-income households may also benefit from the compensation.

Alcohol and tobacco excise taxes

The new distributional evidence suggests that whether a reform towards alcohol excise taxes will support more inclusive growth will be highly country-specific. In countries where alcohol taxes are not

15. The International VAT/GST guidelines set standards that should ensure neutrality in cross-border trade and a more coherent taxation of business-to-business trade in services. More information on the International VAT/GST Guidelines can be found here: http://www.oecd.org/ctp/consumption/international-vat-gst-guidelines.htm

regressive then there is clear merit in increasing these taxes as part of a pro-inclusive growth reform, at least up to the point where they fully internalise the associated negative external costs. In countries where consumption patterns lead to the tax being regressive, increasing alcohol and tobacco taxes might create challenges from an inclusive growth perspective.

There is, however, a strong case for increasing taxes on alcohol and tobacco from a broader health policy perspective. All substitutes should be taxed in a similar way. If consumers can substitute their consumption away from highly taxed towards weakly taxed types of cigarettes and alcohol, consumers might maintain their pre-tax reform consumption levels of alcohol and tobacco, defeating the underlying health purpose of those taxes. Inclusive tax policy design therefore implies that all tobacco and alcohol goods should be taxed where possible according to their negative external effects.[16, 17]

3.3 Environmentally-related taxes

OECD countries impose a range of environmentally-related taxes, defined as taxes levied on bases deemed to be of particular environmental relevance. The difference with environmental taxes is that environmentally-related taxes were not necessarily introduced with environmental objectives in mind (but rather revenue raising objectives or because the demand for those goods is relatively inelastic), but are thought to have strong environmental impacts. The main environmentally-related taxes are excise taxes on consumption of different energy products, mainly transport fuels, and on the purchase or ownership of transport vehicles.

Tax and growth findings

The empirical analysis in the OECD's *Tax and Economic Growth* report did not distinguish between environmentally-related excise taxes and other consumption taxes. Nevertheless, the report emphasised that excise taxes that penalise the production and consumption of environmental "bads" can improve environmental outcomes and at the same time generate revenue that can be used to reduce other distortionary taxes. Whether raising more revenue through environmentally-related taxes to finance a reduction in taxes that are more distortionary (such as corporate or labour income taxes) will be pro-growth will depend on the pre-reform level of environmentally-related taxes (sometimes high, as with transport excise taxes), the characteristics of supply and demand for the goods or services, and what other taxes are reduced. If, for example, prevailing energy taxes are higher than is justified on the basis of the relative inelasticity of demand for energy, then shifting the tax mix towards higher environmentally-related taxes may not necessarily be pro-growth. In the opposite case, the growth impact may be significant.

Concerns about the competitiveness impacts of some environmental taxes, have also influenced environmental tax policies. For instance, countries are hesitant to levy substantial taxes on energy use for firms that compete on international markets, especially when energy-intensive firms are concerned and when other countries set no similar taxes. Empirical evidence (cf. e.g. Arlinghaus, 2015, and Flues and Lutz, 2015) indicates that prevailing energy taxes or tradable permit prices have no measurable impacts on several indicators of competitiveness. This suggests that gradually introducing environmental taxes and monitoring their impacts is compatible with competitiveness.

16. Health impacts may be increasing in the amounts of alcohol and cigarettes consumed, which would point at tax rates that are increasing in the amounts consumed. Obviously, this would be difficult to implement in practice.

17. Furthermore, compensation would not be practical because alcohol and tobacco consumers are only a subset of the population and hence difficult to target.

Distributional effects

Environmentally-related taxes are generally perceived to be highly regressive – hitting the poor harder than the rich in terms of expenditure or income shares. However, evidence has been scarce with only a few studies investigating the distributional effects of energy taxes in OECD countries and studies often focusing on a specific fuel (See, for example: Sterner, 2012; Metcalf, 1999; Poterba, 1991).

Recent OECD research (Flues and Thomas, 2015) has sought to provide further insight on the distributional effects of environmentally-related taxes by examining both a large number of countries on a comparable basis and taxes on different energy products. The research builds on the consumption tax microsimulation approach adopted in OECD (2014), extending these models to incorporate taxes on transport fuels, heating fuels, and on electricity generation and consumption. The models are based on household expenditure micro-data for 21, mainly European, OECD countries.

The results show that for these (mainly European) countries, the distributional effects of energy taxes differ by energy product. As a percentage of current income, results for transport fuels vary considerably across countries with a number showing regressive patterns but others showing progressive patterns. As a percentage of current expenditure though – which provides a more reliable proxy for the lifetime impact of the tax – transport taxes tend to be progressive across the first half or more of the expenditure distribution, although tax burdens tend to fall for the very richest households. The low tax burdens as a percentage of expenditure for poor households are not surprising as many poor households do not own a vehicle. Meanwhile, a potential explanation for the typical fall at the top end of the distribution is that richer households may travel more by alternative modes of transport such as plane and high-speed rail, that they purchase more private passenger or public transport services instead of driving themselves, that they live in less transport-intensive but more expensive downtown locations, or more simply that the share of transport use in total expenditure decreases with expenditure.

Taxes on heating fuels are found to be slightly regressive in many countries whether measured on an income or expenditure basis. Taxes on electricity are found to be more regressive than heating fuels, again whether measured on an income or expenditure basis. In terms of magnitude, transport tax burdens are substantially higher than those for heating fuels and electricity.

Additional OECD research (Flues and Van Dender, 2015) uses the same microsimulation models to investigate energy affordability. Preliminary results suggest that poor households may be constrained so much in their consumption choices in some countries that any additional spending on heating fuels or electricity is a challenge for them. Higher prices due to environmentally-related taxes may decrease heating and electricity use for some low-income households to inadequate levels in the sense of low comfort or compromising health and normal activity patterns. Energy affordability is not considered as significant a concern in relation to transport fuels as substitutes are readily available in most countries.

More generally, pollution itself may have negative distributional implications. For instance, poorer households tend to live closer to airports, motorways or highly-polluting industrial sites and therefore tend to suffer more from pollution than rich households who can afford to live elsewhere.

Tax design for inclusive growth

In many cases, the taxation of transport fuels can raise revenues at relatively low efficiency cost and is compatible with progressivity. However, when considering increasing transport fuel taxes, the current level of the tax needs to be considered – as in some countries Pigouvian levels may have already been reached (i.e. taxes are set equal to the social costs of the negative externality) and further increases could become economically costly (Parry and Small, 2005). Instead of ever increasing fuel taxes, countries could

consider turning to more fine-tuned pricing instruments (congestion charges, distance-based charges) to control transport externalities and to raise revenue but these options would have to be weighed against their potentially regressive effects.

Increasing taxes on heating fuels and electricity could form part of a tax policy that would support more inclusive growth. While they are often regressive, they are typically levied at very low rates – often below even conservative estimates of climate costs from greenhouse gas emissions alone – such that clear environmental gains can be made by increasing tax levels. Increasing taxes to a level that aligns with approximate external costs may, however, require compensation for low-income groups, particularly from an energy affordability perspective. As argued by Flues and Van Dender (2015), such an approach can meet environmental goals and increase energy affordability as well as generate revenue.

A number of countries currently impose reduced VAT rates on energy products in order to address distributional concerns. As discussed in Section 3.3, these should be removed as they are a poorly targeted way of addressing distributional goals. Compensation should instead be provided by income-tested transfers through the personal income tax or benefit system.

3.4 Taxation of labour income by personal income tax and social security contributions

Tax and growth findings

The empirical analysis in the OECD's *Tax and Economic Growth* report ranked PIT – including SSCs – as the second most damaging tax to economic growth after corporate income taxes. The empirical analysis also found progressive PIT rate schedules, and in particular high top PIT rates, to have adverse effects on economic growth. These results are consistent with economic theory which emphasises the distortionary effects of PIT on both labour and capital income.

High average tax rates on labour income will reduce incentives to participate in the workforce, while high marginal tax rates will reduce incentives to work longer and/or harder when in the workforce.[18] Meanwhile, high marginal tax rates on capital income will reduce incentives to save and invest, negatively impacting the capital stock of the economy and thus reducing growth. High marginal PIT rates will also discourage entrepreneurship, innovation and human capital investment, and may be circumvented through tax avoidance and evasion particularly amongst higher income taxpayers.

Efficiency costs can be expected to be greatest where high tax rates are imposed on taxpayer groups that are most responsive to financial incentives. In this regard, empirical evidence shows that low-skilled and low-income workers, second earners (who are often women), and high-income earners tend to be highly responsive to financial incentives, whereas working-age primary earners are less responsive.[19, 20]

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18. Consumption taxes may have a similar effect. The calculation of a "total labour tax burden" indicator, which includes all taxes "borne by" workers, including PITs, SSCs, recurrent taxes on immovable property, consumption taxes and environmentally-related taxes whose incidence is borne by workers is left for future work.

19. See OECD (2011) for a detailed discussion.

20. Taxpayers who, in addition to be an employee, start an own business may face high marginal PIT rates on their personal business income if it is taxed jointly with wages and other personal income. This may create a disincentive to become an entrepreneur. The tax impact on this decision margin has received little attention in the literature so far.

Distributional effects

The PIT is the main source of progressivity in most countries' tax systems. All OECD countries apply progressive PIT schedules with the exception of Hungary and Estonia, and many countries also provide basic tax allowances and tax credits that further increase progressivity. Some countries provide tax concessions that favour higher income earners, though these regressive effects are outweighed by the progressivity of the rate schedules.

In contrast to PIT, the distributional impact of SSC systems varies considerably across countries. Some countries apply progressive schedules similar to PIT, while some impose regressive rate schedules. Many others apply SSC at flat rates, but often up to a ceiling – resulting in an overall regressive impact. A result of this is that in many countries PIT systems place little or no burden on low-income workers but total tax burdens on low-income workers are still significant due to SSCs.[21]

The risk with reducing the overall share of PIT in the tax mix is that it may lower the overall redistributive impact of the tax system. Progressive labour taxation is one of the areas where identifying reforms that enhance growth and improve equity at the same time is the most challenging. On the one hand, the level and progressivity of the PIT encourages equity in the tax system, on the other, it reduces labour supply, savings and investment in skills.

Tax design for inclusive growth

Taking account of distributional concerns weakens the case for shifting the tax mix away from PIT – as PIT is typically the most important source of progressivity and redistribution in tax systems. However, there is still significant scope for PIT reform that would support more inclusive growth. Specifically, various design features of the PIT can be improved to reduce the efficiency costs of the PIT while still addressing distributional concerns.

Taxation of Low Incomes

The impact of PIT and SSCs on labour supply is especially acute at low labour income levels (OECD, 2011b). The literature suggests that the responsiveness of labour supply to taxation is highest among these workers as they often have low skills, low earnings potential and low attachment to the labour market. Thus, high tax rates on low-income workers can have strongly negative consequences on labour market participation, the hiring of low-skill workers, wages, hours worked and in-work effort. In turn, there can be further consequences from low labour market participation on skills formation, health and other aspects of well-being. Work disincentives can be exacerbated by the benefits system (specifically the withdrawal or reduction of support on entry into the workforce) making effective tax rates even higher at low income levels. Reducing disincentives to participate in the labour market is particularly crucial: as discussed, labour market participation is key to building inclusive economies, improving skills, and reducing welfare state dependence.

One way to improve work incentives may be to broaden the base on which SSCs are raised. Many welfare systems in OECD countries, especially those in Europe, are primarily financed by SSCs that are levied only on wage income (with some exceptions). These contribution-based systems lead to a heavy burden, particularly on low-income labour, which can act as a further disincentive to work or hire workers. Introducing progressivity into SSC systems is one potential option to reduce the SSC burden on low incomes, although the advantages would have to be weighed against the disadvantages that may arise when

21. The efficiency effects will depend on the link between SSCs paid and future benefits received; the stronger is this link, the lower might be the distortive impact of taxes and SSCs.

the link between SSCs paid and benefits received is weakened. Another option would be to finance social security systems through taxes other than labour taxes.

In general, when the contribution-benefit link is not strong, as is the case with health insurance and family allowances, financing social security through a progressive PIT or using taxes that bear not only on labour but also on capital income, property and/ or consumption, could help reduce labour costs at low-income levels and increase employment while also ensuring the financing of social security systems. On the other hand, benefits for retirement, disability and unemployment, which tend to be more strongly related to earnings, could remain financed in large part through SSCs.

Another instrument to improve work incentives and still meet social protection goals that has been adopted by many countries is in-work or earned-income tax credits (EITCs). These tax credits reduce tax liabilities for low-income workers. However, because they are only available when in employment, they provide incentives to engage in the labour market. Such credits are usually refundable, which means that taxpayers who do not have sufficient PIT liability to exhaust the credit receive the balance from the government, providing a supplement to their market income. The existing academic literature broadly suggests that EITCs have had positive impacts on labour market participation and on in-work poverty (Blundell et al. 2000; Nichols and Rothstein, 2015).

However, the design of tax provisions (and benefits) including EITCs involves trade-offs. Policymakers are left with a choice: they can either maintain the credit at higher income levels, greatly increasing its cost, or they can withdraw the credit as workers' income increases. This withdrawal can lead to very high marginal effective tax rates on increased earnings, making it financially more worthwhile for workers to continue working at low incomes than to try to increase their effort, skills or hours to earn more. Thus EITCs, though they can improve labour market participation and reduce poverty, may carry high fiscal costs or lead to low-income traps due to high marginal tax rates at higher income levels. It is important to emphasise that the design of EITCs and withdrawal rates should take into account the actual distribution of income as the distortive effect of high marginal effective tax rates will depend on how many taxpayers are subject to them. For instance, low withdrawal rates in countries with compressed wage structures may make in-work tax credits very costly.

Research has nevertheless suggested that workers' responses along the 'hours' or 'intensity' margin is lower than along the 'participation' margin (OECD, 2011b). Workers, when they adjust their labour supply in response to taxation, are more likely to do so by working or not working than by reducing or increasing their hours. This means that the positive impacts that in-work credits have on labour market participation may outweigh the negative impacts they have on hours worked (Blundell et al., 2011). Given the fact that the response to taxation along the participation margin is larger than along the hours margin, this means that very low or negative tax rates at very low income levels (where such rates might positively affect participation) could be worth the necessary higher marginal tax rates (with their attendant negative effects on hours worked) as the hours or effort margins are smaller. However, the literature on these issues is still developing and evidence from countries with a compressed wage structure, such as Norway, suggests that in such a setting the distortive effects at the intensive margin of in-work tax credits may dominate the positive impacts at the participation margin**.** Thus, though the literature provides a broad endorsement of in-work tax credits as a means to improve labour market participation, their precise use and design will depend on country contexts.

Taxation of High Incomes

At the opposite end of the income distribution, equity and efficiency trade-offs are also acute for tax policymakers. From an inclusiveness perspective, financing government spending or redistribution using high tax rates on higher incomes is a progressive policy measure. However, the efficiency consequences of

these policies can be high including high deadweight losses and falls in taxable income as a result of increased tax planning or high-skilled labour moving abroad. Optimal tax theory models offer some guidance on the design of PIT rate schedules and top marginal PIT rates (Box 2).

Box 4. Optimal personal income tax design

Optimal income tax theory provides some insights on the design of tax and benefit systems in order to balance both efficiency and redistributional objectives. The standard model of optimal income taxation was developed by Mirrlees (1971). Essentially, optimal tax models formalise the efficiency-equity trade-off. They set out to determine the optimal set of marginal tax rates that raise a fixed amount of revenue, for a specified redistributive preference held by the government. As emphasised in Jacobs et al. (2007), optimal marginal PIT schedules depend on various factors:

- Pre-tax income inequality
- The degree of inequality aversion
- The elasticity of labour supply
- The population density at various income levels

The first two indicators listed above indicate the scope for redistribution. The latter two indicators will determine the distortionary impact of marginal tax rates. For example, if elasticities are large or if population density at a certain point of the income distribution is high, high marginal taxes will have strong distortive effects (Jacobs et al, 2007).

Regarding the shape of optimal marginal tax rates, optimal tax theory models generally find that optimal tax structures follow a U-shaped pattern as a function of income (Diamond, 1998; Saez, 2001). At the bottom of the income distribution, the high marginal tax rates are the result of means testing (i.e. phasing out of benefits or tax reductions targeted at low incomes). In the middle of the income distribution, marginal tax rates should be lower because of the high population density at that level of income and the high resulting distortionary effects of high marginal rates. At higher income levels, marginal tax rates can increase again as population density diminishes and the redistributive gains will outweigh efficiency costs.

Regarding the level of optimal top marginal tax rates, recent research suggests that the efficiency cost of progressive taxation may be smaller than previously thought. For instance, Piketty et al. (2011) have argued that the absence of any correlation between rising top incomes and per capita GDP growth indicates that increases in top incomes primarily reflect rent-seeking behaviour (i.e. income increases are achieved at the expense of other income groups) as opposed to productivity increases. They find that the revenue-maximising top PIT rate could be significantly higher than current top PIT rates. This line of academic research has led to calls for higher top marginal PIT rates in some countries.

Increased efforts at tax avoidance by high income taxpayers and the negative impact of high top PIT rates on risk-taking, innovation and entrepreneurship, mean that higher tax rates on high incomes come at an efficiency cost. Higher marginal tax rates also require increased efforts by governments to address tax avoidance, generating compliance and tax administration costs. The success of these arguments was borne out in actions taken by policymakers as shown in Section 2 with the decline in top PIT rates between the 1980s and the financial crisis.

The ability of high-income taxpayers to shift their income is often argued to have risen over recent years due to globalisation and increased financial integration. Taxpayers can move countries or domiciles in response to high tax rates or, more easily, shift some of their compensation overseas through legal or illegal means (Zucman, 2014). Indeed, changing work practices means that many high-skilled taxpayers are increasingly mobile, and can relocate in response to labour taxes that are high.

However, recent research suggests that the labour supply response of high-income taxpayers to high marginal rates is low (Piketty et al., 2011) and that the efficiency costs of progressive taxation may therefore be lower than previously thought (Box 2). An important question is whether high top marginal PIT rates really generate deadweight losses when wage compensation does not reflect higher productivity. Indeed, taxing high incomes that do not reflect higher productivity (e.g. football players) at high marginal rates may not generate significant efficiency costs.

Although further work is required to evaluate the room to further raise top marginal PIT rates in OECD countries, tax design for inclusive growth should focus on raising average tax rates, especially for higher income earners, without raising marginal rates. In addition to generating efficiency costs as discussed above, maintaining very high top marginal PIT rates may create greater distortions if gaps between top PIT rates and statutory CIT rates further increase. Indeed, following the adoption of the measures agreed to in the OECD/G20 BEPS package, governments may choose to reduce CIT rates to make their tax systems more attractive to investment, which would further increase the gap with top PIT rates. This may in turn generate incentives for businesses to incorporate to receive lightly taxed capital income instead of highly taxed labour income.

Raising average tax rates on high incomes without raising marginal rates could be achieved by scaling back the tax expenditures that mainly benefit those on higher incomes. Limiting or removing such exemptions and deductions can be an important way of improving the progressivity of the tax system, while at the same time improving its efficiency by removing distortions (e.g. in the types of remuneration and the allocation of capital). Enhanced tax enforcement is also crucial to raising effective tax rates without raising marginal rates.

Key examples of tax provisions which typically provide disproportionate benefits to high incomes include mortgage interest deductions, private pension contribution deductions and favourable tax rates on capital gains (see also Section 3.5). In the case of the United States, Toder and Baneman (2012) found that if all individual income tax expenditures in the US had been eliminated for 2011, the outcome would have been broadly progressive, with a 19.8% decline in after-tax income for the top 1% of the income distribution, compared to only a 7.5% decrease for the bottom quintile, with additional revenue available for pro-inclusive tax and expenditure changes. High-income taxpayers would lose the most, relative to the population as a whole from eliminating special rates for capital gains and dividends, but also bear disproportionate costs as a share of after-tax income from eliminating exclusions and itemised deductions. In Australia, the Committee for Economic Development of Australia (CEDA, 2015) found that superannuation carries tax concessions that primarily benefit the rich, with the top 20% of income earners receiving almost 60% of tax concessions.

Horizontal Inclusiveness in the Tax System

Improving the inclusiveness of the PIT system goes beyond improving the vertical equity of the tax system – issues of horizontal equity are equally important. The tax system should, where possible, aim to be neutral towards taxpayers regardless of their gender, marital status, job security and occupation.

A key aspect of improving inclusiveness through the tax system is to improve women's labour market participation and incentives to invest in skills and to remain and progress in the workforce. Gender equity is an integral part of an inclusive growth tax policy agenda. Often the tax system can discourage women to remain or (re-)enter in the labour force. This is particularly the case for married women who earn less than their spouses. High labour market participation tax rates can result in low levels of labour market activity by second earners, who are predominantly women. Moreover, low expected participation in the labour market can lead to lower expected returns to human capital development, meaning that women may have reduced incentives to invest in skills, lowering their prospective earnings in a vicious cycle. Ensuring there

are sufficient financial and non-financial incentives for all taxpayers to participate in the labour force is therefore crucial to ensure that the economy is inclusive.

High labour market participation tax rates on second earners can be caused by three main tax factors: family-based taxation, family-based benefit or credit withdrawal and dependent spouse allowances (OECD, 2011). These three measures mean that as second earners, who are predominantly women, begin to earn they face higher marginal tax rates on their labour market participation than they would if they had to file individual tax returns. These three policy measures are all designed to provide horizontal equity *between* families, but come at a cost of increasing labour market disincentives for second earners *within* those families.

Options to improve labour market participation among second earners include moving away from family-based taxation towards individual-based taxation, possibly with a system of income splitting for tax purposes which assigns a certain amount of the income of the principal earner to the non-working (or low-income) spouse, and towards the provision of anti-poverty measures such as credits and benefits at the individual level. In addition, the tax system can be used to address certain fixed costs of second earners working, such as childcare. This can be done through targeted support or child credits, or through tax deductibility of childcare expenses (though deductibility may be very expensive and regressive if some taxpayers' tax liability is too low to avail of the full value of such an allowance).

A further dimension of horizontal inclusiveness involves treating workers of similar incomes similarly regardless of their status in the labour market. Some OECD economies, especially in Europe, have been increasingly characterised by labour market dualisation, whereby some fraction of the workforce have stable contracts and security of employment, while others are in significantly less secure employment as a result of costs of hiring and firing (Pissarides, 1990 and Saint-Paul, 1996). This can have knock-on effects on entitlement to benefits and social protection in contribution-financed systems. Workers with comparatively irregular work histories (periods characterised by unemployment, emigration, mid-career education, occasional or part-time work, self-employment, contract work, or absence from the labour market) may have insufficient contribution histories to avail of social protection, or may find their entitlements diminished.

Another dimension of horizontal inclusiveness involves the taxation of different types of remuneration, and fringe benefits in particular. Fringe benefits such as a telephone, company car, vouchers for meals, etc. are often taxed at lower rates or possibly not taxed at all compared to regular labour remuneration. However, higher incomes tend to be the ones who benefit the most from fringe benefits, which implies that, in addition to generating economic distortions, the favourable tax treatment of fringe benefits reduces equity.

Tax Policy and the Distribution of Market Income

While several reforms to the PIT system can improve inclusiveness, the equity-efficiency trade-off in the PIT system will remain significant in many cases. Tax policymakers should thus pay particular attention to how this trade-off can be reduced. Where the tax system can reduce market income inequality (i.e. inequality before taxes and transfers) to begin with, the amount of taxation necessary to achieve a desired distribution of disposable income (i.e. after taxes and transfers) is reduced.

A further factor considered in the *Tax and Economic Growth* report is the impact of the tax system on human capital investment. High tax rates on labour reduce the returns to human capital. High levels of tax progressivity mean that the returns to skills are taxed away at increasing rates; this reduces incentives workers have to invest in skills (OECD, forthcoming). Thus despite the beneficial effects of income tax

progressivity for equity of the post-tax income distribution, it may have detrimental effects on the pre-tax income distribution, reducing its positive impacts from an inclusiveness perspective.

Recent OECD research suggests that while high levels of tax progressivity can have a detrimental impact on incentives to up-skill, these effects can be compensated by higher subsidies for educational costs for students, in the form of reductions in lost earnings and direct costs such as tuition fees. Moreover, higher levels of tax progressivity also mean that more of the returns to skills accrue to the government in the form of higher tax revenues. Given that the returns to higher levels of human capital are so high in the labour market (OECD, 2014c), offsetting the negative impacts of tax progressivity on human capital investment using increased educational subsidies often pays for itself from the government's perspective.

Improving market incomes also involves improving access to skills for all taxpayers. Educational spending should be targeted, where possible, to those parts of the income distribution where the tax system creates the highest disincentives to upskill. Importantly, OECD research suggests that, like mortgage interest deductions and other deductions, deductibility of the costs of human capital investment (e.g. for tuition fees and other direct education-related costs) is regressive in many OECD countries. This is because they benefit those with higher tax rates, where some tax liability is maintained during a period of up-skilling. It is thus likely that increased education spending, rather than increased tax expenditures, should be the preferred policy tool as a means of encouraging investment in human capital. Another policy solution could be to make allowances for skills expenditures refundable, or to allow carry-forward of these tax allowances over a taxpayer's lifetime (Stancheva, 2014). Governments may also turn their focus to life-long learning incentives and related tax provisions targeted at individuals and/or businesses.

A further factor in considering the effects of the tax and transfer system on the distribution of market income concerns the impact of the tax system on lifetime income inequality through the scarring effects of unemployment. Recent OECD research has highlighted the long-lasting consequences of long periods of unemployment or labour market inactivity on workers' projected lifetime income. This effect is particularly pronounced for young people. Encouraging employment, then, particularly on the extensive margin should be a crucial policy goal. This is because the positive effects are not just those that occur immediately, but also those that occur in the form of higher projected future wages due to the absence of scarring effects and higher human capital. This again provides impetus for the expansion of tax provisions that encourage employment such as the increased use of in-work tax credits.

3.5 The taxation of capital income at the corporate and personal level

Tax and growth findings

In many OECD countries, the return on corporate equity is taxed first at the corporate level and again at the personal level when profits are distributed as dividends or capital gains when shares are sold. There has been a trend away from the use of corporate imputation systems which reduce the double taxation of corporate equity income by providing a credit at the personal level for taxes paid at the corporate level. Unlike the return on equity, interest payments are usually taxed only once at the level of the bondholder (OECD, 2007). Double taxation of equity can create a bias towards financing investment with debt rather than equity, which may in turn discriminate against – and therefore harm the growth of – firms that have less access to debt financing. It should be noted that, in some countries, certain types of corporations are not subject to CIT and other non-corporate businesses are taxed under the CIT. In some countries more than half of taxable business profits are subject only to personal income tax, not corporate income tax (OECD, 2015c).

The traditional capital income tax literature has argued that taxes on capital income are inefficient (Atkinson and Stiglitz, 1976). However, the more recent literature suggests that there are economic

efficiency reasons to tax capital income (Banks and Diamond, 2010; Diamond and Saez, 2011). In the OECD's *Tax and Economic Growth* report, the empirical analysis found that corporate income taxes were the most detrimental to economic growth. At the personal level, the empirical analysis did not distinguish between personal capital and labour income taxation. The report nevertheless recognised that taxes on personal capital income (dividends, capital gains, interest) may affect private savings by reducing after-tax returns but specified as well that the effects on investment are uncertain.

Some analysts have argued that the *Tax and Economic Growth*'s finding that a corporate tax reduction would be most conducive to economic growth means that any corporate tax reduction is desirable, including through "self-help" BEPS behaviours (Hufbauer, 2015). However, as noted in the BEPS Action 11 final report (OECD, 2015a), "self-help" reductions in corporate income taxes by some aggressive tax planning MNEs are likely to have different efficiency and distributional effects than a general corporate tax rate reduction, so the *Tax and Economic Growth* study findings that CIT increases are most harmful to economic growth should not be assumed to apply to anti-avoidance rules or removing certain corporate tax expenditures. Additional empirical analysis of the economic and distributional effects of different corporate tax changes is needed.

In addition to corporate income taxes, economic growth might be affected by capital income taxes levied at the personal level. In fact, businesses pay many different taxes which can affect economic growth, including recurrent and transaction taxes on business immovable property, non-recoverable VAT and employer SSCs. Different theories exist and the empirical evidence is mixed. There is a general consensus that the cost of capital of businesses that have access to international capital markets does not depend on taxes on capital income at the personal level; this is the so-called "*new new*" view of capital income taxation (OECD, 2007). Personal taxation on dividends in the home country has less influence on larger firms that can raise finance from foreign investors, who are generally not subject to the home country's personal taxes on dividends (but those dividends could be subject to withholding taxes and the dividends could be subject to tax in the foreign investor's resident country). In contrast, smaller businesses will depend more strongly on local sources of finance and might therefore have to offer higher returns to shareholders and bondholders when the returns to savings are taxed domestically at high personal tax rates. Hence, if capital markets are less than perfect or if there is a financing home-country bias, the taxation of personal savings may have an impact on the level of domestic investment, risk-taking and growth of SMEs but less so on MNEs.

Even in the case of SMEs, there is no consensus among public finance experts on whether dividend tax cuts have a real effect on investment decisions or if they are fully capitalised in share values. Under the "*traditional*" corporate/public finance view, firms' marginal source of finance is new share issuance as firms will prefer distributing dividends as a "quality" signal to shareholders. A dividend tax cut will increase after-tax dividends and might increase dividend pay-outs, as discussed in OECD (2007), which will reduce the shareholders' required pre-tax return on investment. This will lower the firm's cost of capital and thus promotes investment.

The "*new*" view suggests that the marginal source of finance is retained earnings and that dividends will be distributed only if no profitable investment opportunities are left. A constant dividend tax reduces both the cost of the investment and the future return in the same proportion and has therefore no effect on the firm's cost of capital, level of investment or dividend distributions. Dividend taxes are capitalised in share values; a dividend tax cut will not increase investment but lead to a windfall gain for existing shareholders who see the value of their shares go up (OECD, 2007).

The "*nucleus*" view of the firm (Sinn, 1991) builds on the "new" view and demonstrates that dividend taxes have an impact on the timing of investment. If dividend taxes exceed taxes on capital gains, corporations face an incentive to issue only a limited amount of new equity and to retain and reinvest

profits in order to benefit from the lower taxes on capital gains and, hence, retained earnings are a cheaper source of finance than newly issued equity. At the margin, investment will be financed with retained earnings and profits will be distributed as dividends but the cost of capital will not depend on the level of the dividend taxes which are merely capitalised in the value of the shares exactly as under the "new" view (see also OECD, 2007). Alternative theories, such as the agency theory of dividend taxation in which dividend distributions depend on ownership structure (Chetty and Saez, 2007), exist.

Korinek and Stiglitz (2009) analyse the differential impact of unanticipated and anticipated dividend tax changes on business investment. They show that, if firms face liquidity constraints, an anticipated dividend tax increase will reduce investments even if the long-run cost of capital does not change. Raising dividend taxes to finance budget deficits at times when many businesses face difficulties in attracting debt financing (e.g. during a financial or economic crisis) may deepen an economic downturn.

There has been a longstanding debate in the empirical literature between the different views of dividend taxation. Auerbach (2002) shows empirically using micro data that none of these extremes applies to all (listed) firms. Alstadsaeter et al. (2015) show that dividend taxation can have heterogeneous effects on corporate investment by unlisted firms as well; they also show that dividend tax cuts may change the allocation of investment from cash-rich to cash-constrained firms. A thorough discussion of the empirical dividend taxation literature is left for further work.

As discussed in the *Tax and Economic Growth* report, high capital gains tax rates may affect both the demand for venture capital through entrepreneurs' career choices and the supply of funds (e.g. Poterba, 1989). Policy makers face difficult choices in relation to capital gains taxes. In particular, lower tax rates on capital gains provide opportunities for tax avoidance by transforming taxable income into lower-taxed capital gains, but the application of capital gains tax can "lock-in" investments and prevent the efficient reallocation of capital because, for reasons of practical administration, capital gains are taxed on realisation.

Because capital gains are typically taxed upon realisation rather than upon accrual, the effective capital gains tax rate can be significantly lower than the statutory capital gains tax rate, especially for longer equity holding periods. The distribution of accrued and realised capital gains is an important part of an analysis of the wealth and pre- and after-tax income distribution across countries. If capital gains are effectively taxed at a lower rate than dividends, certain businesses (in particular closely-held corporations) and their shareholders might be induced to accumulate profits within the corporation even if the return on investment is low. This will create a tax-induced disadvantage for new businesses compared to existing companies and will reduce the efficient allocation of capital in the economy (OECD, 2007).

Most OECD countries favour certain types of savings (such as owner-occupied housing, private pension funds) over others (such as corporate shares). While these incentives are likely to lead to changes in the composition of savings, there is little evidence that they result in an increase in overall private savings and, since the tax breaks involved are likely to reduce public savings, their effect on GDP is at best uncertain.

Distributional effects

The distributional impact of a general corporate income tax rate reduction will depend on the incidence of the CIT and in particular whether the tax is borne by capital owners, workers and/ or consumers. The OECD/G20 BEPS Project Action 11 final report (OECD, 2015a) discussed the efficiency and distributional effects of MNEs engaging in BEPS. Unlike a general corporate tax rate reduction, self-help tax reductions through BEPS results in differential tax rates between aggressive tax planning MNEs, less aggressive MNEs and domestic-only businesses. These distortions not only cause economic

inefficiencies that can reduce economic growth but they also have distributional effects. As BEPS is more likely to reduce taxes on economic rents from unique intangible assets and firm-specific strategies, the effects of reducing BEPS are more likely to fall on capital income, which would have progressive distributional effects.

Over the last decades, there has been a move away from comprehensive income tax systems towards dual or semi-dual PIT systems, although there are significant differences across countries (OECD, 2006). Comprehensive tax systems aim at taxing all types of income jointly under a progressive rate schedule, often leading to high statutory tax burdens on labour and capital income, although in practice, some forms of income (e.g. pension savings, the return on owner-occupied housing) may receive a favourable tax treatment. To reduce the tax burden on capital income, a number of OECD countries started moving towards various types of dual income tax systems in the mid-1980s, taxing labour income at progressive rates and capital income at lower and proportional rates. In many countries, this shift was not accompanied by a full broadening of the capital income tax base. Tax privileges for pension savings and mortgage interest were often maintained and some countries continued to exempt capital gains at the personal level.

In principle, dual income tax systems achieve horizontal equity in the taxation of labour income on the one hand and in the taxation of capital income on the other hand (OECD, 2006). However, taxpayers with a different mix of capital and labour income are taxed differently, which violates horizontal equity. Moreover, the lower proportional tax rate on capital income tends to undermine the tax code's vertical equity as income from capital is usually concentrated in the upper income brackets.

The shift from comprehensive income tax systems towards dual income tax systems, as well as the reduction in statutory and effective corporate tax rates, has lowered the overall tax burden on capital income and, as a result, lowered the overall progressivity of tax systems. In fact, this shift is one of the factors explaining the reduced role of tax systems in redistribution since the mid-1980s. The decrease in progressivity has occurred through a number of channels. Wealthier households earn more income from capital and therefore benefit more from reduced capital income taxation. Wealthier households can also engage more easily in tax planning through shifting highly taxed labour income into lightly taxed capital income or from highly taxed forms of capital income into lightly taxed capital gains, which has contributed to further reducing their effective tax burden.

Tax design for inclusive growth

An inclusive growth strategy may focus on scaling back corporate income tax incentives. Indeed, corporate income tax systems include a number of tax incentives which reduce tax revenues and create economic distortions. These tax incentives should be reconsidered for their economic growth and distributional consequences. The empirical research on corporate tax incentives (e.g. S. Van Parys, 2012/3) shows that in some cases they may be successful in attracting more investment but fails to confirm that they are beneficial overall. Tax incentives are costly not only in terms of foregone revenues but also because they generate economic distortions between different types of companies and industry sectors as well as costs linked to administering them and preventing their fraudulent use by companies. More generally, taxation is only one of the factors that influence foreign investment and other factors (e.g. market size, access to natural resources, stable investment environment, and availability of highly-skilled labour) tend to play a bigger role in determining businesses' investment decisions.

Reducing corporate BEPS behaviours would also be part of a strategy that supports more inclusive growth. Reducing international corporate tax avoidance through implementation of the measures agreed to as part of the OECD/G20 BEPS project is likely to reduce economic efficiencies, provide additional revenue for productivity-enhancing infrastructure investment or efficiency-improving tax reductions, and have positive progressive tax effects.

Despite equity disadvantages, there may be efficiency reasons for taxing capital income jointly at the corporate and personal level at lower rates than labour income. A lower tax rate on capital income could be used to attempt to compensate, in an approximate way, for a lack of inflation adjustment under a tax on the nominal return to capital (OECD, 2006). Sørensen (1998) offers another argument as to why capital income might be taxed at a proportional rate and labour income at progressive rates under a dual income tax. A pure comprehensive income tax would tax the market value of consumption plus changes in net wealth on an accruals basis. These changes in net wealth would include additions to the taxpayer's stock of human capital. However, traditional income tax systems allow investment in human capital, which takes largely the form of foregone (taxable) wage income, to be fully expensed while investment in physical or financial capital may not enjoy this favourable tax treatment. According to Sørensen (1998), the progressive taxation of labour income – it is assumed that investment in human capital leads to higher labour income – as opposed to the proportional taxation of capital income then counteracts the discrimination in favour of human capital investment.

Recent research has suggested that the arguments in favour of reduced capital taxation are not as clear-cut as previously thought. The OECD's work on Taxation and Skills nuances the arguments put forward by Sørensen (1998); while it is typically true that ETRs on human capital are low for marginal investments, they are considerably larger for average investments in skills. Moreover, the investment in physical or financial capital can be recovered when the underlying saving vehicle or asset is sold, while the investment in human capital is embedded in the individual and loses its financial value when the worker leaves the labour force.[22] Accounting for intergenerational inequality, Piketty and Saez (2012) argue that optimal capital income taxes may be positive. Separate research has found that, where information on skill capital complementarity is uncertain, positive capital taxes can be efficiency-enhancing, due to the insurance effects that they provide (Golosov et al., 2003, and Golosov et al., 2006).

Furthermore, as mentioned previously, increased international cooperation on Automatic Exchange of Financial Account Information in Tax Matters (AEOI) between tax administrations may enable raising personal capital income taxes at a lower efficiency cost. One of the main reasons for shifting towards dual income tax systems and lowering the tax burden on capital income was to reduce incentives for taxpayers to evade taxes through foreign savings accounts and not declare capital income in their country of residence. International cooperation on the reporting of capital income will enable countries to better align taxes on capital and labour and possibly to reduce corporate level tax while increasing tax at the personal level.

A return towards comprehensive income tax systems might be considered as a way to raise taxes on personal capital income but may be difficult to operate in practice. Indeed, a return to the joint taxation of labour and capital income at the personal level would limit taxpayers' income shifting opportunities and strengthen horizontal and vertical equity. In practice, however, certain saving vehicles such as pension savings and owner-occupied immovable property might continue to benefit from a tax-privileged treatment, as was the case before the move towards dual income tax systems, thereby increasing tax-induced savings distortions. As the return on equity is taxed at the corporate level, comprehensive tax systems would have to provide relief for the CIT already paid through a dividend or full imputation system. Imputation systems, however, typically only provide relief for the domestic CIT paid and not for the CIT paid abroad – for these reasons, they may no longer be compatible with EU legislation – thereby distorting investment patterns. Comprehensive taxation may also result in high overall tax rates on capital income, which would lower savings and investment and may induce richer households to move to a lower-tax jurisdiction.

22. The Secretariat plans to calculate effective tax rates on savings, as part of the Taxation of Savings Project, and integrate the results in the Taxing Wages and Skills model and results to study this combined effect.

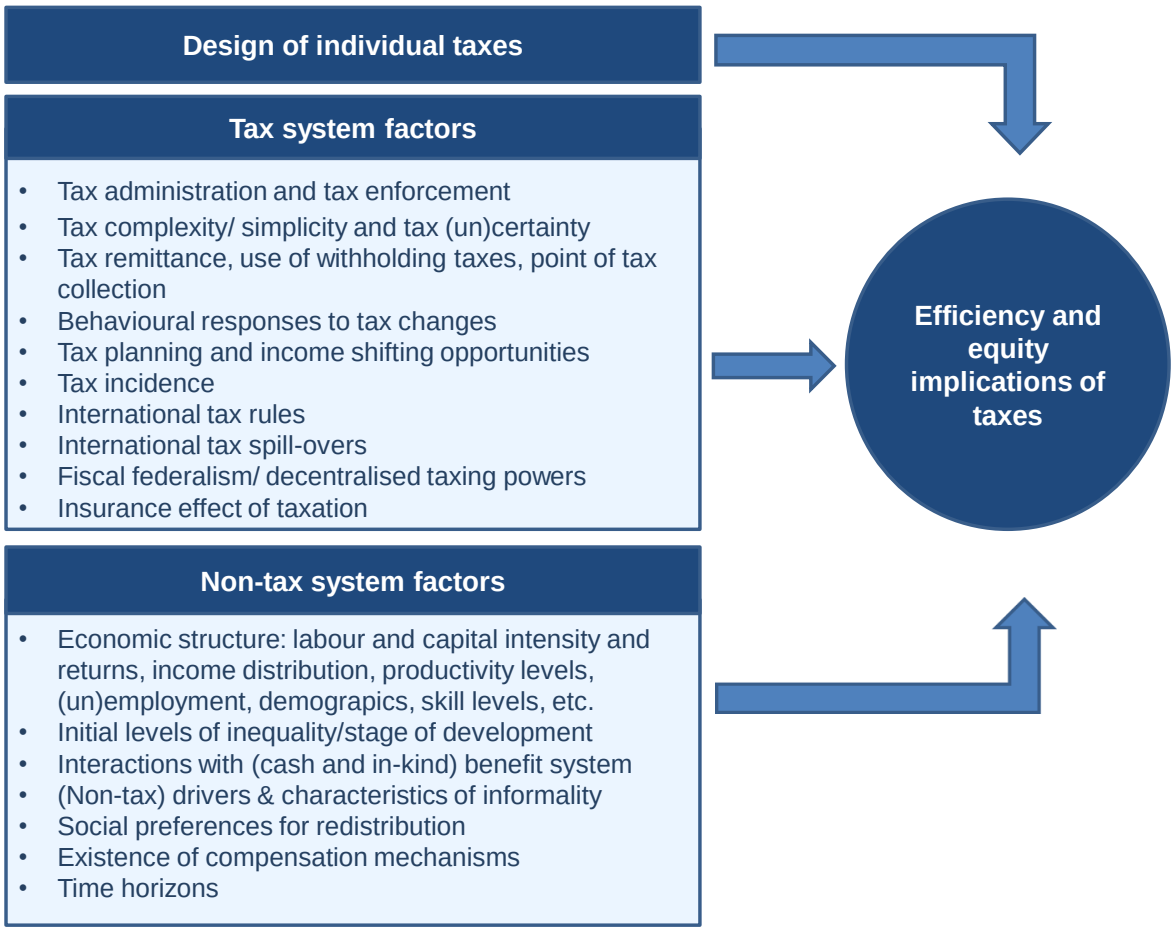
Another possibility would be to broaden the capital income tax base and start taxing capital income under a separate rate schedule at mildly progressive rates. Such a tax system could be described as a "Dual Progressive Income Tax" (DPIT). As part of a DPIT, the total household capital income (i.e. the joint income from interest, shares, government bonds, and indirect savings vehicles such as life insurance policies, private pension savings, etc.) below a minimum threshold could be exempt from tax (i.e. through the introduction of a capital income tax basic allowance) or taxed at a low rate. Alternatively, a "normal return" on savings (e.g. often described as a risk-free rate, and using the interest rate on government bonds) could be exempt from capital income taxes at the personal level. Such a capital income tax reform might increase efficiency by stimulating savings and by reducing tax-induced savings distortions while increasing progressivity at the same time. In fact, the top PIT rates on labour and capital income could be aligned in order to prevent tax-induced incentives to shift labour income into capital income, or the other way around.

4. Tax design for inclusive growth: the need for a systems approach

While looking at efficiency-equity trade-offs on a tax-by-tax basis is critical, it is not sufficient for pro-inclusive growth tax design. In order to pursue sensible tax policy, it is essential to view the tax system as a system rather than consider its different elements in isolation (Alt, Preston and Sibieta, 2008; Slemrod and Gillitzer, 2014). This section confirms the need for a systems approach to tax design for inclusive growth, in particular because tax policy affects inequality in many different ways and because the magnitude of the efficiency-equity trade-offs depends on the interactions between many factors both within and beyond tax systems. Moreover, as efficiency-equity trade-offs largely depend on country circumstances, the trade-offs should not be assessed using a "one-size-fits-all" approach.

In practice, the existence and magnitude of equity-efficiency trade-offs in tax policy depend on a number of factors. This section highlights the importance of going beyond the design of individual taxes and of taking into account interactions between a wide range of factors within tax systems. The analysis argues that tax design for inclusive growth requires that inclusive domestic tax design, stronger international tax rules, limited tax avoidance and evasion opportunities, tax enforcement and a well-functioning tax administration go hand in hand. It also shows that factors beyond tax systems may affect the efficiency and equity implications of taxes, further highlighting the need for a systems approach to tax design. The systems approach to efficiency-equity trade-offs is summarised in Figure 9. Understanding those mechanisms is critical as they have an impact on the optimal design of inclusive tax systems.

Figure 9. A systems approach to tax design for inclusive growth



4.1 Tax system factors that affect the efficiency and equity implications of taxes

This sub-section highlights the need to go beyond individual tax design and take into account other factors within tax systems that influence the efficiency and equity implications of taxes. It shows that tax administration, tax enforcement and tax remittance, behavioural responses to tax changes, tax planning and income shifting opportunities, tax incidence, international tax rules, fiscal federalism and the role of the tax system as an insurance mechanism play a role in determining how efficient and equitable taxes will be.

Tax administration, tax enforcement, and tax remittance

The tax administration needs to be organised efficiently to ensure that revenues are collected at (relatively) low administrative costs and that tax rules are not excessively costly to comply with and enforce. Significant compliance costs for taxpayers are likely to reduce the efficiency of tax reforms but may also impact their equity effects. For instance, high compliance costs may bear disproportionately upon certain categories of individuals or firms, in particular small firms. In addition, systems in which the tax administration is inefficient in limiting tax avoidance and evasion opportunities, and therefore taxable income elasticities, will limit both the efficiency and equity of tax reforms. A tax system that is properly enforced, with a broad base and limited loopholes, deductions, and other opportunities for tax avoidance, will tend to result in lower taxable income elasticities.

The tax remittance and collection process, including the use of withholding taxes paid by third parties such as employers who are required to remit tax on behalf of their employees and provide information to the tax administration, will also have an impact on tax compliance costs. The tax remittance and collection process may not only affect compliance costs, it may also impact the incidence of a tax (see also below). Kopczuk et al. (2013) demonstrate that the point of tax collection has an impact on the incidence of diesel taxes. Moving the point of tax collection to agents higher up in the supply chain will raise the pass-through of diesel taxes to the retail price.

Tax complexity and (un)certainty

There is a growing understanding of the negative economic effects of tax complexity and tax uncertainty. Tax design and institutional settings that affect tax complexity and tax uncertainty are likely determinants of the eventual equity and efficiency outcomes from reform.

Special tax provisions, for instance, give rise to complicated tax rules and may result in tax loopholes, requiring additional tax rules to protect the tax base, as complexity breeds complexity (Bradford, 1986, 1999), and resulting in higher tax compliance, administration and enforcement costs. Complexity inevitably puts compliance at risk as some proportion of taxpayers will not fully understand their obligations and make errors while others will simply ignore what is expected from them. In addition, the possibilities to avoid or evade taxes normally also increase with the complexity of the tax system – which may encourage taxpayers to spend even more resources on reducing their tax bill and which increases the amount of resources needed in the tax administration to prevent and detect tax fraud. In reducing the complexity of the tax system by broadening tax bases through the reduction in the number of tax exemptions and allowances, authorities might reduce the opportunities for taxpayers to make filing errors – although pre-filling tax returns may lower those risks – and to avoid and evade taxes. Less complexity then leads to an increase in tax compliance (OECD, 2006).

Tax uncertainty can be the result of the complexity of the tax rules, both in a domestic and an international tax setting, as well as the way taxes are administered and enforced. While tax auditing strategies are important enforcement and compliance tools, countries that adopt an unduly aggressive tax auditing approach may negatively affect the country's investment climate, for instance. Tax administrations have different tools which may help create a more certain investment climate, including advance pricing agreements and mutual agreement procedures.

Behavioural responses to tax changes, including tax planning and income shifting opportunities

As mentioned in Section 3, the existence and magnitude of equity-efficiency trade-offs also depend on economic agents' behavioural responses to tax reforms, typically measured by labour supply, savings and investment responses, and taxable income elasticities. Other than for taxes that aim to change behaviour (e.g. environmental taxes, health related taxes), the larger the behavioural responses to tax changes, generally the larger the dead weight loss as a result of a reduction in transactions that will take place and therefore the distortionary impact – meaning the larger the growth-equity trade-off – of taxation.

Behavioural responses to tax changes are, in turn, affected by a broad range of factors. For instance, for low-income workers, alternatives to formal employment, such as the possibility of not working or the possibility to work in the informal sector, play a critical role in determining behavioural responses to tax changes. If such alternatives to formal work are viable, formal labour supply elasticities will be high.

For high-income workers, tax planning and evasion opportunities play a key role in determining taxable income elasticities. The high elasticities of high-income earners' taxable income tend to reflect tax avoidance and evasion opportunities more than labour supply decisions. Piketty et al. (2011) show that, for

a panel of 18 countries, the labour supply elasticity of high-income earners is relatively low. Similarly, based on the Swedish wealth tax, Seim (2014) finds that an increase in wealth taxation is likely to lead to greater evasion but that the negative real effects on savings are negligible. In fact, in systems where tax planning and evasion are more difficult, taxable income elasticities are lower, entailing lower efficiency costs of progressive taxation. Kleven and Schultz (2014) find fairly low taxable income elasticities for Denmark, despite the presence of very high marginal tax rates. They explain this by Denmark's very broad tax bases, limited opportunities for tax planning and effective tax enforcement. Thus, governments can reduce taxable income elasticities by maintaining broad tax bases and strengthening tax enforcement including through the implementation of tax anti-avoidance rules.

The mobility of high-income earners may also affect behavioural responses to tax changes and therefore efficiency-equity trade-offs. Many high-skilled taxpayers are increasingly mobile, and can relocate in response to labour taxes that are too high. As a result, countries may want to take the increasing mobility of labour into account when setting their top personal income tax rates (see also Section 3.4).

Tax reforms that are expected to be pro-growth might turn out to have the opposite effect as a result of behavioural responses to those tax reforms. In developing countries, for instance, revenue neutral tax shifts from trade taxes towards PIT have not necessarily been pro-growth (McNabb and LeMay-Boucher, 2014). Although trade taxes hinder investment, raising revenues through the PIT may be a weak option for developing countries where taxpayers can easily hide their income and/ or operate in the informal economy. Such a tax shift may then result in a reduction in tax revenues which reduces the resources available for investment in basic public goods and may lower overall economic growth (Perret et al., 2016).

Tax incidence

The ability to shift the final tax burden onto other taxpayers will affect the distributional impact and the efficiency-equity trade-offs of a tax reform. The taxpayers directly paying the tax may not be the ones ultimately bearing the burden of the tax. The incidence of the tax not only depends on behavioural responses (e.g. demand and supply elasticities) but also on the degree of competition and the linkages across markets.

With regard to property taxes, for instance, taxes on rented property can be shifted from owners to tenants through increases in rental prices. This ability to shift the tax burden will depend on supply and demand elasticities which will in turn depend on broader factors such as the state of the housing market and the type and quality of housing (Loffler and Siegloch, 2014). Tax incidence may also evolve over time as owners may not be able to shift the property tax burden onto their tenants in the short term but may be able to do so over the long run. A high tax incidence on tenants implies that an increase in property taxes may have negative equity implications, particularly in areas (such as big cities) where rents represent a significant share of individuals' spending.

Tax privileges can also be capitalised into the price of assets, which means that those who are supposed to gain from those advantages might not be the final beneficiaries of tax relief. This in turn affects efficiency-equity trade-offs. For example, the benefit of mortgage interest relief may be captured by the sellers of property through increases in house prices rather than by buyers. Under full capitalisation, changes in mortgage interest tax relief are fully matched by changes in house prices. The capitalisation of tax relief has complex distributional implications. If mortgage interest relief is maintained, it may make homeownership less affordable for low-income earners because of higher house prices. If it is removed, which could cause a fall in house prices, it may have negative equity implications for buyers who bought houses at higher prices which reflected the presence of tax relief.

Corporate income taxes are paid by corporate entities, but shifted to households in the form of lower returns to capital owners, lower compensation to workers, or higher prices to consumers. With increasing globalisation and more open economies, a larger share of the CIT burden will be borne by less mobile factors such as land and certain labour groups. Recent empirical research on the incidence of corporate income taxes remains inconclusive, while finding that CIT is likely borne by both capital owners and labour (Clausing, 2012, Gravelle, 2010).

The degree of (im)mobility of production factors and, especially, financial earnings streams will depend on the presence of tax avoidance opportunities and can be reduced through the implementation of the measures agreed to as part of the OECD/G20 BEPS project and the AEOI, and by strengthening tax administrations and tax enforcement. Further work is necessary to study the impact of these measures on the incidence of CIT. It can be expected, however, that strengthened international tax rules and improvements in tax enforcement and administration will put more pressure on the design of domestic tax policies if countries want to remain attractive locations for domestic and foreign investment, work and innovation.

Although the tax incidence discussion is not a new one, much remains to be learned (Clements, et. al, 2015; IMF, 2015). The extent to which the CIT is borne by workers, consumers or capital owners remains an open question. Also, it is often believed that employer and employee SSCs have similar effects in the longer run when the wage level can adjust; however, it would be useful as input to country tax policy discussions to evaluate the circumstances when this result holds and to analyse the short-run and longer-run incidence of the different types of SSCs. Further analysis of the incidence of unrecoverable VAT which businesses may incur, recurrent taxes on business immovable property as well as the extent to which VAT is passed on to consumers would enrich the tax policy debate as well.

In addition, the tax incidence literature typically does not take into account that taxpayers might start (or continue) to operate in the informal economy in response to the taxes which they face. In developing countries, for instance, businesses may decide to function partly in the informal economy in order to be able to compete with informal businesses. Relatively high taxes may also induce businesses in developed countries to sell their goods and services without tax. When high taxes cannot be passed through to consumers (e.g. because they would stop consuming) or workers (e.g. when labour supply would drop significantly in response to lower wages), high taxes may imply that businesses no longer are profitable. In these circumstances, strengthening tax enforcement (introducing electronic cash registers, for instance) to fight tax evasion might result in large economic distortions (i.e. drop in economic activity). When designing strategies that induce businesses to operate in the formal economy, tax administrations may also want to target their tax enforcement efforts to entire value chains and businesses that are competing within their economy (Perret et al., 2016). Indeed, tax policy design and tax enforcement need to go hand in hand.

International tax rules

Stronger and more transparent international tax rules help to broaden tax bases and create a level playing field for domestic and international investors. Countries which broaden the tax base by strengthening their international tax rules might have to improve the design of their domestic tax system, for instance by lowering statutory tax rates, in order to limit the distortive effects of their tax system on the overall investment climate for foreign investors (Perret and Brys, 2015).

As mentioned above, high-income earners react strongly to tax changes, particularly through tax planning. International rules that limit tax avoidance and evasion opportunities, such as the Automatic Exchange of Financial Account Information in Tax Matters (AEOI), can therefore raise the effectiveness of certain tax reforms by reducing the mobility of capital income and the elasticity of high-income earners' taxable incomes to tax reforms.

In addition to reinforcing efficiency, international tax rules also play a critical role in strengthening equity by ensuring that businesses and individuals pay their fair share of taxes. Without proper international tax rules in place, domestic reforms that aim to strengthen equity may not reach their objective. For instance, a PIT reform without strong international tax rules may actually lead to a decrease in equity. If international tax avoidance and evasion issues are not addressed, a more progressive tax system might be counterproductive and lead to a potential decline in revenues as high-income earners would have more incentive to avoid or evade taxes.

International tax spill-overs

The international tax rules adopted by some countries may have spill-over effects on other countries. Fiscal externalities can arise from many aspects of national tax systems but are most prevalent with respect to the corporate tax base and rates. Those spill-over effects can be significant (see the discussion in IMF, 2015).

Decentralised taxing powers and fiscal federalism

The way taxing powers, tax administration functions and tax (and spending) responsibilities are split between the different (central and sub-central) levels of government may also affect the efficiency and equity implications of taxes. Fiscal federalism may enhance efficiency by bringing sub-central fiscal policy closer to citizens' preferences, increasing the efficiency of the public sector and avoid tax and spending excesses. However, tax autonomy may in some cases lead to excessive tax competition, which could in turn result in distorted tax structures, growing tax disparities across regions and an under-provision of publicly provided services. The lack of coordination between the central and sub-central levels of the tax administration may also limit the efficiency of reforms. With regard to equity, fiscal federalism may make it harder to increase overall tax progressivity.

The insurance effect of taxation

Tax systems can have an implicit insurance effect. Taxpayers do not know what the future holds. Redistribution acts as an implicit insurance mechanism. As Andersen (2013) puts it, *ex post* redistribution also serves an insurance function *ex ante*. Progressive rate schedules also have an insurance component as individuals know in advance that they will pay more when events turn out well but less when they are less successful. On the corporate side, loss offset plays a similar function. In a tax system which allows full loss offset with refunds or interest, high tax rates will reduce after-tax returns on investment but will also lower the after-tax losses which taxpayers incur if investments turn out to be unsuccessful. By lowering the variance in disposable income, the tax system can induce risk-averse agents to increase investment in physical and human capital.

The insurance effect of taxation may reduce sensitivity to tax rate increases, and therefore minimise the efficiency-equity trade-offs. Andersen (2013) finds that, in the presence of risk, the implicit insurance effect of taxation counteracts the substitution effect and mutes the sensitivity of labour supply to taxes. This in turn reduces the efficiency-equity trade-off typically attributed to high labour taxes. The insurance effect of taxes might explain, among other factors, why Scandinavian countries have been successful at combining relatively high economic growth, high tax burdens and low inequality.

The insurance effect of taxation will depend on taxpayers' risk perception and the perception of the return on their tax payments. The higher the risk perceived, the higher the willingness to pay into the system. Risk perception varies across individuals. For instance, highly-skilled individuals may feel that they are less at risk of being unemployed and therefore might be less affected by the insurance effect of taxation and less willing to contribute to the system. Similarly, rich taxpayers might be less willing to

contribute to a welfare system that absorbs risks that they are not facing. The insurance effect will also depend on taxpayers' perception of the return on their tax payments in the form of public services and transfers. This will in turn be a function of the amount and quality of redistribution and public services.

However, for the insurance effect of taxation to function, a number of conditions need to be in place. As mentioned above, the quality of redistribution and public services matters. In addition, rules need to be in place to prevent free-riding (i.e. benefitting from the system when economic outcomes are poor but not paying taxes when they are successful) and other moral hazard problems (e.g. lower efforts to find a job when unemployed) as this will lower other individuals' willingness to contribute and reduce the amount and quality of services financed through tax revenues that make paying taxes worthwhile. Effective insurance may also require that the tax expenditures that are beneficial to taxpayers who receive ex-post high income be kept to a minimum compared to tax expenditures that favour taxpayers that earn low income. More generally, the insurance effect of taxation requires measures against tax avoidance and evasion to protect revenues and the capacity of governments to support taxpayers facing poor outcomes as well as measures that make individuals accountable for the welfare benefits they receive (e.g. monitoring job search efforts). These administrative efforts, however, come at a cost.

4.2 Non-tax system factors that affect the efficiency and equity implications of taxes

In addition to the tax factors discussed above, a number of non-tax system factors have an impact on the efficiency and equity implications of taxes, further emphasising the need for a systems approach to tax design for inclusive growth. This section looks at some of the major non-tax system factors which need to be taken into consideration when designing tax policies that aim to be efficient and inclusive.

Economic structure

A country's economic situation and economic structure will have an impact on the efficiency and equity effects of the taxes it raises (or the taxes it wants to raise). This includes the economy's labour and capital intensity and returns, the distribution of income and wealth, productivity levels, rates of employment and participation, skill levels, etc. For instance, high taxes on labour income will be particularly distortive for economies that are labour intensive or for countries that want to increase labour supply and demand (OECD, 2008); this will particularly be the case when skill levels in a country are low (OECD, 2016). Initial levels of inequality/stage of development

High levels of inequality tend to be detrimental to long-term growth, as pointed out in Section 2. At the macro level, if countries' inequality levels are high, which tends to be the case in countries in early stages of development, raising taxes to redistribute income to the poor may be good for growth, in particular when the additional purchasing power that poor households gain from redistribution is spent on domestically produced goods and services, or if it allows poor households to start a business, to invest in their skills, etc. In this case, redistributive policies may entail efficiency costs in the short run but gains in the longer run.

Interactions with (cash and in-kind) benefit system

As pointed out in Section 2, it is the combined effect of taxes and transfers that matters for reducing inequality. While the largest reductions in the Gini coefficient are attributable to transfers, the progressivity of the tax system also plays its role. Moreover, even proportional or regressive taxes can contribute to reducing inequality if the revenues are spent such that the regressive effects of the taxes are more than offset by the distributional impact of the in-cash or in-kind expenditure funded by those tax revenues.

The efficiency effects of taxes also interact with the benefits that are provided. High marginal effective tax rates, for instance, are not only the result of high marginal taxes and/ or tax provisions that are

reduced with income but also as a result of benefits that are withdrawn when income rises. It is the combined effect of taxes and transfers that will influence the behaviour of households and businesses.

Non-tax drivers and characteristics of the informal economy

In addition to taxes, households and businesses may face a variety of country-specific non-tax reasons why they operate in the informal economy including high and costly (e.g. labour and product market) regulatory burdens, a lack of financial and other benefits of functioning in the formal sector, poor governance and low effective enforcement in the formal sector, a lack of trust, high poverty and an absence of or imperfect functioning "formal" markets.

The tax system and individual taxes can be designed such that they provide incentives to the informal sector to formalise and to prevent formal businesses becoming informal. However, the informal sector itself (its size, characteristics, etc.) has an impact on how countries have designed and can reform their tax system (Perret and Brys, 2015). Countries with a large informal economy have a narrow tax base because a significant share of the economy is shielded from the tax system, typically high statutory tax rates that are only paid by agents whose income is highly visible and, in order to raise sufficient tax revenues, a tax mix which includes some particularly distortive taxes such as financial transaction taxes. Those countries then typically have to turn to generous tax incentives to improve the investment climate (Perret et al., 2016).

In such a setting, inclusive tax reform will need to go hand in hand with strategies that incentivise agents to operate within the formal economy. Policies that focus only on strengthening tax enforcement may not be sufficient to stimulate inclusive growth. Policy packages will typically have to consist of a series of carrots and sticks that need to be adapted to the nature of informality in the country and that, in addition to tax, include measures that tackle the underlying reasons why household and firms operate in the informal economy at source (Oviedo et al., 2009).

Social preferences for redistribution

Social preferences for redistribution may influence the magnitude of efficiency-equity trade-offs. Increasing a progressive tax might be more acceptable and thus have less disincentive effects when social preferences for redistribution and aversion to inequality are high. Social preferences for redistribution vary across countries. Citizens in European countries tend to demand more redistribution than in Anglo-American countries (Kuhn, 2012). Social preferences for redistribution also depend on the quality of the public services that taxpayers are perceived to receive in return for their tax money and may vary with countries' stages of development. In addition to cross-country variations, Immervoll and Richardson (2011) show that social preferences for redistribution vary over time within countries.

Existence of compensation mechanisms

Regressive but efficient tax reforms can include inclusive growth offsetting features, such as through another tax which is progressive; through direct cash transfers targeted at low-income individuals negatively affected by the reform; or through in-kind public services (see Section 2). Even if such mechanisms do not fully or immediately compensate all low-income households, they can reduce the negative distributional consequences of an efficient tax reform.

When such compensation mechanisms are not used or when they are inefficient and poorly targeted, the implementation of highly efficient taxes with negative distributional consequences on low-income earners might generate significant equity issues. Indeed, countries with less advanced transfer systems will have more difficulties in smoothing out the efficiency-equity trade-offs of certain types of tax reforms. For instance, removing reduced VAT rates on basic goods may be more difficult and detrimental to equity in

countries that do not have the administrative capacity to compensate poorer households through targeted cash transfers.

Time horizons

The existence and magnitude of efficiency-equity trade-offs also depend on time horizons. Depending on the type of tax reform, equity-efficiency trade-offs tend to be more significant in the short term than in the long run. For instance, the efficiency gains from a tax reform typically do not arise immediately but accrue over time, which means that policy makers might not be able to immediately use the efficiency gains to compensate the losers of a tax reform but may be able to do so over a longer period of time. Additionally, individuals who are considered as poor today because they are studying or not working might not be poor in the future. So the negative distributional implications of a pro-growth tax reform may be overestimated by looking at a short-term rather than a long-term time horizon.

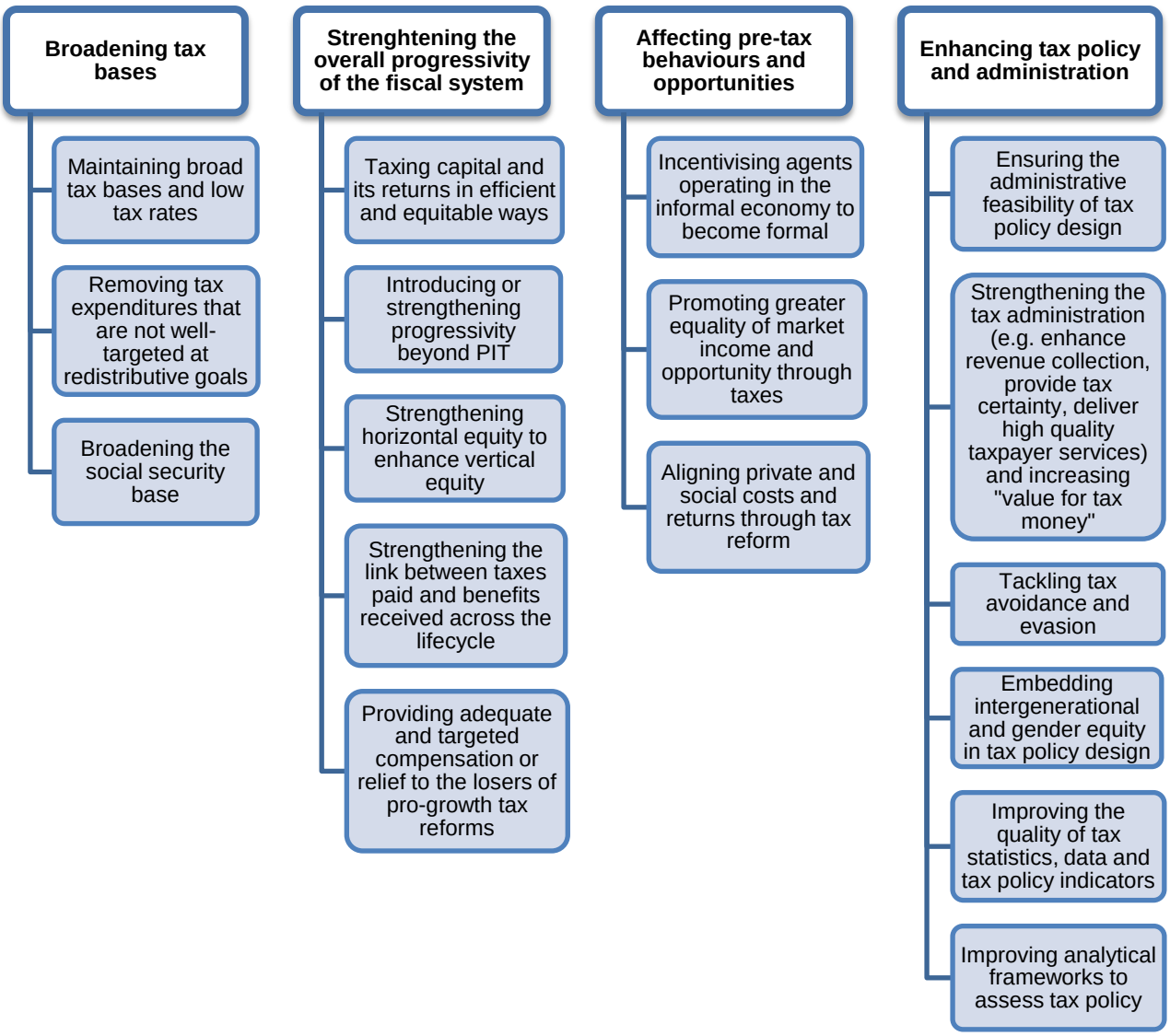
On the other hand, behavioural effects of high tax rates or tax loopholes may be higher in the medium and longer run than in the short run as it typically takes time before agents change their behaviour, which points to the possibility that efficiency and equity distortions may jointly increase over time.

5. Tax policy principles for inclusive growth

This section draws on the tax-by-tax assessment (Section 3) as well as the systems perspective (Section 4) to identify tax policy principles that can support more inclusive growth. These principles are presented in Figure 10 and detailed in this section. They are grouped under four broad pillars: (1) broadening tax bases; (2) strengthening the overall progressivity of the fiscal system; (3) affecting pre-tax behaviours and opportunities; and (4) enhancing tax policy and administration. Each tax policy principle leads to a number of tax policy options that will need to be further examined in future work.

This section highlights that priority reform opportunities lay where inclusiveness and growth goals are aligned or where tax design can contribute to significantly reducing efficiency-equity trade-offs. The key message is that tax design for inclusive growth requires going beyond generic tax mix considerations and looking at the specific design of individual taxes as well as at how individual taxes interact within broader elements in the tax and benefit system. As mentioned in the previous section, however, tax design for inclusive growth depends on a variety of country-specific factors, which means that there is no “one-size-fits-all” approach.

Figure 10. Tax policy design principles and reform opportunities to achieve inclusive growth



5.1 Broadening tax bases

Maintaining broad tax bases and low tax rates

A tax system is considered efficient if, for any given amount of revenue to be raised, it distorts behaviour as little as possible. A base-broadening and rate-cutting reform should reduce distortions by reducing overall tax rates and removing incentives for taxpayers to change their behaviour to take advantage of tax reliefs. In considering the economic efficiency case for removing tax reliefs and broadening the tax base the underlying need for revenue neutral reform is crucial. When tax reliefs are given, tax rates have to be higher than otherwise; and in standard economic theory the deadweight loss from taxation goes up by the square of the tax rate (Auerbach, 1985; Auerbach and Hines, 2002). There is thus a strong presumption (aside from cases where reliefs play a role in correcting externalities) that reforms that enable a reduction in tax rates will increase economic efficiency.

Moreover, broad bases simplify the tax system by reducing exemptions, allowances, credits and/or rates differentiation. This simplification may reduce compliance costs related to individuals and businesses in terms of tracking tax-preferred activities, understanding qualifying and reporting requirements, time required to complete tax returns and to get the relief. At the same time, a broad base approach may reduce the administrative costs of defining the rules of preferential tax treatments, ensuring compliance with the rules (in terms of length of tax instructions and auditing time) or refund costs. Broader tax bases may also be more effective in terms of achieving higher levels of taxpayer compliance and reducing opportunities for tax avoidance, in turn enabling lower tax rates (for given revenue needs) and improving horizontal equity. Tax bases could be broadened in particular by removing tax expenditures that are not well-targeted at redistributive goals.

Removing tax expenditures that are not well-targeted at redistributive goals

Scaling back tax expenditures that are not well-targeted at redistributive objectives may help achieve both greater efficiency and a narrower distribution of disposable income. Tax bases should be broadened first by removing or reducing tax expenditures that disproportionately benefit high income groups. As mentioned above, raising marginal PIT and other marginal tax rates on high earners might not bring in much additional revenue, because of the effects on work intensity, career decisions, tax avoidance and other behavioural responses. Instead, the focus should be on raising average rates without raising marginal rates by removing tax expenditures that primarily benefit the wealthy.

Specific tax expenditures that could be reconsidered include for instance tax relief on mortgage interest especially in countries that do not tax imputed rent, tax incentives to promote 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, such as the High Earners Restriction that was introduced in 2007 in Ireland. Countries could also go further in taxing as ordinary income all forms of remuneration including fringe benefits, the private use of a company car, meal and other types of vouchers, carried interest and stock options. This would enhance equity on the one hand, as high-income earners tend to benefit disproportionately from these forms of remuneration, and efficiency on the other hand, as the unequal tax treatment of different forms of income distorts the allocation of capital, induces changes in remuneration choices and may lead to an increase in tax planning activity.

In a similar way, VAT base broadening could simultaneously enhance efficiency and equity. Base broadening could in particular target those reduced VAT rates for social, cultural and other non-distributional objectives. Those preferential VAT provisions often provide such a large benefit to rich households that they actually have a regressive effect – benefiting the rich more both in aggregate terms and as a proportion of expenditure. For example, reduced rates on hotel accommodation and restaurant food benefit the rich vastly more than the poor, both in aggregate and proportional terms, in all the OECD countries in which they are applied. Similar results, but of less absolute magnitude, are found for reduced rates on books, cinema, theatre and concerts.

Broadening the social security base

For historical reasons, SSCs to finance pension, unemployment and health benefits are levied almost exclusively on labour income in most countries. The development of social security systems in the 19th century was influenced by trade unions and as trade union members were salaried workers, the only base contributions could be drawn on was their wages. Over the following decades, the wage bill kept increasing as a result of demographics, so it constituted an excellent base to finance benefits. Maintaining labour income as the SSC base also made sense because it allows governments to set the level of benefits

in accordance with the actual (or a minimum amount of) SSCs made at relatively low administrative costs. Another (but likely weaker) explanation as to why labour income has been chosen is that pension, unemployment or health benefits substitute for labour income when workers are not able to work or retire.

However, changes in circumstances may require identifying new ways of financing social benefits. The increasing costs and coverage of social security systems have resulted in high employer and employee SSCs in many countries, which reduce incentives to work and hire employees, particularly for low-income, low-skilled, young and old workers. Countries therefore face the challenge of securing funding for their social security systems while preventing large distortions in labour (and other) markets.

When the link between contributions made and benefits received is not strong (e.g. unemployment benefits, child benefits), levying contributions through a progressive PIT or using taxes that bear not only on labour but possibly also on capital income, property and/ or consumption to finance social benefits could help reduce labour costs for low-income workers and increase employment but also ensure the financing of social security systems. France, for instance, levies SSCs on personal capital income and considered the implementation of a "social" VAT (i.e. a VAT rate increase to finance the social security system).

5.2 Strengthening the overall progressivity of the fiscal system

Taxing capital and its returns in efficient and equitable ways

As pointed out in Section 2, the share of top incomes in total income has increased significantly in most countries and wealth concentration is even higher. The shift from comprehensive to dual income tax systems contributed to this trend. In some countries, there may be opportunities to increase taxes on personal capital income in a way that would support more inclusive growth. The AEOI is reducing efficiency-equity trade-offs by making it harder for taxpayers to reduce their tax liabilities by moving capital offshore. This will allow governments to rebalance their tax mix from high taxes on labour income, for instance, towards higher taxes on personal capital income. Lessons should be learned from practice in the 1970s, however. Instead of levying high tax rates on capital income, governments should aim at keeping tax rates relatively low while taxing different types of capital in a similar way and aligning overall tax burdens on labour and capital income. A slightly progressive capital income tax rate schedule could also be part of an inclusive growth tax strategy (see below).

While more analysis on their distributional impact is necessary, there are indications that recurrent taxes on immovable property are not only efficient but can also be designed in an equitable way. Governments could consider taxing land at higher rates because a land tax is efficient and land ownership is likely concentrated amongst wealthier households. Alternatively, governments could consider taxing immovable property jointly with (or at similar rates as) other household savings. However, significant hikes in tax rates on immovable property or strong cuts in mortgage interest deductibility might lead to economic distortions. Recent experience shows that, as property tax increases or where cuts in mortgage interest deductibility may lead to lower property values, households will reduce their consumption if their mortgage debt/equity ratio increases significantly, in particular when the value of their property decreases below their outstanding mortgage obligations. The distributional impact of recurrent taxes on immovable property will also depend on ownership rates across the population, the actual value of property and the distribution of property values, the accuracy of the valuation and the extent to which the tax is capitalised in house prices and rent.

Introducing or strengthening progressivity beyond PIT

As mentioned previously, it is the overall progressivity of the tax and benefit system that matters as opposed to the progressivity of individual taxes. This means that a specific tax may be made less progressive if progressivity is enhanced somewhere else in the tax and benefit system. In particular, it may make sense to introduce or strengthen progressivity beyond PIT. Indeed, PIT is by far the most progressive tax in OECD tax systems but progressivity could be shifted where it might have more limited disincentive and distortive effects. It is also important to note that deadweight losses increase with the level of tax rates, meaning that highly progressive rates can result in large deadweight losses. Finally, if many taxpayers have capital income but no labour income, the tax system will only have a strong progressive effect if taxes on capital income, in addition to labour taxes, are progressive. Thus, shifting progressivity to other taxes, but at mildly progressive rates, may in some cases enhance both efficiency and equity.

Low progressive rates could be applied to personal capital income. Spain, for instance, already taxes personal capital income at progressive rates. More generally, countries could consider introducing "dual progressive income tax" systems which would tax capital income under a separate rate schedule at mildly progressive rates (Section 3.5). The rate schedule could exempt or tax at low rates total household capital income (i.e. the joint income from interest, shares, government bonds, and indirect saving vehicles such as life insurances, possibly private pension savings) below a minimum threshold or exempt the threshold return on savings from capital income taxes at the personal level. Such a capital income tax reform might increase efficiency by stimulating savings and preventing tax-induced savings distortions while increasing progressivity at the same time.

Progressivity can also be introduced or strengthened in the area of property taxation. If increases in property taxes are funding reductions in progressive personal income taxes then this may be particularly attractive as a means of maintaining the overall progressivity of the tax system. Some countries use tax allowances, income-conditional tax credits or progressive tax rates to lower the property tax burden on low-income groups.

To enhance progressivity, especially if raising top PIT rates is difficult, income-testing could be applied to a wider set of provisions. Income-testing reduces the overall budgetary costs of measures and makes it possible to increase the value of tax provisions for those who need them the most. The risk with a wider application of income-testing is that marginal effective tax rates would go up in phase-out ranges of income. However, higher marginal effective tax rates may not be a significant issue as they affect workers' "hours" margin (decision on how much to work) which is less sensitive to tax changes than the "participation" margin (whether or not to participate in the labour market). As mentioned in Section 3.4, when workers adjust their labour supply in response to taxation, they are more likely to do so by working or not working than by reducing or increasing their hours.

Another option that could be considered to strengthen progressivity would be to introduce wealth-testing for benefits, tax allowances, tax credits and other tax expenditures. Wealth-testing would nevertheless have to be weighed against increased administrative costs and possibly liquidity considerations. A possibility would be to have wealth-testing alongside income-testing. The possibility and success of wealth-testing would also depend on the implementation of AEOI for tax purposes.

Strengthening horizontal equity to enhance vertical equity

In some cases, strengthening horizontal equity may contribute to enhancing vertical equity. For instance, better aligning capital and labour income taxation may strengthen both horizontal and vertical equity. It enhances horizontal equity by treating different forms of income more similarly. In turn, a more horizontally equal tax treatment of capital and labour income reduces incentives and opportunities for

high-income earners to shift compensation from wages into capital income, resulting in greater vertical equity. Similarly, by harmonising the tax treatment of different types of capital income, the tax system will no longer distort choices by favouring particular types of investment and saving arrangements.

Strengthening horizontal equity between workers of similar incomes regardless of their status in the labour market can also enhance inclusiveness. Applying a different tax treatment to workers depending on their status (e.g. types of labour contracts/self-employment vs. employees) generates distortions in the labour market, for instance by inducing employers to replace regular employees with independent workers. It can also be detrimental to inclusiveness. As mentioned previously, workers with comparatively irregular work histories (e.g. periods of unemployment, mid-career education, occasional or part-time work, self-employment, contract work) may have insufficient contribution histories to avail themselves of social protection, or may find their entitlements diminished. As these workers are often low-income workers, treating them like other workers will not only strengthen horizontal equity but will also contribute to greater inclusiveness.

The Mirrlees Review (Mirrlees et al., 2011) has made several suggestions to facilitate the smoothing of taxable income so that the progressivity of the PIT becomes better targeted at individuals with high life-time incomes rather than taxpayers with temporarily high taxable income. If annual earnings fall because the taxpayer loses their job or life-time earnings fall because of sickness, for instance, some of the PITs paid in previous years would be returned to the taxpayer.

Strengthening the link between taxes paid and benefits received across the lifecycle

When there is a strong link between the contributions that taxpayers make and the benefits that they receive, in particular in the case of pensions, there is a case for strengthening that link to limit labour market distortions and moral hazard problems. Different approaches might be considered, including improved information provision to taxpayers on future entitlements for taxes paid and/ or the use of social welfare accounts.

Bovenberg et al. (2012) demonstrate that the use of "social welfare accounts" can be Pareto improving (i.e. improve the efficiency-equity trade-off). Social welfare accounts are mandatory individual savings accounts financing social transfers that are returned to the taxpayer at a later stage in the lifecycle. Bovenberg et al. (2012) explain that the inter-personal redistribution of lifetime income (i.e. redistribution from the richer to the poor) would remain tax-financed.

Social welfare accounts can be designed in different ways. They can be a personal information device that aims at providing information to every individual taxpayer on the amount of taxes paid in each year and the in-cash, and ideally also in-kind, benefits received over time. Making explicit to taxpayers what they receive in return for taxes paid might be part of a strategy that strengthens tax morale; it may also induce taxpayers to support intra and inter-personal income distribution and increase work efforts and savings. Alternatively, social welfare accounts can be designed such that they allow taxpayers to choose both the amount and the moment in time when to take up a particular benefit. The amount of benefits received may then have a direct impact on future tax liabilities. This approach is similar to the notion of "graduate taxes" of the taxation and skills literature; students that go to college may face an additional graduate personal income tax rate in the future. The pros and cons of specific design features of social welfare accounts and their optimal design from an inclusive growth perspective, including their relation with the insurance role of the tax system and risk-pooling, is left for future work.

Providing adequate and targeted compensation or relief to the losers of pro-growth tax reforms

As mentioned in Section 3.2, VAT is an efficient tax from a growth perspective. However, increasing the standard VAT rate or removing reduced rates might call for measures to compensate low-income households as poorer households will be hit harder than the rich even by a proportionate tax. A similar argument can be made for environmentally-related taxes. There is a pro-growth case for shifting away from income taxes towards environmental taxes but some of those taxes, such as taxes on electricity, can be regressive. Taxes on household energy use for transport and heating, on the other hand, are generally found not to be regressive in European OECD countries. If countries want to "green" their tax systems while avoiding regressive impacts, higher electricity taxes should be accompanied with compensation through the tax and benefit system (Flues and Thomas, 2015).

Nevertheless, transfer systems need to be efficient and well-designed to adequately compensate low-income households and make pro-growth tax shifts towards VAT and environmentally-related taxes inclusive. Appropriate compensation mechanisms include refundable income-tested tax credits or benefit payments that ensure middle and upper income households do not benefit. For simplicity reasons but also because ministries responsible for transfers have more experience in compensating households, it may often be best to use the transfer system instead of tax credits. The appropriate design of compensation measures also depends on countries' wage structures. For instance, in countries with compressed wage structures, an income-tested tax credit with a relatively low phase-out rate will lead to a wide application of the credit and make it very costly.

A pro-growth shift towards recurrent taxes on immovable property may also require tax relief for low-income households who would otherwise face a liquidity problem in paying the tax. Concern is often raised about the impact of recurrent immovable property taxes on asset-rich but cash-poor households. As explained in Section 3.1, a substantial property tax bill combined with a low income may result in a property needing to be sold in order to pay the tax. This issue may be addressed either by applying a relatively generous basic allowance, an income-tested tax credit, or by allowing deferral until the taxpayer's death or the sale of the asset for older taxpayers.

Providing adequate compensation requires gathering good data on taxpayers such as income information from tax returns and clearly identifying the winners and losers of tax reforms, which as mentioned in Section 4 will depend on various factors including tax incidence and time horizons. Ideally, it would be fairer to assess the overall equity impact of tax systems and to adjust compensatory measures accordingly rather than seek to compensate the losers of different tax reforms separately.

5.3 Affecting pre-tax behaviours and opportunities through tax policy

Incentivising agents operating in the informal economy to become formal

Agents may operate within the informal economy for a variety of reasons including stringent regulations, taxation and other non-financial burdens. There may also be limited financial and other net benefits of entering the formal economy. Bringing informal businesses and individuals within the reach of the tax system is critical to supporting inclusive growth. On the one hand, it will improve efficiency and stimulate economic growth as the distortions between formal and informal businesses would be removed and as formal sector businesses tend to be more productive. On the other hand, it is likely to strengthen equity and well-being as workers employed in the informal sector have limited access to social protection, inadequate contracts, comparatively lower wages, and are highly vulnerable when they lose their job or when they retire. Governments should therefore seek to raise the costs of remaining in the informal sector and raise the benefits of joining the formal economy. This can be achieved by implementing tax policy

packages that comprise both incentives and dissuasive measures adapted to the nature of informality in the country (Oviedo, 2009).

While tax systems and specific tax measures can provide formalisation incentives to informal sector agents or discourage formal businesses from becoming informal, the informal sector itself (its size, characteristics, etc.) has an impact on how countries have designed and can reform their tax system. For instance, countries with a large informal sector will likely find it hard to raise significant revenues from PIT as taxpayers can easily leave the formal economy and operate in the informal sector. Stronger monitoring and tax enforcement will be most effective in deterring informality and tax evasion when joining the formal sector is a viable economic strategy for businesses.

Promoting greater equality of market income and opportunity through taxes

There is a pro-inclusive growth case for strengthening inheritances taxes. Not only are inheritance taxes less distortionary than personal and corporate income taxes, but they can help achieve intergenerational equity goals and greater market income equality. By reducing and dispersing wealth holdings on death, taxes on inheritances and gifts can play an important role in strengthening equality of opportunity and limiting inter-generational inequality. Inheritance taxes can also contribute to reducing disincentives to work and thereby promote greater market income equality.

Tax codes can also provide incentives or disincentives for individuals to work, study and upskill, which in turn affects the distribution of market (pre-tax and transfer) income. The tax code can for instance affect incentives to invest in education and training by influencing the costs and benefits of these investments. This can be the case for individuals through the income taxes and SSCs they pay, and for companies through their corporate taxes and employer SSCs. Tax incentives for education and upskilling can in turn lead to a narrower distribution of market income without generating any or significant efficiency costs.

Tax measures such as EITCs and targeted SSC cuts can raise progressivity at the bottom of the income distribution and at the same time promote greater equality of market income by encouraging employment and earnings growth for certain types of workers. Although EITCs can generate high fiscal costs and drive marginal effective tax rates up over the phase-out range as they are withdrawn, they are generally considered effective tools to improve labour market participation and 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.

Aligning private and social costs and returns through tax reform

In order for economic growth to be inclusive not only in the short term but also in the longer run, it is necessary that agents contribute to economic activities in a way that the private and social returns of their actions are aligned and that agents take the private as well as the social costs of their actions into account.

Environmentally-related taxes, “sin” taxes (e.g. excise duties on alcohol and cigarettes), health related taxes (e.g. on sugar, saturated fat), and gambling taxes play an important role not necessarily as revenue raisers but as instruments that steer private behaviour towards socially desirable outcomes.

It should be mentioned, however, that taxation may not always be the most appropriate instrument to align private and social costs as well as private and social returns. For instance, while transport fuel taxes may in many cases raise revenues at relatively low economic cost and be compatible with progressivity, in some countries Pigouvian levels may have already been reached and further increases could be economically costly. Instead of increasing fuel taxes, countries may wish to consider turning to more fine-

tuned pricing instruments (e.g. congestion charges, distance-based charges) to control transport externalities and to raise revenue in the future (Section 3.3).

5.4 Enhancing tax policy and administration

Ensuring the administrative feasibility of tax policy design

When designing tax policy, policymakers need to take into account the administrative feasibility of proposed reforms. They need to take into account the challenges, and the corresponding administrative and enforcement costs, which the tax administration will face when implementing those reforms. Countries with a weaker administrative capacity should not necessarily aim at implementing the complex tax provisions that can be found in some of the more developed countries. For instance, even though R&D tax provisions stimulate innovation, they may also create opportunities for tax planning which could erode the tax base if not administered properly. Also, countries that assign taxing powers to sub-central levels of government will have to evaluate how they will administer the sub-central tax in order to ensure that sub-central levels of government are kept accountable for the corresponding costs.

Strengthening the tax administration and increasing "value for tax money"

Governments should ensure that taxpayers receive value for tax money. The higher the costs of administering the tax system and the costs of providing government services and transfers, the less money will be left for redistribution from tax money raised. If public administration inefficiencies are high, taxpayers will have lower tax morale and be less willing to contribute to the financing of government services and transfers through taxes. Governmental inefficiencies also reduce the perception that tax systems play an effective insurance role in case of risk and further lower taxpayers' willingness to pay into the system. In addition to raising tax revenues and creating a level playing field, OECD-led initiatives such as the OECD/G20 BEPS project and the Automatic Exchange of Financial Account Information in Tax Matters enhance tax morale as they signal governments' commitment to address tax avoidance and tax evasion.

More generally, governments should continue to invest in improving the quality of their tax administrations. An efficient and cost-effective tax administration will enhance overall revenue collection. The tax administration has a role to play in providing tax certainty to taxpayers and to provide good quality services to taxpayers. It will also need to organise itself efficiently in order to tackle tax avoidance and evasion.

Tackling tax avoidance and evasion

High-income earners may have greater opportunities to get tax planning advice on reducing their tax liabilities, to underreport income (e.g. by treating consumption as a business expense, or keeping income offshore) or to receive remuneration in a form of income that is more lightly taxed (e.g. capital gains). Reducing tax avoidance and evasion can help achieve greater equity in addition to enhancing efficiency in the tax system. Reducing tax avoidance and evasion also enhances compliant taxpayers' perception of the tax system as fair.

If tax avoidance and evasion issues are not addressed, a more progressive tax system might be counterproductive and lead to a potential decline in revenues as high-income earners would have more incentive to avoid or evade taxes. The objective is to reduce the behavioural response – i.e. the taxable income elasticities – of high-income earners and to make progressive taxation more effective.

Reinforcing the efficiency of measures against tax avoidance and evasion will require improvements in tax administration as well as stronger international cooperation on corporate income tax and capital income tax issues at the personal level.

Embedding intergenerational and gender equity in tax policy design

The equity of the tax system is usually assessed in terms of horizontal and vertical equity and, although rarely, intergenerational equity, but tax policy should also be assessed in terms of gender equity. Tax systems can affect men and women differently. Explicit gender bias occurs where tax provisions are legally linked to gender; this no longer is the case in OECD countries. Implicit bias arises where taxes and tax systems interact with differences in underlying patterns of economic behaviour associated with gender. In OECD countries, men and women are not treated differently because of their gender, but because the tax system discriminates against certain patterns of behaviour that may be more closely associated with one gender than the other. One obvious example relates to the impacts of the tax system on second earners, given that second earners are predominantly women.

Gender equity requires a good understanding of the different patterns of economic behaviour of men and women and the various interactions with the tax system. At the very least, policymakers should ensure that tax design features do not exacerbate existing gender inequities. Indeed, it is important that the tax system itself does not enhance the gender bias. Gender imbalances should be tackled at source. However, this may not always be possible in the short run. Therefore in some cases, policymakers may consider using the tax system to correct for gender imbalances. These interventions, however, should be weighed carefully with other alternatives available to policymakers and broader tax design considerations of the tax systems. Finally, in evaluating tax policy reforms countries should include consideration of the gender impact as a core element in design and monitoring outcomes.

Improving the quality of tax statistics, data and tax policy indicators

Better data, in particular on income and wealth distribution (on and offshore) and high net wealth individuals, is needed. In addition, tax design for inclusive growth requires better tax statistics and tax policy indicators. High-quality tax statistics and tax indicators will help design reforms that reconcile efficiency and equity as well as identify and potentially compensate losers of tax reforms. Better indicators and analyses will also help inform policymakers and influence the tax policy debate.

Examples of tax statistics and tax policy indicators that could be further developed within the OECD Centre for Tax Policy and Administration in the future include:

- Effective measures of tax progressivity and redistribution (Kakwani and Reynolds-Smolensky indices) and the impact of the individual taxes and their design on these indicators
- Dynamic measures of progressivity covering individuals' lifecycles
- More work on the income and the taxation of the self-employed and the tax-induced incentives for businesses to incorporate
- Measures of effective capital income taxation and the effects on saving and investment

Improving analytical frameworks to assess tax policy

Tax design for inclusive growth also requires better tax policy models and analysis. High-quality tax policy analysis will help design reforms that reconcile efficiency and equity as well as identify and

potentially compensate losers of tax reforms. Better analysis will also contribute to communicating tax rule changes to taxpayers in a transparent way. Indeed, not only do tax reforms have to be equitable but they also have to be *perceived* as fair by taxpayers.

Examples of useful models and analysis that could be further developed within the OECD Centre for Tax Policy and Administration in the future include:

- Additional work on the taxation of different types of remuneration (fringe benefits, carried interest, stock options) and its impact of efficiency and equity
- More work on tax and gender
- Embed the lessons that can be learned from the optimal taxation literature more strongly in tax policy analysis and recommendations
- Additional work on fiscal federalism in the context of inclusive growth
- More work on the distributional impact of taxes and tax expenditures
- More work on tax incidence
- More work on behavioural responses to tax changes
- Stronger focus on the economics of tax compliance and tax administration
- More work on taxes that strengthen equality of opportunity (e.g. inheritance taxes)
- More work on the taxation of not-for profit organisations as well as tax analysis of charitable contributions

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