

PART II  
Chapter 5

## Reducing income inequality while boosting economic growth: Can it be done?

*This chapter identifies inequality patterns across OECD countries and provides new analysis of their policy and non-policy drivers. One key finding is that education and anti-discrimination policies, well-designed labour market institutions and large and/or progressive tax and transfer systems can all reduce income inequality. On this basis, the chapter identifies several policy reforms that could yield a double dividend in terms of boosting GDP per capita and reducing income inequality, and also flags other policy areas where reforms would entail a trade-off between both objectives.*

## Summary and conclusions

In many OECD countries, income inequality has increased in past decades. In some countries, top earners have captured a large share of the overall income gains, while for others income has risen only a little. There is growing consensus that assessments of economic performance should not focus solely on overall income growth, but also take into account income distribution. Some see poverty as the relevant concern while others are concerned with income inequality more generally. A key question is whether the type of growth-enhancing policy reforms advocated for each OECD country and the BRIICS in *Going for Growth* might have positive or negative side effects on income inequality. More broadly, in pursuing growth and redistribution strategies simultaneously, policy makers need to be aware of possible complementarities or trade-offs between the two objectives.

This chapter sheds new light on this issue, following up on recent OECD work (OECD, 2011). It first highlights differences in income inequality across the OECD and the factors driving them, such as cross-country differences in wage and non-wage income inequality, as well as in hours worked and inactivity. The chapter then provides new analysis of the policy and non-policy determinants of overall income inequality, assessing separately the drivers of labour income inequality and the redistributive role of tax and transfer systems. In each case, the analysis identifies “win-win” policies that can both reduce inequality and promote economic growth, and also highlights policies that may entail trade-offs between the two policy goals.

OECD countries can be divided into five groups according to their patterns of inequality. For example, in five English-speaking countries (Australia, Canada, Ireland, New Zealand and the United Kingdom) and the Netherlands wages are rather dispersed and the share of part-time employment is high, driving inequality in labour earnings above the OECD average. Means-tested public cash transfers and progressive household taxes reduce overall income inequality, but it remains above the OECD average. At the other end of the scale, four Nordic countries and Switzerland all have comparatively low labour income inequality because wage dispersion is narrow and employment rates are high. Cash transfers tend to be universal and are thus less redistributive. Income inequality for this group is considerably below the OECD average.

This chapter also presents new empirical analysis which shows that although technological change and globalisation have played a role in widening the distribution of labour income, the marked cross-country variation is likely due to differences in policies and institutions. This leads to the following conclusions about policies and institutions:

- Education policies matter. Policies that increase graduation rates from upper secondary and tertiary education and that also promote equal access to education help reduce inequality.
- Well-designed labour market policies and institutions can reduce inequality. A relatively high minimum wage narrows the distribution of labour income, but if set too high it may reduce employment, which dampens its inequality-reducing effect. Institutional

arrangements that strengthen trade unions also tend to reduce labour earnings inequality by ensuring a more equal distribution of earnings. Job protection reforms that make permanent and temporary contracts more even in their provisions lower income inequality through smaller wage dispersion and also possibly via higher employment.

- Removing product market regulations that stifle competition can reduce labour income inequality by boosting employment. The empirical evidence for the link between product market reform and the dispersion of earnings is rather mixed.
- Policies that foster the integration of immigrants and fight all forms of discrimination reduce inequality.
- Tax and transfer systems play a key role in lowering overall income inequality. Three quarters of the average reduction in inequality they achieve across the OECD is due to transfers. However, the redistributive impact of cash transfers varies widely across countries, reflecting both the size and progressivity of these transfers. In some countries (e.g. Australia, the United Kingdom to a lesser extent), cash transfers are small in size but highly targeted on those in need. In some others (e.g. France or Germany), large transfers redistribute income mainly over the life-cycle rather than across individuals, and their progressivity is often low.
- Of the various types of taxes, the personal income tax tends to be progressive, while social security contributions, consumption taxes and real estate taxes tend to be regressive. But progressivity could be strengthened by cutting back tax expenditures that benefit mainly high-income groups (e.g. tax relief on mortgage interest). In addition, removing other tax reliefs – such as reduced taxation of capital gains from the sale of a principal or secondary residence, stock options and carried interest – would increase equity and allow a growth-enhancing cut in marginal labour income tax rates. It would also reduce tax avoidance instruments for top-income earners.

These findings, combined with past OECD and other work on the gross domestic product (GDP) per capita effects of policies and institutions – which underpins the growth-enhancing reform recommendations made in *Going for Growth* – highlight the existence of both complementarities and trade-offs between reducing inequality and promoting economic growth:

- Many policies entail a double dividend as they reduce income inequality while at the same time boosting long-run GDP per capita. Examples include facilitating the accumulation of human capital, making educational potential less dependent on personal and social circumstances, reducing labour market dualism or promoting the integration of immigrants and fostering female labour market participation. Concerning taxation, reducing tax expenditures, for instance for investing in housing, contributes to equity objectives while also allowing a growth-friendly cut in marginal tax rates.
- By contrast, several policies may entail a trade-off between reducing income inequality and raising GDP per capita. For instance, administrative extensions of collective wage agreements may reduce wage earnings dispersion among workers, but if they set labour costs at too-high levels for some employers they may harm competition and productivity and possibly reduce employment. Shifting the tax mix to less-distorting taxes – in particular away from labour and corporate income taxes towards consumption and real estate taxes – would improve incentives to work, save and invest, but could undermine equity. Cash transfers targeted to lower incomes can be used to ease this trade off.

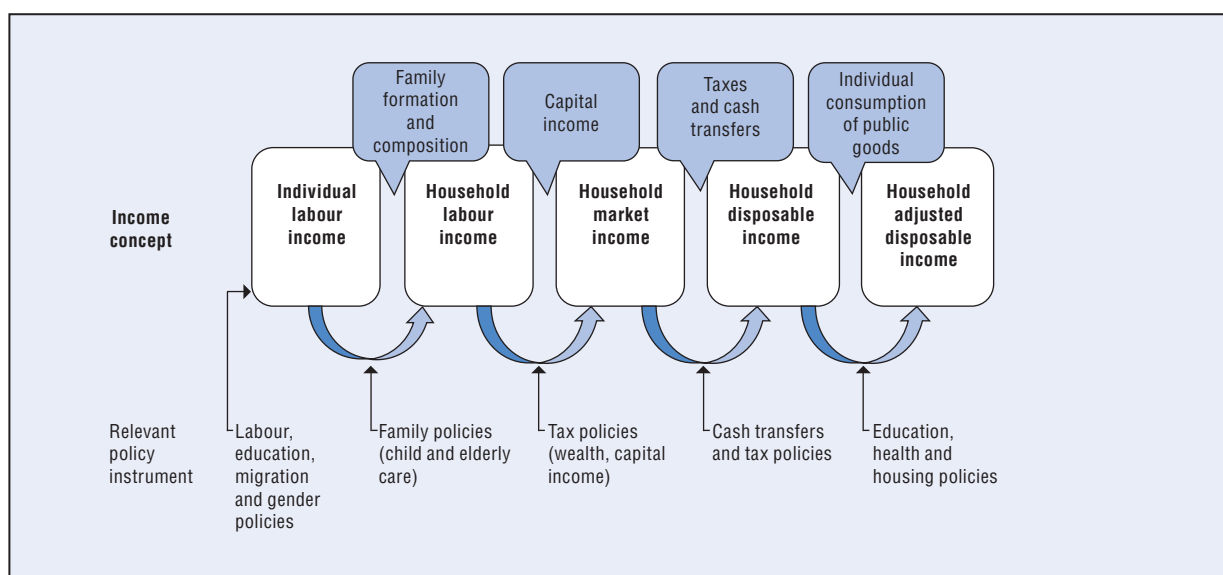
- Finally, some policies aimed at boosting GDP per capita have an uncertain impact on income inequality. For instance, avoiding too-high and long-lasting unemployment benefits may raise employment over the long run but also widen the distribution of income among workers, with an ambiguous net effect on inequality. The same holds as regards keeping minimum wages at moderate levels.

## Understanding inequality

How does one measure income inequality? According to a report by the Stiglitz-Sen-Fitoussi Commission (Stiglitz *et al.*, 2009), the most comprehensive income concept is household disposable income that has been adjusted for publicly-provided in-kind transfers, such as public spending on education and health care. This measure, referred to here as “adjusted household disposable income” is shaped by various factors illustrated in Figure 5.1. All these factors can vary and shape inequality as follows:<sup>1</sup>

- *Individual labour income.* The dispersion of individual labour income amongst the working-age population reflects both the wage dispersion for full-time employees and the labour income dispersion of other groups who make up the working-age population (part-time workers and the self-employed, as well as the unemployed and people not looking actively for a job).<sup>2</sup>
- *Household labour income.* Working-age families differ in size and composition, affecting the total labour income of households.
- *Household market income.* It includes both household labour and capital income.<sup>3</sup>
- *Household disposable income.* Household disposable income covers all households and income sources, after taxes and cash transfers.
- *Household adjusted disposable income.* It adjusts household disposable income for in-kind transfers (e.g. public spending on health, education and social housing).

Figure 5.1. **From individual labour earnings to adjusted household disposable income**



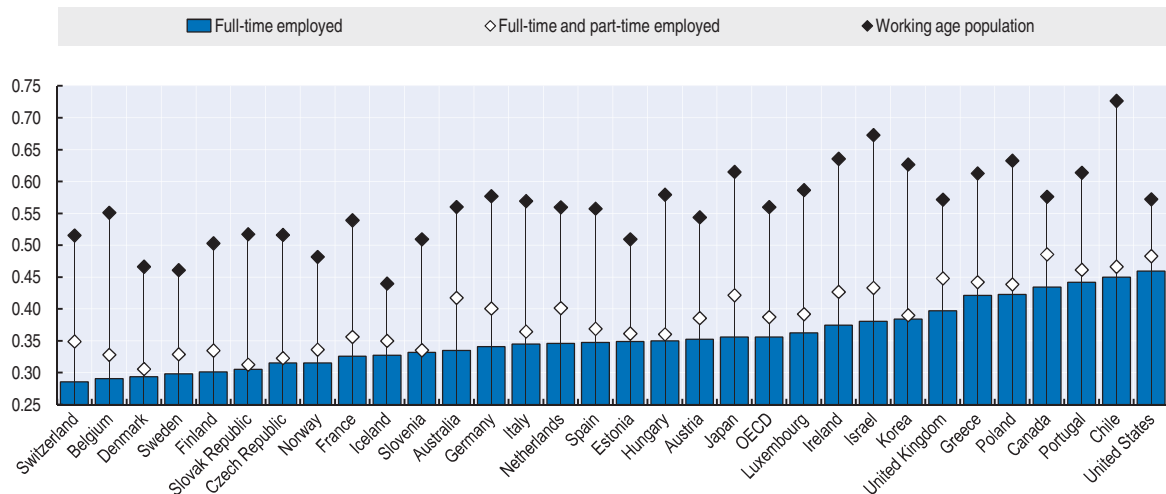
The rest of this chapter covers three of these five income concepts – household labour income, household market income and household disposable income – since these are the most relevant for the build-up of inequality and the most responsive to structural reforms, while the measurement of the redistributive impact of in-kind benefits is difficult.<sup>4</sup> Due to data availability constraints, the chapter focuses on inequality at a given point in time, while the issue should ideally also be looked at from a life-time perspective, taking into account the role of social mobility.

### The dispersion of household labour and market income differs across countries

The dispersion of household labour income is driven by four factors: i) the dispersion of hourly earnings among those who have a full-time job; ii) the share of part-time workers; iii) the non-employment rate; and iv) household formation. Countries differ widely in the dispersion of earnings among full-time workers, with Chile, the United States and Portugal being the most unequal countries and Belgium, Denmark and Switzerland being the most equal ones (Figure 5.2). Inequality is higher in all countries when extending the analysis to part-time workers or the entire working age population (*i.e.* also including the unemployed and the inactive), reflecting the large income differentials between these groups and full-time workers. This effect is particularly large for countries where part-time workers make up a sizable share of total employment (*e.g.* Australia, Germany, Japan, the United Kingdom) and where unemployment and inactivity rates are high (*e.g.* Belgium, Chile, Hungary, Italy). Accounting for household size and composition reveals a more


Figure 5.2. **Labour income inequality varies across countries and depends on the population group considered**

Gini index, 2008



Note: The Gini index is a measure of inequality that ranges from zero (perfect equality) to one (where one individual receives all earnings). The group of employed individuals includes both dependent and self-employed individuals. The working age population includes all persons aged 15 to 64 except for students and people above the country's statutory retirement age. The Gini coefficients take into account labour earnings only; the precise data for labour earnings differs across countries. 2007 for France, Korea and the United States, 2009 for Australia and Japan. The value for the OECD is calculated as an unweighted average across all OECD countries for which data are available.

Source: Panel Study of Income Dynamics (PSID) for the United States; Household Income and Labour Dynamics in Australia Survey (HILDA) for Australia; National Socioeconomic Characterization Survey (CASEN) for Chile; Korean Labour and Income Panel Study (KLIPS) for Korea; Luxembourg Income Study (LIS) for Israel; Japan Household Panel Survey (JHPS) for Japan; Swiss Household Panel (SHP) for Switzerland; and European Union Statistics on Income and Living Conditions (EU-SILC) for the other countries.

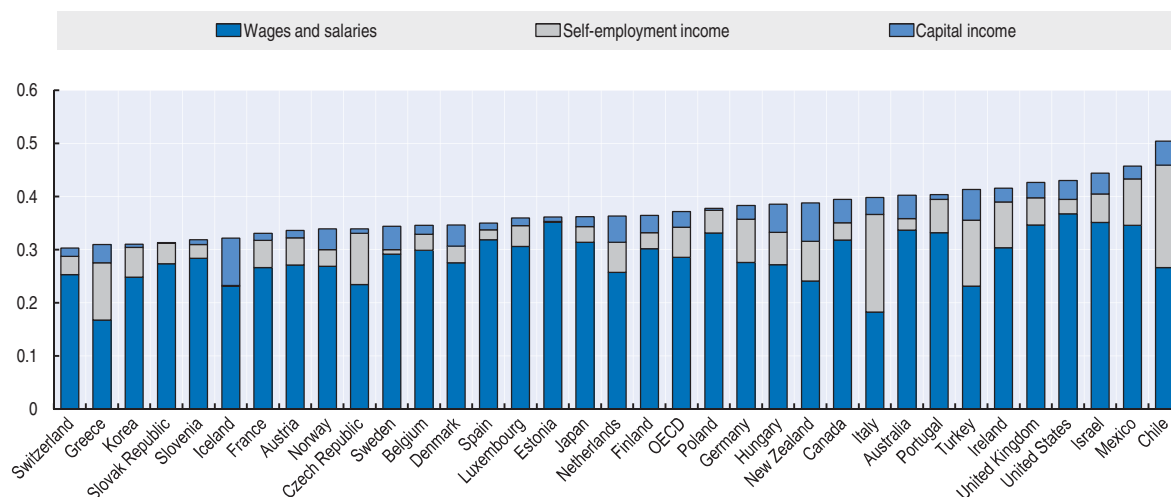
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complex picture (OECD, 2008a). Working household members often combine their income, which narrows the dispersion of income because of the ensuing economies of scale in consumption, whereas the inclusion of dependents in households widens it.

Incorporating capital income, which is more concentrated than labour earnings, increases inequality among households. Even so, given its smaller overall size, capital income is not a major determinant of total household market income dispersion (Figure 5.3). Labour market income accounts for around 75% of the dispersion on average in the OECD, versus just 25% for self-employment and capital income combined.

**Figure 5.3. Labour income inequality is the main contributor to the dispersion in household market income**

Contributions to the concentration coefficient of market income, working age population, in the late 2000s



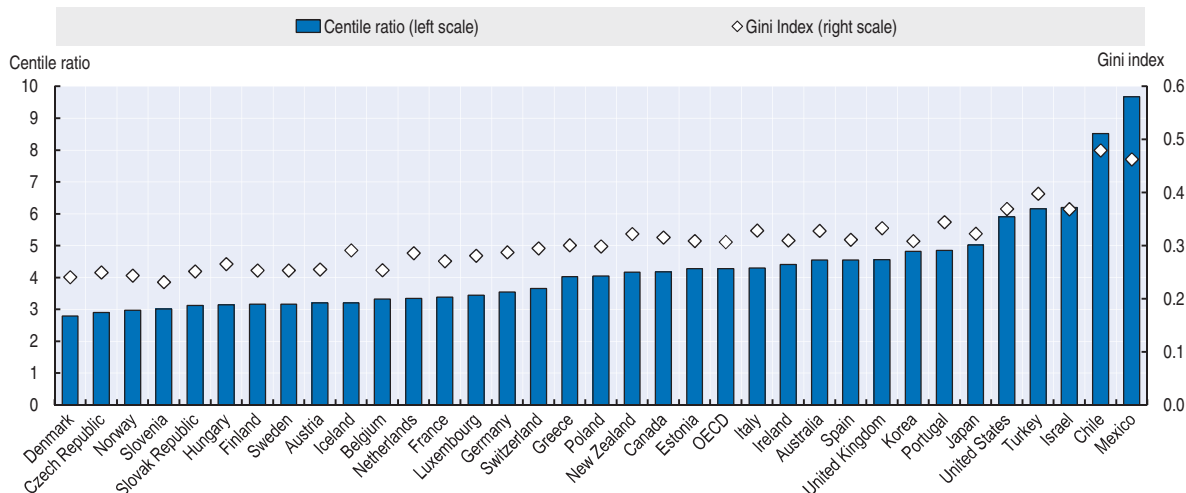
Note: Contributions to overall household market income inequality are derived by multiplying the concentration coefficients of each income source by their weight in total market income. The data for Greece, Hungary, Mexico and Turkey are net of taxes. Data for France and Ireland refer to the mid-2000s.

Source: OECD Income Distribution and Poverty, OECD Social Expenditure Statistics (Database).

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OECD-wide, inequality in income *after* taxes and transfers, as measured by the Gini index, was about 25% lower than for income *before* taxes and transfers in the late 2000s, while poverty measured after taxes and transfers was 55% lower than before taxes and transfers.<sup>5</sup> That said, the distribution of household disposable income still varies widely across countries (Figure 5.4). Indeed even after taxes and transfers, the Gini index ranged from below 0.25 in Slovenia (little inequality) to 0.5 in Chile (high inequality). Percentile ratios provide a measure of income inequality at specific points of the income distribution and are an intuitive way to gauge the width of the income distribution. In around 2008, the income of the 90th (i.e. richest) centile of households was three times higher than the income of the 10th (i.e. poorest) centile of households in several Eastern European and Nordic countries (Figure 5.4). But this ratio stood above 6 for Chile, Israel,<sup>6</sup> Mexico and Turkey. Also, cross-country differences in the share of top income earners (99th centile) in total income are very wide, ranging from 4.5% for Sweden to 18.1% for the United States (Box 5.1).

Figure 5.4. **The divide between the rich and the poor is quite pronounced in some countries**  
Household disposable income: Gap between the 10th and the 90th centile and the Gini index in the late 2000s



Note: Data for France and Ireland refer to the mid-2000s instead of the late 2000s.

Source: OECD Income Distribution and Poverty, OECD Social Expenditure Statistics (Database).

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### Box 5.1. Why are top earners getting a growing share of the cake?

Rising income inequality is often shaped by the increasing concentration of income at the top end of the income distribution (Hoeller, 2012). In the United States, for example, the top 1% of the population received 18% of pre-tax income in 2008, up from 8% in 1980. While the share in total income of the top earners has also risen in most other OECD countries (Figure 5.5), countries vary considerably both in the extent of this increase and in when it started. Despite a growing interest in the rise in top incomes, there is still substantial disagreement about the causes and their relative importance. Some of the more prominent explanations include the following:

#### Changes in taxation

- Tax rates for high earners have come down considerably over time – this may have boosted the income that top earners declare to the tax authorities. Studies suggest that in a country with a top marginal tax rate of 50%, a cut in the marginal tax rate by 1% would boost taxable income by 1%.
- Tax regimes may influence the mix of compensation, tilting it towards lower taxed forms of compensation, and thereby boost disposable income, particularly at the top (Goolsbee, 2000; Piketty and Saez, 2003; Roine *et al.*, 2009). For example, capital gains are often taxed at a lower rate than other income and, in a few countries, they are not taxed at all. Stock options also benefit from preferential tax treatment in many OECD countries (OECD, 2006a) and the same is likely to hold for carried interest arrangements.

#### Globalisation, technological change and the market for talent

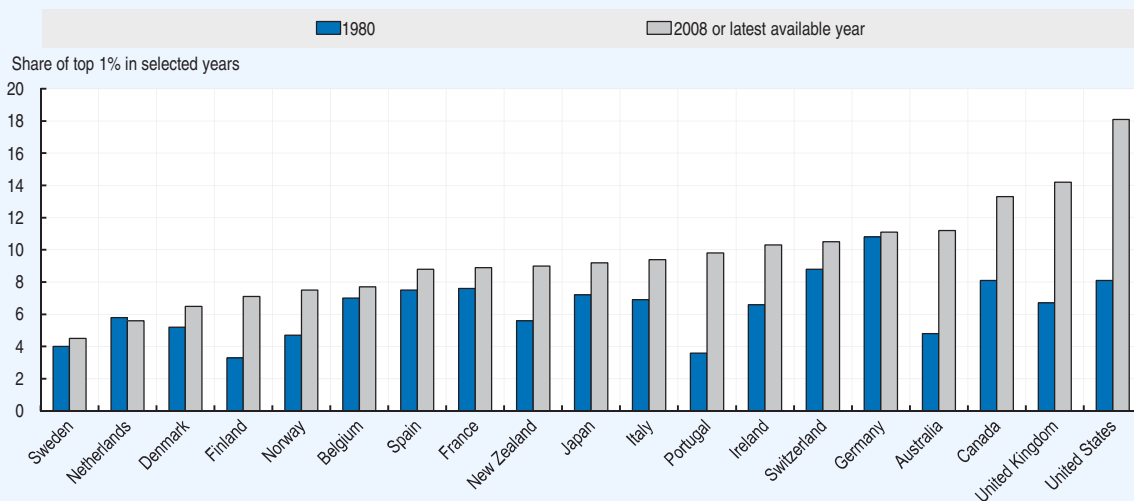
- New information technologies, together with globalisation, have widened the market for “stars”, boosting top incomes in the sports and entertainment industries (Rosen, 1981; Gordon and Dew-Becker, 2008).
- The skill requirements and responsibilities of top managers have become more complex, largely owing to stronger competition associated with deregulation and globalisation (*e.g.* Murphy and Zabojnik, 2004; Garicano and Rossi-Hansberg, 2006; Cuñat and Guadalupe, 2009). Moreover, the stability of top management positions has declined while the outside options of top managers have improved, raising


**Box 5.1. Why are top earners getting a growing share of the cake? (cont.)**

their bargaining power. Outside options which include jobs overseas may explain why the top income shares of some countries influence those of others. For example, the top income share in the United States has been found to have a considerable influence on the share in Canada, while those in the United Kingdom and Australia influence the one in New Zealand (Saez and Veall, 2005; Atkinson and Leigh, 2008).

- Globalisation has also led to a sharp increase in the market capitalisation of large multi-national companies, with the rise in executive pay closely following the rise in company size (Gabaix and Landier, 2008).

**Figure 5.5. Share of the top 1% of earners in total taxable income, 1980 and 2008**



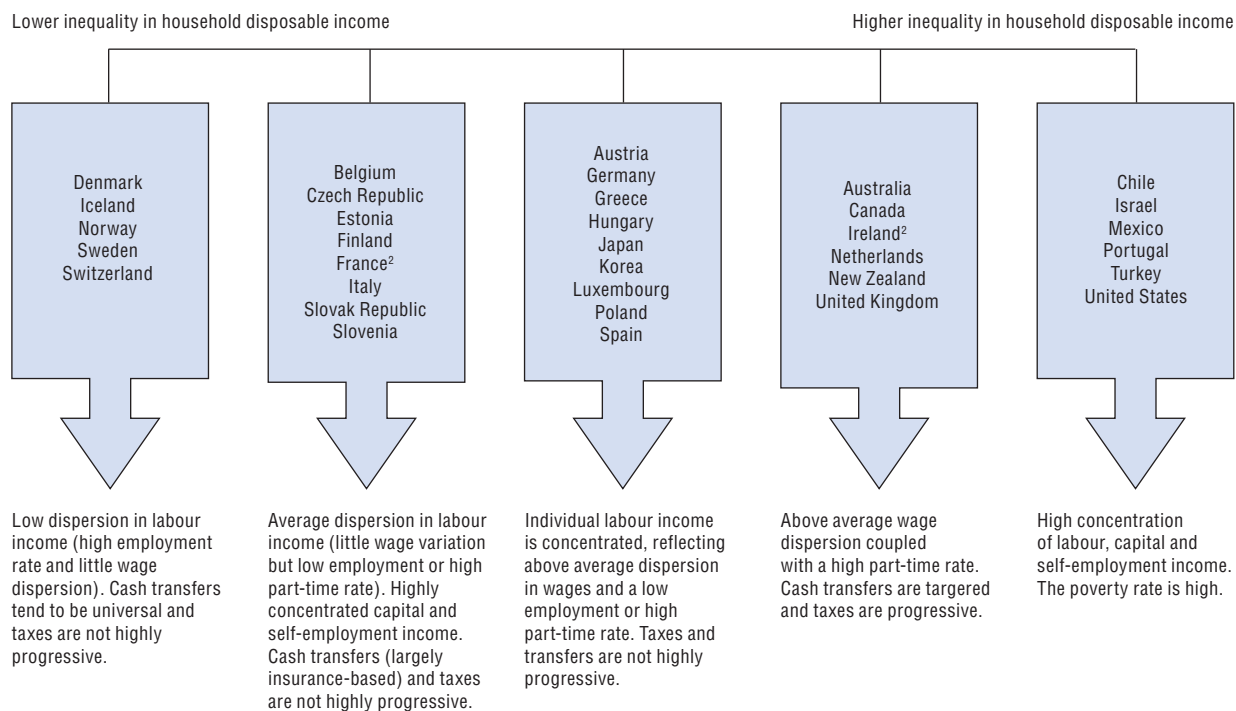
Note: The pre-tax income data exclude capital gains for all countries except Australia and Finland. The data are based on tax returns.  
 Source: Alvaredo, F. et al. (2011), *The Top Incomes Database*, [www.parisschoolofeconomics.eu/en/news/the-top-incomes-database-new-website/](http://www.parisschoolofeconomics.eu/en/news/the-top-incomes-database-new-website/);  
 Matthews, S. (2011), "Trends in Top Incomes and their Tax Policy Implications", OECD Taxation Working Papers, No. 4, OECD Publishing.  
 StatLink  <http://dx.doi.org/10.1787/888932566554>

**Classifying countries by their inequality patterns**

Five groups of countries with similar inequality patterns were identified using a cluster analysis (Figure 5.6).<sup>7</sup> The five groups are listed below, starting with those that have the lowest dispersion of household disposable income:

- A group – which includes four Nordic countries plus Switzerland – is characterised by below-average inequality thanks to little wage dispersion, in particular at the upper end, combined with a high employment rate. However, the share of part-time employment is above average in all these countries (except Sweden), contributing to inequality in labour income. Cash transfers are often universal and household taxes tend to be largely proportional to household income, implying only moderate redistribution through the tax and transfer system. Overall, both the dispersion in disposable income and the poverty rate are well below the OECD average.
- In a group of eight European countries (Belgium, the Czech Republic, Estonia, Finland, France, Italy, the Slovak Republic and Slovenia), inequality originating from the labour market is slightly below the OECD average. Wages are little dispersed in international comparison but inequality in labour earnings is driven by a low employment rate (in



Figure 5.6. **Country groups with similar patterns of inequality**<sup>1</sup>

- Country groups are derived from a cluster analysis of a set of 12 core income inequality indicators, with standardised values and unsquared Euclidean distance to measure differences between groups. Various alternative scenarios have been run. They suggest that the two groups to the right are very stable. The dividing lines between the three groups to the left are less sharp.
- For France and Ireland, mid-2000s (instead of end-2000s) data have been used for the cluster analysis.

Source: Hoeller, P. et al. (2012), "Less Income Inequality and More Growth – Are they Compatible? Part 1. Mapping Income Inequality Across the OECD", *OECD Economics Department Working Papers*, No. 924, OECD Publishing.

particular for Belgium, France, Italy and the Slovak Republic). The high concentration of self-employment or capital income brings inequality in household market income close to the OECD average (except for the Slovak Republic and Slovenia). However, the size of tax and cash transfer systems as a share of GDP is large, reducing household disposable income inequality to or below the OECD average.

- In a group of seven other continental European countries (Austria, Germany, Greece, Hungary, Luxembourg, Poland and Spain) plus Japan and Korea, inequality originating from the labour market is at or above the OECD average. However, the underlying causes vary. The wage dispersion is wide in all these countries but in Germany it is mainly at the lower end of the wage distribution, while in Hungary and Poland, wage dispersion arises more at the upper end of the income distribution. The employment rate is also low in Greece, Hungary, Korea, Luxembourg, Poland and Spain, while the share of part-time employment is high in Austria and Japan. In some of these countries (in particular Greece and Korea), an important redistribution of labour earnings occurs within families. Cash transfers tend to have little redistributive impact since they are small in size (Korea) or largely insurance-based and thus not highly progressive (Austria, Germany, Greece, Hungary, Japan, Poland and Spain). Overall, both the dispersion in household disposable income and the poverty rate are close to the OECD average.

- iv) Five English-speaking countries (Australia, Canada, Ireland, New Zealand and the United Kingdom) and the Netherlands all have a large share of part-time employment, driving inequality in labour earnings. On the other hand, the employment rate is above the OECD average in all these countries except Ireland. While small in size (for all countries except the Netherlands), cash transfers tend to be more targeted and taxes more progressive than in the other OECD countries, and therefore have a sizable redistributive impact. Household disposable income inequality is, however, above the OECD average in all these countries except for the Netherlands.
- v) Chile, Israel, Mexico, Portugal, Turkey and the United States are characterised by above average inequality originating from the labour market. This reflects a very wide wage dispersion coupled with a low employment rate (though here the United States is an exception). Capital and self-employment income also tend to benefit a small group of households. Cash transfers have little redistributive impact because they are small in size and often largely insurance-based. The size of tax systems is also small in most of these countries, although some embody more progressivity than on average in the OECD. Overall, both inequality in household disposable income and the poverty rate are well above the OECD average.

### What drives inequality?

#### **Technological change and globalisation partly explain recent trends in labour income inequality**

Technological advances may affect labour income inequality as they can benefit higher-skilled workers more than others. For example, to the extent that medium-skilled workers focus on routine tasks that can also be accomplished by computers, technological change will reduce the demand for such workers. The opposite effect can be expected for highly-skilled and low-skilled workers who tend to focus respectively on abstract and manual non-routine tasks, both of which are harder to replace by machines. If the demand shifts are not offset by equal shifts in the composition of labour supply (e.g. by a large enough rise in tertiary education attainment), technological progress may reduce the earnings or employment of medium-skilled workers relative to both the low- and high-skilled ones. Indeed the data point to a polarisation of employment by skill level (e.g. Autor et al., 2006, Goos et al., 2009).

Globalisation may also widen inequality. A first channel through which this may happen is offshoring. The tasks that are relocated from richer to poorer countries are typically not skill intensive from the perspective of the skill-rich country, but they are from the perspective of the skill-poor country. As a result, offshoring makes labour demand more skill intensive in both poorer and richer countries, thus increasing inequality in both groups of countries (Feenstra and Hanson, 1996). *Second*, if firms differ in their profitability and low-income workers work disproportionately in low-productivity firms that are battered by import competition, trade may increase labour income inequality by lowering employment or the relative earnings of low-income workers (e.g. Egger and Kreickemeier, 2009; Helpman et al., 2010). The implied positive link between globalisation and inequality is supported by a growing body of studies of individual firms, but it is more difficult to establish a robust link at the aggregate level.

Globalisation and technological change may also reinforce each other, thereby further raising inequality. On the one hand, technology may underpin globalisation and on the other, the increased competition that comes with globalisation may force firms to innovate. Innovation may raise labour income inequality both temporarily – since R&D is skill intensive (Dinopoulos and Segerstrom, 1999; Neary, 2003) – and permanently, provided it results in skill-biased technological change as discussed above (Acemoglu, 2002).

### **Labour income inequality is also influenced by structural policies**

Structural policies in the areas of education, labour and product markets influence labour income inequality by affecting i) the employment rate and ii) the dispersion of earnings among those that have a job (see Koske *et al.*, 2012 for a detailed discussion). Policies that foster equity in education lower income inequality by reducing the dispersion of earnings. The same applies to policies that promote upper secondary or tertiary education, at least in countries with an already high share of upper secondary or tertiary graduates, respectively, among the working-age population. For many labour market policies, by contrast, the impact is less clear cut as they affect both the dispersion of earnings and the level of employment in sometimes conflicting ways, at least for some types of workers. Examples include increasing the minimum wage relative to the median wage, increasing the level of employment protection and increasing the generosity of unemployment benefits. One labour market reform that stands out as having a positive effect on both employment and earnings equality is lowering the gap of employment protection on temporary and permanent work. The impact of product market liberalisation on income inequality is ambiguous. While boosting employment, some types of product market reforms may widen the distribution of earnings. A rough quantification of the average size of the effects of selected structural policy reforms on the dispersion of earnings is provided in Table 5.1, based on the new OECD empirical analysis.

**Table 5.1. Policy experiments for reducing labour earnings inequality**

Policy experiment <sup>1</sup>	90/10 percentile ratio <sup>2</sup> falls by...
A rise in the share of the population with post-secondary education by 10 percentage points	≈ 0.04
A fall in job projection on regular work from the level observed in Germany (third-highest level) to that observed in Finland (about OECD average)	≈ 0.16
A rise in job projection on temporary work from the level observed in the United Kingdom (second-lowest level) to that observed in Finland (about OECD average)	≈ 0.08
A rise in union membership by 10 percentage points	≈ 0.01
A rise in the ratio of the minimum to the median wage from the level observed in the Czech Republic (third-lowest level) to that observed in Poland (about OECD average)	< 0.01

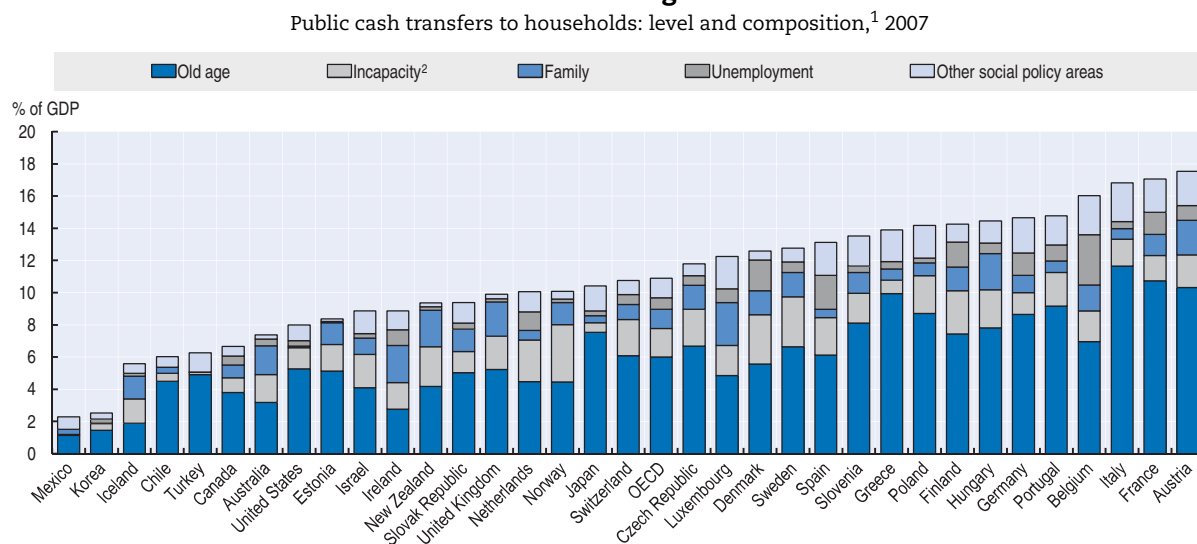
1. The policy experiments are roughly equivalent to the impact of a one standard deviation change in the policy variables of interest on the 90/10 percentile ratio.
2. One way to measure inequality is to look at the ratio between different income percentiles. The ratio between incomes at the top of the distribution (the 90th percentile) and at the bottom (the 10th percentile) is abbreviated as the 90/10 ratio. A fall in the 90/10 ratio means that inequality is falling. The average 90/10 percentile ratio in OECD countries is about 4.5 with a standard deviation across countries of 0.8 (see Hoeller *et al.*, 2012).

Source: Based on Table 1, specifications 3 (for the rise in the minimum wage) and 2 (for all other policy reforms) in Koske, I., J.-M. Fournier and I. Wanner (2012), "Less Income Inequality and More Growth – Are They Compatible? Part 2. The Distribution of Labour Income", OECD Economics Department Working Papers, No. 925, OECD Publishing.

### Some countries rely heavily on taxes and transfers to influence distributional outcomes

Tax and transfer systems play a key role in lowering overall income inequality. Cash transfers – such as pensions, unemployment and child benefits – account for more than three quarters of the overall redistributive impact, and taxes for one quarter. However, there are large differences across the OECD in the size, composition and progressivity of taxes and cash transfers (Joumard *et al.*, 2012). On the transfer side, pensions account for the bulk of total transfers in most but not all countries (Figure 5.7). They primarily aim at redistributing income over the lifetime of individuals – those with higher incomes contribute more but will also receive higher pensions. Thus, pensions often redistribute comparatively less across different individuals. Other transfers are usually more progressive, although how much depends on their design, *e.g.* the relative portion of flat versus income-related benefits. In most countries, family and housing benefits are either universal or means-tested, thus involving more redistribution across individuals.

Figure 5.7. **Cash transfers vary greatly across countries, but less redistributive old age transfers account for the largest share**



1. The data shown here exclude private mandatory spending which accounts for an important share of total social spending in some countries (in particular Chile, Germany and Switzerland). In addition, public cash transfers shown here may not fully account for those programmes and services provided, or co-financed, by local governments. Measurement gaps may be high, notably in federal countries such as Canada.
2. Incapacity-related spending covers expenditure on disability pensions and sick leave schemes (occupational injury and other sickness daily allowances).

Source: OECD Social Expenditure Statistics (Database).

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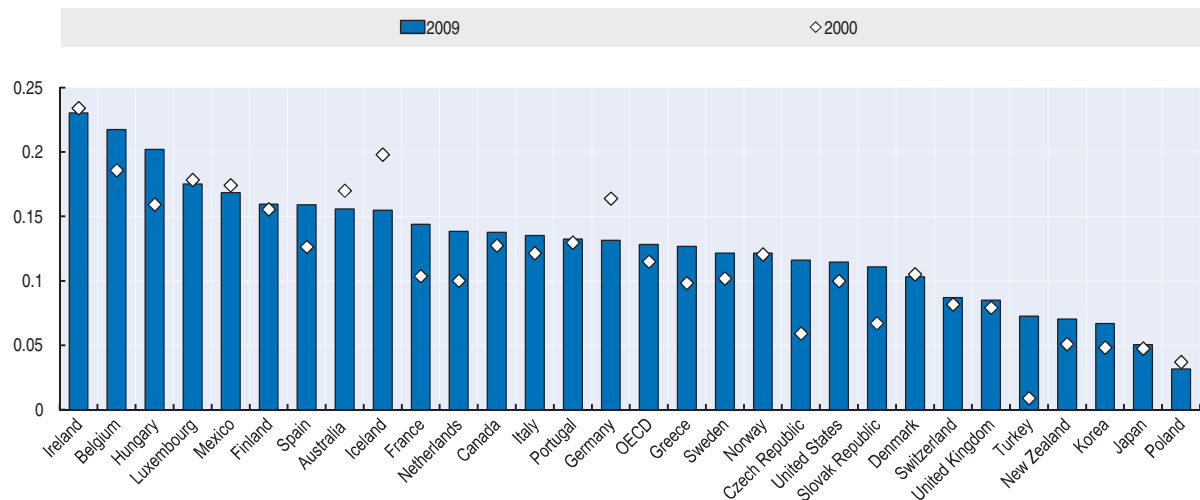
The redistributive impact of taxes varies less across countries than the large differences in tax-to-GDP ratios would suggest. Indeed some high-tax countries show little progressivity, either because: i) the tax mix favours consumption taxes and social security contributions over more progressive personal income and wealth and inheritance taxes;<sup>8</sup> ii) the progressivity of tax schedules is limited (*e.g.* in the Nordic countries); or iii) statutory progressivity is weakened by tax expenditures that benefit high-income groups most.

### *Labour income tax schedules have become more progressive but tax expenditures hamper redistribution*

Whether the tax and transfer system has become more or less redistributive over time across the OECD is unclear. The progressivity of statutory labour tax schedules (including social security contributions) has increased in the majority of countries since 2000 (Figure 5.8). Though there has been a steep decline in top marginal income tax rates, a number of countries have cut social security contributions, and introduced or strengthened in-work tax benefits, targeted at lower incomes, thus increasing the progressivity of labour taxes. By contrast, the use of tax expenditures which often benefit high-income groups most – such as tax breaks for health and child care, tertiary education, owner-occupied housing and retirement savings – has been growing (OECD, 2010b).


Figure 5.8. **The progressivity of statutory labour tax schedules has increased in the majority of countries**

Progressivity indicator based on net personal income tax schedules for single taxpayers without children, in 2000 and 2009



Note: Net personal income tax is defined as the sum of personal income tax and employee social security contributions net of standard cash transfers. Standard tax relief measures – including those linked to marital and family status and income level – are accounted for. Non-standard tax relief measures, *i.e.* those determined by reference to actual expenses incurred (such as the amount of interest paid on loans), are not included. The indicator for net personal tax progressivity is calculated as the difference between the average net personal tax rate at two income levels based on the assumption of a similar income dispersion across OECD countries. This difference is then divided by the difference between the two income levels.

Source: OECD (2009), *Taxing Wages 2008*, OECD Publishing; OECD estimates.

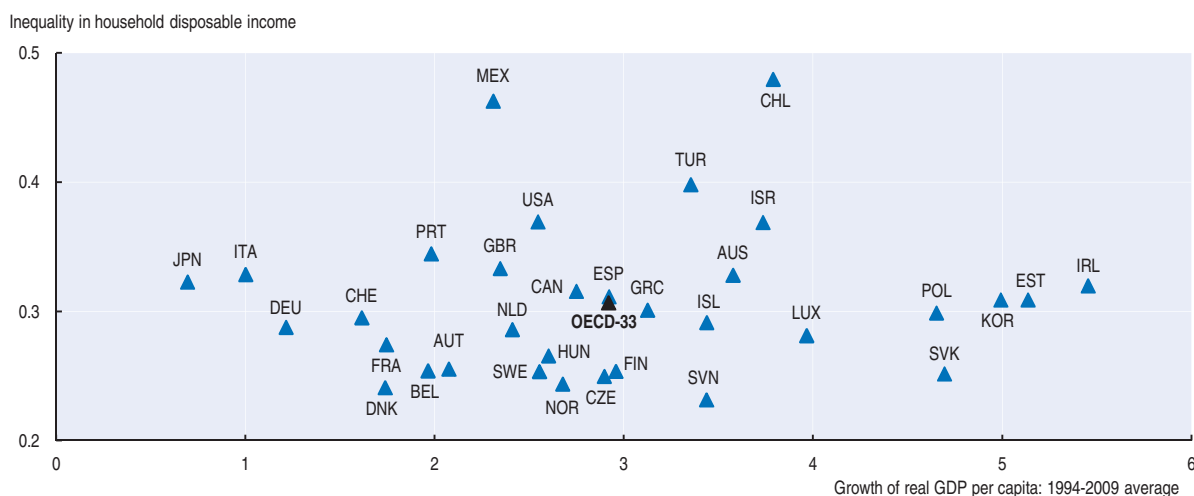
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The taxation of capital income, wealth and inheritance has also been reduced in many countries, which has clearly reduced the redistributive impact of tax systems. Indeed, capital income tends to be increasingly concentrated in the upper income brackets, as do wealth and inheritance (Piketty, 2010; Fredriksen, 2012). Property taxes vary widely across countries. They largely consist of recurrent taxes on immovable property. These taxes, however, often absorb a larger share of the income of poorer households because they are often set as a payment for the benefits of local public services (*e.g.* waste collection) which do not increase fully in line with income.<sup>9</sup>

## Policy trade-offs and complementarities between growth and income equality objectives

Despite a vast theoretical literature on the link between inequality and growth, no general consensus has emerged and the empirical evidence is rather inconclusive. A simple scatter plot of inequality and growth also shows no link (Figure 5.9). Still, specific structural reforms that aim at raising average living standards also influence the distribution of income. Table 5.2 provides a qualitative summary of the findings of new research on the GDP per capita and inequality effects of various structural reforms. It suggests that growth-enhancing policies can be divided into three broad categories (last two columns of Table 5.2): i) those that are likely to reduce labour income inequality; ii) those that are likely to raise it; and iii) those that seem to have an ambiguous effect.

Figure 5.9. **There is no simple link between inequality and growth**



Note: Inequality in household disposable income is measured by the Gini index. The inequality measures refer to the late 2000s, except for France and Ireland for which they refer to the mid-2000s.

Source: OECD Income Distribution and Poverty, OECD Social Expenditure Statistics (Database); OECD Economic Outlook: Statistics and Projections (Database).

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### Growth-enhancing policy reforms that are likely to reduce income inequality

#### Improving the quality and reach of education

Reforms to increase human capital are important for improving living standards, and are also likely to reduce labour income inequality. New analysis shows that a rise in the share of workers with upper secondary education is associated with a decline in labour earnings inequality (Fournier and Koske, 2012). Examples of policy initiatives to raise upper secondary education attainment include *inter alia* enhanced accountability for schools, better teacher recruitment and training, and special support for pupils at risk of dropping out.

Encouraging more students to pursue tertiary studies may have a more ambiguous effect on earnings inequality. Such reforms tend to widen income dispersion by increasing the share of high-wage earners (the composition effect). On the other hand, new research suggests that this effect may be more than offset by a decline in the returns to tertiary education relative to the returns to lower levels of education (Koske *et al.*, 2012). Tuition

Table 5.2. **Some structural policies benefit both growth and equality but others may entail a trade-off**

A rise in:	Employment rate	Earnings equality <sup>1</sup>	Total labour income equality <sup>2</sup>	GDP per capita
The tertiary education graduation rate	~	+	+	+
The upper secondary graduation rate	~	+	+	+
Equity in education	~	+	+	+
The minimum wage (as share of the median wage)	0/–	+	~	0/–
Unionisation	~	+	+	~
Legal extensions of collective wage agreements	–	~	–	–
The overall level of employment protection legislation (EPL)	0/–	+	~	–
The gap between EPL on regular <i>versus</i> temporary work	–	–	–	–
The replacement rate and duration of unemployment benefits	–	+	~	–
Spending on active labour market policies	0/+	~	+	+
Anti-competitive product market regulation	–	0/+	~	–
The integration of immigrants	+	+	+	+
Anti-discrimination initiatives	+	+	+	+
Female labour force participation	+	+	+	+

1. The term “Earnings equality” refers to equality among those who earn an income from employment.

2. The term “Total labour income equality” refers to equality among the working-age population, thus accounting for both employment and earnings inequality effects.

Note: A plus symbol (+) denotes a significant rise in the variable, a minus symbol (–) a significant fall and a zero (0) no impact; 0/+ and 0/– mean that research is contradictory, i.e. some studies cannot find a significant effect while others find a positive/negative effect or studies cannot find an aggregate effect but find a significant effect on some parts of the population. ~ means that the sign of the effect is unknown because the empirical literature is inconclusive or because studies on the link are not available.

Source: The GDP per capita effects are based on the findings of previous OECD and other studies or deduced from the employment rate effect (e.g. Barnes, S., et al. (2011), “The GDP Impact of Reform: A Simple Simulation Framework”, OECD Economics Department Working Papers, No. 834, OECD Publishing; Bouis, R. and R. Duval (2011), “Raising Potential Growth After the Crisis: A Quantitative Assessment of the Potential Gains from Various Structural Reforms in the OECD Area and Beyond”, OECD Economics Department Working Papers, No. 835, OECD Publishing. The earnings and employment effects are taken from new OECD analysis reported in Koske, I. et al. (2012) and the studies cited therein.

fees that make students share at least part of the cost of tertiary education could lower disposable income inequality (as the current financing of education is regressive), provided they are accompanied by flanking measures so that the poor are not excluded from tertiary education.<sup>10</sup>

### **Promoting equity in education**

Raising social mobility by making educational outcomes less dependent on personal and social circumstances should boost GDP per capita by enhancing entrepreneurship, the overall quality and allocation of human capital and, ultimately, productivity. At the same time, a more equitable distribution of educational opportunities has been shown to result in a more equitable distribution of labour income (e.g. De Gregorio and Lee, 2002). Examples of reforms include postponing early tracking, strengthening links between school and home to help disadvantaged children learn, and providing early childhood care and basic schooling for all. The latter may yield large positive returns over an individual’s entire lifetime, particularly for the most disadvantaged (Chetty et al., 2011; OECD, 2006b).

### **Reducing the gap between employment protection on temporary and permanent work**

If employment protection<sup>11</sup> is much stricter for regular than for temporary contracts, workers at the margin of the labour market – such as young people – risk getting trapped in a situation where they move between temporary work and unemployment without getting

into permanent work. This can have adverse implications for human capital and career progression (OECD, 2004) and, ultimately, income equality and economic growth. New OECD analysis finds that low-income workers on temporary contracts earn less than workers with similar characteristics on permanent contracts (Fournier and Koske, 2012). This is not the case for higher-income workers. Tentative evidence on the size of the effect illustrated in Table 5.1 suggests, for example, that reducing protection for permanent work from the level observed in Germany (third-highest level) to that observed in Finland (which is about OECD average) while increasing protection for temporary work from the level observed in the United Kingdom (second-lowest level) to that observed in Finland (which is about OECD average) would reduce the 90/10 percentile ratio by about 0.24 (which is about 7% of the average 90/10 percentile ratio in OECD countries). More even job protection for temporary and permanent contracts is also likely to reduce the income gap between immigrants and non-immigrants, as previous studies have shown that immigrants suffer disproportionately from contract-related labour market dualism (Causa and Jean, 2007).

### ***Increasing spending on active labour market policies***

High social benefits can reduce the incentives for work and employment. Active labour market policies may limit these adverse effects by better matching jobs with skills and enhancing job search support and monitoring. Existing empirical evidence suggests indeed that active labour market policies raise employment (Bassanini and Duval, 2006). This should entail positive effects for both GDP per capita and labour income equality. Programme design is key to reaping such gains, however (Martin and Grubb, 2001).

### ***Promoting the integration of immigrants***

Better integration of immigrants in the labour market can both reduce inequality and raise GDP per capita through higher labour force participation. Targeted policies, such as language courses, and transparent systems of recognising foreign qualifications should help to close the gap between immigrants and non-immigrants' labour market performance.

### ***Improving labour market outcomes of women***

Women tend to take on more caring responsibilities than men, meaning they work fewer hours and thus take home less pay. Arguably, their higher labour supply elasticity should lead women to be taxed at a lower rate than men. Since this is not feasible in practice, policies to improve the availability of formal care for children and the elderly can serve as an alternative solution. Such policies should help to reduce gender differences in working hours and – at least to the extent that hourly wages are little affected – pay, and at the same time improve long-run living standards through higher participation rates.

### ***Fighting discrimination***

Since at least part of the earnings gap between immigrants and non-immigrants and between men and women is likely to be due to discrimination (Koske *et al.*, 2012), more effective legal rules (*e.g.* legal action against those who engage in discriminatory practices) could also help.



### Taxing in a way that allows equitable growth

Taxes do not only affect the distribution of income; they also affect GDP per capita by influencing labour use and productivity, or both (Johansson *et al.*, 2008). Some tax reforms appear to be win-win options – improving growth prospects while narrowing the distribution of income. Many, however, may imply trade-offs between these objectives. Following the same approach as for labour market, product market and education policies discussed above (Table 5.2), these complementarities and trade-offs are drawn out in Table 5.3.

Table 5.3. **The impact of tax reforms on growth and equality**

Tax policies	Income equality	GDP per capita	Comments
<b>Increasing total tax revenues</b>	+	–	<ul style="list-style-type: none"> <li>The impact of taxes on income distribution depends on the level of taxation, the tax mix and the use of tax revenues, but if tax systems are progressive overall, equality is enhanced.</li> <li>Taxes dampen incentives to work, save and invest and are thus detrimental to growth. But some taxes have a less adverse effect than others.</li> </ul>
	(in general)		
<b>Changing the tax mix while keeping total tax revenues constant</b>			
Moving from personal income tax to consumption taxes	–	+	<ul style="list-style-type: none"> <li>Personal income tax tends to be progressive while consumption tax is regressive.</li> <li>Personal income tax reduces work and saving incentives.</li> <li>A shift from direct to indirect taxes would raise GDP per capita.</li> </ul>
Moving from labour income to property and capital taxes:			<ul style="list-style-type: none"> <li>Wealth and inheritance taxes tend to be progressive.</li> <li>The distributive impact depends on the relative progressivity of income <i>versus</i> wealth and inheritance taxes.</li> <li>Real estate taxes are often less progressive than the personal income tax and can even be regressive.</li> <li>Property taxes are among the least harmful for growth. Moving from income to property taxes tends to improve incentives to work and invest, and thus raise output, at least in the short and medium-term.</li> </ul>
<ul style="list-style-type: none"> <li>to wealth, inheritance and capital income taxes, such as capital gains taxes;</li> </ul>	~	+	
<ul style="list-style-type: none"> <li>to real estate taxes.</li> </ul>	–	+	
Cutting tax expenditures and marginal rates	+	+	<ul style="list-style-type: none"> <li>Most tax expenditures benefit high-income groups (in-work tax credits and other tax expenditures targeted at low-income groups are the exception). Cutting tax expenditure would narrow the distribution of disposable income.</li> <li>Cutting marginal rates improves incentives to work, save and invest, and thus lifts GDP per capita.</li> </ul>
	(in most cases) – (for in-work tax credits)		
<b>Increasing the progressivity of taxes (revenue-neutral)</b>			
Personal income tax:	+	~	<ul style="list-style-type: none"> <li>In-work tax credits narrow the income distribution and raise incentives to work.</li> <li>On the other hand, higher top rates may reduce working hours and productivity by undermining incentives to work, invest and innovate.</li> <li>The GDP per capita impact is thus ambiguous.</li> </ul>
<ul style="list-style-type: none"> <li>increase in top rates;</li> </ul>	$\left\{ \begin{array}{l} + \\ + \\ + \end{array} \right.$	–	
<ul style="list-style-type: none"> <li>above measure combined with expanded EITC schemes or tax free allowances.</li> </ul>		+	

Note: + means more equality or higher GDP per capita; – means less equality or lower GDP per capita; ~ means ambiguous effect.

Source: Joumard, I., M. Pisu and D. Bloch (2012), “Less Income Inequality and More Growth – Are They Compatible? Part 3. Income Redistribution via Taxes and Transfers across OECD Countries”, *OECD Economics Department Working Papers*, No. 926, OECD Publishing.

The findings in Table 5.3 and in the literature suggest some policy options that could promote growth and reduce inequality:

- Re-assess tax expenditures that benefit mainly high-income groups (e.g. tax relief on mortgage interest). Cutting back such tax expenditures is likely to be beneficial both for long-term GDP per capita, allowing a reduction in marginal tax rates, and for a more equitable distribution of income. Lowering tax expenditures would also reduce the complexity of the tax system, and thus tax compliance and collection costs.

- *Reduce distortions in taxing capital income.* Tax relief – such as reduced taxation for capital gains from the sale of a principal or secondary residence – often distorts resource allocation without boosting aggregate savings and growth, and benefits mainly high-income groups. Specific tax relief may also provide tax avoidance instruments for top-income earners. In particular, there is little justification for tax breaks for stock options and carried interest. Raising such taxes would increase equity and allow a growth-enhancing cut in marginal labour income tax rates.

### **Growth-enhancing policy reforms that are likely to raise income inequality**

#### ***Increasing the flexibility of wage determination***

Extending collective wage agreements to firms that are not party to the original settlement may make labour costs too high for some employers. This can hamper productivity through lower competitive pressures from the entry of new firms, and can also reduce employment (Murtin *et al.*, 2012). However, new OECD evidence suggests that unions compress the distribution of labour earnings. To the extent that administrative extensions have a similar effect, their overall impact on income inequality is ambiguous, reflecting offsetting effects on employment and the dispersion of labour earnings.

#### ***Shifting the tax mix from personal and corporate income taxes towards real estate and consumption taxes***

Personal and corporate income taxes, as well as social security contributions, are the most distortive taxes as they have sizable adverse effects on labour use, productivity and capital accumulation. Shifting the tax mix away from such taxes and towards recurrent taxes on immovable property (the least distortive) and consumption taxes should thus raise living standards (Johansson *et al.*, 2008). However, there is likely to be a trade-off with the income distribution objective since personal income taxes are progressive while real estate and consumption taxes are at best neutral in a lifetime perspective and in most cases tend to be regressive. Targeted transfers can reduce the severity of this trade-off.

### **Growth-enhancing policy reforms that have an ambiguous effect on income inequality**

#### ***Avoiding too high and long-lasting unemployment benefits***

If unemployment benefits are too high or long-lasting, they risk reducing job-search incentives and raising wages above market-clearing levels. This lowers employment with negative effects on GDP per capita and labour income equality. In the short run, these adverse income distribution effects are likely to be dominated by the direct inequality-reducing impact of the income support for the unemployed.<sup>12</sup>

#### ***Liberalising product markets***

A wide range of studies illustrate the large beneficial effects of product market liberalisation on productivity (*e.g.* Bourlès *et al.*, 2010; Conway *et al.*, 2006), but the impact on labour income inequality is uncertain. Product market liberalisation generally raises employment (*e.g.* Bassanini and Duval, 2006; Griffith *et al.*, 2007), but this inequality-reducing effect could potentially be offset by a wider dispersion of earnings, though the evidence on the latter link is far from conclusive (*e.g.* Guadalupe, 2007; Koske *et al.*, 2012).

### **Lowering minimum labour costs**

Minimum wages that are set too high can limit the job market opportunities for young and low-skilled workers. Under such circumstances, lowering relative labour costs may boost the employment of these marginal groups in the labour market (Neumark and Wascher, 2007). Greater employment in turn raises GDP per capita and reduces labour income inequality. However, existing studies, including new OECD analysis (Koske *et al.*, 2012), suggest that a fall in the minimum wage risks widening the dispersion of wages at the bottom of the distribution among those who are already employed, so that the impact on labour income inequality among the working age population is ambiguous. The employment effect of a lower minimum wage is likely to be smaller when the initial level of minimum labour costs is already low, which increases the likelihood that labour income inequality will rise.

### **Moving from income to wealth or inheritance taxes**

Shifting taxes from income to wealth or inheritance would raise GDP per capita, since property taxes are among the least distortive taxes. As personal income, wealth and inheritance taxes all tend to be progressive, the distributional impact would depend on the relative progressivity of each tax but may be broadly neutral.

### **Notes**

1. OECD (2011) provides more detail on the five main income concepts shown in Figure 5.1, and also discusses changes over time.
2. When examining inequality in individual labour earnings, the unemployed and people not looking actively for a job are assigned zero income.
3. As the focus of the first three income concepts is on market income, the population covered is the working-age population.
4. The determinants of inequality for each of the five income concepts are discussed in greater detail in a series of OECD *Economics Department Working Papers*, in particular Hoeller *et al.* (2012), Koske *et al.* (2012) and Joumard *et al.* (2012).
5. The poverty rate is defined as the share of the population whose equivalised household disposable income is below 50% of the median income.
6. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
7. The cluster analysis is performed on a set of 12 variables: the Gini index for individual labour earnings for the working age population, the ratio of the 9th to 5th deciles for wage earnings of full-time employees, the ratio of the 5th to 1st deciles for wage earnings of full-time employees, the share of part-time employment in total employment, the non-employment rate, the Gini index for household labour earnings (working age population), the Gini index for household market income for the working age population, the concentration ratio for transfers, the concentration ratio for taxes, the Gini index for household disposable income for the whole population, the income ratio of the 5th to the 1st quintile for household disposable income adjusted for in-kind public services and the poverty rate.
8. Consumption taxes tend to be regressive because lower-income households consume a larger share of their income. To mitigate this regressive impact, many OECD countries apply reduced rates and exemptions for goods and services that account for a large share of poorer households' consumption basket. The evidence, however, suggests that such tax reliefs benefit high-income groups most and may thus not be an effective redistributive tool (Dalsgaard, 2000; OECD, 2010a).
9. The regressive nature of recurrent taxes on immovable property may partly fade in a lifetime perspective. Indeed, the elderly are often income-poor but wealth-rich and property taxes based

on real estate values absorb a large share of their income. In contrast, working-age households tend to have higher income and lower wealth and property taxes absorb a lower share of their income.

10. For example, this could be achieved by combining tuition fees with student loans and linking repayment to income. Empirical evidence suggests that any negative effect of tuition fees on participation rates can be fully offset through improvements in the financial support for students (OECD, 2008b; Heller, 1999).
11. Employment protection refers both to regulations concerning hiring (e.g. rules favouring disadvantaged groups, conditions for using temporary or fixed-term contracts, training requirements) and firing (e.g. redundancy procedures, mandatory notification periods and severance payments, special requirements for collective dismissals and short-time work schemes).
12. In addition, the adverse effects on labour income inequality that stem from lower employment may potentially be offset – at least partially – by a more compressed income distribution (if unemployment benefits are progressive or lower-income workers are more likely to receive them).

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