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Less Income Inequality and More Growth – Are They Compatible? Part 1. Mapping Income Inequality Across the OECD

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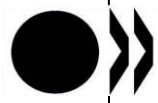

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LESS INCOME INEQUALITY AND MORE GROWTH - ARE THEY COMPATIBLE? PART 1. MAPPING INCOME INEQUALITY ACROSS THE OECD

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By Peter Hoeller, Isabelle Joumard, Mauro Pisu and Debbie Bloch

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ABSTRACT/RÉSUME

Less income inequality and more growth – Are they compatible? Part 1. Mapping income inequality across the OECD

Countries differ widely with respect to the level of labour income inequality among individuals of working age. Labour income inequality is shaped by differences in wage rates, hours worked and inactivity rates. Individual labour income inequality is the main driver of household market income inequality, with family formation as well as self-employment and capital income dispersion playing a smaller role. Household disposable income dispersion is lower in all OECD countries than household market income inequality, due to the redistributive effect of tax and transfer systems, but redistribution differs widely across countries. This paper maps income inequality for all OECD countries across various inequality dimensions and summarises them in inequality outcome diamonds. It also provides a cluster analysis that identifies groups of countries that share similar inequality patterns.

JEL classification codes: C38; D6 ; D30; D63 ; E24; I3 ; I24
Keywords: Inequality; welfare; poverty; cluster analysis

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Moins d'inégalités de revenu et plus de croissance – Ces deux objectifs sont-ils compatibles? Partie 1. Cartographie des inégalités de revenu dans les pays de l'OCDE

Les inégalités des revenus du travail entre les personnes en âge de travailler varient largement selon les pays. Elles reflètent les écarts de salaire, de nombre d'heures ouvrées et de taux d'inactivité. Ces inégalités sont le principal facteur d'inégalité du revenu marchand des ménages, la composition de la famille, l'emploi indépendant et la répartition des revenus du capital jouant un moindre rôle. La répartition du revenu disponible des ménages dans tous les pays de l'OCDE est moins importante que l'inégalité du revenu marchand des ménages en raison de l'effet redistributif de l'impôt et des systèmes de transfert, mais cette redistribution est très variable selon les pays. Ce document dresse une cartographie des inégalités de revenu dans tous les pays de l'OCDE en distinguant les différentes composantes de revenus et en les synthétisant sous forme de figures en diamant rendant compte des résultats obtenus. Il présente en outre une analyse par clusters mettant en évidence les groupes de pays ayant en commun les mêmes structures d'inégalité.

Classification JEL : C38 ; D6 ; D30 ; D63 ; E24; I3 ; I24
Mots-clés : Inégalité ; bien-être ; pauvreté ; analyse par clusters

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LESS INCOME INEQUALITY AND MORE GROWTH – ARE THEY COMPATIBLE?

PART 1. MAPPING INCOME INEQUALITY ACROSS THE OECD

by

Peter Hoeller, Isabelle Joumard, Mauro Pisu and Debbie Bloch[1]

Introduction and main findings

In many OECD countries, income inequality has drifted up over the past decades. It appears that growth has not lifted all income boats to the same extent. In some countries, top incomes have captured a large share of the overall income gains, while income for others has risen little. At the same time, poverty remains a pressing policy issue, not least because of the adverse effects of the recent economic crises. Against this background, this paper reviews income inequality across various income dimensions, moving from wage dispersion of full-time workers to household disposable income adjusted for public in-kind benefits. It also touches on top incomes, poverty, the distribution of wealth and inequality issues in enhanced engagement countries.

This paper first reviews the nexus between inequality, growth and well-being. It then assesses how inequality measures change when moving from individual labour earnings to adjusted household disposable income, by successively taking into account other market income sources, the effects of household formation as well as taxes and transfers. Finally, it provides country profiles that summarise the various inequality dimensions and a cluster analysis that identifies groups of countries that share similar inequality patterns. The remainder of this section summarises the main findings.

The main findings

- Countries differ widely with respect to the level of labour income inequality among individuals of working age. Labour income inequality is shaped by differences in wage rates, hours worked and inactivity rates.

- Individual labour income inequality is the main driver of household market income inequality, with family formation and the dispersion of self-employment and capital income playing a smaller role. While the dispersion of self-employment and capital income is much wider than that of labour earnings, their contribution to household market income inequality is muted, because their income shares are small in most, though not all countries.

- Taxes paid by households and cash transfers reduce the market household income dispersion by around a quarter on average across the OECD countries.[2] But given the different starting points in

1. The authors are members of the Economics Department of the OECD. This is one of the background papers for the OECD's project on Income Distribution and Growth-enhancing Policies. The authors would like to thank Romain Duval, Jørgen Elmeskov, Michael Förster, Jean-Marc Fournier, Kaja Fredriksen, Isabell Koske, Stephen Matthews and Jean-Luc Schneider for their useful comments and suggestions, Chantal Nicq for meticulous statistical work and Susan Gascard for excellent editorial support.

terms of household market income distribution and the differences in redistribution *via* the tax and transfer system, the distribution of household disposable income still varies widely.

- Country profiles have been assembled in diamonds. These allow comparing 24 inequality dimensions for each country with the OECD average and identifying how these inequality dimensions map into inequality of household disposable income. The country profiles reveal that inequality of household disposable income does not have the same origins. In some countries, wage dispersion among those working is an important factor (*e.g.* the United States) while in others, the non-employment rate and/or inequality in capital income are driving inequality in HDI (*e.g.* Italy). The country profiles also show that tax and transfer systems as well as publicly-provided services (in particular education and health) have a larger redistributive impact in some countries (e.g. Finland compared with Switzerland).

- A cluster analysis helps to pin down the origins of inequalities. Five groups of countries sharing similar inequality patterns and drivers of inequality have been identified. For example, one group consists of five English-speaking countries (Australia, Canada, Ireland, New Zealand and the United Kingdom) plus the Netherlands. In this group, a wide wage dispersion and a high share of part-time employment drive inequality in labour earnings above the OECD average. Public cash transfers are largely means-tested, and household taxes are progressive, thus reducing income inequality, though the dispersion in household disposable income remains above the OECD average. In another group of countries, comprising four Nordic countries (Denmark, Iceland, Norway and Sweden) and Switzerland, inequality emerging from the labour market is below the OECD average because wage dispersion is narrow and the employment rate is high. Cash transfers tend to be universal and are thus less progressive, as are household taxes. Still, inequality remains considerably below the OECD average in this group.

- Five large emerging countries (Brazil, China, India, Indonesia and South Africa) show both considerably higher economic growth and higher inequality than most OECD countries. Income dispersion has increased in three of them since the early 1990s, by 24% in China, 16% in India and 4% in South Africa while it has remained broadly stable in Indonesia and declined by around 10% in Brazil. While income dispersion trends have diverged across these countries, absolute poverty has declined in all of them, thanks to rapid economic growth. From the early 1990s to the late 2000s, China experienced the largest drop in poverty amongst the five enhanced engagement countries. Although on a declining trend, poverty is still high and often concentrated on children and rural populations. The experience of these large emerging countries, where non-contributory benefit schemes were introduced over the 1990s, shows that transfer programmes, if well targeted, can be effective in reducing poverty and inequality.

Inequality, growth and well-being

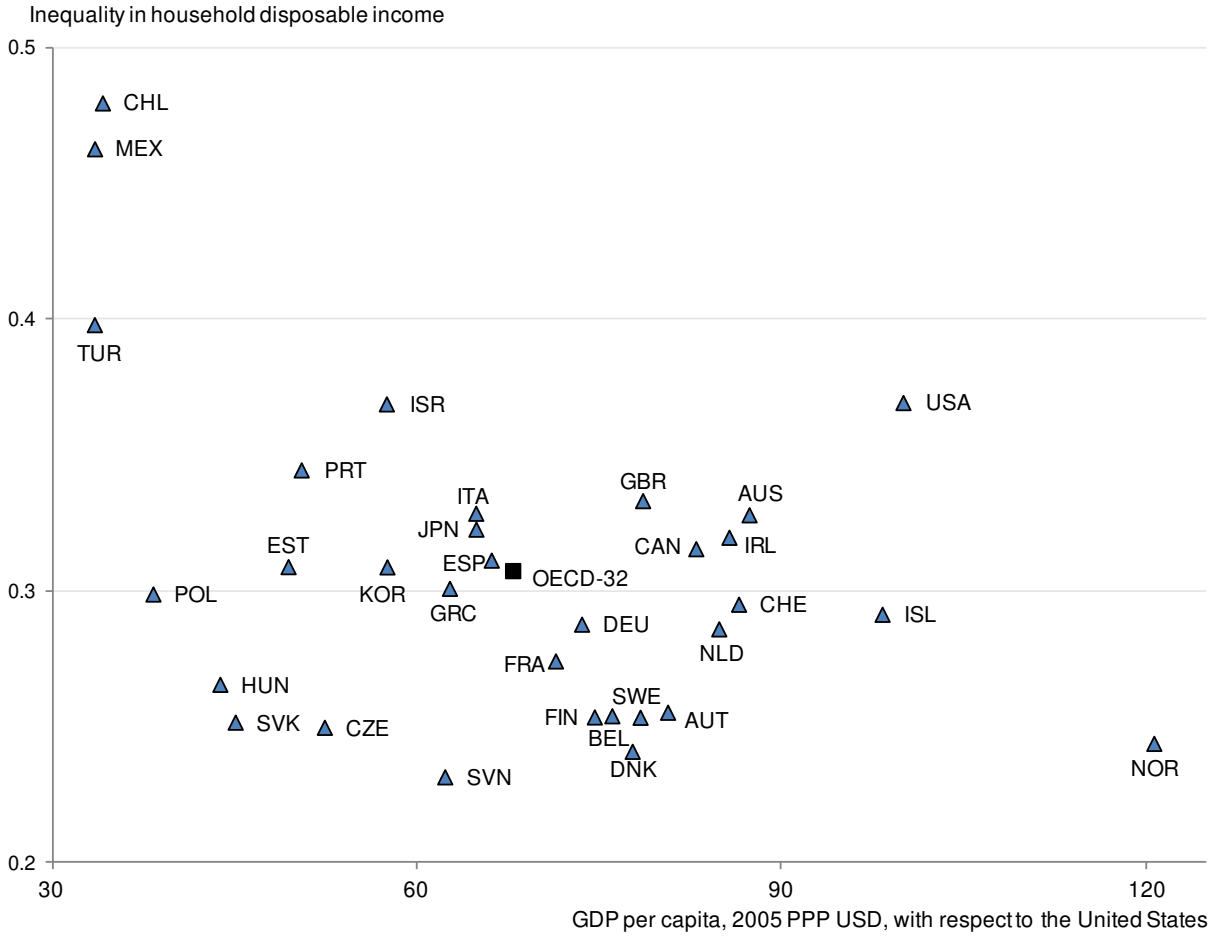
Inequality and growth

The well-known Kuznets (1955) hypothesis posits an inverted-U relationship between inequality and per-capita income. Inequality widens during the early phase of economic development, then stabilises and eventually declines at a high stage of economic development. The main explanation proposed by Kuznets concerns the secular shift from the agricultural to the industrial sector, the latter being characterised by higher average income and higher inequality than the former. Although Kuznets' curve deals with secular changes in per-capita income and inequality, the lack of long time series data on inequality has for long

2. Inequality in household market income is measured by the pseudo-gini (*i.e.* concentration ratio) with individuals ranked by household equivalised disposable income.

forced researchers to test this relationship using cross-section datasets. The early empirical tests found support for Kuznets' hypothesis (Ahluwalia, 1976; Papanek and Kyn, 1986; Campano and Salvatore, 1988). However, studies using longitudinal data find no evidence of an inverted-U relationship between inequality and the income level (Anand and Kanbur, 1993; Deninger and Squire, 1998) and a simple scatter plot for OECD countries shows no relationship between disposable income dispersion and GDP per capita (Figure 1).

Figure 1. **Inequality and disposable income**



Note: Inequality in household disposable income is measured by the Gini coefficient. The Gini coefficient ranges from 0 (perfect equality) to 1 (one individual receives all of the income and the others none). The Gini of disposable income is for the late 2000s, except for France and Ireland, where data refer to the mid-2000s.

Source: *OECD Income Distribution and Poverty Database* and *OECD Economic Outlook Database*.

Kuznets' conjecture also spawned a vast theoretical and empirical literature on the broader issue of the link between inequality and growth. The empirical evidence on the impact of inequality on growth has been inconclusive thus far. De Dominicis *et al*. (2008) perform a meta-analysis of more than 400 estimates of the effect of inequality on growth and show that the estimation method, data quality and sample affect estimates. They conclude that the evidence constitutes an empirical puzzle and that no general consensus has emerged so far. A simple scatter of inequality and growth also shows no link (Figure 2).[3] Furthermore,

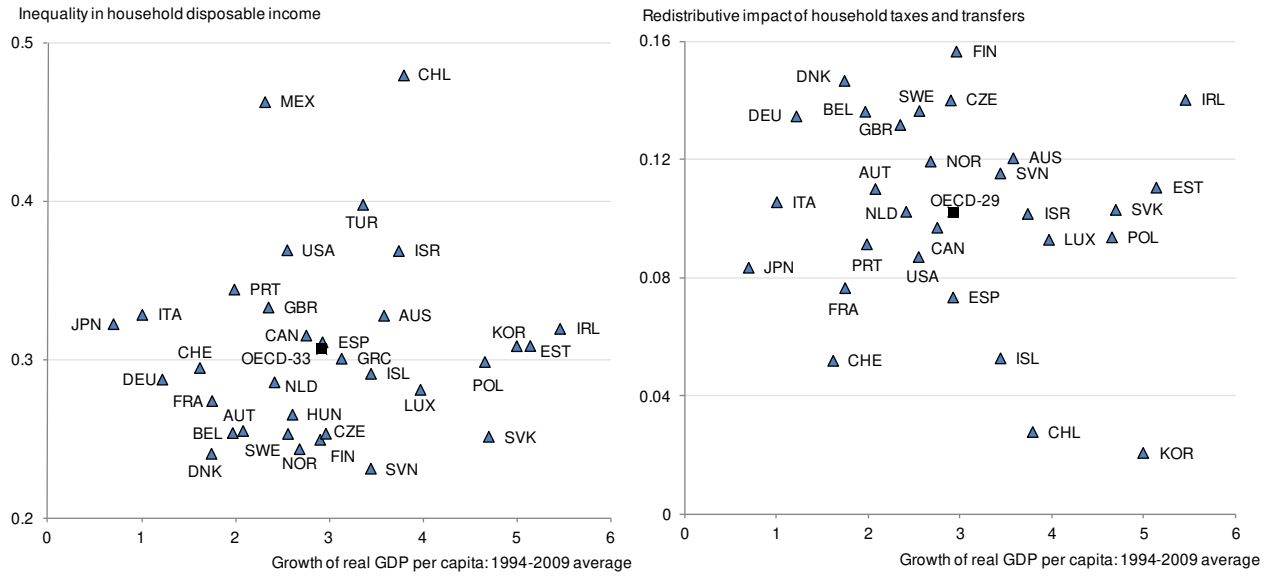
3. The extent of redistribution is affected by several factors. Rodrik (1998), using data from late 1960s to early 1990s, points to the role of trade openness, as in economies more exposed to external shocks the

from a theoretical standpoint the effect of inequality on growth is ambiguous as different countervailing mechanisms might be at work and causation may run the other way round:

- Inequality can affect growth positively through (Aghion *et al*., 1999) *i)* a higher saving rate of rich people: as the investment rate is positively related to the saving rate, more unequal countries will experience faster growth; *ii)* sunk costs and investment indivisibilities: wealth concentration favours the creation of new activities; *iii)* work incentives: they are stronger in more unequal societies.

- The mechanisms giving rise to a negative relationship between inequality and growth are (Perotti, 1996): *i)* endogenous fiscal policy: more unequal countries redistribute more, which creates distortions and lowers growth; *ii)* socio-political instability: large inequalities foster political and social instability as more people engage in activities, such as crime and violent protests, which deter investment; *iii)* credit market imperfections: because of such imperfections, inequality results in an under-investment in human capital.

Figure 2. **Inequality, redistribution and growth**



Note: Inequality in household disposable income is measured by the Gini coefficient. The redistributive impact of taxes and transfers is defined as the difference in the concentration coefficients for income before cash transfers and taxes (*i.e.* household market income) and after cash transfers and taxes (*i.e.* household disposable income). The redistributive impact and the inequality measures are for late the 2000s, except for France and Ireland, which refer to the mid-2000s.

Source: *OECD Income Distribution and Poverty Database* and *OECD Economic Outlook Database*.

Galor and Moav (2004) provide a rationalisation of the supposedly opposing effects of inequality on growth at different stages of development. Their explanation is based on the emergence of human capital accumulation as the prime engine of growth, replacing physical capital accumulation. In the early stages of the industrial revolution, physical capital accumulation was the most important driver of economic growth:

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government plays a more important risk-reducing role. Yet, Bertola and Lo Prete (2008) and Bertola (2010) argue that although across countries larger government redistribution is associated with deeper economic integration, globalisation erodes the capacity of governments to redistribute over time. Alesina and Giuliano (2009) show that preferences for redistribution vary greatly among countries. Differences in religion, culture and macroeconomic volatility affect them.

inequality spurred development, as rich individuals had a higher propensity to save than the poor. In the later stages of development, human capital became the prime engine of economic growth and large inequalities, by aggravating the negative impact of credit constraints on human capital accumulation, become detrimental to growth.

There has been much debate on whether the rise in inequality in the United States was an important factor behind the imbalances that led to the recent crisis. Rajan (2010), for instance, argues that rising income inequality in the United States led to a boom in lending to the poor to buttress their consumption. On the other hand, preliminary work by Atkinson and Morelli (2011) using a large country sample over a long time span does not find a consistent cross-country pattern of high or rising inequality prior to banking crises.

Inequality and welfare

The relationship between inequality and welfare or well-being has been the subject of intense scrutiny since at least the contribution of Pigou (1920) and Dalton (1920). Pigou underlined two channels through which inequality might affect welfare: distributive efficiency and relative *versus* absolute income.

The distributive efficiency argument arises because of the law of diminishing marginal utility: the effect of an additional unit of income or wealth on utility is higher at the bottom than at the top of the income distribution.[4] This argument has been extensively explored over the years in the welfare-based inequality evaluation literature with the specification of different social welfare functions, which under certain conditions, are positively related to per-capita income and negatively related to inequality (Atkinson 1970; Sen, 1976).

Beyond a certain level of income necessary to satisfy basic needs, individuals' relative income besides its absolute level may affect well-being.[5] There is ample empirical evidence confirming that relative income matters and income and wealth are one of the indicators included in the OECD's *Your Better Life Index* (OECD, 2011*b*). The literature on the economics of happiness has given rise to the "Easterlin Paradox" (Easterlin, 1973, 1995): within countries, people with higher incomes are more likely to report being happy; across countries the average level of happiness is unrelated to average level of income. Also, numerous choice experiments have shown fairness to be a personal motive affecting in some circumstances peoples' behaviour. Feelings of inequity aversion lead people to resist what they perceive as inequitable outcomes (Fehr and Schmidt, 1999, Dawes *et al*., 2007; Carlsson *et al*., 2005).

The traditional welfarist approach has over the years come under attack. More specifically, different welfare functions involve different value judgments. Choices therefore reflect opinions on values which lead to different policy recommendations on how to raise welfare.

4. Pigou (1920) stated: "Nevertheless, it is evident that any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants, to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. The old 'law of diminishing utility' thus leads securely to the proposition: Any cause which increases the absolute share of real income in the hands of the poor, provided that it does not lead to a contraction in the size of the national dividend from any point of view, will, in general, increase economic welfare." See Layard *et al.* (2008) for recent estimates of the marginal utility of income using data on self-reported happiness.

5. On this issue Pigou (1920) wrote "…a larger proportion of the satisfaction yielded by the incomes of rich people comes from their relative, rather than from their absolute, amount. This part of it will not be destroyed if the incomes of all rich people are diminished together. The loss of economic welfare suffered by the rich when command over resources is transferred from them to the poor will, therefore, be substantially smaller relatively to the gain of economic welfare to the poor than a consideration of the law of diminishing utility taken by itself suggests."

Sen (1992) has proposed an alternative approach based on functionings or capabilities rather than income. These can be interpreted as the opportunities people have to achieve their goals. As such it advocates equality of opportunity. Based on this approach even a high level of income inequality may be justified if this does not result from inequality of opportunity. Yet, inequality in income may also affect inequality of opportunity, if for instance access to education, health care and other services and goods affecting present and future capabilities depend on income.[6] Then, income inequality may become entrenched and an increasing share of it will be due to inequality of opportunity.

Related to this issue, a large body of research has also investigated the link between income inequality and health, which is arguably linked to individual well-being. Wilkinson and Pickett (2010) reviewing thirty years' research maintain that more unequal societies have worse health outcomes than more egalitarian ones in addition to more acute social problems such as a lack of community life, violence, drug abuse and large prison populations. Overall, an assessment of the empirical literature on the link between inequality and health for rich countries suggests that the evidence is still inconclusive (Leigh *et al*., 2009). A meta analysis of numerous peer reviewed papers (Kondo *et al.*, 2009) concludes that a modest adverse effect of income inequality on health exists, with evidence also pointing to time lags and threshold effects of income inequality on health. In addition, data limitations have so far prevented studies from convincingly disentangling the direction of causality between health and inequality.

The drivers of inequality

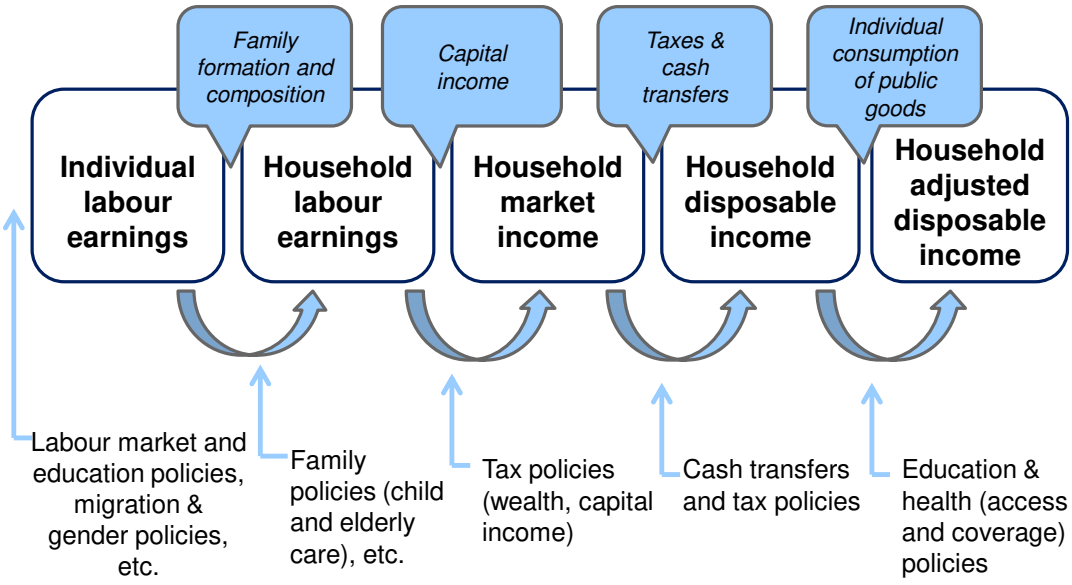
According to the 2009 Stiglitz-Sen-Fitoussi Report, household disposable income adjusted for publicly-provided in-kind services should be the focal point when assessing inequality as it is the most comprehensive income concept. Inequality in adjusted household disposable income is shaped by various factors – originating from the labour market, tax and transfer systems, etc. – which differ across countries and need to be disentangled. Thus, before moving to adjusted household disposable income, the analysis assesses cross-country differences in the distribution of five main income concepts following the approach of OECD (2011*a*) (Figure 3):

- *Individual labour earnings* (ILEs). The dispersion of individual labour earnings (wages and income from self-employment) for the working-age population reflects both the wage dispersion for working full-time employees and the labour income dispersion of other groups forming the working-age population (part-time workers and the self-employed) while the unemployed and people not looking actively for a job have no earnings.
- *Household labour earnings* (HLEs). Working-age families may differ in size and composition, affecting the sharing of labour income in households.
- *Household market income* (HMI). Capital income complements household labour earnings, though in varying proportions across countries and also across households within the same country. As the focus of the first three income concepts is on market income, the population covered is the working-age population.
- *Household disposable income* (HDI). Household disposable income covers all households and income sources, after taxes and cash transfers.
- *Adjusted household disposable income* (HADI*).* This concept is the most comprehensive as it also takes into account in-kind transfers, such as education and health care spending.

6. For instance, in the United States the No Child Left Behind Act aims at improving the educational opportunities for low-income and minority students.

This sequential approach allows identifying the main policy and non-policy drivers of inequalities at each income level, as well as their build-up along the chain. Data issues are discussed in Box 1 and different income inequality measures are discussed in Annex 1.

Figure 3. **From individual labour earnings to adjusted household disposable income**



Individual labour earnings[7]

Countries differ widely with respect to the level of labour earnings inequality among individuals of working age (Figure 4).[8] Differences in labour earnings inequality (inequality among those who earn an income from employment) and labour income inequality (inequality among all people in the working-age population) are shaped by cross-country differences in wage rates, hours worked and inactivity rates. Among the OECD countries, earnings inequality for full-time employees is highest in Chile, the United States and Portugal, while Switzerland, Belgium and Denmark are the most equal countries. Inequality is generally higher for all the full-time employed, reflecting the wider dispersion of earnings among the self-employed. Extending the analysis to part-time workers, the unemployed and the inactive raises the Gini index, reflecting the large income differentials for these groups and the group of full-time workers (unemployed individuals and the inactive enter the calculation with zero income as transfers are not taken into account). The increase in the Gini index is particularly large for countries where part-time workers make up a sizable share of total employment and for countries with a high unemployment rate and many inactive people of working age. While the Gini indices of the population sub-groups are highly correlated (the correlation coefficients are between 0.8 and 0.9), there are several countries, such as Belgium, Italy and Estonia, for which the choice of the group matters considerably for the inequality ranking.

7. OECD (2011*a*) provides much more detail on the five main income concepts and also discusses changes over time.

8. The policy and non-policy drivers of labour income inequality are discussed in Koske *et al.* (2012).

Box 1. **Data sources and their pros and cons**

The paper relies mainly on data from household surveys. The discussion of labour income inequality relies[1] on national surveys, while the OECD Income Distribution and Poverty Database is mainly used in the other sections. The data issues are similar for both, but the OECD income distribution data have been harmonised.[2] They are based on national income surveys, but the data set does not allow access to the original micro-data which constrains the analysis that can be performed.

Tax data can also be used when addressing specific issues – in particular top incomes – or for providing a long-term perspective (for instance, the Top Incomes Database by Alvaredo *et al.*, 2011). Both tax and household survey data have limitations which are summarised below.

Data from household surveys: main limitations

- Household surveys tend to be biased at both ends of the income ladder. The richest often fail to respond and, when they do, they tend to under-report their income. The poorest may be too marginalised to respond. Inequality thus tends to be underestimated.
- Non-response rates and misreporting varies across countries. As an illustration, in the EU Statistics on Income and Living Conditions (EU-SILC), the 2008 non-response rate exceeded 30% in Belgium, Denmark, Luxembourg and Norway and stood below 10% in Portugal and the Slovak Republic (Wolff *et al.*, 2010). The non-response rate is also often higher for some income components, such as the income from self-employment and capital income (Verma and Betti, 2010). Moreover, comparisons over time are hampered by changes in survey design or income accounting.
- The income data refer to cash income and thus exclude imputed components such as home production and imputed rent from owner occupation – the data on adjusted disposable income, which include imputed public spending on health, education and social housing, being the main exception.
- Social security contributions paid by employers are not included while social security contributions paid by households are, in principle, included. This makes it difficult to draw cross-country comparisons on the size and effect of the tax system based on household surveys.
- Some income components are not treated consistently in household surveys, distorting cross-country comparisons. For instance, occupational pensions should be treated as capital income according to the OECD terms of reference. In practice however, they are treated as cash transfers (for instance, for France).

Data from tax returns: main limitations

Tax data should in principle cover all high income recipients, *i.e.* provide "census" rather than sample data. They do not suffer from high non-response rates for high income levels. Although tax evasion and avoidance may distort the data, the bias is generally perceived to be smaller than for household surveys since the income data are audited by the tax authorities. Using tax data, the income share of the top 10% richest households is often considerably higher as compared with household surveys. Still tax data also have limitations, in particular:

- *i)* Under-declaration of income can be significant and varies across countries, reflecting the penalties imposed for under-declaration of income and the efficiency of tax authorities in fighting tax evasion. *ii)* Possibilities for tax planning and tax avoidance will affect the amount of income declared in tax returns. *iii)* The tax authorities generally only collect information on income that is taxable. Differences in tax codes can thus lead to differences in the concept of income used in different countries. *iv)* The tax unit (joint versus individual filing) varies between countries.
- Relying on tax data for assessing the income at the bottom end of the distribution may also be difficult since, in some countries, people are not required to declare their income if this remains below the taxable income threshold and in some countries, if tax affairs are simple, the tax can be deducted at source.

1. Individual labour earnings are defined as gross earnings, thus excluding social security contributions paid by employers. For some countries, other types of compensation are also included such as overtime pay or special allowances for Christmas and holidays.
2. See OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries,* Table 1.A1.1 for detailed country information and Expert Group on Household Income Statistics, 2001).

Figure 4. **Labour earnings inequality**

Gini index,[1] 15-to-64-year olds, 2008

1. The Gini index ranges from zero (perfect equality) to one (one individual receives all earning).

Note: The group of employed individuals includes both dependent and self-employed individuals. The group of employable individuals includes all persons aged 15 to 64 except for students and persons above the country's statutory retirement age. The Gini coefficients take into account labour earnings only; the precise definition of labour earnings differs across countries (see Fournier and Koske, 2012 for details). 2005 for Israel, 2006 for Brazil, 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 Brazil and 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.

Moving from individual to household labour earnings

Household labour earnings include the earnings of all individuals of working age population, whether they work or not, and take into account economies of scale in consumption, which is done by adjusting household earnings for the number of household members with an "equivalence scale".[9]

Extending the coverage of the earnings data step by step from individual workers to all people of working age yields the following insights (OECD, 2008): *i)* Accounting for partnership formation among working household members narrows the earnings distribution, because of the ensuing economies of scale in consumption; *ii)* Including dependents (for instance, non-working spouses) in households of workers widens the earnings distribution, with only minor differences across countries; and *iii)* including households with no labour income earnings, widens the distribution of household earnings considerably and the effect differs across countries, because of the large cross-country differences in the share of people living in households with no earners.

When moving from individual to household labour earnings, a clean decomposition requires analysis of micro data. OECD (2011*a*) finds that wage and employment trends played a more prominent role than changes in family structures when explaining the move from individual to household earnings inequality. The analysis below uses household data from the OECD Income Distribution and Poverty Database. As it

9. In OECD (2008), equivalisation is achieved *via* the "square root elasticity", which implies that the needs of a household composed of four people are twice as large as those of a single.

does not include individuals but grouped data with households grouped by equivalised disposable income, the Gini index for the different income components cannot be computed, but the concentration coefficient can. The concentration coefficient of any earnings' component is computed in the same way as the Gini coefficient, with the only difference being that households are not ranked by the value of the earnings but rather by their equivalised disposable income. The concentration coefficient tends to be lower than the Gini, because households with low equivalised disposable income might have high earnings. Moreover, the underlying data for the individual earnings distribution discussed above and the OECD income distribution and poverty data set differ.

Moving from household labour earnings to total market income

Total market income includes income from dependent work, self-employment and capital income. Overall, capital income is more concentrated than labour earnings. Not surprisingly, the property income distribution is as highly skewed as that of the wealth distribution (Fredriksen, 2012) (Box 2). What matters most for the strong concentration of both is that higher income individuals save more and thereby accumulate more wealth than poorer households, while they typically also hold riskier and higher-yielding assets. Lower taxation of wealth and of capital income (Joumard *et al.*, 2012) has probably also played a role in fostering a more rapid wealth accumulation at the top.

The contribution of the market income components to overall household market income inequality

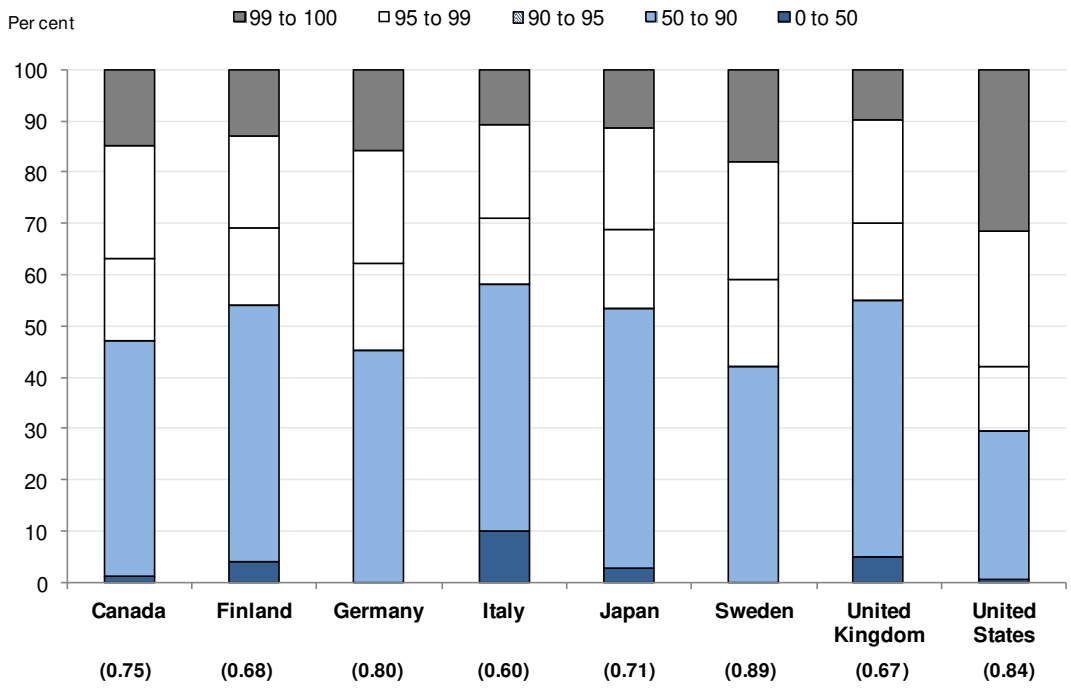
Wages and salaries are in general the main driver of total market income dispersion (Figure 6).[10] This market income component accounts for around 75% of the dispersion in market income on average in the OECD. Only in Italy it is not the main determinant, the contribution of self-employment income being larger and well above the OECD average of 15%. Although capital income is generally more concentrated than wages and salaries, it is not a strong determinant as its share in total market income is modest (around 7% in the OECD on average). Focusing on the entire population yields similar results and country rankings. The only noticeable change regards Turkey, as the concentration coefficient of market income drops from being the 6th highest to slightly below the OECD average when considering the whole population. Shorrocks (1982; 1983) questions the decomposition of the Gini (or concentration coefficient) by income sources on the grounds that results are sensitive to the specific decomposition rule adopted. After imposing additional assumptions, he shows that the decomposition of the squared coefficient of variation (*i.e.* the variance-to-squared-mean ratio) is independent of any specific decomposition rule and recommends using this approach. Overall, results using this alternative methodology (shown in Annex 2) are similar to those presented in Figure 6.

Box 2. **The distribution of wealth**

The wealth distribution is much more concentrated than the income distribution. In the countries included in the Luxembourg Wealth Study (LWS), the lowest 50% of households in the wealth distribution hold only a tiny fraction of wealth, while the top 10% hold in between 40% (Italy) and 70% (United States) of total wealth (Figure 5) (Fredriksen, 2012).[1] Measured by the Gini index, wealth inequality is highest in Sweden and the United States and relatively low in Italy. As the example of Sweden demonstrates, countries with a fairly equal income distribution can have a very skewed wealth distribution.[2]

10. Inequality in household market income can be expressed as a weighted average of the concentration ratios of market income sources with weights equal to the share of an income source in total market income (Shorrocks, 1982; Lerman and Yitzhaki, 1985). The concentration ratio, or pseudo-gini, of household equivalised market is computed as the standard gini index with the only difference that individuals are not ranked by household equivalised market income but by household equivalised disposable income.

Figure 5**. The concentration of wealth**
In the late 1990s, early 2000s



Note: For Germany, the first wealth proportion is the 0 to 90% of the population. For the United States, the Survey of Consumer Finance is used and the data refer to 2006. The Gini index for household wealth is shown in brackets below the country name.
Source: OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries* and Luxembourg Wealth Study (LWS).

Trends in wealth inequality can only be assessed using non-harmonised national wealth surveys. The wealth concentration came down considerably since the beginning of the 20th century until the 1970s, partly due to adverse shocks like the World Wars and the great depression of the 1930s. It is likely that the enlargement of the welfare state financed by highly progressive income tax systems prevented a recovery of the wealth concentration after the second world war. Moreover the sharp rise in home-ownership over the last decades tended to reduce wealth inequality (Davies, 2009 and Fredriksen, 2012). Wealth can either result from accumulation over a lifetime or from inheritance. Piketty (2010) found for France that the flow of *inter vivos* gifts and inheritances also came down sharply from the beginning of the twentieth century until the 1970s.

Over the last 30 years an upward trend in wealth inequality can be observed, for which there are several explanations:

- Financial markets have soared in the aftermath of financial market deregulation that started in the 1970s. Particularly the stock market boom in the late 1990s has driven up wealth concentration at the top.
- Lower marginal tax rates on top incomes and lower capital gains and property taxation have made accumulation of wealth easier for the rich.
- Capital income and wealth taxes have come down or were abolished in many countries probably reinforcing the trend towards greater wealth inequality. At least in France, inheritances and *inter vivos* gifts have risen again in importance over the past 30 years and stood at 15% of national income in 2008, nearly as high as a century ago (Piketty, 2008). Gift and inheritance taxes influence the wealth distribution.

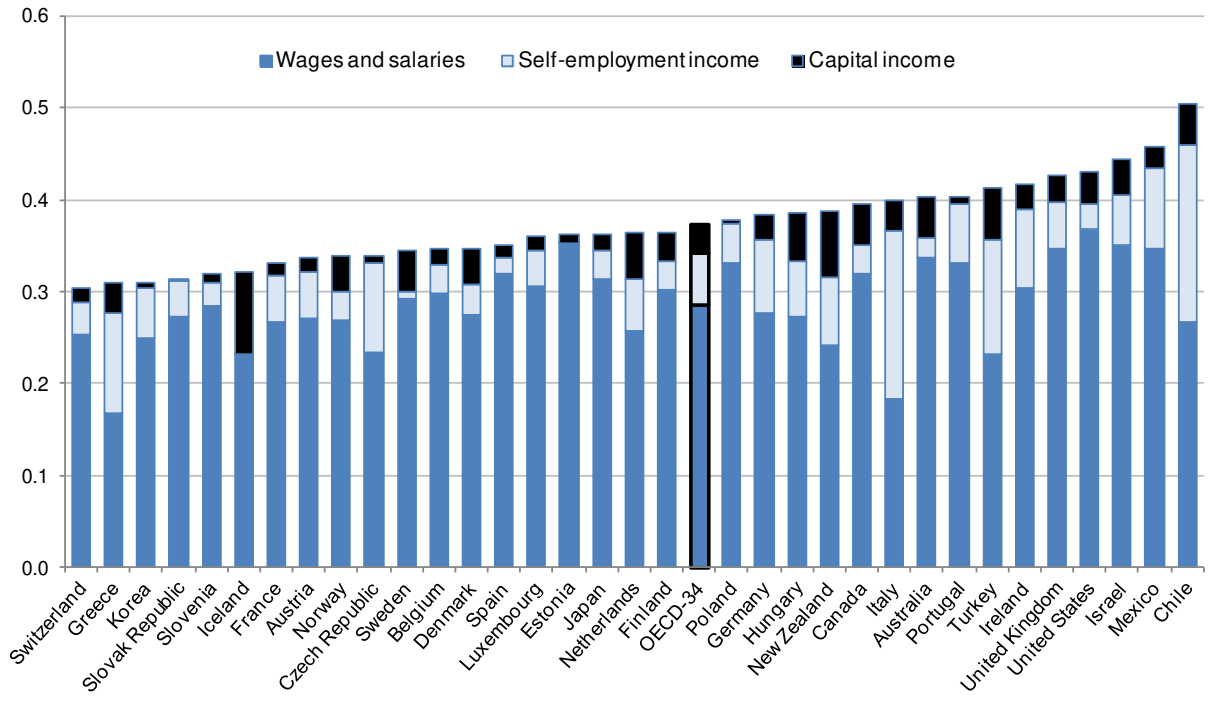
1. In the Luxembourg Wealth Study wealth is defined as net worth (financial assets and housing minus debt), so that human capital and pension wealth are excluded. But even for the net worth concept used here, important assets, such as business equity and wealth accumulating in pension funds are excluded to ensure cross-country comparability. Cross-country comparability issues are even more difficult to overcome than for the income distribution data, though the situation has improved with the launch of the Luxembourg wealth study. Data issues are discussed in Fredriksen (2012).
2. It has been argued that the generous public pension scheme in Sweden may have reduced asset accumulation at the lower end of the income distribution. Moreover, among the countries covered by the LWS, Sweden stands out as having a low home-ownership rate, with housing wealth being typically more equally distributed than financial wealth. The fact that many households report negative net worth is probably linked to the tax deductibility of interest payments and student loans are also important.

The distribution of household disposable income

Taxes paid by households and cash transfers reduce the market household income dispersion by around a quarter on average across the OECD countries. But given the different starting points in terms of household market income distribution and the differences in redistribution *via* the tax and transfer system (Joumard *et al*., 2012), the distribution of household disposable income still varies widely. In around 2008, the Gini index ranged from somewhat below 0.25 in Slovenia to 0.5 in Chile (Figure 7). The household disposable income distribution is fairly narrow in the Nordic countries, some Eastern European countries as well as Austria and Belgium. The Gini index is somewhat higher in a number of continental European countries and higher still in the English-speaking countries as well as Japan, Korea, Italy and Portugal. Income inequality is highest in the poorer OECD countries (Chile, Mexico and Turkey). Percentile ratios provide a measure of household disposable income inequality at specific points of the income distribution and are a more intuitive way to gauge the width of the income distribution. The gap between the upper bound value of the 1th decile and the upper bound value of the 9st decile of households is close to 1:3 for the three countries with the most narrow household disposable income distribution and above 1:6 for the three countries with the widest. Also the cross-country differences in the share of top income earners (top percentile) in total household disposable income are very wide, ranging from 4.5 for Sweden to 18.1 for the United States.

Figure 6. **Contributions to overall household market income inequality**

Working age population, in the late 2000s

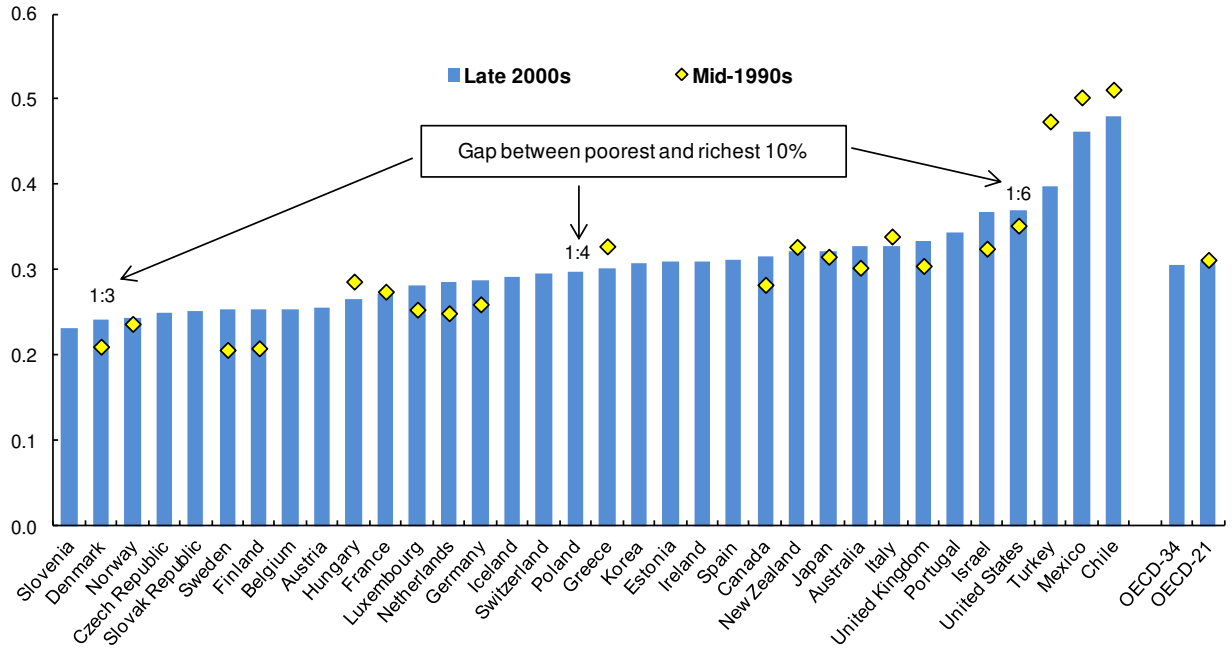


Note: Contributions to overall household market income inequality are derived by multiplying the concentration coefficients of each income source by their weight in total market income. The data for Greece, Hungary, Mexico and Turkey are net of taxes. Data for France and Ireland refer to mid-2000s.

Source: *OECD Income Distribution and Poverty Database.*

Figure 7. **The household disposable income distribution: cross-country comparisons and trends**

Gini index and gap between the 10st and 90th centile



Note: The Gini index ranges from zero (perfect equality) to one (one individual receives all of the income and the others receive none). The OECD-21 includes countries for which data are available for the mid-1990s. Data for France and Ireland refer to the mid-2000s instead of the late 2000s.

Source: *OECD Income Distribution and Poverty Database*.

Since the mid-1990s, the disposable income distribution has widened in 12 countries while it has narrowed in 8 countries. It has come down in some of the poorer countries (Chile, Greece, Hungary and Mexico), but it widened considerably in the Nordic countries (except in Norway) as well as in Australia, Canada and Israel. For the OECD on average, there was little change in income inequality as measured by the Gini index,[11] contrary to public perceptions of a sharp rise in income inequality.[12] In the countries that experienced greater inequality, the increase was often driven by rising inequality in the upper half of the income distribution, largely due to rapidly rising incomes at the very top (Box 3).

11. For the 19 countries for which long data series are available, the Gini index rose by 2.1 points between the mid-1980s and the mid-1990s.

12. An Ifop poll covering 12 countries found that 83% of the Germans, 80% of the French and 72% of the Swiss thought that inequality had increased over the past 10 years, while only 42% of US citizens, 47% of the Australians and 50% of the Brazilians thought so (Ifop, 2011).

Box 3. **The rise in top incomes and its explanations**

The rise in 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 income share of the top income recipients also rose in most other OECD countries (Figure 8), there is great variation across countries with respect to both the extent of this increase and the time 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:

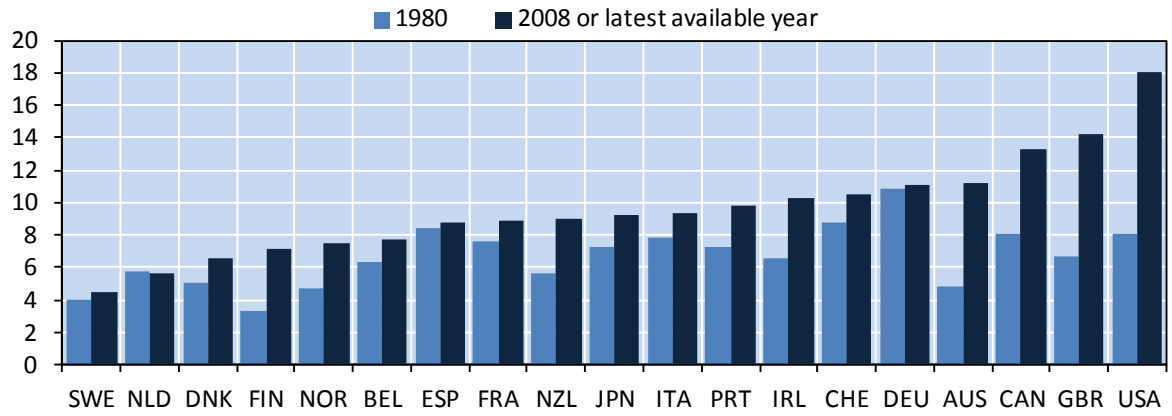
Taxation

- Top income tax rates have come down considerably over time which may have boosted the income declared by top earners to the tax authorities. Studies estimating the elasticity of taxable income at the top with respect to the marginal tax rate typically put it at around minus one for a top marginal tax rate of 50%.
- 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 and, in a few countries, they are not taxed at all. Stock options also benefit from preferential tax treatment in many OECD countries (OECD, 2005) 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" and thus boosted 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, owing not least 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 their bargaining power. To the extent that these outside options include jobs in foreign countries, the latter may explain why the top-income shares of some countries influence those of others: For example, the top income share in the United States is found to have a considerable influence on the one in Canada, while that 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 8. **Share of top 1% income recipients in total income**



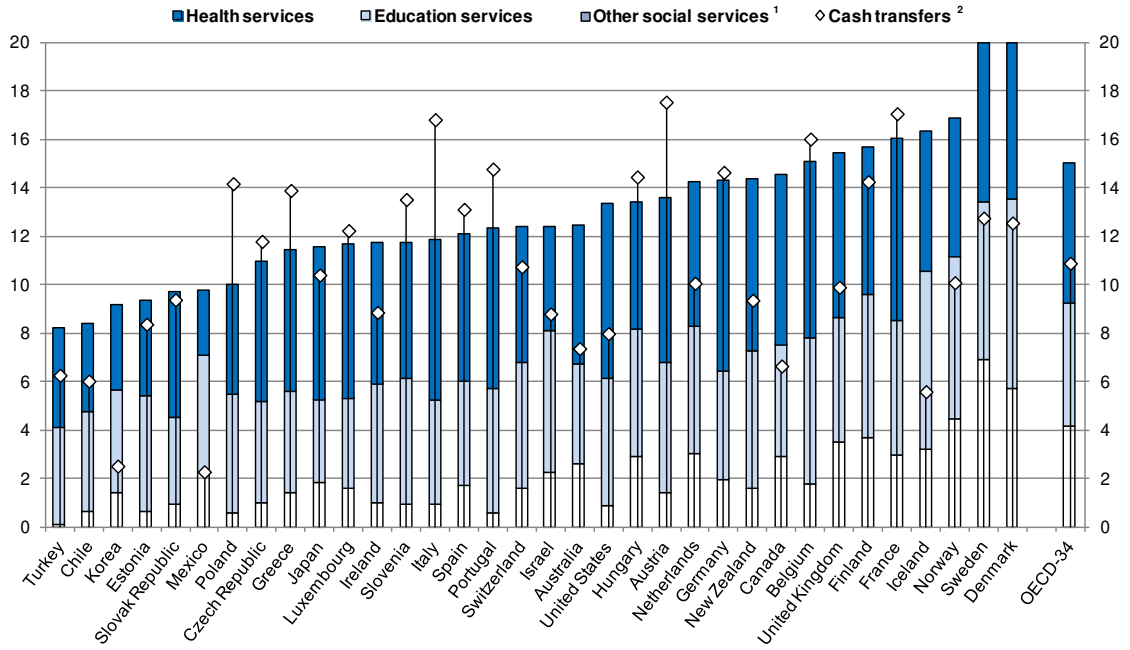
Note: The pre-tax income data exclude capital gains for all countries except Australia and Finland. The data are based on tax returns.
Source: Alvaredo *et al.* (2011) and Matthews (2011).

Adding in-kind transfers

In-kind transfers are an important tool for redistribution in addition to public cash transfers. On average, the size of in-kind services (health, education and other social services) is more important than that of cash transfers – 13 versus 11% of GDP (Figure 9). The Nordic countries and France stand out with very high in-kind transfers, whereas Turkey, Chile and Korea spend little. Health care and education services are by far the most important in-kind transfers in all OECD countries, while other services (child care, public transport and social housing) play a minor role, except in the Nordic countries.[13] The variation in the size of in-kind transfers, as measured by the variance-to-mean ratio is highest for other social spending and lowest for health, suggesting more policy heterogeneity across countries in education and other social policies than in health.

Figure 9. **Public spending on in-kind transfers**

In percentage of GDP, 2007



Note: Countries are ranked in increasing order of total expenditure on all social services. Data on education services for Greece, Luxembourg and Turkey refer to 2005.

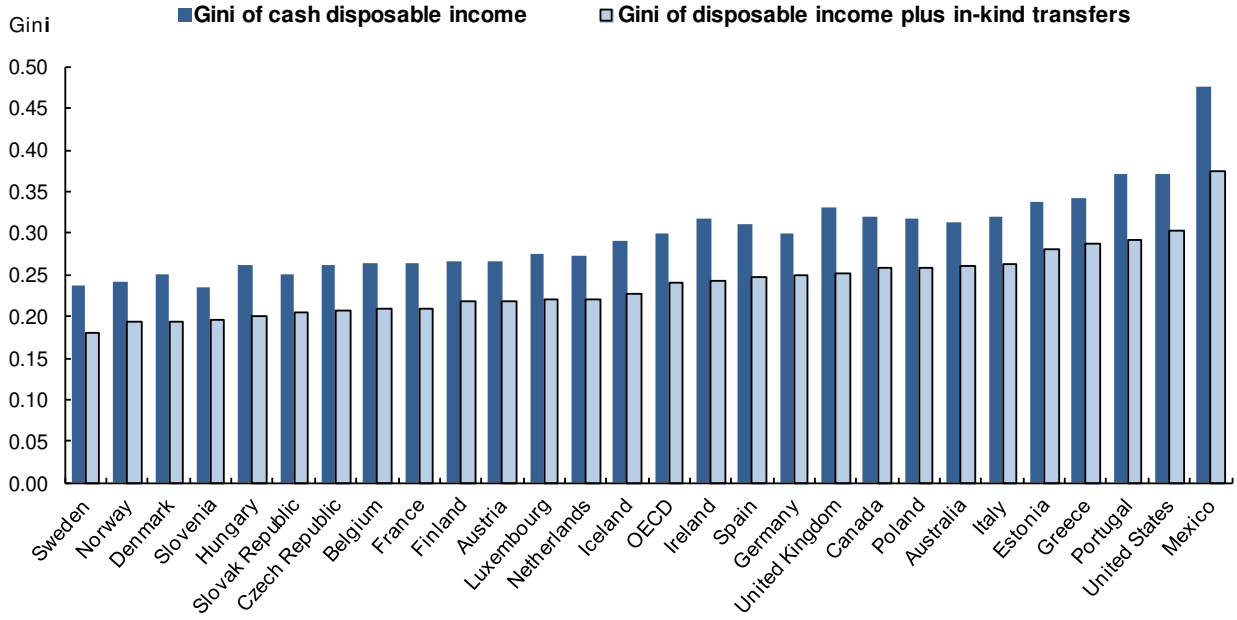
1. Other social services include services to survivors, disabled persons, unemployed, as well as those in respect of housing and social assistance (estimates of social housing are, however, not included).
2. Cash transfers to the elderly, survivors, disabled persons, families, unemployed, as well as those in respect of social assistance. Private mandatory spending, which accounts for a large share of total social spending in some countries (in particular Chile, Germany and Switzerland), is not included here.

Source: OECD Social Expenditure Database, OECD Education Database.

13. Assessing the effect of in-kind benefits on inequality poses substantial methodological challenges. Government services are valued by the cost of production, but services have to be disaggregated to the household level. Household surveys often provide only limited information on the actual use of different government services. Two disaggregation methods exist: the actual consumption approach and the insurance value approach (OECD, 2011*a*). The former is used for public education, for which it is relatively easy to identify the beneficiaries, *e.g.* households with children. In the presence of children, the income of a household is increased by the average spending at the relevant educational level. The insurance value approach is used for public health care as information on the number of medical treatments is usually not available. An insurance value is calculated, depending on individual characteristics such as age, sex and socio-economic position. This insurance value is equal to what such an individual would have to pay so that a third-party provider would fund the claims.

OECD (2011*a*) provides cross-country results on the inequality-reducing effect of in-kind transfers. Whatever the measure used, inequality declines in all OECD countries when in-kind transfers are taken into account.[14] Total in-kind transfers reduce the inter-quintile ratio (Q5/Q1) by nearly 1.6 points (from 5.0 to 3.4) on average, while the Gini index for the OECD area is reduced from 0.30 to 0.24. As measured by the Gini index, inequality is reduced by one-fifth, which is less than the reduction achieved by cash transfers (one-third). Despite the large overall decline in inequality, country rankings do not change much (Figure 10). However, some of the countries with a high level of inequality in terms of disposable income (Mexico, Portugal, the United Kingdom and the United States) show the largest decline in inequality (above 21%), while it is smallest for Slovenia (17%), the country with the lowest inequality in terms of disposable income.

Figure 10. **The reduction in inequality due to public spending on in-kind transfers**



Source: OECD (2011*a*), *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing.

Characterising cross-country inequality patterns

What are the inequality dimensions which differentiate OECD countries most? Can groups of countries sharing similar inequality patterns be identified? This section uses two approaches – country profiles and a cluster analysis – to answer these questions. Both approaches rely on a set of inequality indicators, *i.e.* those identified above subject to the constraint that they are available for a large number of OECD countries and reliable from a cross-country perspective. For each of the five income concepts (Figure 3), three to six indicators of income inequality have been selected. Two additional indicators have been added, one on relative poverty and another on regional income disparities. The statistical analysis thus

14. These calculations concern only those 27 OECD countries for which data were available for imputing the value of spending on public services. For some of the remaining countries, evidence from national sources suggest that public services have a significant redistributive impact (see, for instance, Lopez and Miller (2008) for Chile).

relies on a set of 24 indicators of income inequality for country profiles and on 12 core indicators for the cluster analysis.[15]

Country profiles trace the various inequality dimensions

Country profiles have been assembled in diamonds (Box 4). These allow comparing the 24 inequality dimensions for each country with the OECD average and identifying how these inequality dimensions map into inequality of household disposable income (HDI). Country profiles for all OECD countries are provided in Annex 2. The country profiles reveal that inequality of household disposable income, whether adjusted for in-kind transfers or not, does not have the same origin. In some countries, wage dispersion among those working is an important factor (*e.g.* the United States) while in others, the non-employment rate and/or inequality in capital income are driving inequality in HDI (*e.g.* Italy). The country profiles also show the extent to which tax and transfer systems as well as publicly-provided services (in particular education and health) reduce income inequality. Some countries (*e.g.* Sweden) are characterised by relatively low inequality in household market income (HMI) but still redistribute considerably *via* large tax and cash transfer systems which brings inequality in HDI well below the OECD average. The United Kingdom and the United States display a similar inequality in HMI, which is clearly above the OECD average. Still, taxes and cash transfers redistribute more in the United Kingdom than in the United States.

Box 4. **Country profiles of inequality dimensions: the case of Italy, Sweden, the United Kingdom and the United States**

For Sweden, the indicator set reveals that inequality in household disposable income, whether adjusted or not for in-kind public services, is low in international comparison (Figure 11). Inequality in individual labour earnings (ILEs) for the working age population is low, reflecting both a narrow wage dispersion (in particular at the bottom end, as represented by the ratio of the average wage for the 5th decile to the average wage of the 1st decile), a non-employment rate (NER) below the OECD average and little concentration in self-employment income. Capital income is slightly more concentrated than in the OECD on average but overall the Gini index of household market income (HMI) for the entire population remains well below the OECD average. Taxes and cash transfers bring inequality in household disposable income (HDI) significantly below the OECD average.

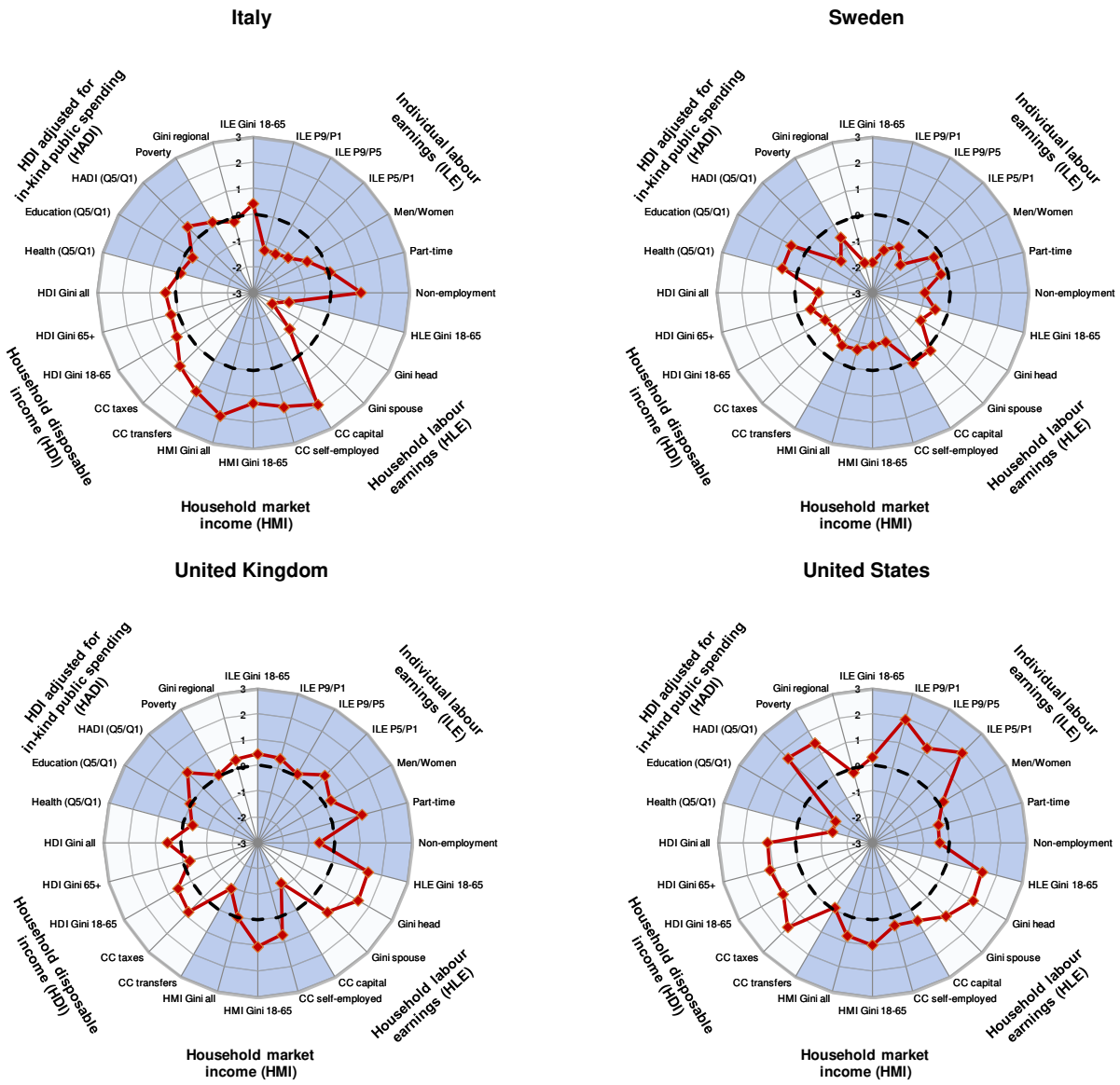
In Italy, wage income is less dispersed than in the OECD on average. However, inequality of household market income (HMI) is adversely affected by a high non-employment rate, and a high concentration of self-employment and capital income. With occupational pensions playing a pivotal role in the Italian welfare system, cash transfers and the tax system do not succeed in bringing HDI inequality and the poverty rate below the OECD average.

In the United Kingdom, inequality in individual labour earnings is above the OECD average, reflecting both a wide wage dispersion for those working full-time and the large proportion of part-time workers by OECD standards. The concentration in self-employment income further adds to inequality in household market income. Cash transfers benefit low-income households most and taxes are progressive, thus bringing down inequality in household disposable income to slightly above the OECD average.

In the United States, the wage dispersion for full-time workers is high by OECD standards, both at the top and bottom of the income ladder. The non-employment rate and part-time employment are both below the OECD average, bringing inequality in labour earnings for the working age population close to the OECD average. Taxes have a large redistributive impact (the concentration coefficient for taxes is one of the highest in the OECD, and much higher than the concentration coefficient for household market income). As a share of household disposable income, cash transfers are smaller than in most other OECD countries and have thus little redistributive impact. Overall, inequality in household disposable income is considerably above the OECD average.

15. For some countries, data for a few indicators were not available. Country profiles show only the available data. For the cluster analysis, only core indicators have been used to avoid giving too much and artificial weight to some income concepts. For instance, the dispersion in household market income is included in the analysis but not the dispersion in capital income or in self-employment income.

Figure 11. **Inequality indicators for Italy, Sweden, the United Kingdom and the United States**



Note: The dotted line represents the OECD average, the solid line represents the country shown. Where the solid line falls inside the OECD average, this implies less inequality than the OECD average. Inversely, where the solid line is outside of the OECD average, inequality is greater. The indicators are presented in units of standard deviation.

Legend:

Individual labour earnings (ILE)
- ILE Gini 18-65 = ILE Gini index for working age population, including wage earners, self-employed, unemployed and non-employed
- ILE P9/P1 = 9th to 1st decile wage earnings for full-time employees
- ILE P9/P5 = 9th to 5th decile wage earnings for full-time employees
- ILE P5/P1 = 5th to 1st decile wage earnings for full-time employees
- Men/Women = Median wage earnings of men to women
- Part-time = Ratio of part-time workers to total employment
- NER = Non-employment rate

Household labour earnings (HLE)
- HLE Gini 18-65 = HLE Gini index for working age population
- Gini head = Gini index for heads of household
- Gini spouse = Gini index for spouses

Household market income (HMI)
- CC capital = Concentration coefficient for capital income
- CC self-employed = Concentration coefficient for self-employment income
- HMI GINI 18-65 = HMI Gini index for working age population
- HMI Gini all = HMI Gini index for total population

Household disposable income (HDI)
- CC transfers_TR = Concentration coefficient for cash transfers
- CC taxes = Concentration coefficient for household taxes
- HDI Gini 18-65 = HDI Gini index for working age population
- HDI Gini 65+ = HDI Gini index for population aged 66 and over
- HDI Gini all = HDI Gini index for total population

Adjustment to household disposable income for public spending on:
- Health = Public spending on health, 5th to 1st quintile
- Education = Public spending on education and early childhood education and care, 5th to 1st quintile
- HADI = HDI adjusted for in-kind health and education public spending, 5th to 1st quintile

Others
- Poverty rate = Relative poverty rate
- Gini regional = Gini index for regional GDP

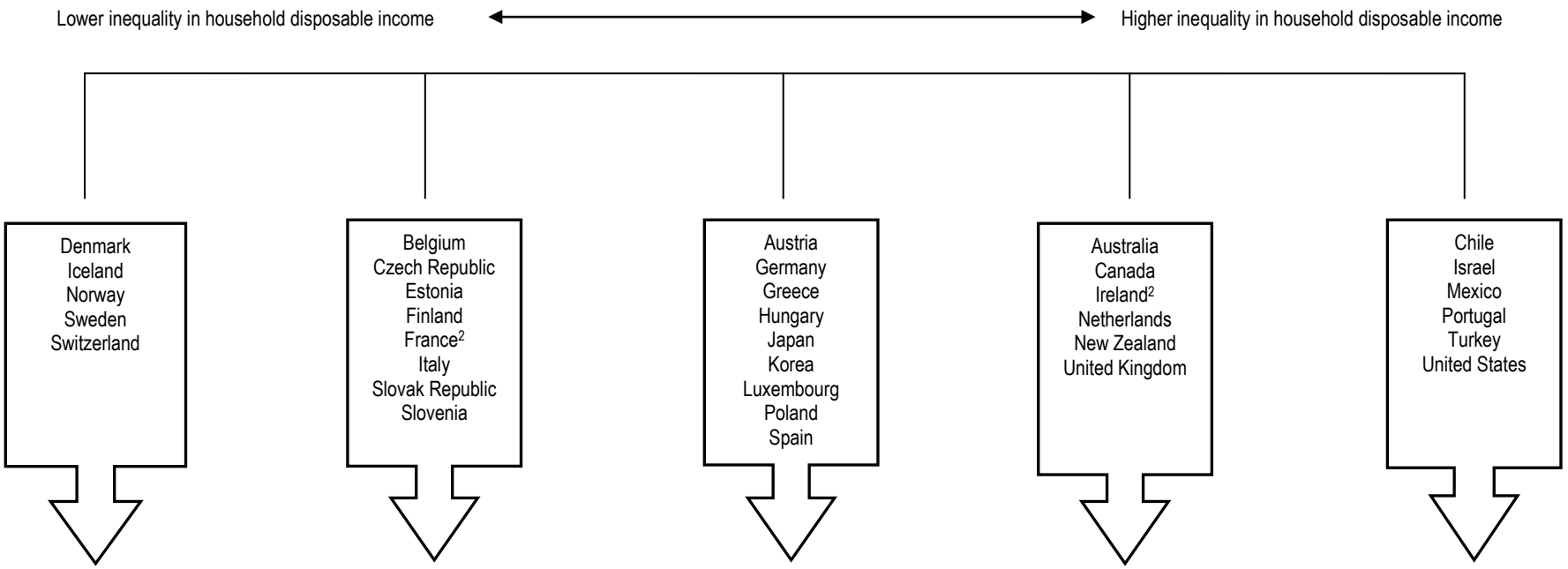
A cluster analysis allows identifying groups of countries sharing similar inequality patterns

Five groups of countries sharing similar inequality patterns have been identified using a cluster analysis (Figure 12), which is based on 12 core inequality indicators. The five groups, ordered by rising household disposable income inequality, are as follows:

- A group – including four Nordic countries plus Switzerland – is characterised by below average inequality originating from the labour market, thanks to a narrow 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. Cash transfers are often universal and household taxes tend to be largely proportional to household income. Overall, the dispersion in disposable income and the poverty rate are well below the OECD average.
- In a group of eight European countries (Belgium, Czech Republic, Estonia, Finland, France, Italy, Slovak Republic and Slovenia), inequality originating from the labour market is slightly below the OECD average. Inequality in labour earnings is driven by a low employment rate (in particular for Belgium, France, Italy and the Slovak Republic), while wage dispersion is well below the OECD average. The high concentration of self-employment income or capital income drives inequality in household market income up close to the OECD average, the Slovak Republic and Slovenia being exceptions in this regard. However, the large tax and cash transfer systems succeed in reducing the dispersion in household disposable income to, or below, the OECD average.
- In a group of seven 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. The underlying causes vary, however. The wage dispersion is wide in Germany (at the lower end of the wage distribution), in Greece, Hungary and Poland (at the upper end of the income distribution) and in Korea at both ends. 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. However, in some of these countries (including Greece and Korea), an important redistribution in labour earnings takes place at the family level.[16] 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.
- Five English-speaking countries (Australia, Canada, Ireland, New Zealand and the United Kingdom) plus the Netherlands are characterised by a large share of part-time employment driving inequality in labour earnings. Pushing in the other direction, the employment rate stands above the OECD average in all these countries but Ireland. While small in size in all these countries but the Netherlands, taxes and transfers have a sizable redistributive impact, as cash transfers tend to be more targeted and taxes more progressive than in other OECD countries. Still, the dispersion in household disposable income is above the OECD average in all these countries – the Netherlands being an exception.
- Chile, Israel, Mexico, Portugal, Turkey and the United States are characterised by above average inequality originating from the labour market, reflecting a very wide wage dispersion, coupled with a low employment rate (the United States being an exception in this regard). Capital and self-employment income also tend to be highly concentrated. Cash transfers have little redistributive impact because they are small in size and often largely insurance-based. Inequality in household disposable income and the poverty rate are well above the OECD average.

16. In Korea, the number of households composed of only a single adult above 65 is very low by OECD standards while in Greece, the number of lone parents with children is low.

Figure 12. **Five groups of countries share similar inequality patterns**[1]



1. 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.
2. For France and Ireland, mid-2000s (instead of end-2000s) data have been used for the cluster analysis.

Inequality and poverty in large emerging economies

Five emerging countries (Brazil, China, India, Indonesia and South Africa) show both considerably higher economic growth and higher inequality than most OECD countries. Drawing cross-country comparisons is, however, difficult because income distribution data and methods often differ across these and the OECD countries. As an example, income dispersion in India is measured *via* a consumption survey (Gini coefficient of 0.38) while an income survey is used for South Africa (Gini coefficient of 0.70). Also, poverty in these countries is most often measured in absolute terms, rather than in relative terms as in most OECD countries, with the poverty line varying across countries.

Income dispersion has increased in three of the five countries considered here since the early 1990s. Income dispersion has risen by 24% in China, 16% in India and 4% in South Africa (Arnal and Förster, 2011; OECD, 2010*b*). It has remained broadly stable in Indonesia and declined by around 10% in Brazil. While income dispersion trends have diverged across these countries, absolute poverty has declined in all of them, thanks to rapid economic growth. From the early 1990s to the late 2000s, China experienced both the highest economic growth rate and largest drop in poverty amongst the countries. Over the same period, the poverty rate in Indonesia and Brazil fell more than in India even though the latter grew faster.[17] Poverty also fell in South Africa over the same period but to a lesser extent than in the other countries. Institutional settings and poverty reduction policies play a key role in explaining these differences.

Although on a declining trend, poverty is still high and often concentrated on children and rural citizens. Poverty still affects 19% of the population in Indonesia and 17% in South Africa, but less than 4% in Brazil.[18] In Brazil, India and South Africa, children are more at risk of being poor than adults and the elderly (Arnal and Förster, 2011). Whereas in the past two decades old age poverty declined in these countries, only Brazil managed to lower children's poverty risk. The rapid urbanisation and the rural-urban divide typical of emerging economies may also raise specific issues. In China, poverty has fallen more markedly in rural than urban areas since the 1990s reflecting both layoffs by state-owned enterprises, which were concentrated in urban agglomerations, and rural-to-urban area migration flows. In India, poverty also appears to have fallen more in rural than urban areas. Yet, migration does not seem to explain these different trends as migration flows were stable over the past two decades (Kundu and Mohanan, 2009).

Reducing poverty and inequality in these countries is challenging for a number of reasons. First, the labour market needs to absorb a fast-growing labour force. And labour earnings account for a larger share of total household income than in developed countries. Second, rampant labour market informality often implies lower income, no social protection, little opportunity to develop human capital, and thus risks perpetuating poverty. Yet, a higher degree of informality does not necessarily imply higher inequality.[19] Over the past decade, inequality decreased in Brazil, but recent research attributes this decline to better education rather than to the concomitant drop in labour market informality (Arnal and Förster, 2011). Also for China, informality affects income dispersion only slightly with differences in human capital and the rural-urban divide playing a more important role (Cai *et al*., 2009). Third, the emerging countries have less developed tax and transfer systems, with often low unemployment benefits or social safety nets.

17. The elasticity of the poverty rate with respect to economic growth varies from -4.3% in Brazil, -0.8% in China and -0.4% in India (Ravaillon, 2011).

18. Poverty is defined as the population living with less than $1.25 a day (PPP adjusted) in the mid- or late-2000s.

19. A growing informal sector affects income dispersion in two opposite directions. It increases income dispersion since workers in the informal sector have lower incomes than in the formal sector. At the same time, it reduces income dispersion as some of those employed in the informal sector may, otherwise, have no income.

The experience of the large emerging economies shows, however, that transfer programmes, if well targeted, can be powerful in reducing poverty and inequality. These countries introduced non-contributory benefit schemes over the 1990s, although in markedly different forms:

- In Brazil, Ferreira *et al*. (2010) show that from 1994 onwards the fall in the poverty rate is largely attributable to the expansion and reform of social assistance spending, including *Bolsa Familia*, along with a more stable macroeconomic environment under the Real Plan.

- In 1999, China launched its first social welfare scheme, the Minimum Living Standard Scheme (Dibao), as a last resort assistance scheme for the urban poor. And this scheme was progressively extended to rural areas.[20] This programme has contributed to reduce poverty albeit by only a limited extent because of problems in its design and implementation (Cai *et al*., 2009; Herd, 2010). Although the number of beneficiaries has increased rapidly, Dibao reached only 3.9 and 6.7% respectively of the urban and rural populations in 2008.[21] In both urban and rural areas the benefit level is low at around 10% of average household income and there are considerable targeting problems.

- In India, spending on social welfare is relatively high compared to other countries with a similar income level. However, the system's fragmentation and poor coverage reduce its effectiveness (OECD, 2011*c*). The largest programme is the Public Distribution Scheme. It aims at providing the neediest with subsidised food and other essential items, but it is beset by poor targeting and major delivery problems. India also relies on the National Rural Employment Guarantee Scheme, which provides 100 days of government-funded work per year at a minimum wage to all rural residents who wish to participate. However, its impact on poverty reduction has been limited as the programme does not target the poor and cannot reach children, the elderly and disabled people. Besides, the urban poor are not covered by this programme.

- In South Africa social assistance programmes target mostly poor children, through the Child Support Grant, and the poor elderly, through the Old-Age Pension. These schemes have significantly contributed to reduce poverty in addition to improving education and health (Leibbrandt *et al*., 2011).

- In 2005, Indonesia strengthened its social protection programme, with the implementation of conditional cash transfers. These have been effective in reducing poverty, especially during crisis periods (OECD, 2010*a*).

20. Historically, China's attempt to narrow the income gap between regions in the fast-growing East and the laggard West has relied on large capital-intensive projects in the less developed areas. The impact of such projects on the local economy, poverty and inequality has been below expectations (Herd, 2010).

21. Migrant workers from rural areas without urban registration are not eligible to Dibao benefits. Gao and Riskin (2009) have estimated that if Dibao were extended to such workers, the number of beneficiaries in urban areas would increase by around 65%.

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Annex 1

Measures of income inequality

Many inequality measures exist. They fall into two categories: one-number summary statistics, such as the Gini, Theil or Atkinson index and shares of income or percentile ratios. One-number summary statistics measure the income distribution throughout the distribution and differ somewhat in their sensitivity to changes in the tails *versus* the middle of the distribution. Also the concentration ratio, which is a variant of the Gini index is often used in the main paper.[22] Shares of income and percentile ratios provide a picture of income inequality at specific points in the income distribution. Table A.1 highlights the properties and main characteristics of those measures that are most commonly used. The main conclusion that can be drawn from the table is that looking at several of these measures at the same time might allow overcoming weaknesses of an individual index (for example, an analysis based on Gini indices can be complemented by using percentile shares for different parts of the income distribution). Evans *et al.* (2004) show that while Gini, Theil and Robin Hood indices as well as the share of income of the top quartile are highly correlated, the coefficient of variation and the 90/10 percentile ratio are less well correlated. However, estimates of the change in inequality over time can differ, depending on the income distribution measure.

Table A.1. **Main income inequality measures and their properties**

Measure	Scale invariance	Replication invariance	Transfer principle	Decompo-sability	Main features
Gini coefficients	X	X	X		Simple and robust measure of inequality. Sensitive to tails at the top or bottom of the distribution. It does not permit to locate, where changes in the distribution occur.
Coefficient of variation	X	X	X	X	Simple and intuitive. Possible to conduct robust decompositions by income sources.
Percentile ratios and income shares	X	X			Ignore information about incomes other than the percentiles and shares selected.
Atkinson's index	X	X	X	X	Ability to gauge movements in different segments of the income distribution. Can be turned into a normative measure by imposing a coefficient to weigh individuals in different part of the distribution differently.
Theil's index	X	X	X	X	Can be expressed as weighted average of inequality within sub-groups, plus inequality among those sub-groups. Allows the analysis of inequality among population sub-groups.

Note: Scale invariance: inequality is unchanged if the income of each individual is multiplied by a given constant (*i.e.*, how income is expressed, *e.g.*: euro, yen or dollar, is not important). Replication invariance (or population principle): a replication of the population (*i.e.* adding to the population under consideration *n* times the same individuals) does not change the inequality index. Transfer principle: the inequality index decreases in the case of a progressive income transfer (*i.e.* a transfer from richer to poorer individuals) and increases in the case of a regressive transfer (*i.e.* a transfer from poorer to richer individuals). Decomposability: the inequality index can be expressed as a weighted sum of the inequality values of different and mutually exclusive population sub-groups plus the inequality between the sub-groups' means.

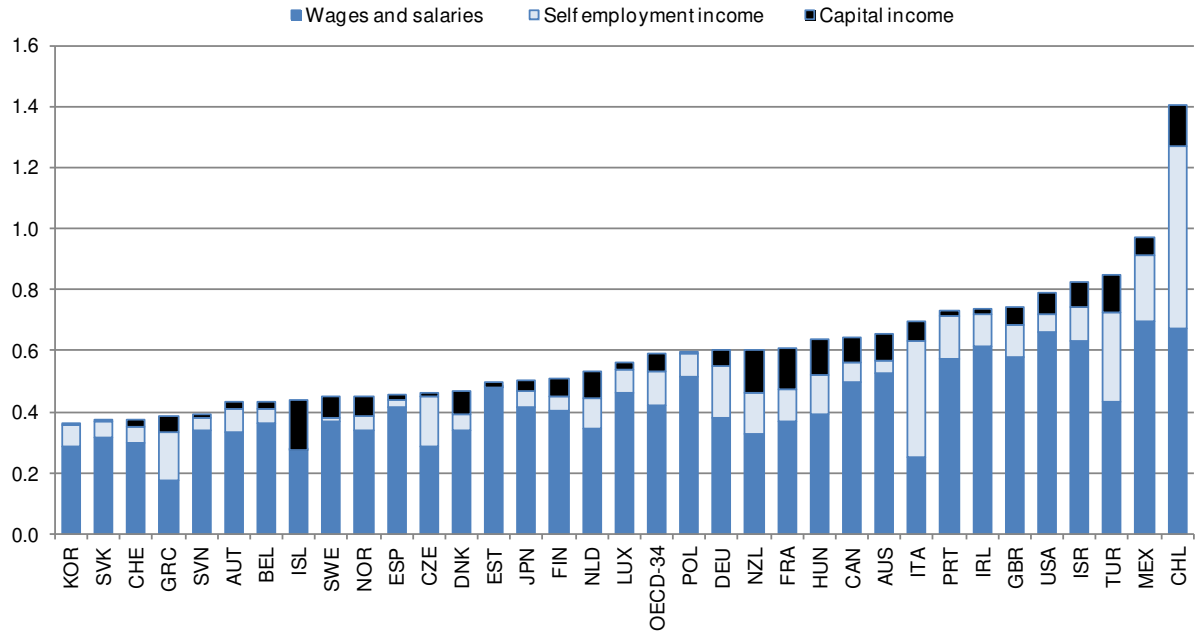
22. The concentration coefficient is computed in the same way as the Gini coefficient, with the only difference being that individuals are not ranked by the value of the earnings they receive but rather by their equivalised disposable income.

Annex 2

Additional information

Figure A1. **Contributions to overall household market income inequality: coefficient of variation decomposition analysis**

Working age population, in the late 2000s

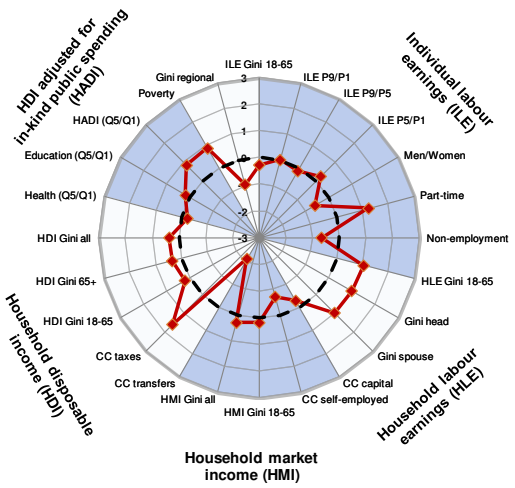


Note: Market income refers to equivalised household income. The bars show the contributions of the different market income component to the coefficient of variation of market income of each country following Shorrocks (1982). The coefficient of variation is computed using grouped data having information on the income share of each decile. The data for Greece, Hungary, Mexico and Turkey are net of taxes.

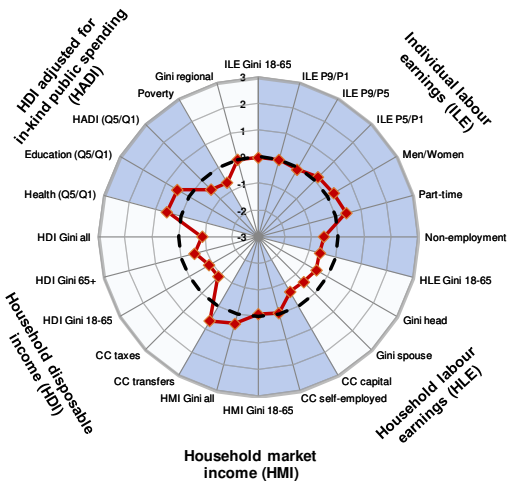
Source: *OECD Income Distribution and Poverty Database*.

Figure A2. **Inequality indicators**

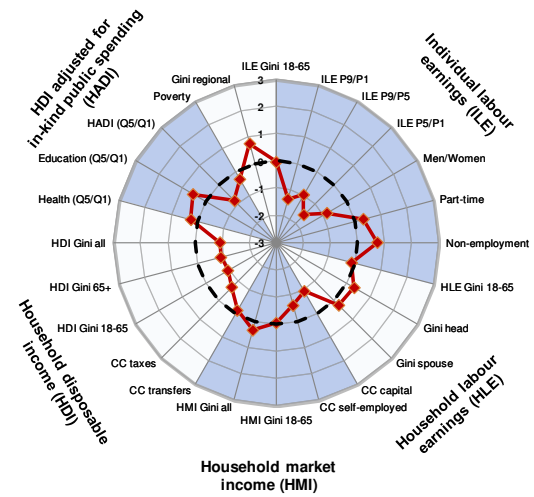
Australia



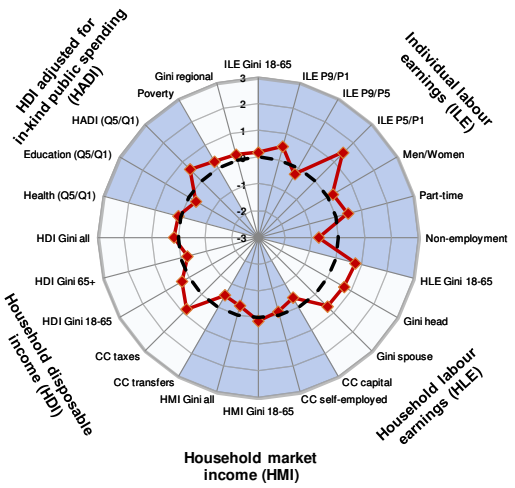
Austria



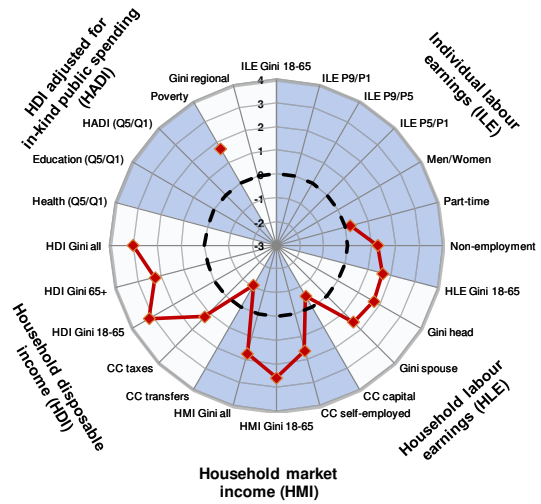
Belgium



Canada



Chile



Czech Republic

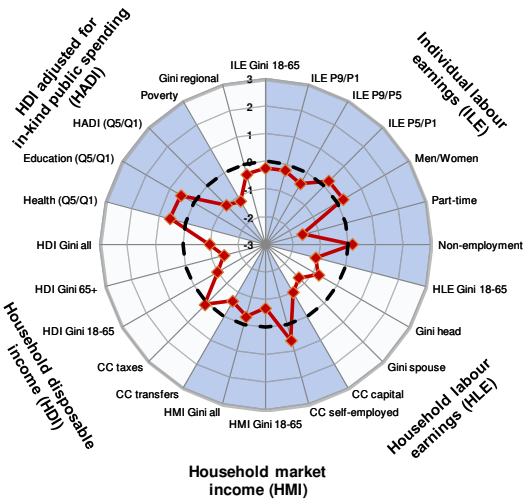
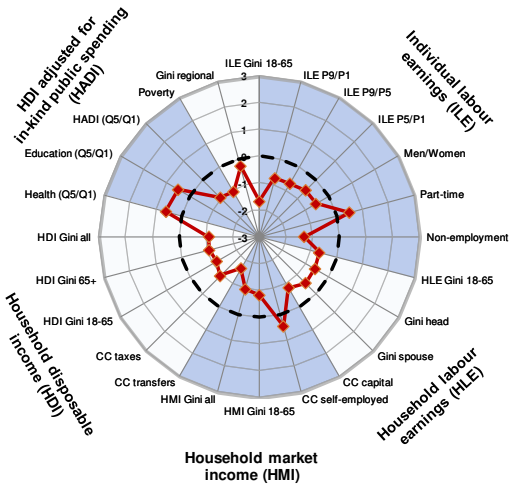
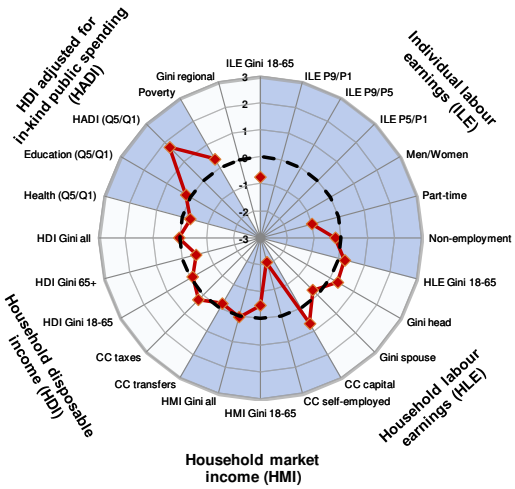


Figure A2. **Inequality indicators,** *continued*

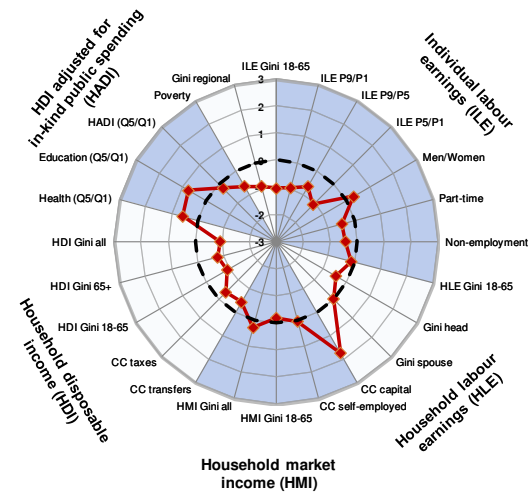
Denmark



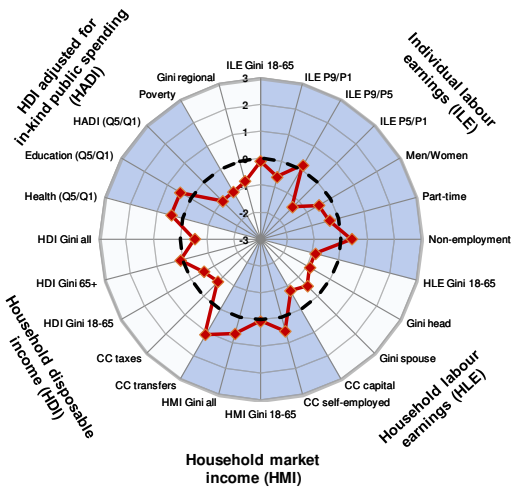
Estonia



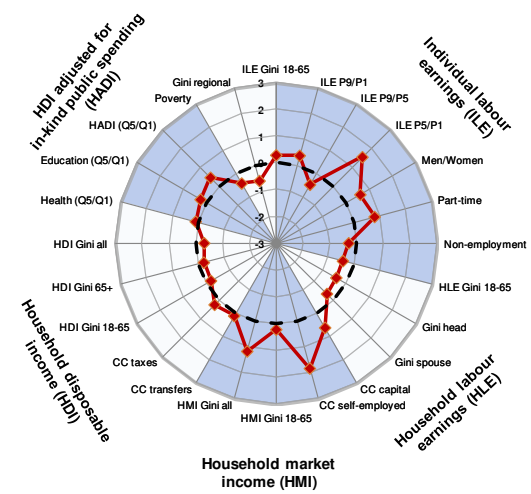
Finland



France



Germany



Greece

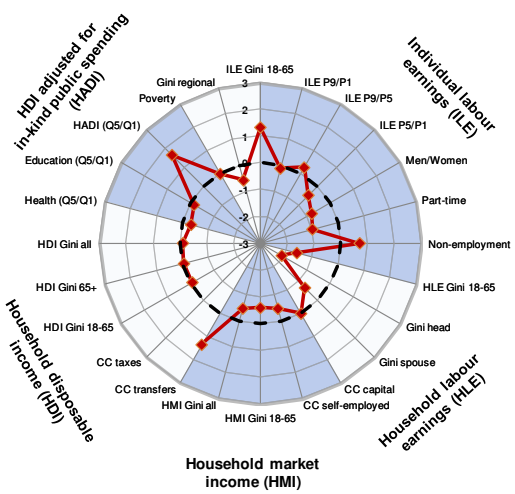
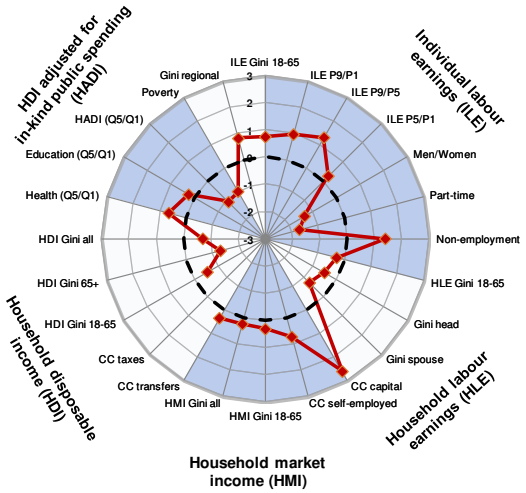
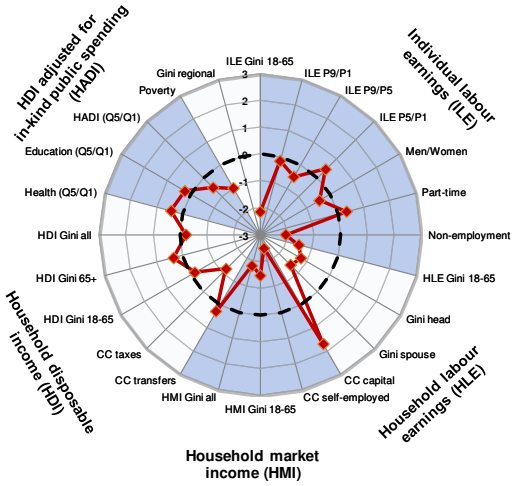


Figure A2. **Inequality indicators,** *continued*

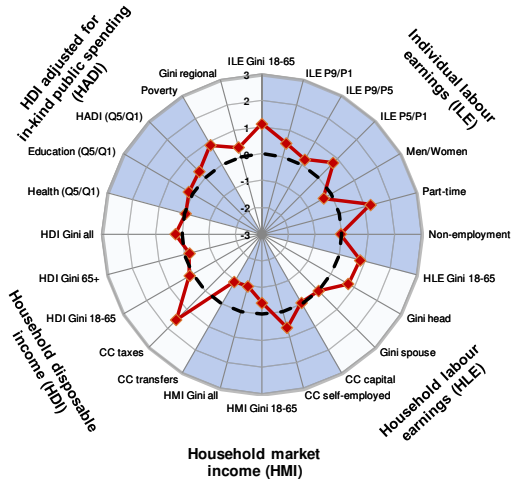
Hungary



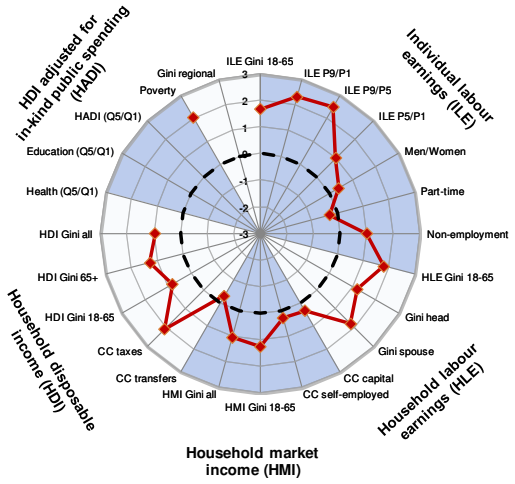
Iceland



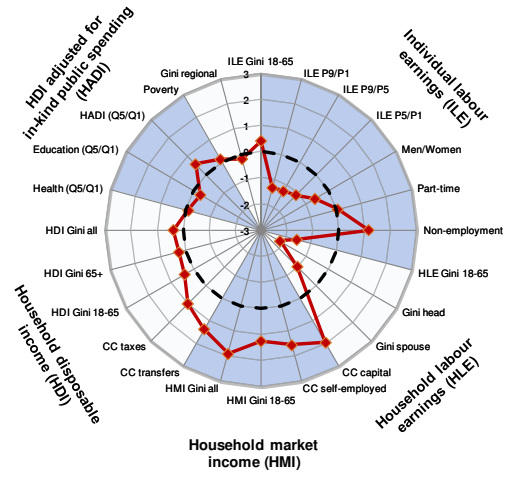
Ireland



Israel



Italy



Japan

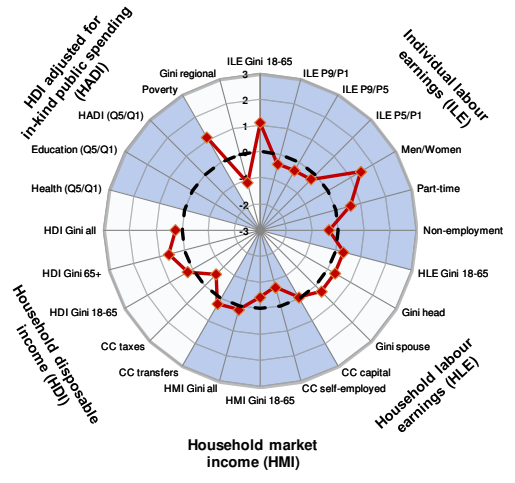
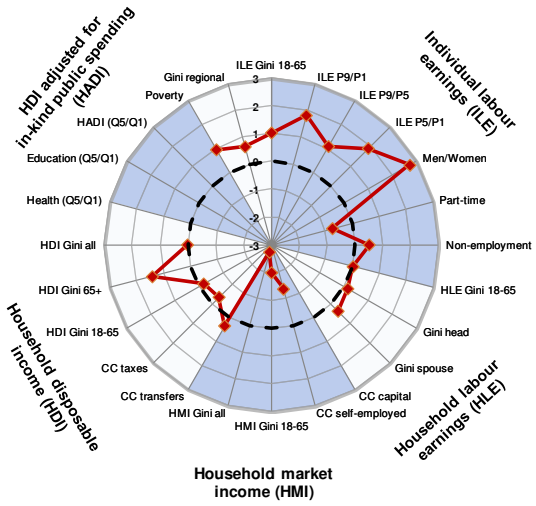
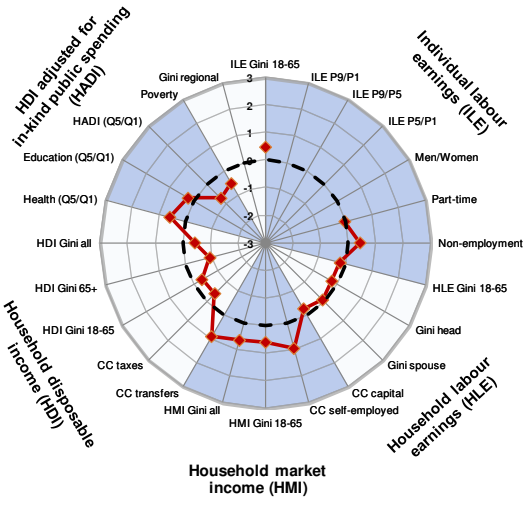


Figure A2. **Inequality indicators,** *continued*

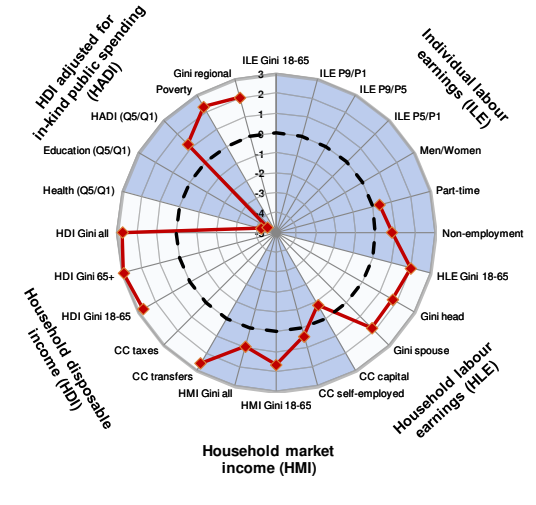
Korea



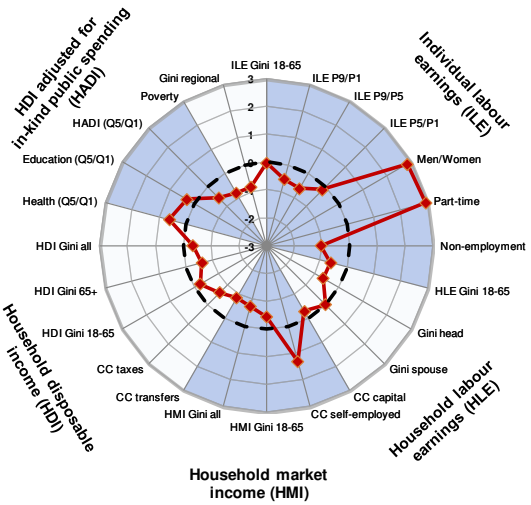
Luxembourg



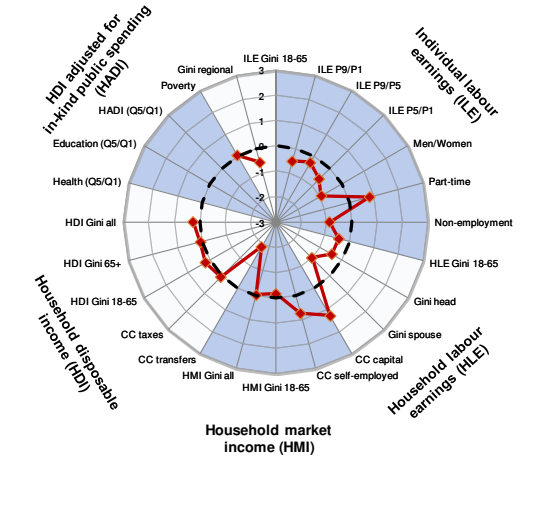
Mexico



Netherlands



New Zealand



Norway

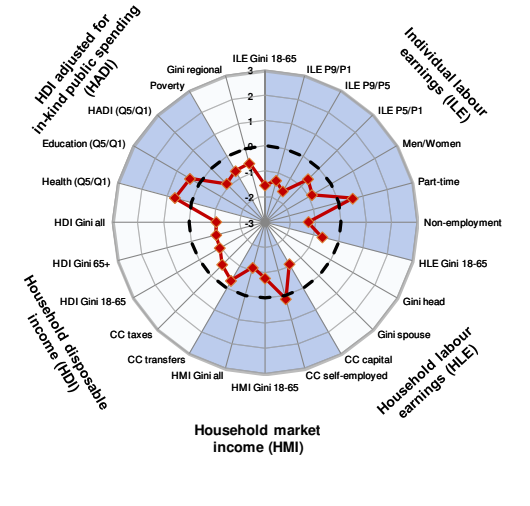
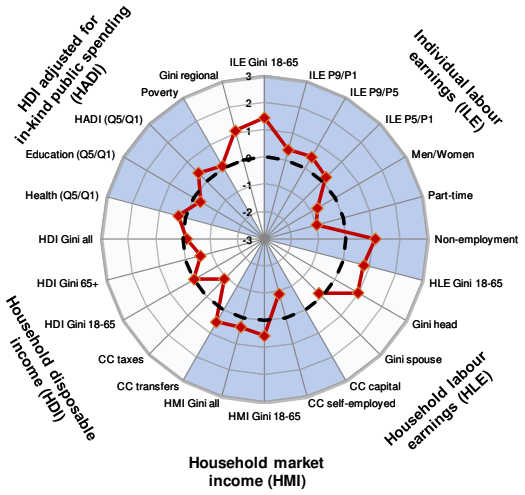
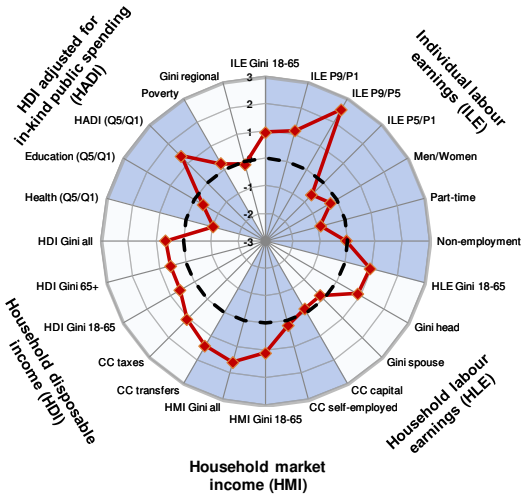


Figure A2. **Inequality indicators,** *continued*

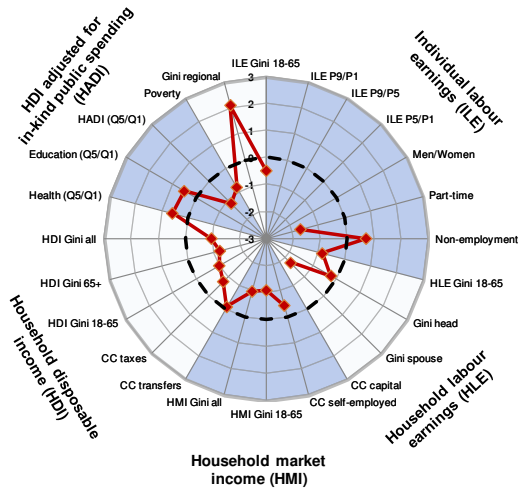
Poland



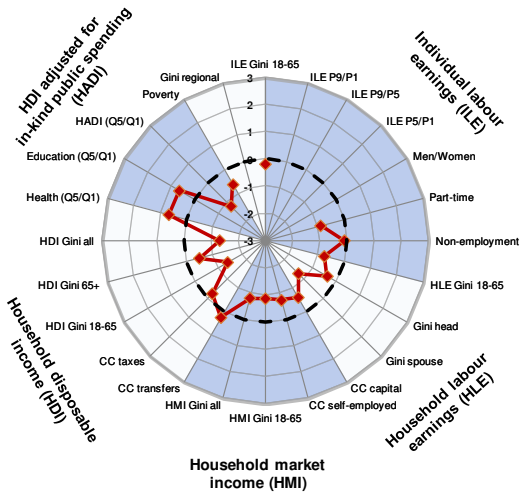
Portugal



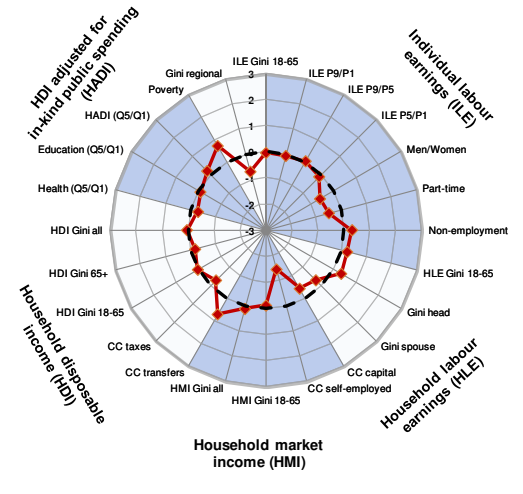
Slovak Republic



Slovenia



Spain



Sweden

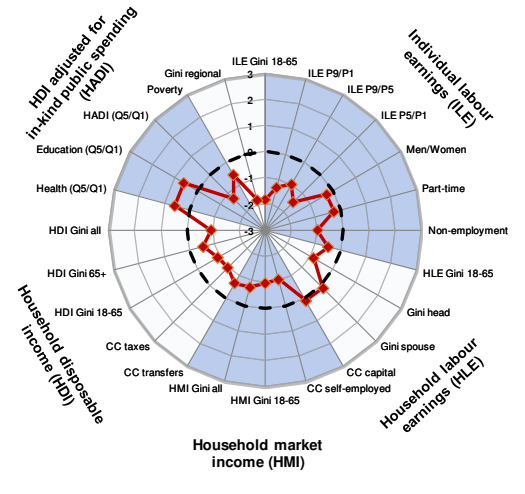
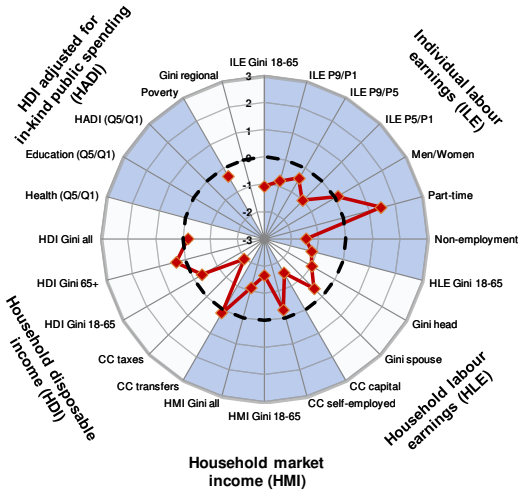
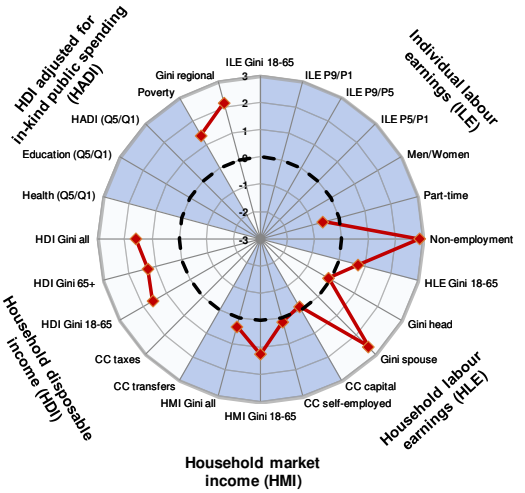


Figure A2. **Inequality indicators,** *continued*

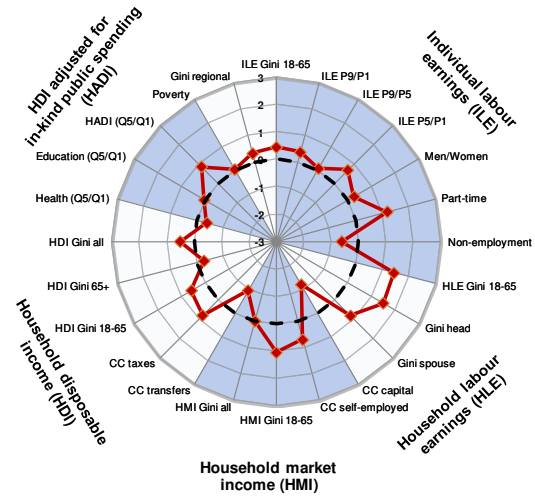
Switzerland



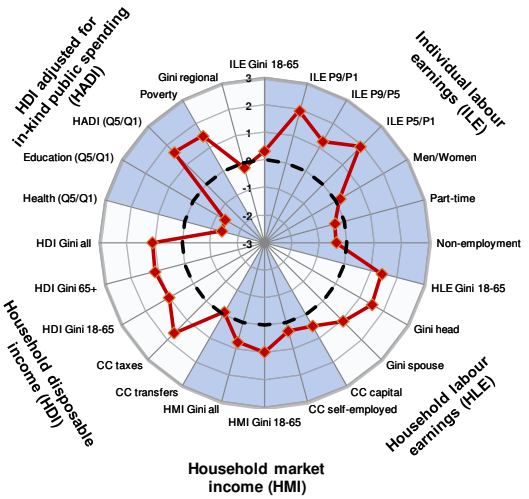
Turkey



United Kingdom



United States



Note: The dotted line represents the OECD average, the solid line represents the country shown. Where the solid line falls inside the OECD average, this implies less inequality than the OECD average. Inversely, where the solid line is outside of the OECD average, inequality is greater. The indicators are presented in units of standard deviation.

Legend:

Individual labour earnings (ILE)
- ILE Gini 18-65 = ILE Gini index for working age population, including wage earners, self-employed, unemployed and non-employed
- ILE P9/P1 = 9th to 1st decile wage earnings for full-time employees
- ILE P9/P5 = 9th to 5th decile wage earnings for full-time employees
- ILE P5/P1 = 5th to 1st decile wage earnings for full-time employees
- Men/Women = Median wage earnings of men to women
- Part-time = Ratio of part-time workers to total employment
- NER = Non-employment rate

Household labour earnings (HLE)
- HLE Gini 18-65 = HLE Gini index for working age population
- Gini head = Gini index for heads of household
- Gini spouse = Gini index for spouses

Household market income (HMI)
- CC capital = Concentration coefficient for capital income
- CC self-employed = Concentration coefficient for self-employment income
- HMI GINI 18-65 = HMI Gini index for working age population
- HMI Gini all = HMI Gini index for total population

Household disposable income (HDI)
- CC transfers_TR = Concentration coefficient for cash transfers
- CC taxes = Concentration coefficient for household taxes
- HDI Gini 18-65 = HDI Gini index for working age population
- HDI Gini 65+ = HDI Gini index for population aged 66 and over
- HDI Gini all = HDI Gini index for total population

Adjustment to household disposable income for public spending on:
- Health = Public spending on health, 5th to 1st quintile
- Education = Public spending on education and early childhood education and care, 5th to 1st quintile
- HADI = HDI adjusted for in-kind health and education public spending, 5th to 1st quintile

Others
- Poverty rate = Relative poverty rate
- Gini regional = Gini index for regional GDP

Table A1. **Inequality indicators across OECD countries: Levels and country ranks**

Levels

	Individual labour earnings							Household labour earnings			Household market income				Household disposable income						Household disposable income adjusted for in-kind public spending		
	Gini, working age population	9th to 1st decile ratio	9th to 5th decile ratio	5th to 1st decile ratio	Median earnings men to women	Part-time workers as per cent of total employment	Non employment rate	Gini, working age population	Gini, working age population, household heads	Gini, working age population, spouses	Concentration coefficient, capital income	Concentration coefficient, self-employment income	Gini, working age population	Gini, total population	Concentration coefficient, cash transfers	Concentration coefficient, household taxes	Gini, working age population	Gini, 65+ population	Gini, total population	Relative poverty rate	Health care component, 5th to 1st quintiles	Education and ECEC component, 5th to 1st quintiles	Adjusted HDI, 5th to 1st quintiles
Australia	0.54	3.34	1.92	1.74	1.14	24.9	26.8	0.40	0.38	0.48	0.44	0.35	0.42	0.47	-0.41	0.57	0.32	0.33	0.34	14.6	-0.59	3.61	-1.15
Austria	0.55	3.32	1.93	1.72	1.26	19.0	27.9	0.32	0.30	0.38	0.42	0.44	0.41	0.47	0.06	0.36	0.26	0.26	0.26	7.9	-0.32	3.02	-0.58
Belgium	0.55	2.25	1.66	1.36	1.10	18.3	38.0	0.35	0.35	0.44	0.39	0.36	0.41	0.47	-0.08	0.38	0.26	0.23	0.26	9.4	-0.30	2.87	-0.80
Canada	0.56	3.75	1.88	2.00	1.26	19.4	26.3	0.39	0.37	0.46	0.43	0.43	0.42	0.44	-0.14	0.51	0.33	0.28	0.32	12.0	-0.97	3.51	-0.92
Chile						17.4	42.2	0.43	0.43	0.52	0.42	0.67	0.52	0.53	-0.24	0.55	0.50	0.47	0.49	18.4			
Czech Republic	0.54	3.15	1.82	1.73	1.26	4.3	33.4	0.30	0.28	0.33	0.38	0.53	0.38	0.44	-0.16	0.45	0.25	0.19	0.26	5.5	-0.31	2.80	-0.56
Denmark	0.46	2.73	1.74	1.57	1.14	19.5	21.6	0.32	0.29	0.38	0.40	0.51	0.37	0.42	-0.34	0.36	0.24	0.22	0.25	6.1	-0.32	2.82	-0.53
Estonia	0.51					8.7	30.5	0.36	0.35	0.40	0.53	0.16	0.39	0.46	-0.08	0.46	0.31	0.26	0.32	12.5	-0.58	4.02	-1.22
Finland	0.49	2.57	1.76	1.46	1.27	12.5	28.7	0.35	0.30	0.42	0.62	0.45	0.40	0.47	-0.13	0.41	0.26	0.24	0.26	8.0	-0.13	3.14	-0.56
France	0.55	2.84	2.01	1.41	1.15	13.6	35.4	0.31	0.28	0.38	0.40	0.53	0.41	0.48	0.14	0.37	0.28	0.31	0.28	7.1	-0.37	2.79	-0.67
Germany	0.57	3.63	1.81	2.01	1.32	21.7	29.8	0.33	0.30	0.40	0.52	0.71	0.42	0.50	-0.03	0.46	0.30	0.28	0.30	8.9	-0.52	3.45	-0.91
Greece	0.63	3.24	2.04	1.59	1.11	8.8	37.8	0.27	0.21	0.37	0.47	0.38	0.38	0.44	0.18		0.31	0.30	0.31	10.8	-0.84	3.98	-1.23
Hungary	0.60	4.11	2.36	1.74	1.02	3.6	43.3	0.34	0.30	0.37	0.69	0.55	0.42	0.47	0.01		0.28	0.20	0.27	6.4	-0.53	2.76	-0.50
Iceland	0.43	3.21	1.80	1.78	1.16	18.4	15.8	0.28	0.25	0.32	0.61	0.10	0.35	0.38		0.34	0.30	0.33	0.30	6.4	-0.53	3.01	-0.67
Ireland	0.62	3.75	2.03	1.85	1.18	24.8	31.9	0.39	0.37	0.42	0.47	0.54	0.39	0.42	-0.21	0.57	0.32	0.28	0.33	14.8	-0.59	3.38	-1.02
Israel	0.65	5.18	2.73	1.90	1.28	13.8	40.2	0.44	0.40	0.54	0.50	0.49	0.46	0.50	-0.10	0.62	0.36	0.40	0.37	19.9			
Italy	0.58	2.27	1.56	1.45	1.13	16.3	41.3	0.27	0.20	0.35	0.63	0.67	0.46	0.53	0.18	0.52	0.33	0.32	0.34	11.4	-0.96	3.49	-1.07
Japan	0.62	3.02	1.85	1.63	1.44	20.3	29.3	0.37	0.35	0.44	0.47	0.34	0.39	0.46	-0.01	0.39	0.32	0.35	0.33	15.7			
Korea	0.61	4.78	2.30	2.08	1.63	10.7	36.2	0.35	0.34	0.44		0.26	0.32	0.34	0.01	0.41	0.30	0.41	0.32	15.0			
Luxembourg	0.58					15.8	35.6	0.34	0.31	0.41	0.45	0.58	0.44	0.48	0.10	0.40	0.29	0.23	0.29	8.5	-0.53	2.92	-0.55
Mexico						18.7	38.7	0.45	0.43	0.54	0.40	0.51	0.48	0.49	0.39		0.47	0.52	0.48	21.0	-4.26	3.80	-4.13
Netherlands	0.55	2.91	1.76	1.65	1.65	37.1	23.9	0.32	0.29	0.42	0.45	0.63	0.39	0.43	-0.20	0.39	0.30	0.25	0.29	7.2	-0.48	2.99	-0.53
New Zealand		2.92	1.87	1.56	1.08	21.9	25.1	0.33	0.30	0.35	0.58	0.55	0.40	0.46	-0.38	0.44	0.32	0.31	0.33	11.0			
Norway	0.46	2.28	1.46	1.56	1.09	20.1	21.9	0.32			0.38	0.47	0.38	0.41	-0.11	0.39	0.26	0.22	0.25	7.8	-0.40	2.86	-0.49
Poland	0.64	3.64	2.11	1.73	1.11	8.7	40.8	0.39	0.38	0.41		0.32	0.43	0.47	0.04	0.36	0.31	0.26	0.31	11.2	-0.95	3.43	-0.79
Portugal	0.61	4.26	2.74	1.55	1.18	9.3	31.8	0.40	0.38	0.41	0.46	0.48	0.46	0.52	0.19	0.53	0.35	0.34	0.35	12.0	-1.01	3.84	-1.75
Slovak Republic	0.53					3.7	37.7	0.31	0.31	0.30		0.39	0.36	0.42	-0.07	0.37	0.25	0.21	0.26	7.2	-0.32	2.73	-0.54
Slovenia	0.54					9.4	31.4	0.31	0.31	0.33	0.42	0.34	0.37	0.42	-0.01	0.42	0.23	0.26	0.24	8.0	-0.21	2.70	-0.49
Spain	0.55	3.28	1.98	1.66	1.13	12.4	34.7	0.36	0.35	0.40	0.43	0.24	0.41	0.46	0.07	0.41	0.31	0.29	0.32	14.0	-0.79	3.33	-1.21
Sweden	0.45	2.28	1.66	1.37	1.18	14.0	24.3	0.33	0.28	0.43	0.48	0.30	0.37	0.43	-0.17	0.36	0.26	0.26	0.26	8.4	-0.24	2.67	-0.55
Switzerland	0.49	2.69	1.83	1.47	1.24	26.3	20.5	0.29	0.27	0.39	0.34	0.41	0.34	0.41	-0.03	0.27	0.29	0.33	0.30	9.3			
Turkey						11.5	55.1	0.39	0.32	0.60	0.46	0.47	0.46	0.47			0.40	0.40	0.41	16.9			
United Kingdom	0.58	3.63	1.98	1.83	1.27	24.6	27.3	0.42	0.41	0.47	0.37	0.55	0.46	0.46	-0.22	0.51	0.34	0.28	0.34	11.0	-0.70	3.62	-1.27
United States	0.57	4.89	2.34	2.09	1.25	13.5	29.1	0.42	0.41	0.49	0.51	0.49	0.45	0.49	-0.07	0.58	0.37	0.39	0.38	17.3	-1.78	3.97	-2.03
OECD average	0.55	3.33	1.96	1.68	1.22	16.0	32.2	0.35	0.33	0.42	0.47	0.45	0.41	0.46	-0.06	0.44	0.31	0.30	0.31	11.2	-0.72	3.24	-0.99

Table A1. **Inequality indicators across OECD countries: Levels and country ranks,** *continued*

Country ranks

	Individual labour earnings							Household labour earnings			Household market income				Household disposable income						Household disposable income adjusted for in-kind public spending		
	Gini, working age population	9th to 1st decile ratio	9th to 5th decile ratio	5th to 1st decile ratio	Median earnings men to women	Part-time workers as per cent of total employment	Non employment rate	Gini, working age population	Gini, working age population, household heads	Gini, working age population, spouses	Concentration coefficient, capital income	Concentration coefficient, self-employment income	Gini, working age population	Gini, total population	Concentration coefficient, cash transfers	Concentration coefficient, household taxes	Gini, working age population	Gini, 65+ population	Gini, total population	Relative poverty rate	Health care component, 5th to 1st quintiles	Education and ECEC component, 5th to 1st quintiles	Adjusted HDI, 5th to 1st quintiles
Australia	22	11	13	10	19	3	26	6	6	6	18	26	13	14	32	3	10	9	9	9	17	7	20
Austria	15	12	12	13	8	12	24	23	23	25	23	20	17	10	8	25	26	22	26	26	6	15	11
Belgium	18	27	24	27	24	15	8	16	12	11	27	25	16	13	18	22	29	28	29	19	4	19	15
Canada	14	6	14	4	10	11	27	10	10	8	19	21	14	23	23	9	9	19	13	12	24	8	17
Chile						16	3	3	2	4	21	2	1	2	29	5	1	2	1	3			
Czech Republic	21	16	18	11	9	32	15	30	27	31	28	10	26	22	24	12	32	34	31	34	5	22	10
Denmark	28	21	23	18	18	10	32	26	25	24	26	12	28	28	30	27	33	31	33	33	8	21	5
Estonia	24					31	19	13	13	19	6	33	24	19	19	10	17	23	15	11	16	1	22
Finland	25	23	22	23	6	23	23	17	21	15	3	19	20	15	22	17	28	27	27	25	1	14	9
France	19	20	9	25	17	21	13	29	29	23	25	11	15	9	5	24	25	13	24	30	9	23	13
Germany	13	9	19	3	4	7	20	20	20	21	7	1	12	4	15	11	20	18	21	21	12	10	16
Greece	3	14	7	17	23	29	9	34	32	26	11	24	25	24	4		16	15	17	18	21	2	23
Hungary	8	5	3	9	27	34	2	19	24	27	1	7	11	16	10		24	33	25	32	14	24	3
Iceland	30	15	20	8	16	14	34	32	31	32	4	34	32	33		29	18	11	20	31	13	16	12
Ireland	4	7	8	6	15	4	16	8	9	13	13	9	21	29	27	4	13	17	12	8	18	12	18
Israel	1	1	2	5	5	20	6	2	5	3	9	15	3	5	20	1	5	5	5	2			
Italy	11	26	26	24	21	17	4	33	33	29	2	3	4	1	3	7	8	12	8	14	23	9	19
Japan	5	17	16	16	3	8	21	12	14	10	12	27	22	17	13	19	11	7	11	6			
Korea	6	3	5	2	2	26	11	15	15	9		31	34	34	11	16	19	3	16	7			
Luxembourg	9					18	12	18	17	16	16	5	9	8	6	18	22	29	23	22	15	18	8
Mexico						13	7	1	1	2	24	13	2	6	1		2	1	2	1	27	5	27
Netherlands	16	19	21	15	1	1	30	24	26	14	17	4	23	26	26	21	21	26	22	29	11	17	4
New Zealand		18	15	19	26	6	28	21	22	28	5	6	19	21	31	13	12	14	10	16			
Norway	27	24	27	20	25	9	31	25			29	18	27	31	21	20	30	30	32	27	10	20	2
Poland	2	8	6	12	22	30	5	9	7	17		29	10	11	9	26	15	25	18	15	22	11	14
Portugal	7	4	1	21	13	28	17	7	8	18	15	16	6	3	2	6	6	8	6	13	25	4	25
Slovak Republic	23					33	10	28	18	33		23	31	30	16	23	31	32	30	28	7	25	6
Slovenia	20					27	18	27	19	30	22	28	29	27	12	14	34	21	34	24	2	26	1
Spain	17	13	11	14	20	24	14	14	11	20	20	32	18	18	7	15	14	16	14	10	20	13	21
Sweden	29	25	25	26	14	19	29	22	28	12	10	30	30	25	25	28	27	24	28	23	3	27	7
Switzerland	26	22	17	22	12	2	33	31	30	22	31	22	33	32	14	30	23	10	19	20			
Turkey						25	1	11	16	1	14	17	5	12			3	4	3	5			
United Kingdom	10	10	10	7	7	5	25	4	4	7	30	8	7	20	28	8	7	20	7	17	19	6	24
United States	12	2	4	1	11	22	22	5	3	5	8	14	8	7	17	2	4	6	4	4	26	3	26

Note: In this table, the ranking refers to the level of the indicators shown, which when referring to Ginis and concentration coefficients, implies that the lower the rank, the less equality. For example, in the first column, Israel is ranked first as its Gini is the highest. For cash transfers, the concentration coefficient reflects who receives the transfers and is negative when the poor receive more than the rich. Australia ranks last because cash transfers are highly targeted to those in need. For taxes, the concentration coefficient reflects who pays taxes. It is high when the richest pay the most taxes, either because the pre-tax income is highly concentrated or because taxes are progressive (Israel ranks first). Data refer to late-2000s, except for France and Ireland where data refer to mid-2000s.

Table A2. **Correlation between different measures of income inequality`**

		Individual labour earnings (ILE)							Household labour earnings (HLE)			Household market income (HMI)				Household disposable income (HDI)						Adjusted household disposable income (HADI)		
		ILE Gini 18-65	ILE P9/P1	ILE P9/P5	ILE P5/P1	Men/ Women	Part-time	Non-employment	HLE Gini 18-65	Gini head	Gini spouse	CC capital	CC self-employed	HMI Gini 18-65	HMI Gini all	CC transfers	CC taxes	HDI Gini 18-65	HDI Gini 65+	HDI Gini all	Poverty	Health (Q5/Q1)	Education (Q5/Q1)	HADI (Q5/Q1)
ILE	ILE Gini 18-65	1	0.62 **	0.64 **	0.40 *	0.19	-0.15	0.72 **	0.47 **	0.37 *	0.37 *	0.07	0.28	0.52 **	0.39 *	0.36	0.53 **	0.56 **	0.37 *	0.55 **	0.58 **	-0.43 *	-0.50 *	0.47 *
	ILE P9/P1	0.65 **	1	0.88 **	0.81 **	0.27	-0.29	0.33	0.65 **	0.61 **	0.51 **	0.16	-0.01	0.32	0.08	0.11	0.60 **	0.63 **	0.56 **	0.64 **	0.62 **	-0.64 **	-0.69 **	0.59 **
	ILE P9/P5	0.71 **	0.86 **	1	0.44 *	0.08	-0.42 *	0.44 *	0.59 **	0.52 **	0.41 *	0.14	-0.03	0.40 *	0.25	0.27	0.52 **	0.57 **	0.52 **	0.59 **	0.54 **	-0.61 **	-0.54 **	0.49 *
	ILE P5/P1	0.41 *	0.83 **	0.51 **	1	0.39 *	-0.02	0.05	0.49 **	0.50 **	0.39 *	0.09	0.02	0.11	-0.14	-0.11	0.49 *	0.49 **	0.39 *	0.48 *	0.47 *	-0.38	-0.53 *	0.46 *
	Men/Women	0.15	0.27	0.07	0.39 *	1	0.35	-0.14	0.12	0.12	0.31	-0.19	0.05	-0.26	-0.30	-0.04	-0.05	0.12	0.35	0.14	0.20	0.05	0.04	0.02
	Part-time	-0.13	-0.26	-0.41 *	0.01	0.20	1	-0.52 **	0.09	0.09	0.22	-0.29	0.29	0.00	-0.07	-0.36 *	0.00	0.14	0.14	0.13	0.06	-0.06	-0.06	0.07
	Non-employment	0.63 **	0.31	0.48 *	0.08	-0.18	-0.59 **	1	0.29	0.16	0.38 *	0.13	0.22	0.55 **	0.45 **	0.43 *	0.36	0.41 *	0.29	0.41 *	0.42 *	-0.23	-0.26	0.12
HLE	HLE Gini 18-65	0.46 *	0.65 **	0.55 **	0.48 *	0.25	0.09	0.26	1	0.95 **	0.81 **	-0.17	0.11	0.66 **	0.40 *	-0.09	0.71 **	0.70 **	0.58 **	0.71 **	0.79 **	-0.65 **	-0.58 **	0.55 **
	Gini head	0.42 *	0.65 **	0.52 **	0.51 **	0.19	0.05	0.25	0.95 **	1	0.67 **	-0.31	0.03	0.53 **	0.28	-0.15	0.59 **	0.59 **	0.47 **	0.60 **	0.68 **	-0.55 **	-0.49 *	0.42 *
	Gini spouse	0.34	0.39	0.27	0.34	0.43 *	0.28	0.15	0.83 **	0.73 **	1	-0.25	0.16	0.61 **	0.33	-0.07	0.57 **	0.73 **	0.68 **	0.74 **	0.80 **	-0.66 **	-0.61 **	0.52 **
HMI	CC capital	0.26	0.20	0.10	0.16	-0.05	-0.28	0.16	0.01	-0.16	-0.13	1	-0.01	0.07	0.18	0.05	0.22	-0.01	-0.06	-0.03	-0.07	0.12	0.08	0.08
	CC self-employed	0.26	0.01	-0.04	0.06	0.05	0.29	0.16	0.05	-0.02	0.03	0.04	1	0.55 **	0.53 **	-0.07	0.35	0.27	0.06	0.24	0.02	-0.05	-0.11	-0.05
	HMI Gini 18-65	0.58 **	0.43 *	0.43 *	0.19	-0.07	0.01	0.54 **	0.64 **	0.56 **	0.51 **	0.14	0.52 **	1	0.87 **	0.17	0.67 **	0.76 **	0.48 **	0.73 **	0.56 **	-0.64 **	-0.63 **	0.55 **
	HMI Gini all	0.42 *	0.20	0.26	-0.06	0.00	-0.11	0.52 **	0.45 **	0.37 *	0.33	0.22	0.43 *	0.89 **	1	0.26	0.50 **	0.50 **	0.28	0.48 **	0.35 *	-0.42 *	-0.36	0.44 *
HDI	CC transfers	0.36 *	0.12	0.33	-0.15	-0.13	-0.45 **	0.46 **	-0.19	-0.17	-0.25	0.12	-0.16	0.16	0.30	1	-0.22	0.16	0.27	0.15	0.12	-0.49 **	-0.54 **	0.23
	CC taxes	0.52 **	0.58 **	0.46 *	0.49 *	0.15	-0.02	0.34	0.64 **	0.65 **	0.48 **	0.29	0.37 *	0.62 **	0.46 *	-0.23	1	0.64 **	0.47 **	0.66 **	0.70 **	-0.76 **	-0.62 **	0.75 **
	HDI Gini 18-65	0.60 **	0.59 **	0.55 **	0.43 *	0.14	0.16	0.30	0.69 **	0.61 **	0.63 **	0.24	0.19	0.71 **	0.51 **	0.06	0.68 **	1	0.86 **	1.00 **	0.83 **	-0.91 **	-0.89 **	0.75 **
	HDI Gini 65+	0.36	0.40 *	0.45 *	0.25	0.27	0.18	0.18	0.43 *	0.36 *	0.51 **	0.13	-0.05	0.37 *	0.32	0.20	0.44 *	0.78 **	1	0.89 **	0.85 **	-0.90 **	-0.86 **	0.62 **
	HDI Gini all	0.58 **	0.57 **	0.57 **	0.40 *	0.15	0.16	0.29	0.68 **	0.60 **	0.63 **	0.22	0.18	0.67 **	0.49 **	0.04	0.69 **	0.99 **	0.82 **	1	0.86 **	-0.92 **	-0.89 **	0.77 **
	Poverty	0.56 **	0.50 **	0.47 *	0.36	0.19	0.08	0.36 *	0.76 **	0.73 **	0.74 **	0.14	-0.08	0.52 **	0.40 *	0.04	0.67 **	0.84 **	0.77 **	0.86 **	1	-0.85 **	-0.79 **	0.77 **
HADI	Health (Q5/Q1)	-0.44 *	-0.47 *	-0.50 *	-0.29	-0.06	-0.06	-0.22	-0.55 **	-0.53 **	-0.48 *	-0.07	0.06	-0.58 **	-0.50 **	-0.25	-0.67 **	-0.85 **	-0.75 **	-0.88 **	-0.80 **	1	0.96 **	-0.66 **
	Education (Q5/Q1)	-0.65 **	-0.67 **	-0.58 **	-0.45 *	0.15	-0.06	-0.26	-0.50 **	-0.49 *	-0.37	-0.18	-0.11	-0.66 **	-0.40 *	-0.35	-0.57 **	-0.92 **	-0.64 **	-0.90 **	-0.72 **	0.76 **	1	-0.54 **
	HADI (Q5/Q1)	0.45 *	0.52 *	0.42	0.40	0.16	0.14	0.05	0.53 **	0.47 *	0.44 *	0.23	-0.02	0.55 **	0.42 *	0.16	0.69 **	0.83 **	0.65 **	0.85 **	0.76 **	-0.88 **	-0.54 **	1

Note: Pearson coefficients, which are shown above the diagonal, measure the linear correlation between the levels of different inequality measures across countries. Spearman coefficients, displayed in the shaded area, measure the correlation between the ranks of the countries ordered according to the relevant variables. For the legend, see Figure A2. Coefficients with ** are significant at less than 1%. Those with * are significant at between 1 and 5%. Those with no * are not significant below a 5% threshold.

Source: OECD calculations.

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