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Income redistribution across OECD countries: main findings and policy implications

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Causa, O. and M. Hermansen (2017), "Income redistribution through taxes and transfers across OECD countries", OECD Economics Department Working Papers, No. 1453, OECD Publishing, Paris, http://dx.doi.org/10.1787/bc7569c6-en.

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Main findings

- Income inequality has increased in most OECD countries over the past two decades. This has come about both because incomes before taxes and transfers have become more unequally distributed, and because the extent of redistribution through taxes and transfers has fallen.

- The decline in income redistribution since the mid-1990s was primarily driven by a reduction in cash transfers, while personal income taxes played a less important and more heterogeneous role across countries. In turn, the decline in redistribution through transfers was driven by less generous social insurance benefits (i.e. unemployment related transfers), which in some countries were partly compensated by more progressive social assistance (i.e. means-tested benefits).

- Declines in redistribution are not necessarily or only the result of changes in policy design: socio-demographic and labour market developments affect entitlements to cash transfers and tax liabilities.

- However, microsimulation and regression-based analyses suggest that policy changes during the past two decades have contributed markedly to the decline in redistribution. Relevant policy changes included cuts to cash income support to unemployed households and a reduction in the taxation of top incomes and income from capital, as globalisation has put pressure on governments to shift away from highly mobile tax bases.

- At the same time, not all policy changes went in the direction of reducing redistribution: at lower earnings levels, income taxes have frequently become more redistributive as taxes have been reduced for low-income working families.

- Given that income inequality has increased both before and after taxes and transfers, the boost to job creation and employment from make-work-pay policies has not been sufficient to prevent a rise in inequality.

- Policy changes should ensure that redistribution is achieved in the most efficient way and take into account the rapidly changing context in which policies operate. Accordingly, increased redistribution to workless households should be accompanied by rigorous enforcement of mutual obligations and measures to promote the swift re-integration of jobseekers into the labour market. Reforms in this area should also seek to expand the coverage of unemployment benefits, not least to address policy challenges raised by changes in the nature of work.

- A comprehensive strategy for tackling inequality requires policy packages that promote greater equality of opportunities through access to high-quality education, healthcare, affordable housing and lifelong training programmes. It also requires policies that reduce inequality in incomes after taxes and transfers such as maintaining progressivity in the tax system and targeting transfers to low-income households.

Income redistribution across OECD countries: main findings and policy implications

1. Introduction and motivation

Over the past decades, household incomes have become more unequally distributed in most OECD countries.[1] Rising income inequality has not only been driven by rising top income shares, but also by a tendency for those on lower incomes to fall increasingly behind the rest of the population. While the size, timing and characteristics of widening inequalities vary across OECD countries, rising wage dispersion and, in a number of countries, increasing job polarisation are common features.[2] Such dis-equalising forces are not likely to disappear in a still uncertain future of digitalisation and rapid technological change. This poses a great challenge to governments in pursuing redistribution through tax and transfer systems, all the more in a context where new forms of work are reducing the effectiveness of traditional social safety nets, and population ageing is putting pressure on the redistributive capacity of government's budgets.

Work has been going on for a long time, not least at the OECD, to shed light on the distributional effects of pro-growth structural reforms.[3] This has allowed for integrating distributional and, more broadly, inclusiveness objectives in policy analysis and recommendations, including in *Going for Growth* (OECD, 2017). All of this has also been informing the wider OECD Inclusive Growth initiative. By comparison, empirical analysis of the distributional (and growth) effects of pro-equity reforms (in particular of tax and transfer redistribution reforms) from a cross-country perspective has been less widespread.

This paper summarises the main findings and messages emerging from a recent OECD project exploring cross-country evidence on trends and drivers of income redistribution since the mid-1990s (Box 1).[4] It first documents the trends in income redistribution and identifies the main sources of the decline observed in the majority of countries over the past two decades. It then assesses the role of policy factors such as changes in the size and design of tax and transfer systems in accounting for the decline. The paper also looks at the possible contribution of non-policy factors such as the impact of globalisation, technological changes or population ageing on the redistributive effectiveness of tax and transfer systems. For the purpose of this paper, income redistribution is measured as the relative reduction in the inequality of pre-tax and transfer income (so-called market income) that is achieved by personal income taxes, employees' social security contributions and cash transfers, based on household-level data.

[1] OECD (2016; 2015; 2011).

[2] OECD (2011, 2016).

[3] Chapter 2 of OECD (2011); Causa et al. (2015, 2016).

[4] Earlier OECD research on income redistribution includes OECD (2011), Joumard et al (2012) and OECD (2015). The research summarised here complements recent OECD work on tax policies for inclusive growth (ECO/CPE(2018)8).

Box 1. The main steps and papers from the project on income redistribution

The research conducted in the context of this project has looked at cross-country evidence on trends and drivers of income redistribution since the mid-1990s. For this purpose, the redistributive effect of taxes and transfers is quantified by comparing household income inequality before and after taxes and transfers, with inequality being measured by the Gini coefficient. This is done on the basis of household data which allows for gauging the inequality-reduction achieved by cash transfers, personal income taxes and employee's social security contributions. Redistribution takes a number of other forms that cannot be properly measured and quantified with available data:

- First, governments use not only cash but also in-kind transfers in the area of education and health services to reduce inequality. Household data do not include an imputation of the value of in-kind transfers for each household across the distribution. A tentative assessment of the distributional effects of in-kind social transfers has been made, based on ongoing experimental work undertaken at the OECD to construct Distributional National Accounts, in collaboration with National Statistical offices.
- Second, redistribution not only takes place between household at a given point in time but also across the lifecycle. This is particularly true for the elderly who are receiving pensions in the current period paid for by taxes and social security contributions paid in a previous period. As data limitations do not allow for adopting a lifecycle perspective, the best approach is to focus on interpersonal redistribution among the working-age population. Still, the project attempts shedding some light on the impact of ageing on changes in redistribution among the working-age population.

A first paper in the project documented the role of tax and transfer systems in mitigating market income inequality among the working-age population, and how this has changed since the mid-1990 in a context of rising globalisation and technological change (Causa and Hermansen, 2017). Two subsequent papers have investigated the policy drivers of changes in redistribution, trying to disentangle them from other drivers such as changes in population structure, while shedding some light on the role of mega-trends such as increasing economic integration. This has been achieved by using two complementary approaches: i) a regression analysis covering developments in redistribution for the working-age population over the last decades and attempting identifying major drivers of redistribution among a broad set of structural and policy factors (ECO/CPE/WP1(2018)2); ii) a microsimulation analysis, covering a more recent period and isolating the effect of tax and transfer reforms from other effects (by holding population characteristics and the distribution of market incomes constant) (DELSA/ELSA(2018)4).

Income redistribution is clearly not the only objective of tax and transfer systems and fiscal policy in general. Supporting growth by providing incentives to e.g. education, innovation and risk-taking, for instance through the provision of education and public investment as well as ensuring macroeconomic stabilisation are also primary objectives of fiscal instruments. Such multiple objectives need not be conflicting as redistributive taxes and transfers are a prerequisite for automatic stabilisers to effectively work out over the economic cycle, while tax-financed public education may be viewed as a form of "active"

redistribution since it is likely to reduce income inequality before taxes and transfers. Evidence-based policy analysis is needed to better help countries to design their tax and transfer systems so as to reconcile equity and efficiency objectives, taking into account country-specific context and social preferences.

The paper is structured as follows. Section 2 sets the scene by delivering an overview of changes in income redistribution across OECD countries since the mid-1990s. The following two sections provide new evidence about the policy drivers of such changes in income redistribution, focusing on changes in the design of transfers (Section 3) and taxes (Section 4). Section 5 draws some policy implications on tax and transfer design to reconcile equity and efficiency objectives.

2. Setting the scene: the sources of decline in redistribution

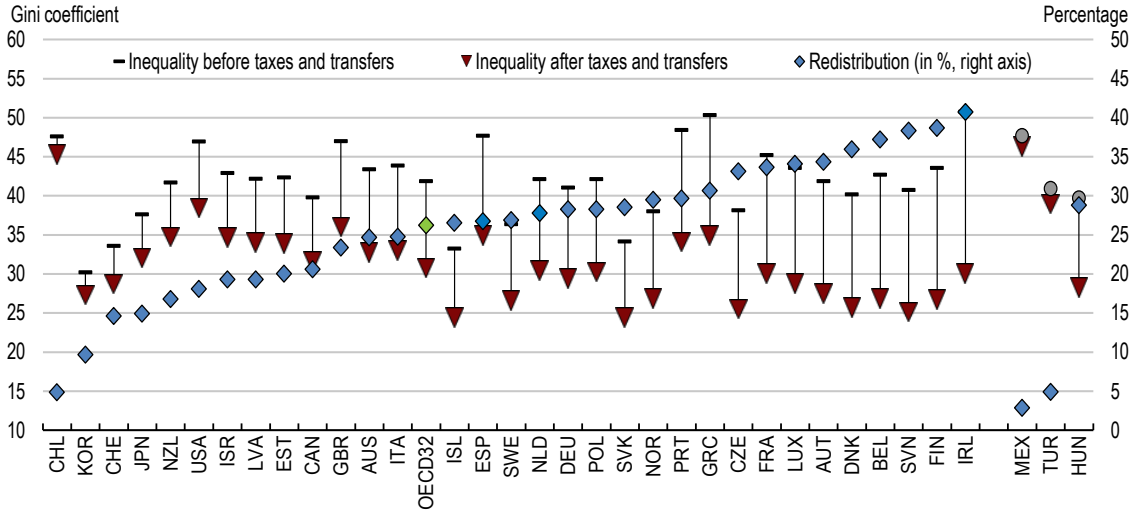
Taxes and transfers reduce the Gini index of market income inequality by slightly more than 25 per cent (or 11 Gini points) on average across the OECD (Figure 1). Yet this average figure masks a great deal of heterogeneity, ranging from 40 per cent in Ireland to around 5 per cent in Chile. The level of redistribution is also highly variable in countries with similar levels of market income inequality: it is therefore not the case that countries that redistribute less simply have lower inequality in the first place. For example, although market income inequality stands at around 38 Gini points in both Japan and Norway, disposable income inequality is around 27 points in Norway compared to 32 points in Japan (Figure 1). In other words, taxes and transfers reduce twice as much of market income inequalities in Norway than in Japan. Such variations partly reflect cross-country differences in the size of the public sector: the level of redistribution is strongly associated with the level of public social spending on cash support to the working-age population as well as to the level of total tax revenues. At the same time, the size of taxes and transfers cannot fully explain income redistribution, for instance because it conveys limited information about the extent to which social spending accrues to least affluent households (Figure 2). For example, in Greece, Italy, Portugal and Spain, 10 per cent of total transfers or less accrues to bottom quintile households, by contrast with more than 40 per cent in Australia, Finland and New Zealand.

Since the mid-1990s, the redistributive effect of taxes and transfers has declined, on average and in the majority of OECD countries (Figure 3, Panel A). The trend towards less redistribution was most pronounced over the pre-crisis period and was temporarily reversed in the immediate aftermath of the crisis, reflecting the cushioning impact of automatic stabilisers and fiscal discretionary measures. The decline in redistribution was particularly pronounced in some Nordic countries, which are still among the most egalitarian OECD countries, and the decline was amplified by the success achieved in reducing durably unemployment from the high levels observed at the beginning of the period. Trends in redistribution were more heterogeneous since the crisis, with increases in around half of OECD countries, in particular those hardest hit by the crisis (Figure 3, Panel B).

The decline in overall redistribution since the mid-1990s was primarily driven by a decline in redistribution by cash transfers (Figure 4, Panel A). This is not surprising insofar as cash transfers account for the bulk of redistribution in the majority of OECD countries. Personal income taxes also contributed but played a less important and more heterogeneous role across countries and over time. In turn, the decline in transfer redistribution was largely driven by insurance transfers (e.g. unemployment insurance, work-related sickness and disability benefits). This was partly mitigated by assistance transfers (e.g. minimum income transfers, means- or income-tested social safety net) in some countries (Figure 4, Panel B).

Figure 1. The equalising effect of taxes and transfers varies widely across OECD countries, even for similar levels of inequality before taxes and transfers

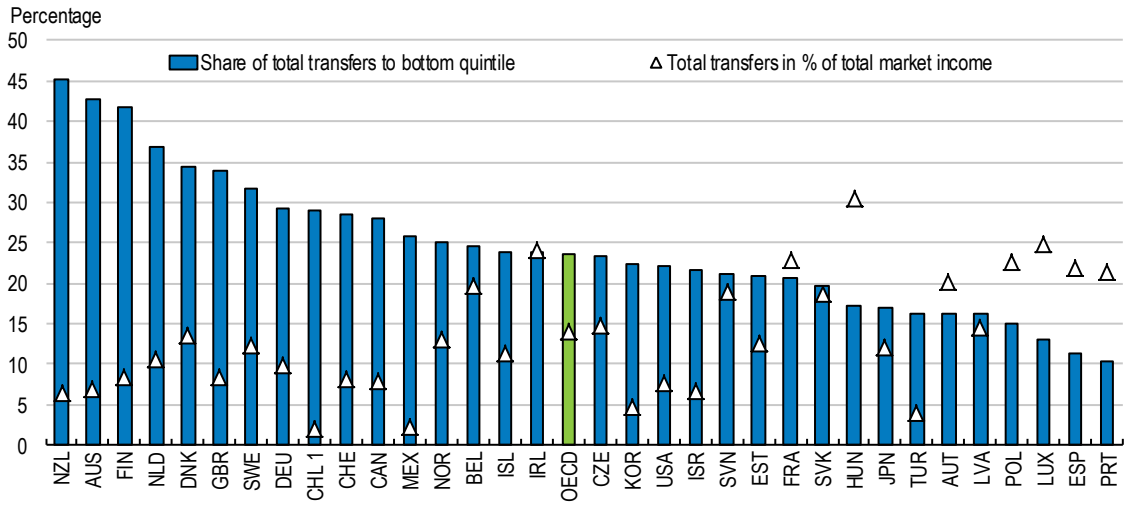
Gini coefficients, working-age population, 2014 or latest available year



Note: The Gini index measures the extent to which the distribution of incomes among households deviates from perfect equal distribution. A value of zero represents perfect equality and a value of 100 extreme inequality. Redistribution is measured by the difference between the Gini coefficient before personal income taxes and transfers (market incomes) and the Gini coefficient after taxes and transfers (disposable incomes) in per cent of the Gini coefficient before taxes and transfers. For Hungary, Mexico and Turkey household incomes are only available net of personal income taxes, implying that inequality can only be measured after taxes and before transfers. The three countries are not included in the OECD average. Working-age populations include all individuals aged 18-65. Data refer to 2012 for Japan; 2015 for Chile, Finland, Israel, Korea, the Netherlands, the United Kingdom and the United States; and 2014 for the rest.
Source: OECD Income Distribution Database.

Figure 2. Targeting of cash transfers to low-income households differs across OECD countries

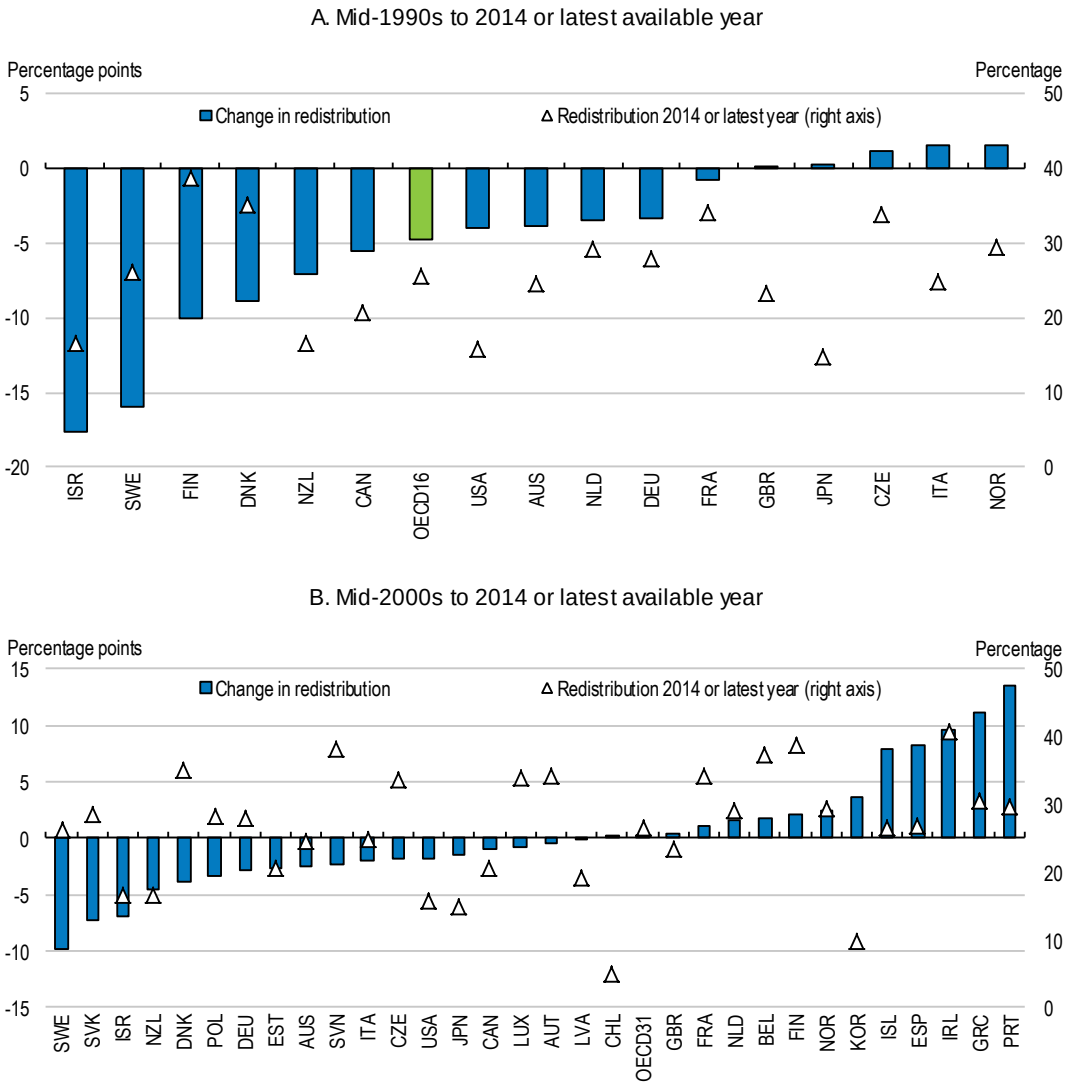
Working-age population, 2014 or latest available year



[1]Armed forces pension and older pension system not included. Data specially provided by Chilean statistical sources.
Note: Data refer to 2012 for Japan; 2015 for Chile, Finland, Israel, Korea, the Netherlands, the United Kingdom and the United States; and 2014 for the rest.
Source: OECD Income Distribution Database.

Figure 3. Redistribution has declined in a majority of OECD countries

Change in redistribution for the working-age population

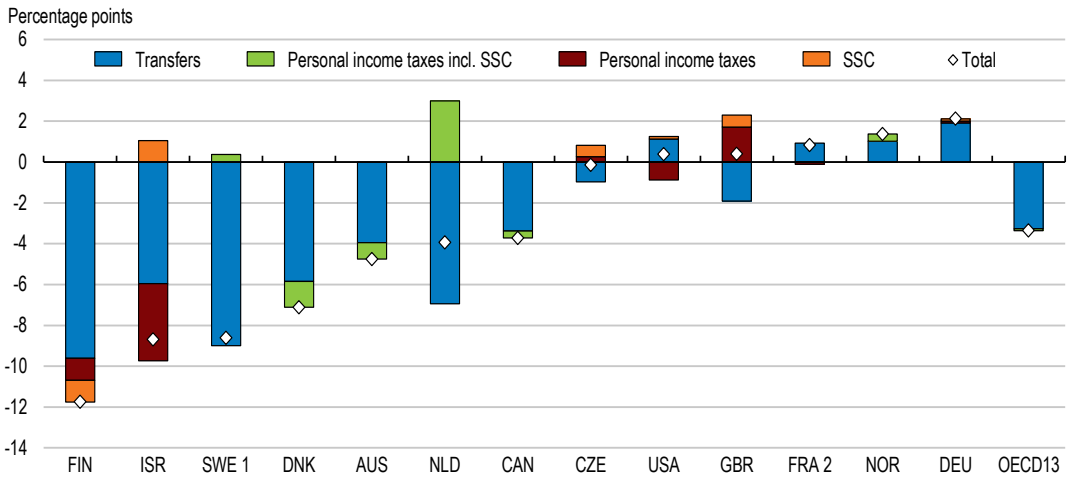


Note: For Panel A data refer to 1994-2015 for the United Kingdom; 1995-2012 for Japan; 1995-2015 for Finland, Israel, the Netherlands and the United States; 1996-2014 for Czech Republic and France; and 1995-2014 for the rest. For Panel B data refer to 2003-2012 for Japan; 2003-2014 for New Zealand; 2004-2015 for Finland and the United Kingdom; 2005-2014 for Denmark, France and Poland; 2005-2015 for Israel, the Netherlands and the United States; 2006-2015 for Chile and Korea; and 2004-2014 for the rest. See note to Figure 8 for further details on redistribution measure and working-age population.
Source: OECD Income Distribution Database.

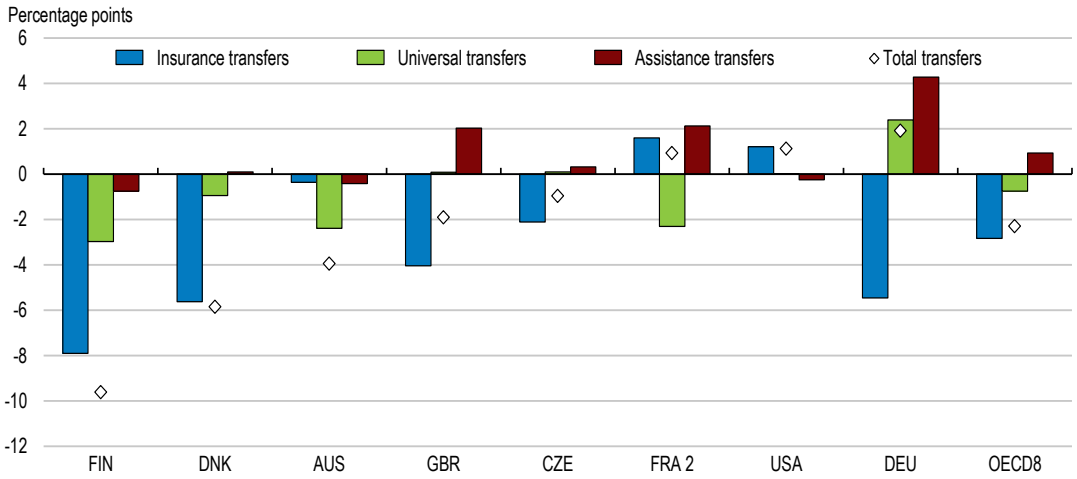
Figure 4. The redistributive effect of transfers has declined markedly across OECD countries

Change in redistribution for the working-age population, mid-1990s to 2013 or latest available year

A. Total redistribution by instrument



B. Transfer redistribution by type of transfer



[1] Sweden only available for 1995-2005.
[2] Social security contributions not available for France.
Note: Data refer to 1993-2013 for the Netherlands; 1994-2010 for Canada and France; 1994-2012 for Hungary; 1994-2013 for Germany, the United Kingdom and the United States; 1995-2000 for Belgium; 1995-2005 for Sweden; 1995-2010 for Australia; 1995-2013 for Denmark, Finland and Norway; 1996-2012 for Mexico; 1996-2013 for Czech Republic; 1997-2012 for Israel and Slovenia.
Source: Secretariat calculations based on the Luxembourg Income Study.

Assistance transfers (i.e. means- or income-tested social safety nets) are in many OECD countries less redistributive than insurance transfers (i.e. unemployment insurance or disability benefits), for instance due to low take-up but also due to relatively low benefit amounts, so that their size is generally smaller than insurance transfers. As a result, the decline in transfer redistribution was largely driven by a decline in the size of transfers (i.e. transfer rate averaged across all households). However, extending the transfer coverage to include in-kind transfers would imply a lesser decline in redistribution given the rise in public spending on in-kind support, foremost on healthcare, part of which is likely to have accrued to working-age households.

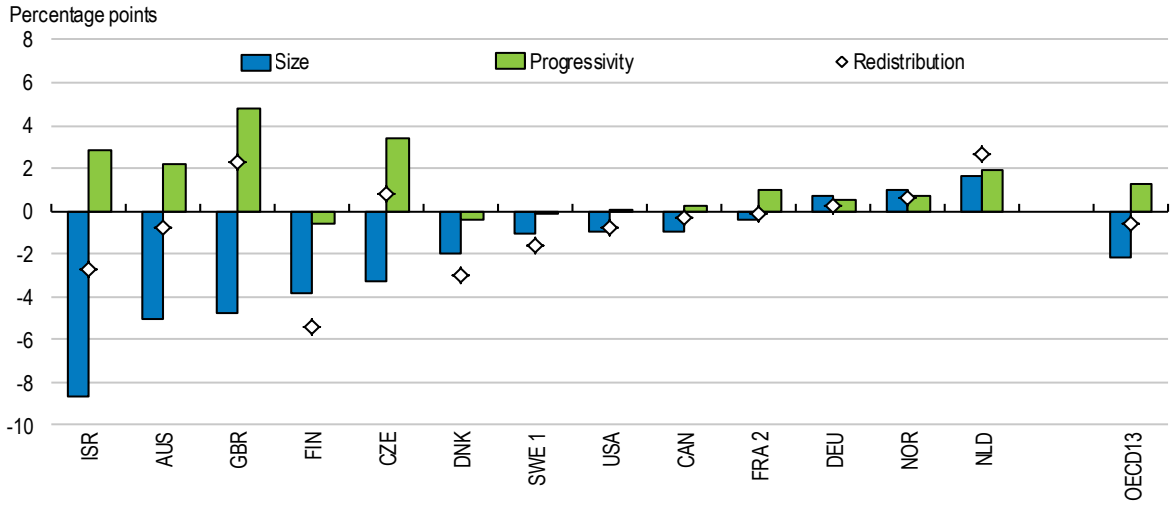
Declines in the size of personal income taxes (i.e. the effective tax rate averaged across all households)[5] and social security contributions tended to reduce redistribution. However, in some countries this was compensated by an increase in their progressivity (Figure 5), driven by tax changes at the low end of the earnings distribution. These counteracting changes in size and progressivity of personal income taxes tended to shape redistribution to a similar (offsetting) degree, in contrast to transfers for which changes in size tended to dominate over changes in targeting.

A widespread decline in income redistribution across OECD countries does not necessarily reflect policy changes. It captures the combined impact of both discretionary policy changes *and* changes induced by structural forces, such as demographics and household composition as well as globalisation, technology and the nature of work; changes in economic conditions, in particular in unemployment. Two complementary approaches, respectively based on regression and microsimulation analyses, have been used to identify and disentangle the role of changes in the design of tax and transfer systems from other factors (Box 2). The major findings are summarised in what follows.

Figure 5. Declines in the size of personal income taxes in most OECD countries tended to reduce redistribution

Change in size and progressivity of PIT and SSCs paid by the working-age population

From mid-1990s to 2013 or latest available year



[1] Sweden only available for 1995-2005.
[2] Social security contributions not available for France.
Note: See Causa and Hermansen (2017) for details.
Source: Secretariat calculations based on the Luxembourg Income Study.

[5] Following Kakwani (1977), the redistributive effect of tax instruments can be decomposed into a size effect (i.e. the average tax rate) and a progressivity effect. The size is measured as the effective tax rate by computing total taxes paid by households in percentage of their income before taxes, and averaging across all households. Progressivity is defined as the concentration coefficient of the tax minus the Gini coefficient of pre-tax income (more details in Box 4, Causa and Hermansen, 2017).

Box 2. Identifying the policy drivers of changes in redistribution with two complementary approaches

Has redistribution declined because of changes in policy? To answer this question, there is a need to identify the policy drivers of changes in redistribution and to disentangle them from other drivers such as changes in population structure or globalisation. This is achieved by using two complementary approaches:

A regression approach, covering developments in redistribution for the working-age population across OECD countries over the last decades and attempting identifying major drivers of redistribution among a broad set of structural and policy factors (ECO/CPE/WP1(2018)2).

The regression approach builds a simple reduced-form model of income redistribution derived by the large literature on inequality reduction and the political economy of income redistribution. In this respect, one key point is that redistribution can change in the absence of changes to tax and transfer policy settings, in particular due to: i) conditions on the labour market such as the prevalence of unemployment and earnings inequality; and ii) socio-demographic conditions, such as the prevalence of single parent families or families with children, especially if workless. The baseline model of redistribution also considers political economy factors. The model includes measures of globalisation, building on an extensive literature on the subject. The effect of technological change is analysed alongside that of globalisation.

The model is then augmented with major direct policy drivers of income redistribution. The analysis starts by introducing tax revenue and social spending variables, and then moves on to uncover the effects of more granular redistribution instruments and tax/transfer policy design parameters, such as net unemployment benefit replacement rates or personal income tax rates at various points of the distribution. By focusing on the (relative) difference between disposable and market income inequality, the estimates embed both mechanical and behavioural effects from changes in policy design but do not allow for separating them out. For example, cuts in unemployment benefit replacement rates may encourage labour supply, triggering a rise in employment and hence in market incomes for those individuals moving from joblessness to employment. At the same time, such cuts will mechanically reduce disposable income among the pool of unemployed. The overall effect on redistribution will depend on compositional factors along with the interplay between behavioural and mechanical effects.

The empirical analysis is based on country-level panel data regressions covering OECD countries from the early 1990s to the latest available year. The econometric approach is based on a fixed-effects panel estimator. Country-fixed effects are included not only to reduce the risk of time-invariant omitted variable bias, but also to focus on countries' developments in income redistribution rather than cross-country differences in the levels of income redistribution. All the regressions also include year-fixed effects and standard errors are clustered at the country level. The results are robust when tested against a battery of sensitivity

tests. Still, caution is needed in interpreting the results of this empirical exercise: there is no pretention to identify causal relationships. The idea is rather to provide an indication of what have been the important proximate drivers of income redistribution across OECD countries over the last decades.

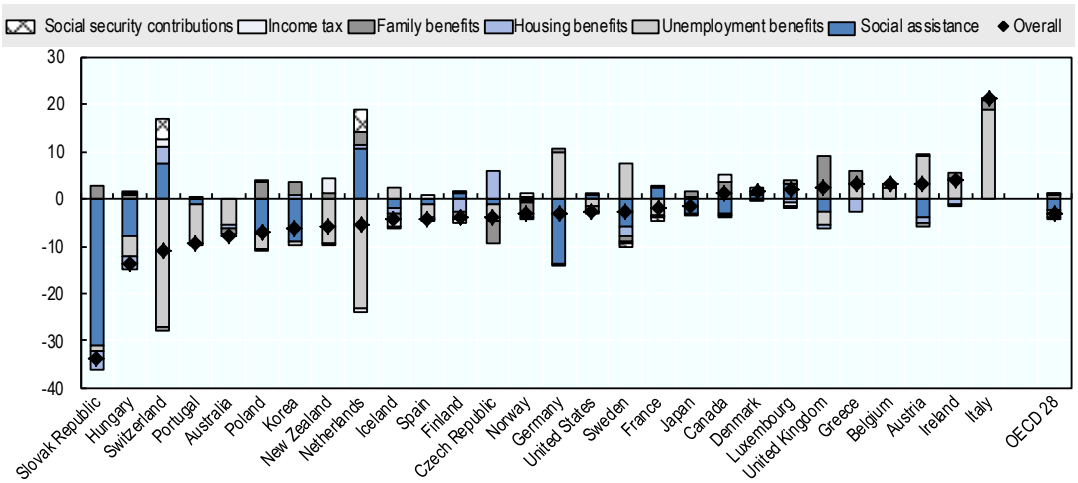
A microsimulation analysis, which covers the period since 2001 and isolates the effect of tax and transfer reforms in each country, using the OECD tax-benefit (TaxBEN) model (DELSA/ELSA(2018)4). Microsimulation models allow for the isolation of the impact of changes to policy design by calculating tax liabilities and benefit entitlements for the same set of households under policy settings from different time periods. This approach allows for a detailed assessment of different areas of tax-benefit policy and to assess whether each has become more or less redistributive over time. It also allows for gauging the direct impact of policy changes on redistribution in each country, complementing the cross-country regression approach. One caveat of this approach is that the underlying models do not allow for households' behavioural responses to changes in tax and transfer design which implies that only mechanical or budgetary effects are quantified.

3. Policy design – why have cash transfers become less redistributive?

Both microsimulation and regression analyses show that policy reforms affecting income support for jobless individuals or households have contributed to the decline in cash transfer redistribution and therefore in overall redistribution. Policy changes since 2001 have lowered the levels of benefits received by unemployed households relative to the income of the median household in most OECD countries (Figure 6), thus reducing redistribution between working and workless households.

Figure 6. Changes in transfers have reduced the level of income support for unemployed families

Change in average benefit level as % of media household income, 2001-15



Note: Weighted average over 4 family types, 3 different past employment records and 4 different previous earnings levels, each with and without cash housing support. See DELSA/ELSA(2018)4 for full details.
Source: Secretariat calculations using OECD tax-benefit model.

Microsimulation analysis allows for cross-country heterogeneity in policy changes. The results show that reductions in both unemployment benefits and social assistance have played a role in declining redistribution. In some countries, unemployment benefits have become less redistributive because they have become less generous, while in others because they have become less accessible following a tightening of eligibility conditions. The duration of unemployment insurance benefits has been shortened in some countries (including the Czech Republic, Finland, France, Hungary, the Netherlands and Switzerland),[6] in others minimum contribution requirements have been increased (including the Netherlands and Switzerland), while in others amounts have reduced relative to median income (including Australia, the Slovak Republic, Sweden and New Zealand).[7]

Assistance benefits fell relative to median household income in a number of countries as well (including Hungary and the Slovak Republic). At the same time, there were increases in family benefits even in some countries where benefit levels fell overall (for example in Hungary, the Slovak Republic, Korea, Poland and the Netherlands). Increases in family benefits were also important drivers of the increases in benefit amounts in Canada, Greece, Italy and the United Kingdom. As a result, benefit amounts fell less for families with children than those without in most OECD countries.

The redistributive effect of unemployment benefits depends not just on their generosity and coverage, but also on the proportion of households that are workless. Regression analysis shows that the unemployment rate is a strong driver of income redistribution. Controlling for this variable as well as additional non-policy drivers of redistribution (see Box 1), results from both regression and microsimulation analysis show a strong negative association between changes in income replacement rates for unemployed families (i.e. the level of benefits received when not working relative to their previous income in work) and income redistribution. This is particularly true when considering the level of benefits received by the long-term unemployed rather than that received by those at the beginning of an unemployment spell. As suggested by microsimulation results, the latter finding reflects the trends towards cutting the duration of unemployment benefits and the level of lower-tier social assistance levels rather than cutting the initial level of unemployment benefits.[8]

Policy reforms to lengthen working lives and phase out early retirement options are also found to have contributed to the decline in income redistribution among the working-age population, although to a lesser extent: regression results suggest that increases in the age of full pension eligibility and reductions in replacement rates from old-age pensions are associated with declines in income redistribution among working-age households. This is likely the result of both direct and indirect effects. Direct effects arise as the proportion of working-age households living on comparatively generous early retirement benefits

[6] Note that in the Netherlands and Switzerland, average levels of entitlement to assistance benefits increased as those family types that were no longer entitled to insurance benefits could claim assistance benefits.

[7] Though changes to policy design increased benefit amounts in a minority of countries as the minimum contribution record to qualify for unemployment benefits was reduced in Austria, benefit amounts were increased in Belgium and Ireland and benefit durations extended in Greece and Italy. Increases in average unemployment benefit amounts are also observed in Germany, where lone parents now have to claim unemployment benefits (ALG II) rather than social assistance.

[8] See Figure 4 in ECO/CPE/WP1(2018)2.

mechanically declines when such benefits are no longer available. Indirect effects arise as older workers respond to policy changes by working longer: indeed, such changes are likely to have contributed to fast-increasing employment rates among 55-64 olds.[9]

Cash transfers to *working* families also contribute to redistribution as transfers are typically targeted to those with lower incomes. The microsimulation analysis shows that changes to the design of cash transfers from 2001 until around 2010 tended to increase the extent of redistribution among working families. During the pre-crisis period, in-work benefit entitlements of working families became more generous in some parts of the OECD, most notably in Anglophone countries. In other countries, benefits were targeted more tightly to low-income working households (e.g. in Australia and Portugal), rather than increased in their generosity. In quantitative terms, the effect on redistribution was smaller for reforms that increased targeting relative to those that increased benefit generosity.[10] Fiscal stimulus measures in the immediate post-crisis period further strengthened benefit support to working families, which increased redistribution as lower-income working families were the main beneficiaries. However, since around 2010, these expansions of cash transfers to working-age households have been rolled back in many countries and this has tended to weaken redistribution.

Overall, microsimulation and regression analyses strongly suggest that changes in the design of transfer policy have contributed to the decline in redistribution to working-age households since the mid-1990s. However, non-policy changes are also likely to have played a role: unemployment benefit coverage has declined not just because of tighter entitlement conditions and shorter benefit durations, but because of changes in the composition of the unemployed population. For example, recent OECD work (DELSA/ELSA/WP5(2018)1) has shown that the rising share of youth and long-term unemployed among the unemployed population has contributed to the fall in benefit coverage since the mid-2000s in a number of countries, including Denmark, Spain and Sweden. The reason is that these groups are less likely to meet the employment and contribution conditions for claiming unemployment insurance benefits. The growth of non-standard work in many OECD countries may also have contributed to the decline in unemployment benefit coverage and transfer redistribution as such workers often fail to meet unemployment benefit eligibility criteria, for instance because of short job tenure or self-employment status (DELSA/ELSA/WP1/RD(2017)4).[11]

[9] This is confirmed in Causa and Hermansen (2017) by means of an exploratory exercise looking at the impact on redistribution of the share of senior households in the working-age population relative to the share of senior households in the working population.

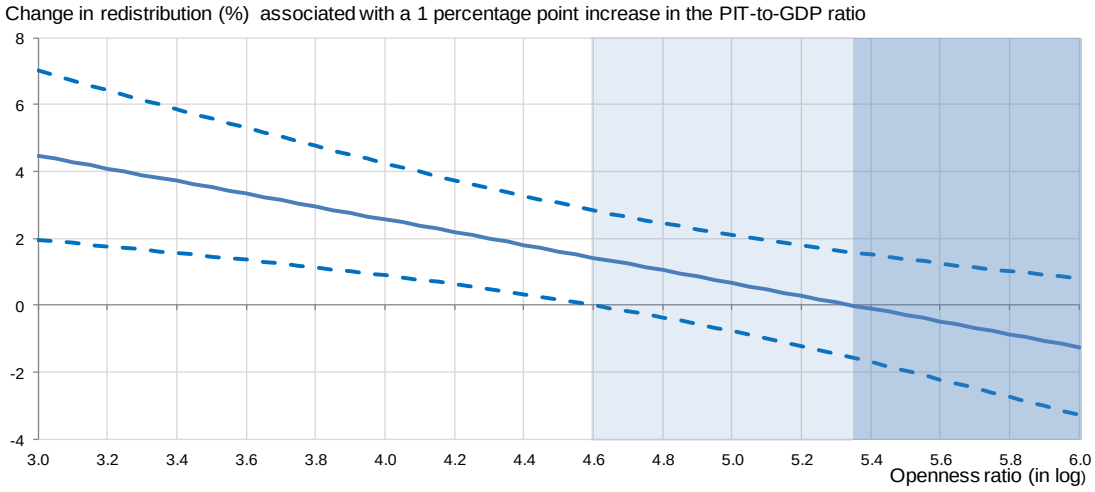
[10] This is consistent with the finding reported in Section 2 and in Causa and Hermansen (2017) that size is generally more important than targeting for explaining transfer redistribution.

[11] OECD (2015), Chapter 4 reports than in 19 out of 34 OECD countries self-employed workers are not eligible for unemployment benefits and in 10 countries self-employment workers are not eligible for work injury benefits. Another recent study from the European Commission (Matsaganis et al 2016) estimates that in the EU, 13% of all those in employment aged 15-64 (and 54.5% of the self-employed) were at risk of not being entitled to unemployment benefits, while 8% (and 37.5% of the self-employed) were at risk of not being entitled to sickness benefits. Average EU figures mask substantive cross-country variation, reflecting different institutional settings regarding insurance transfers in interaction with different proportions of non- standard employment types (e.g. incidence of self-employment and temporary work).

4. Policy design – why have taxes become less redistributive?

The effect on redistribution of policy changes in personal income taxes and employees' social security contributions has been less clear-cut than for cash transfers. Regression analysis suggests that increased economic integration through cross-border trade linkages has tended to reduce the redistributive effect of tax revenues, and in particular of those collected from personal income taxes. Results show that higher levels of trade openness make a given level of revenue from income taxes less effective at reducing income inequality (Figure 7). This is in line with recent research that has shown that globalisation and tax competition have put pressure on governments in OECD countries to shift taxation towards less mobile tax bases, in particular towards the middle and upper-middle classes and away from highly-mobile individuals with very high incomes.[12]

Figure 7. The effect of personal income taxes on redistribution decreases with trade openness



Note: The dashed lines indicate the 95% confidence interval. Light shading indicates a positive not significant effect and darker shading indicates a negative not significant effect. Tax-to-GDP ratio is tax on income and employees' SSC.
Source: Secretariat calculations based on Table 3, column 9 in ECO/CPE/WP1(2018)2).

Globalisation-induced tax competition may thus have contributed to reduce the progressivity of personal income taxes at the high-end of the distribution. This is consistent with regression findings showing that the flattening of the tax schedule in the higher end of the distribution, driven by a decline in top personal income tax rates and in the taxation of dividend income at the personal level, have contributed to falling income redistribution. The average top marginal tax rate across the OECD fell from 50.6% in 1990 to 41.4% in 2008, though in recent years several countries have increased their top income tax rates, and the average has slightly increased to 43.3% in 2016. Reforms during the 1980s and 1990s reduced the progressivity of capital income taxation through the introduction of flat rates on capital income, or lowering the tax rate on capital relative to labour.

Microsimulation analysis shows that policy changes since 2001 have made personal income taxes more redistributive for working families over a broad range of earnings levels. This is not inconsistent with regression results on top incomes, but rather complementary: the microsimulation model examines the taxation of income from employment only, and it

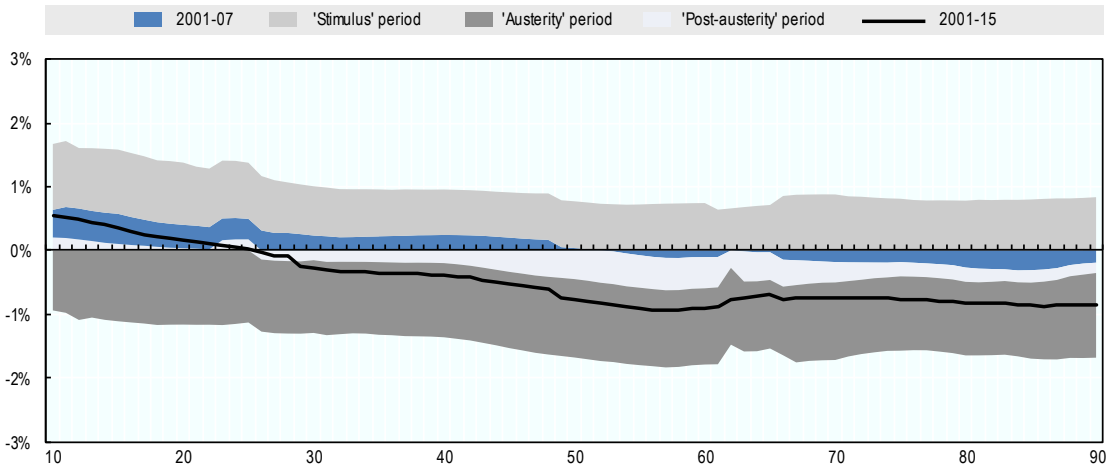
[12] Egger, Nigai and Strecker (2016); Martinez-Vazquez et al. (2012)

covers earnings levels from the 10th to the 90th percentiles of the full-time earnings distribution. Thus it does not cover the top of the distribution or income from other sources than employment such as capital income. The model also only examines redistribution *within* family types (e.g. single-earner couples with children with different levels of earnings) not *between* them. On this basis, results show that policy changes have increased the level of redistribution from higher- to lower-earning households for a given family type. The analysis uncovers important granularity in policy changes across countries and time periods (Figure 8):

- During the pre-crisis period from 2001 to 2007, some countries, including Austria, Greece and Portugal, increased redistribution by increasing average tax burdens, partly as a result of 'fiscal drag' (increasing tax burdens as people move into higher tax brackets due to rising nominal incomes), but keeping tax progressivity broadly unchanged. In others, including Belgium, Canada and the Slovak Republic, income taxes were targeted more strongly on those with higher earnings, while average tax burdens sometimes fell.
- During the immediate post-crisis period, fiscal stimulus measures tended to reduce tax burdens overall. But gains were generally focused on lower-earning households, so these policy changes continued the trend towards greater redistribution from the tax side.
- More recently, income-tax liabilities for working families have tended to increase as countries have sought to reduce widening budget deficits in the aftermath of the crisis. This has again reinforced redistribution through progressive income taxation, especially in some countries worst affected by the crisis, including Iceland, Portugal and Spain. In some countries tax liabilities increased as a result of 'fiscal drag' (for example, in Austria, Czech Republic and Spain), whereas in others this occurred through legislative policy changes, including also higher statutory rates (for example in Australia, Iceland and Portugal).

Figure 8. Changes in tax policy have increased redistribution among working families over the 10th to 90th percentile of the full-time earnings distribution

Gain or loss by earnings percentile from personal income tax changes



Note: Unweighted average over 28 OECD countries. Within each country, weighted average over 8 family types (single with no children, single with 2 children, couple without children, couple with 2 children, each with and without entitlement to cash housing support). See DELSA/ELSA(2018)4 for full details.
Source: Secretariat calculations using OECD tax-benefit model.

5. Discussion and policy implications

There is substantial variation in the extent of inequality reduction through taxes and transfers across the OECD area, ranging from a 5% reduction in market income inequality in Chile to 40% in Ireland (Figure 1). Also, the trade-off between efficiency and inequality reduction does not seem clear-cut: the cross-country correlation between GDP per capita and redistribution is very weak as equally affluent countries achieve very different levels of redistribution through taxes and transfers.[13] These cross-country differences in income redistribution not only reflect the levels of taxes and spending on cash transfers to the working-age population, but also the extent to which personal income taxes are levied progressively with income levels and the extent to which cash transfers target less affluent households (Figure 2). *There are therefore multiple policy options to achieve efficient and cost-effective redistribution.*

The fall in the redistributive effect of policies has been accompanied by increasing inequality in both market and disposable income. In a number of cases, the latter increased much more than the former.[14] This suggests that the reductions in market income inequality induced by tax and transfer policy reforms to increase work incentives have not been large enough to offset their direct effect on redistribution. *Tax and transfer policies can do much to promote efficient markets and inclusive outcomes.* This is the case, for example, of initiatives that foster labour force participation, especially among workers with weak attachments to the labour market. In particular, reforms to boost work incentives among target groups and to shift from passive to active support for the unemployed have increased labour force participation for specific target groups such as lone parents, second earners, those with work-limiting disabilities and seniors. Job creation may therefore have mitigated the rise in market income inequality by increasing income of individuals who previously had zero earnings. Even so, a number of OECD countries have scope for making their tax and transfer systems more redistributive without sacrificing efficiency. Countries can learn from successful reform strategies that have leveraged policy synergies between equity and efficiency objectives. In particular, and as discussed below, in-work taxes and benefits and credits have boosted employment levels among target groups and have been effective at reducing inequality in recent decades.

Some policy changes have been key drivers of the decline in redistribution since the mid-1990s. Among these have been reductions in the level of cash support for workless households, the scaling back of early retirement programmes and reductions in top income tax rates and taxes on capital income. *Simply reversing these changes is unlikely to be the most effective approach to reducing inequality.* Changes to policy design should be forward-looking, taking into account the rapidly changing context in which policy operates, and achieving inequality reduction in the most efficient and cost-effective way, not least in a context where ageing populations are putting pressure on government budgets.

Nevertheless, increasing support to workless households is likely to be an important component of policy packages for inclusive societies, especially in countries where this support is currently relatively low and poverty risk and depth among workless households is correspondingly high. Although out-of-work benefits weaken financial work incentives in a mechanical sense, when balanced with appropriate conditions and obligations, they can

[13] See Figure 36 in (Causa and Hermansen, 2017[5]).

[14] See Figure 34 in (Causa and Hermansen, 2017[5])

strengthen incentives to search for jobs providing the best possible match, and to participate in programmes designed to address employability barriers.

Stepping-up redistribution to workless households should thus be balanced with rigorous enforcement of mutual obligations (OECD, 2018a). Well-designed packages of support should seek to deal with all barriers to employment faced by jobseekers by combining cash transfers with policies to expand opportunities through job-search assistance, training and work experience programmes, and providing access to affordable childcare options and enhancing the availability of flexible working arrangements. To be cost-effective, measures should be well targeted and adapted to jobseeker circumstances (Fernandez et al., 2016).

Social protection systems should adapt to the emergence of non-standard forms of work. Technological change, among other factors, has led to an increase in non-standard work and reduced the coverage of traditional social protection systems that are often based on the model of full-time permanent work for a single employer. Alternative approaches might include designing new, tailor-made benefit schemes for non-standard workers, tying social protection entitlements to individuals rather than employment relationships or making social protection more universal (DELSA/ELSA/WP1/RD(2017)4).

Tax policy also needs to reflect rising top incomes and private wealth among ageing populations along with ongoing progress in international cooperation on taxation. Although top earners are very responsive to changes in income tax rates, broadening tax bases and improving compliance might be a way to increase the tax collected from this group, to reduce avoidance behaviour and, potentially, increase the revenue-maximising tax rate.[15] The equity and efficiency case for increasing the overall progressivity of tax systems by relying more on well-designed taxes on capital income becomes more salient in light of recent initiatives to enhance cooperation in tax administration (e.g. automatic information exchange, AEOI).[16]

At the same time, changes in policy design have both tended to counteract the decline in redistribution and to increase efficiency. Such is the case of policies that have increased support for low-income working households through in-work benefits and credits (Immervoll and Pearson, 2009[1]; DGCS, 2017[2]). *Stepping-up in-work benefits and credits provides a promising reform avenue to address growth and equity objectives, but associated policies should be carefully designed.* To ensure that the incentives provided by in-work benefits to potential recipients are well understood, these programmes should be as simple as possible, and support should not be withdrawn too quickly as earnings rise to ensure that work incentives are maintained (OECD, 2018a).

The design of these policies should also be considered in conjunction with other areas of policy. For example, as in-work benefits can exert downward pressure on wages, their effectiveness can be enhanced if they are combined with binding wage floors. Also, in-work benefit schemes based on the joint earnings of a couple are more effective if combined with individual-based taxation. In-work benefits should thus be designed in a way that minimise adverse incentives for second earners.

Finally, *taxes and cash transfers are not the only policies that reduce inequality in OECD countries*. Spending on cash transfers to the working-age population has fallen as a share

[15] Rubolino and Waldenstorm (2017) produce recent strong evidence in this area based on synthetic control methods. They find that real income responses of top earners to cuts in top marginal tax rates are not significant while tax avoidance behaviour is highly significant.

[16] See recent report on net wealth taxes by CTPA (OECD, 2018b).

of GDP since the mid-1990s and this has contributed to reduce redistribution. However, spending on in-kind transfers, notably on healthcare, has increased over the same period. Thus, extending coverage to include in-kind transfers may imply a less steep decline in redistribution insofar as part of the rise in public spending on in-kind support has accrued to working-age households. *A comprehensive strategy for tackling inequality requires policies that promote greater equality in market incomes, such as providing access to high-quality educational opportunities, healthcare and jobs, especially to those facing disadvantages. It also requires efforts to reduce inequality in incomes after taxes and transfers, such as ensuring progressivity in the tax system and targeting transfers to low-income households.*

References

Browne, J. and H. Immervoll (2018),"Have tax and transfer policies become less inclusive? Results from a microsimulation analysis", OECD Social, Employment and Migration Working Papers, forthcoming. [5]

Causa, O. and M. Hermansen (2017), "Income redistribution through taxes and transfers across OECD countries", *OECD Economics Department Working Papers*, No. 1453, OECD Publishing, Paris, http://dx.doi.org/10.1787/bc7569c6-en.

Causa, O. A. Vindics and Oguzhan Akgun (2018) "An empirical investigation on the drivers of income redistribution across OECD countries, OECD Economics Department Working Papers, No. 1488, OECD Publishing, Paris. https://doi.org/10.1787/bc7569c6-en

DGCS (2017), *Rapport d'evaluation de la prime d'activité*, http://solidarites-sante.gouv.fr/IMG/pdf/rapport_d_evaluation_prime_d_activite.pdf (accessed on 17 April 2018). [2]

Egger, P., S. Nigai and N. Strecker (2016), "The Taxing Deed of Globalization", *CEPR Discussion Paper*, No. DP11259, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2777546 (accessed on 11 April 2018). [3]

Immervoll, H. and M. Pearson (2009), "A Good Time for Making Work Pay? Taking Stock of In-Work Benefits and Related Measures across the OECD", *OECD Social, Employment and Migration Working Papers*, No. 81, OECD Publishing, Paris, http://dx.doi.org/10.1787/225442803245. [1]

Martinez-Vazquez, J. et al. (2012), "The Impact of Tax and Expenditure Policies on Income Disttribution: Evidence from a Large Panel of Countries Recommended Citation The Impact of Tax and Expenditure Policies on Income Disttribution: Evidence from a Large Panel of Countries The Impact of Tax and Expenditure Policies on Income Distribution: Evidence from a Large Panel of Countries*", *Hacienda Pública Española Hacienda Pública Española / Review of Public Economics*, Vol. 200/4, pp. 95-130, https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1036&context=econ_facpub (accessed on 11 April 2018). [4]