



# Fiscal Redistribution in the European Union

**Background to “Growing  
United: Upgrading Europe’s  
Convergence Machine”**



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## Introduction

**Years of crisis and stagnation have left Europeans worried about growing income disparities.** The global financial crisis seems to have stopped the process of convergence, while within-country inequality for several countries has increased. This effect has been driven by the relative rise of top incomes and the relative decline of low-income households, particularly in Central and Eastern European (CEE) countries, mostly on account of differences in the growth of labor incomes at the top and the bottom of the income distribution. What has been the role of policy in mitigating the growing inequality in labor income?

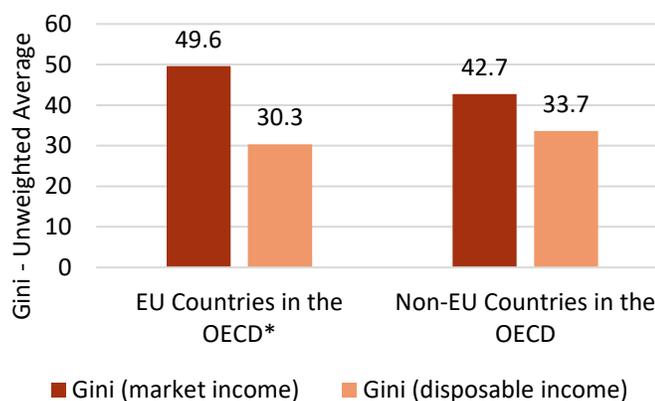
**A hallmark of EU policy is the redistributive nature of tax and benefit systems.** In general, progressive direct tax and transfer policies reduce poverty and inequality across EU countries. However, these effects vary across countries, in line with the design of tax and transfer policies and the size of these programs. This note aims to assess the redistributive impact of direct taxes and transfers, as well as the impact on absolute and relative measures of poverty.

## Impact of policies on inequality

**Fiscal policy has a large inequality-offsetting effect in EU countries, more so than in other part of the world.**

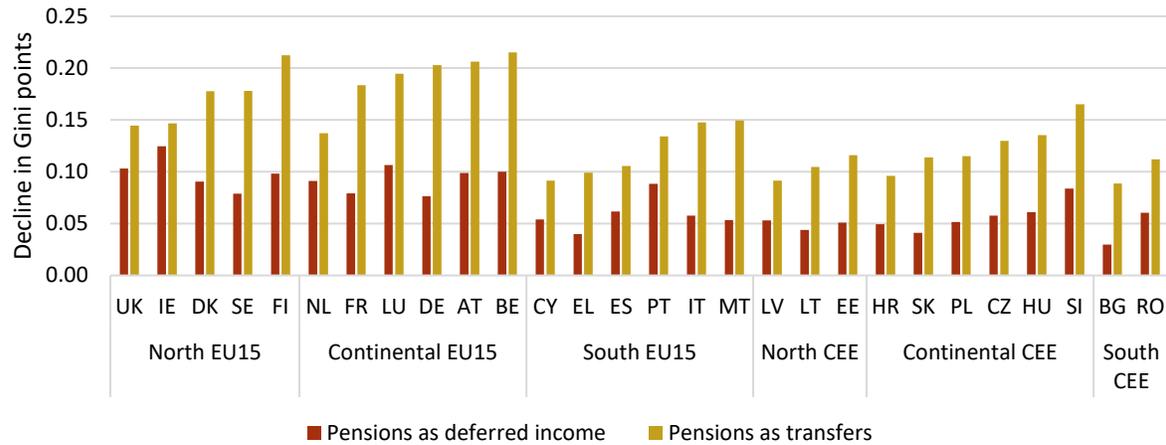
On average, direct taxes and net transfers from the state reduce the Gini coefficient of market income by more than 20 points in the EU, well above the average impact for non-EU OECD countries. Although the impact tends to be larger in EU countries with higher fiscal capacity, the impact is consistently large across EU countries. Between 1995 and 2008, fiscal policy had a larger impact on inequality in the EU than the US, driving EU-wide net income inequality down at a time when US net income inequality was increasing (Darvas, 2016). Today, net income inequality is significantly lower in the EU than in the US, despite having essentially the same level of market income inequality. More generally, EU countries in the OECD are more redistributive than non-EU countries in the OECD (Figure 1). In 2016, the combination of direct taxes, transfers and pensions reduced income inequality by 0.21 Gini points on average in the EU (Figure 2). This impact tends to be larger in richer EU17-North and EU-Continental countries.

Figure 1. Gini coefficient of market and disposable income inequality, 2013



Source: OECD. \*Includes 21 EU countries in the OECD and Lithuania

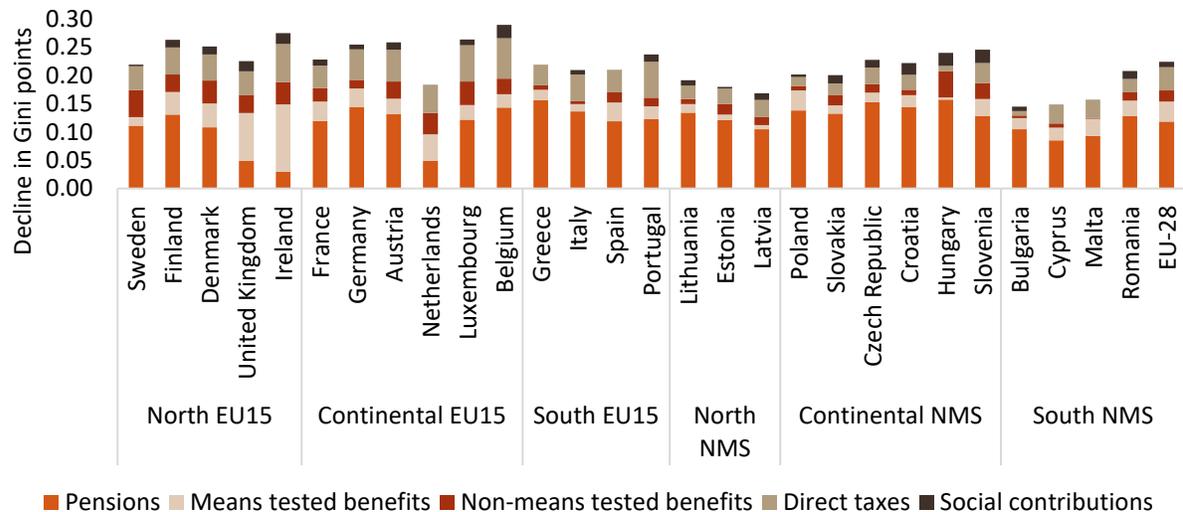
Figure 2. Fiscal policy has a large redistributive impact across EU countries  
(Redistributive impact of direct taxes, social assistance and contributory pensions, 2016 policies)



Source: Based on Euromod microsimulations of 2016 policies. Note: The change in Gini is defined as the difference in the Gini index between market and disposable income. Contributory pensions are treated either as deferred income and can be thought to be part of market income, or they can be treated as social transfers, and thus only as part of disposable income.

**The most redistributive instrument are contributory pensions, when these are considered as a transfer.** Pensions are the most powerful redistributive instrument, accounting for at least 50 percent of the overall impact of fiscal policy on inequality across EU countries, except in the UK, Ireland and the Netherlands (Figure 3). If pensions are considered as deferred income, with the corresponding contributions seen as a form of savings, then the redistributive impact is much smaller. For instance, contributory pensions account for over 60 percent of the redistributive effect in Germany, Greece, Italy, Malta, Slovakia and Bulgaria.

Figure 3. Pensions is the single most powerful redistributive instrument  
(Redistributive impact of direct taxes, transfers and pensions, 2016 policies)



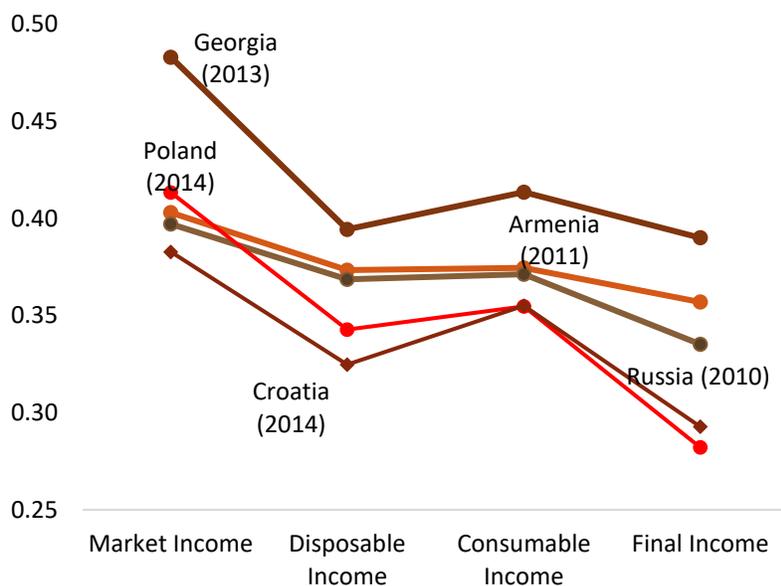
Source: Based on Euromod microsimulations of 2016 policies. Note: The change in Gini is defined as the difference in the Gini index between disposable income (DI) and DI excluding each of the fiscal interventions (pensions, direct taxes, social contributions, means tested and non-means tested benefits).

**Beyond pensions, the most effective redistributive instruments are direct taxes, with means tested benefits playing a smaller, but nonetheless important, role.** Direct taxes and social contributions are relatively important, particularly in the Northern and Continental EU17 countries (Figure 4). Means tested benefits play an important role in Ireland and the UK, but are relatively small elsewhere. The redistributive impact of taxes and benefits in turn depend on the design of policies as well as on their relative size, as detailed in the next section. What is clear is that in all EU countries, direct taxes and benefits reduce market income inequality.

**However, if indirect taxes are considered, the redistributive effort can be reversed in some cases.** Although only a few studies have comprehensively looked at the impact of direct and indirect taxes, along with social benefits, there is ample evidence that indirect taxes tend to be regressive when measured against disposable income (O'Donoghue et al. 2004; OECD, 2014; Decoster et al., 2010). Therefore, if one were to consider the net cash position of a household after all taxes and social contributions (also called consumable income), not only would it reflect a lower level of

welfare, but also a higher level of inequality. This would be true particularly in countries that rely heavily on VAT or other indirect taxes, and where these are especially regressive. For instance, in the case of Croatia, existing analysis has shown that the redistributive impact of direct taxes and transfers is largely reversed when indirect taxes are included in the analysis (Figure 4), more so than in other countries in the region. When in-kind transfers in the form of education and health are included, the overall fiscal effort is inequality-reducing (the final income inequality is lower than consumable income inequality), however households often do not value these services at the cost of provision.

Figure 4. Emerging markets: Gini Coefficient (pensions as deferred income)



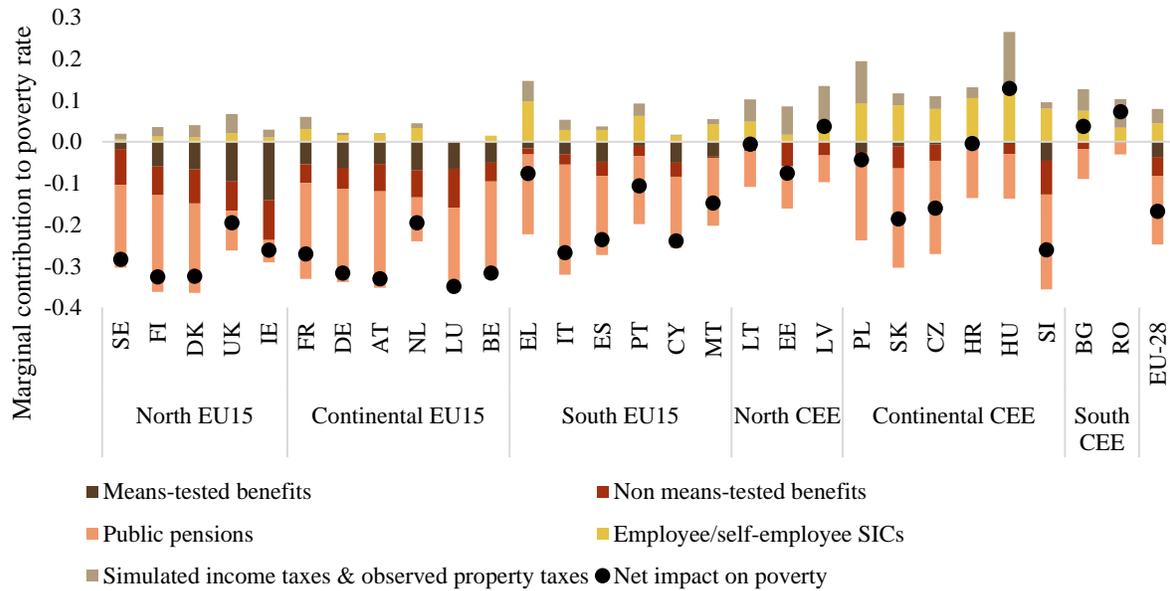
Source: Armenia: Younger et al (2016); Georgia: Cancho & Bondarenko (2016); Poland: Goraus & Inchauste (2016); Russia: Lopez-Calvo et al (2016); Croatia: Inchauste and Rubil (2017).

## Impact of policies on Poverty

**Although the net effect of direct taxes and transfers is equalizing, in some cases the absolute number of poor increases given the burden of taxes on the level of income at the bottom of the distribution.** Although taxes are progressive and reduce inequality in all countries, the burden that they represent to those at the bottom of the income distribution can still be substantial. In fact, the poor could be made worse off to the extent that the burden of taxes is higher than the social benefits received. In fact, the absolute poverty rate is higher after direct taxes and benefits in the case of Latvia, Hungary, Bulgaria

and Romania when measuring per capita income against an absolute threshold of US\$21.70 PPP per day, deemed appropriate for high income countries (see Ferreira and Sanchez, 2017 and Joliffe and Prydz, 2016) (Figure 5). If indirect taxes were to be included in the analysis, this effect would be more widespread, as shown for the cases of Poland (Goraus and Inchauste, 2016) and Croatia (Inchauste and Rubil, 2017). To better understand the redistributive and poverty reducing impact of tax and social spending interventions, the next sections discuss the tax and spending interventions in more detail, focusing both on the size and the policy design of the existing programs.

Figure 5. Impact of Direct Taxes and Social Benefits on Absolute Poverty (change in US\$21.7 PPP poverty rate)



Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) updated to 2016, and policy simulations for 2016

## Direct taxes and Social Contributions

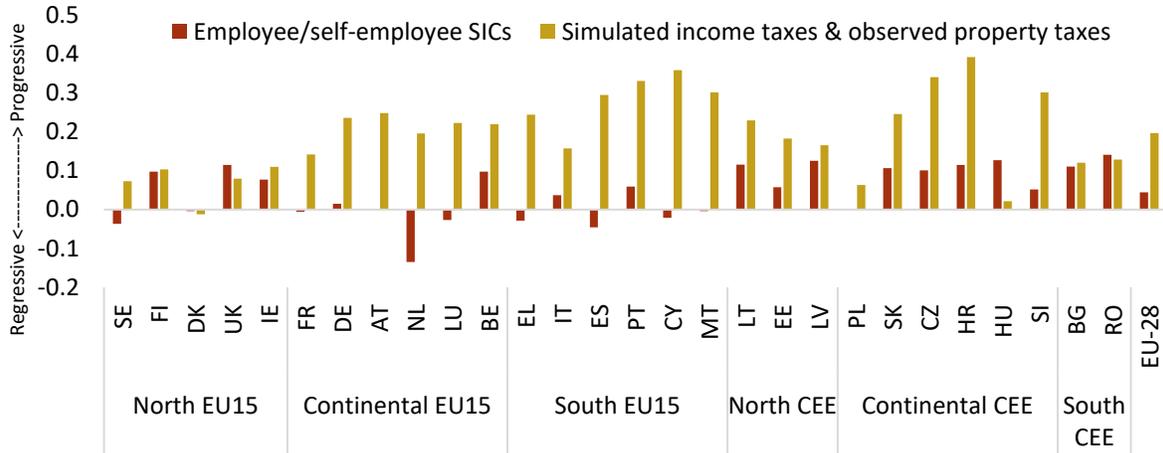
**Direct taxes and social contributions are largely progressive.** Direct taxes are progressive in nearly all EU countries as measured by the Kakwani coefficient (Figure 7), a standardized measure of progressivity across countries.<sup>1</sup> Progressivity of the system is mainly due to tax rates that are rising in income. In 2016, only a few countries in the EU had a flat PIT rate (Czech Republic, Estonia, Latvia, Lithuania, Hungary, Bulgaria, and Romania), which reduces the progressivity of the system, although in some cases, the personal allowance cushioned the impact for the poor.<sup>2</sup> However, multiple rates are not a

<sup>1</sup> The Kakwani index for taxes is defined as the difference between the concentration coefficient of the tax and the Gini for market income. For transfers, it is defined as the difference between the Gini for market income and the concentration coefficient of the transfer. See, for example, Kakwani (1977). Similar results are obtained for direct taxes when comparing the tax wedge on high, average and low income earners (see European Commission, 2016).

<sup>2</sup> OECD Tax Policy Database (2017); for Bulgaria: Boshnakov et al (2017); for Romania: Stroe et al (2017); for Lithuania: Navickė (2017);

guarantee for progressivity if there are few rates and the thresholds are so low that effectively everyone pays taxes, as in the case of Denmark, the Slovak Republic, and Poland.

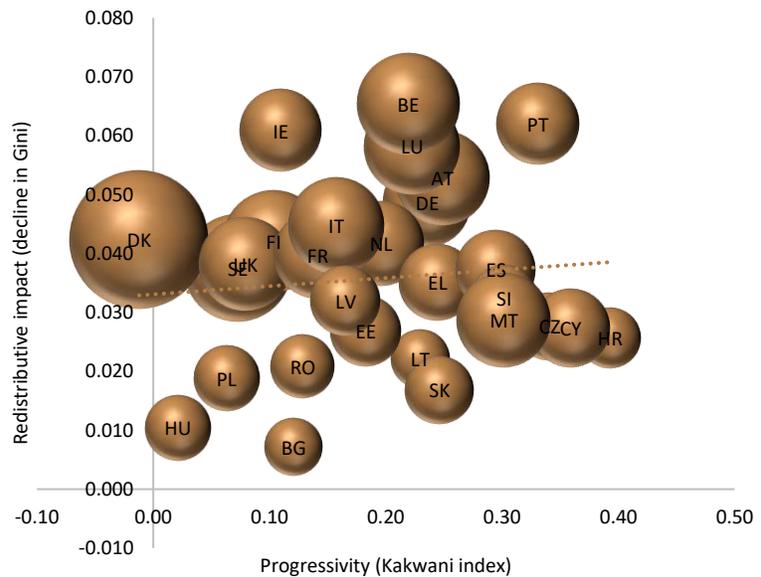
**Figure 7. Progressivity of Direct Taxes and Social Contributions  
Kakwani Coefficients**



Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) updated to 2016, and policy simulations for 2016.

**However, more progressive taxes don't necessarily translate into greater redistribution if the revenue collected is too small to make a difference.** Top income rates could be many times higher than rates applied to the bottom, making the system very progressive, but the redistributive impact would still be very small if collections are so low that they don't make much of a difference in individual and household income. This is the case of Central and Eastern European (CEE) countries, all of which have progressive taxes, but relatively low redistributive power (Figure 8). On the other hand, Ireland and Portugal stand out as having a more effective income tax system in terms of its redistributive impact, given the revenue they collect (Figure 9). These countries collected income taxes equivalent to about 11 percent of GDP in 2015 (less than Austria, Italy or Finland) yet the reduction in the Gini on account of income taxes was among the highest in the EU.

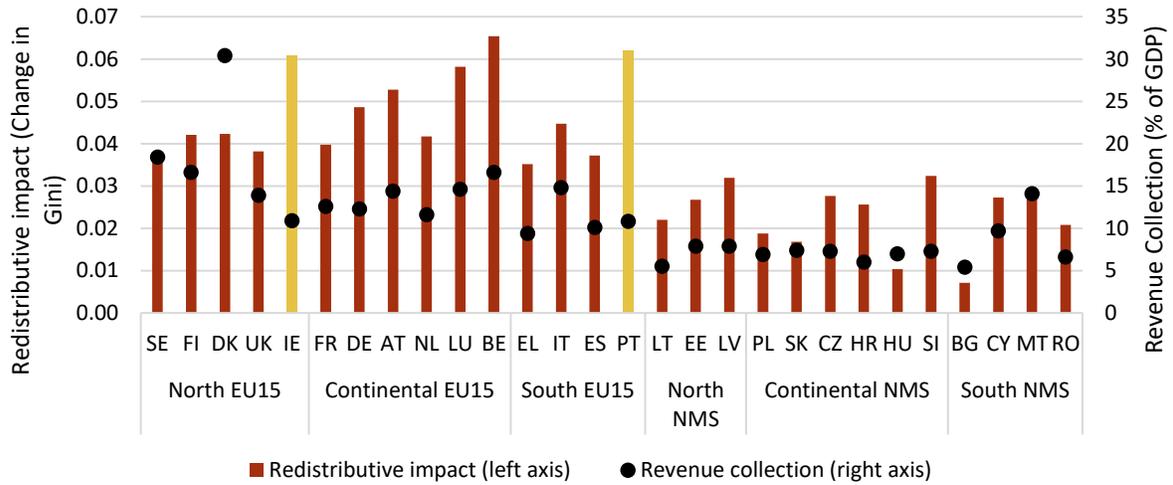
**Figure 8. Tax progressivity and redistributive impact**



Larger bubbles indicate higher tax collections as a share of GDP.

Source: World Bank calculations based on Euromod and Eurostat.

Figure 9. Income Tax Revenue Collection and Redistribution

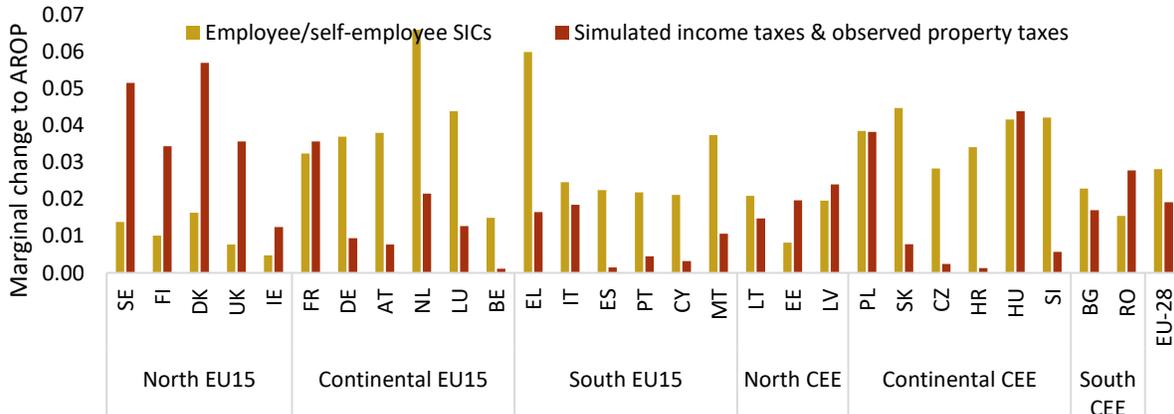


Source: World Bank based on Euromod and Eurostat. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) uprated to 2016, and policy simulations for 2016

**Despite their redistributive impact, taxes and social contributions place an important burden on the poor.** Direct taxes place a burden on all households. However, to the extent that those at the bottom of the distribution bear some of this burden, vulnerable houses could be pushed into poverty in the absence of social transfers (Figure 10). This effect is relatively high in countries like Sweden, Denmark, Poland and Hungary, where the bottom of the distribution bear relatively high tax burdens. The next section discusses the extent to which this burden is mitigated by social benefits.

**To the extent that indirect taxes represent a higher share of the incomes of the poor, this effect could be even higher.** For example, in the case of Croatia, VAT places a large burden on low-income households, which is not compensated for by pro-poor spending, leading to an overall increase in poverty (Inchauste and Rubil, 2017). Similarly, in the case of Poland, indirect taxes were regressive enough that they increased poverty up until 2016, after which social benefits increased so that the effect was reduced (Goraus and Inchauste, 2016).

Figure 10. Impact of Taxes and Social contributions on AROP

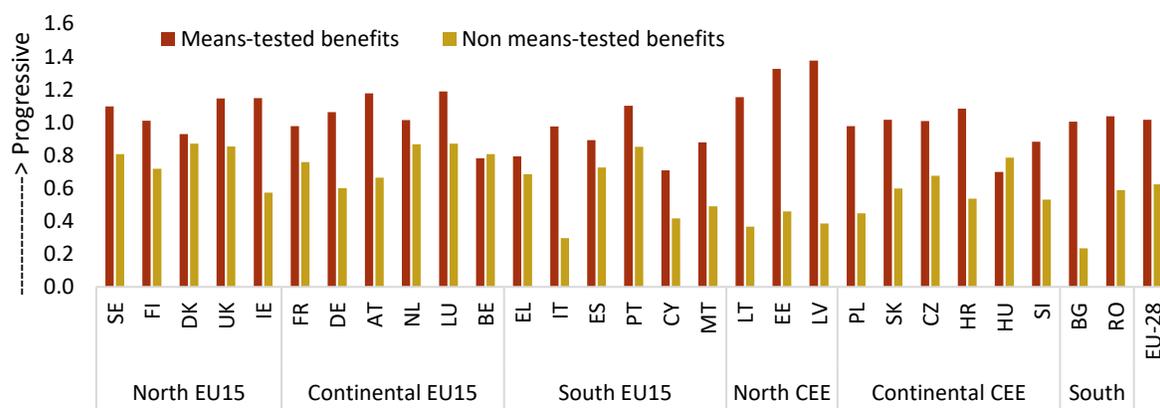


Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) uprated to 2016, and policy simulations for 2016

## Social benefits

Benefits are progressive, particularly those that are means-tested, with the largest share of means-tested benefits accruing to the bottom 40 percent of the income distribution. Social benefits are progressive in all EU countries as measured by the Kakwani coefficient (Figure 11). Means-tested benefits are generally more progressive, although there are a few exceptions. For instance, in Denmark the level of progressivity between means-tested and non-means-tested programs are similar, either because the categorical targeting used is highly correlated with income (such as unemployment) or because non-means-tested benefits, such as disability benefits, are phased out with income and wealth (Petersen et al, 2017).

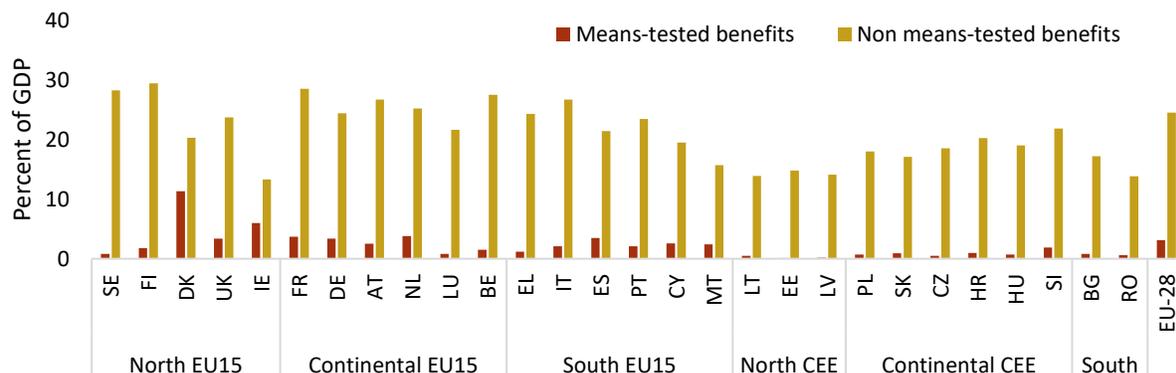
Figure 11. Progressivity of Benefits  
Kakwani Coefficients



Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) updated to 2016, and policy simulations for 2016.

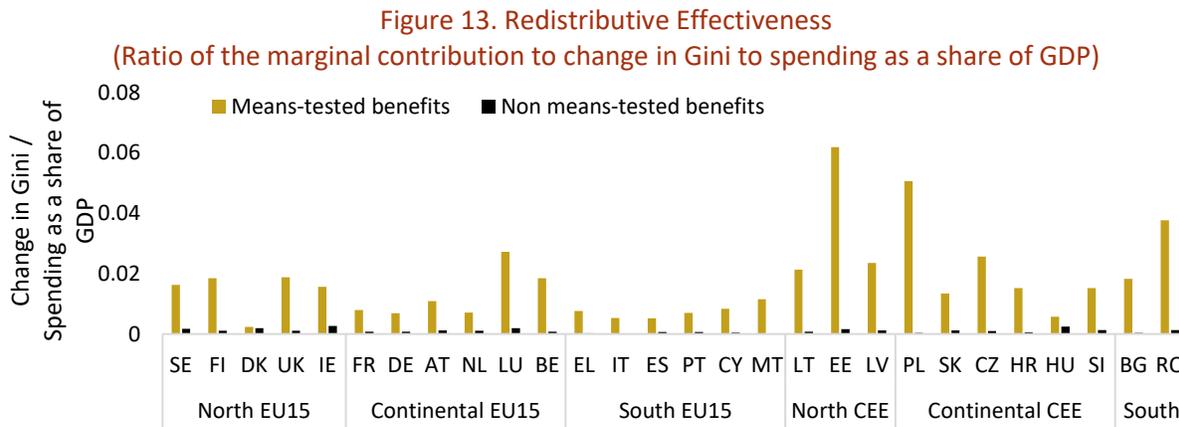
However, progressivity alone does not guarantee that the programs are redistributive. Figure 12 shows that the resources devoted to means-tested programs are much smaller than resources devoted to non-means-tested programs. For instance, the means-tested programs in Estonia are highly progressive, with 95 percent of benefits going to the poorest 10 percent of the distribution. However, only 0.1 percent of GDP was spent on these programs in 2014, thus diminishing their redistributive power.

Figure 12. General Government Spending on Social Benefits, 2014  
(percent of GDP)



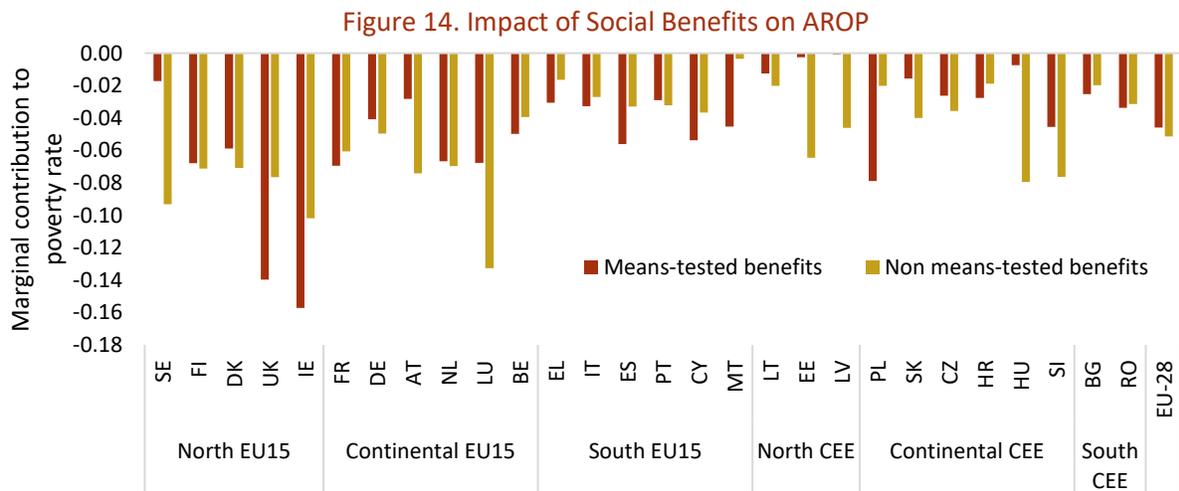
Source: ESSPROS.

**Progressive programs that are well funded have a greater redistributive power.** For instance, means-tested benefits in Latvia are more progressive than those in Finland or France, but since Latvia spends only 0.2% of GDP on these programs compared to 1.8% in Finland and 3.7% in France, the redistributive impact of these programs are much lower in Latvia. A simple measure of redistributive effectiveness involves evaluating the ratio of the change in Gini achieved by each program relative to the resources spent. Figure 13 presents these simple ratios, with North and South CEE countries standing out as being the least effective to redistribute in 2016, both in their means-tested and non-means-tested programs.<sup>3</sup>



Source: World Bank calculations based on Euromod and ESSPROS.

**The contribution of social benefit programs to poverty reduction depends on whether they reach the poor, but also on whether they are large enough to make a difference.** As shown in Figure 14, both means-tested and non-means tested programs contribute to poverty reduction across countries; however, these effects vary substantially across countries, with North and Southern CEE lagging their peers. In contrast, both Ireland and the UK have relatively large contributions to poverty reduction. In both cases the means tested benefits have large redistributive impacts (Figure 13), with a similar level of resources (Figure 12).

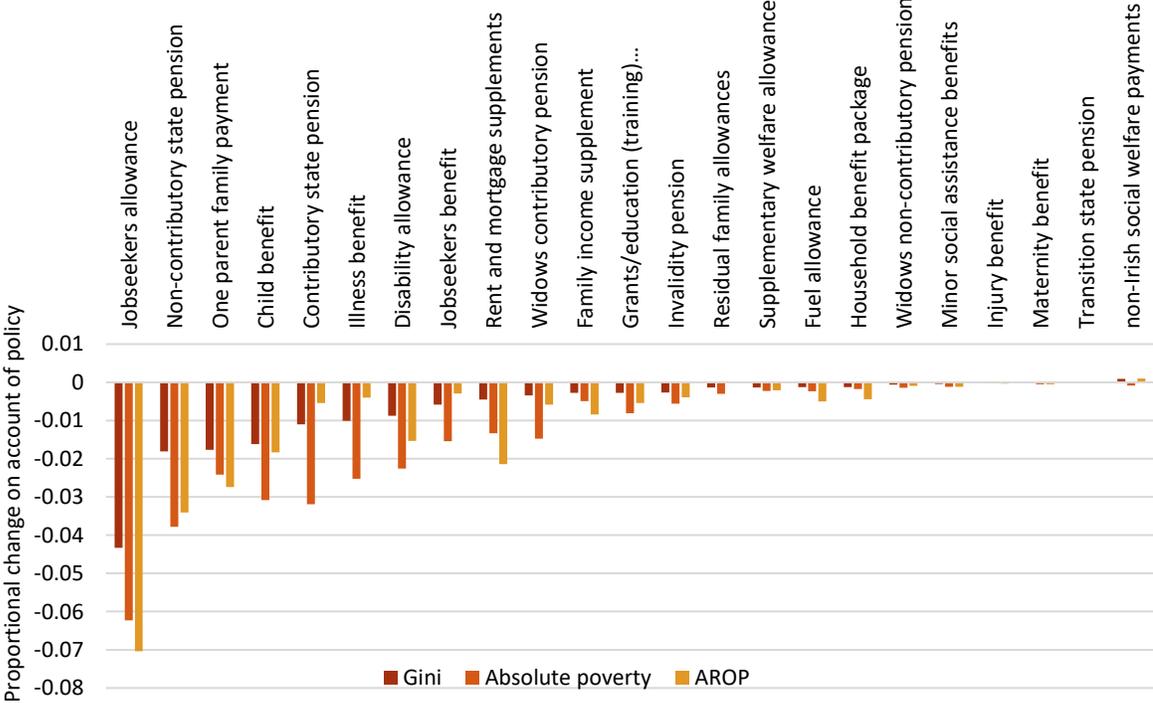


Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) uprated to 2016, and policy simulations for 2016

<sup>3</sup> One important caveat to this measure is that smaller programs will look to be more redistributive.

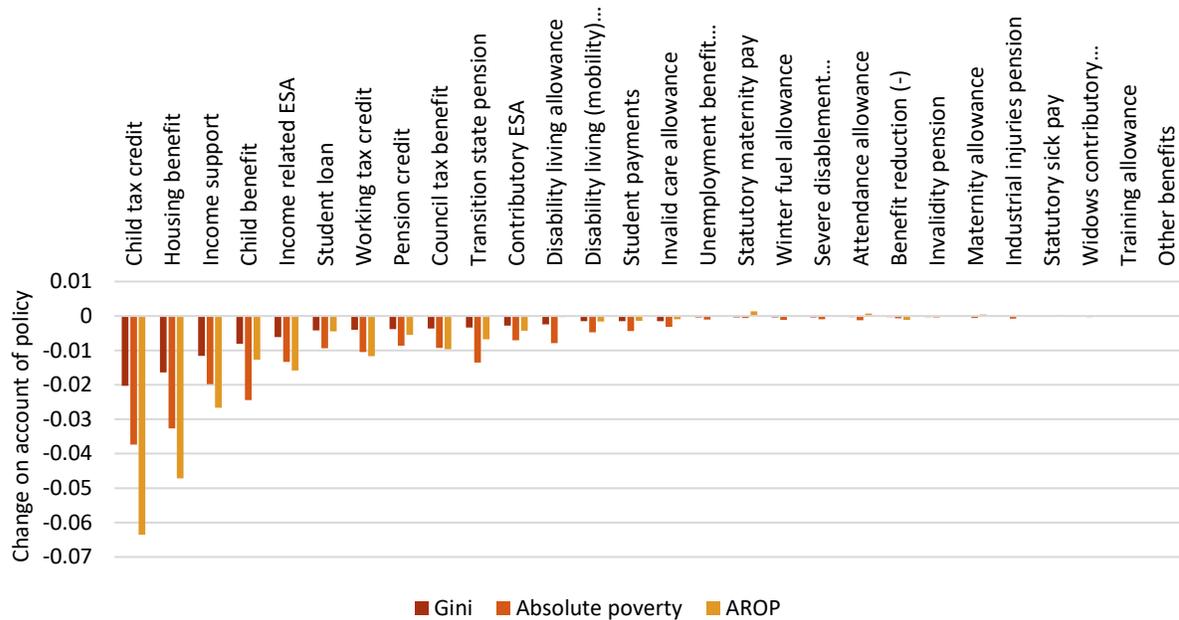
**The most impactful means-tested programs in the UK and Ireland are directed to vulnerable families, the unemployed, and the elderly who have no access to contributory benefits.** In the case of Ireland, the jobseekers allowance and the non-contributory state pension seems to make most of the difference. The jobseekers allowance is a means-tested non-contributory weekly payment made to unemployed people who do not have (or have used up) unemployment insurance. A reduced benefit is available for workers facing a reduction of work days or with part-time or casual employment. The means-tested non-contributory state pension is paid to people aged 66 or above who do not qualify for the contributory State Pension and habitually reside in Ireland (O’Donoghue, 2017). The means-tested one-parent family payment and the universal Child benefit payment are also among the top redistributive and poverty-reducing social benefit programs (Figure 15). However, the resources spent on the universal Child benefit is substantially higher than on the means-tested programs. In the case of the UK, the child tax credit and the housing benefit are the most important redistributive and poverty reducing programs (Figure 16). The child tax credit is paid to families with children, regardless of whether they work. The transfer is made up of two components: the first component is a “family element” which is paid regardless of income for those below the 40% tax bracket; the second component is a per-child payment (higher if the child is disabled) for families with gross annual income up to a given threshold and tapered thereafter. The housing benefit is a means-tested program covering rent for low-income recipients, and tapered away with additional income (De Agostini, 2017).

Figure 15. Ireland. Impact of Social Benefits on Poverty and Inequality



Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) uprated to 2016, and policy simulations for 2016

Figure 16. United Kingdom. Impact of Social Benefits on Poverty and Inequality



Source: World Bank calculations based on Euromod. Welfare distribution ranked by market income + pensions. Estimates calculated using 2012 EU-SILC (2011 income year) uprated to 2016, and policy simulations for 2016

## Summary & Conclusions

**Redistributive tax and benefit systems play an important role in EU countries, although there is important variation across the region.** Progressive direct tax and transfer policies reduce poverty and inequality across EU countries. However, these effects vary across countries, with direct taxes and transfers having a larger redistributive role in the North and Continental EU15. Direct taxes are progressive in all countries, but have relatively low redistributive power in Central and Eastern Europe (CEE). Social benefits are progressive, particularly those that are means-tested, but their redistributive impact largely depends on the size of these programs.

**The combination of direct tax and transfer policies is poverty reducing in most countries, though there are some exceptions.** Taxes place a burden on all households, but to the extent that those at the bottom of the distribution also receive social transfers, they may be net beneficiaries of the system. However, this is not the case for Latvia, Hungary, Bulgaria and Romania, where the social transfers received are not large enough to mitigate the impact of direct taxes on absolute levels of poverty. If indirect taxes were also considered in the analysis, this effect would be true for a larger number of countries, particularly for those relying heavily on regressive value added and excise taxes.

**Although in some cases there is additional room for fiscal redistribution, these efforts need to be aligned with others to improve the efficiency and effectiveness of tax and benefit systems.** In countries where the tax wedge and spending on social benefits are high, policy reforms going forward will need to strike the right balance between efficiency and equity concerns. Further tax increases or

social benefits could pose labor disincentive effects that would reduce economic efficiency. In these cases, countries could instead consider labor tax cuts focused on groups facing the greatest employment challenges and those most responsive to tax cuts, such as the long-term unemployed, low-skilled workers and the young. Social spending could lean more heavily toward means-tested programs, as opposed to categorical or universal benefits. In countries where both labor taxes and direct transfers are limited, redistributive efforts through increases in progressive taxes and higher spending in means-tested programs could help to further reduce poverty and inequality.

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