# Reducing Inequalities

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## A Challenge for the European Union?

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# Disposable Income Inequality, Cohesion and Crisis in Europe

Michael Dauderstädt

## 2.1 Introduction

During the present crisis beginning in 2008, people worry about rising inequality, weaker social protection and the divergence of income levels between the core and the periphery of the European Union (EU). The financial crisis has been blamed on inequality (Rajan 2010; OECD 2015) as poor strata of the population (in the United States, but also in Europe's periphery) borrowed funds to acquire housing or maintain consumption levels in spite of low and stagnating wages. On the side of lenders, high inequality contributed to an overhang of savings as the rich have a higher propensity to save, and investment in the real economy stagnates in the face of weak demand.

When governments increased their debt to bail out a financial sector where bankers and investors had enjoyed astronomical revenues and incomes, public discontent had increased (Occupy Wall Street). Prominent economists like Piketty (Piketty 2013) and Stiglitz (Stiglitz 2012) pointed out the rising levels of wealth, debt and the related income

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inequality and warned about their consequences. Even mainstream institutions such as the International Monetary Fund (IMF) or the Organisation for Economic Co-operation and Development (OECD) criticised the negative impact of rising inequality (Kumhof and Rancière 2010; Gupta 2014; Ostry et al. 2014; OECD 2015).

Concerns about declining cohesion within Europe grew as southern European countries faced shrinking economies and rising poverty and unemployment. The following chapter discusses the dimensions of inequality in the EU and analyses their relationship with the crisis.

## 2.2 The Dimensions of European Inequality

Inequality can be considered between different entities (such as countries, regions, households, individuals) with regard to different qualities (such as income, wealth, life expectancy) using different indicators and measures. Here, we focus on (disposable)[1] income inequality within the EU. The analysis of inequality in a multi-country context implies certain problems, which have been discussed in depth on a global level by Milanovic (2016) and Bourguignon (2015). They differentiate between three types of international inequality: (1) between nations regardless of their population; (2) between nations weighted by population; (3) between people (households). The last measure takes into account the distribution of income within and between countries.

To compare incomes in an international context, one can use two measures: (1) at exchange rates and (2) at purchasing power parity (PPP). The use of these two different measures makes a lot of sense when one compares income levels between countries with different currencies, as the value (e.g. converted into Euros) might change with the (real) exchange rate, which depends on variations in the nominal exchange rate and on inflation, which are different from country to country. Prices might change at different rates within countries between different regions, too.

The analysis of international inequality and its results depend on the choice of indicator, too. First, there is an almost ethical question: Are absolute differences between incomes more relevant than relative ones? Are poor people content to see their income grow faster than that of the

rich or do they want to reduce the absolute difference? In the context of convergence between countries (see section 2.2.1 below), the first concept is called beta convergence; the second sigma convergence, as the standard deviation, indicated in mathematics by the Greek letter sigma, measures absolute differences. To offer a (not unrealistic) numerical example: if at the beginning of the comparison the average GDP/capita of the richer country is 5 times the one of the poorer country and the rich country's economy grows at an annual rate of 2% and the poor at 5%, it would take the poor country 55 years to catch up, and only after 24 years would the absolute difference between the two average incomes begin to shrink (it would still increase for the first 24 years in spite of the higher growth rate).

Second, an indicator of international inequality should better be decomposable into intra- and inter-country inequality. This condition is fulfilled by the Theil index[2] and the quintile ratio (S80/S20), but not by the Gini index. The Gini index varies between 0 in the case of perfect equality and 1 in the case that all income goes to one entity (e.g. household). If one compares only the degree of poverty rather than the distribution of income as such, the Foster–Greer–Thorbecke (FGT) index is decomposable as well.[3] The indicator we use most often is the ratio between the average income of the richest and poorest quintiles (= 20%) of the respective population (the so-called quintile ratio S80/S20).

If one analyses income inequality in a multi-country setting like the EU, different dimensions are of interest.

(A) Disparities between EU Member States measured in terms of average per capita income; in this case, the inequality within the countries is neglected;
(B) Disparities between regions of the EU; in this case, the inequality within the regions is neglected;
(C) Disparities between households within countries;
(D) Disparities between households within the EU as a whole taking into account both inequalities, (A) and (C).

The reduction of disparities between countries (dimension A) and between regions (dimension B) is usually called 'convergence' or 'cohesion'. The funds used by the EU to reduce regional inequalities are cohesion

funds. There are regular reports by the EU on development of regional disparities.[4] Dimension (C) refers to the well-known inequality within countries. Let us briefly consider the three other dimensions (A, B and C) before focussing on European-wide inequality (D).

### 2.2.1 Divergence and Convergence[5]

Greater wealth is one reason why poor countries joined the EU. For the EU itself, convergence is an official goal. Historically, for the first two poor countries that became Member States (Ireland in 1972 and Greece in 1981), progress was slow. Portugal and Spain (entry in 1986) experienced good catch-up growth for several years. For the post-communist countries of Central and Eastern Europe (CEE), catching up has been key. The biggest success story so far has been Ireland, which showed spectacular growth in the 1990s (i.e. 20 years after entry), thus becoming the second-richest country in the EU (measured at per capita GDP).

Income disparities within the EU are huge. The poorest countries (Bulgaria, Romania and the Baltic states) have per capita incomes below €20,000, while this figure exceeds €70,000 for the richest country (Luxemburg) (see Table 2.1). The differences become greater when one compares incomes at exchange rates, as PPPs reflect lower price levels in poorer countries (in particular rents and services).

Regarding different forms of convergence (beta and sigma, see above) one can see that there has been beta convergence since 1999 as most new Member States in CEE (top of Table 2.1) have grown much faster than the core EU countries (bottom of Table 2.1). But there was no clear sigma convergence in the EU. Only after 2007, income disparities between countries have declined by approximately 5% or 10% if measured by the standard deviation of their average per capita income at exchange rates or at PPPs, respectively. If one calculates the S80/S20 ratio for the EU as a whole by adding up countries until their total aggregate population reaches a fifth of the EU (about 100 million), the ratio has declined between 2005 and 2014 from around 5.4 to 3.7 at exchange rates and from 2.6 to 2.0 at PPP.[6] This ratio neglects income disparities within countries.

**Table 2.1** Level and change in per capita income at purchasing power parities

| | 2006 (in € PPP) | 2015 (in € PPP) | Change (in %) |
|---|---|---|---|
| EU (28 countries) | 24,687 | 28,924 | 17.2 |
| Euro area (19 countries) | 26,662 | 30,659 | 15.0 |
| Bulgaria | 9381 | 13,305 | 41.8 |
| Romania | 9381 | 16,487 | 75.7 |
| Poland | 12,344 | 19,958 | 61.7 |
| Latvia | 13,578 | 18,511 | 36.3 |
| Lithuania | 13,825 | 21,404 | 54.8 |
| Croatia | 14,318 | 16,776 | 17.2 |
| Hungary | 15,306 | 19,668 | 28.5 |
| Slovakia | 15,306 | 22,271 | 45.5 |
| Estonia | 15,800 | 21,404 | 35.5 |
| Malta | 19,256 | 25,742 | 33.7 |
| Portugal | 19,503 | 22,271 | 14.2 |
| Czech Republic | 19,996 | 24,585 | 22.9 |
| Slovenia | 21,231 | 24,007 | 13.1 |
| Greece | 23,206 | 20,536 | −11.5 |
| Cyprus | 24,440 | 23,428 | −4.1 |
| Spain | 25,181 | 26,610 | 5.7 |
| Italy | 25,921 | 27,478 | 6.0 |
| France | 26,415 | 30,659 | 16.1 |
| Finland | 28,143 | 31,238 | 11.0 |
| Belgium | 28,637 | 33,841 | 18.2 |
| Germany | 28,884 | 36,155 | 25.2 |
| United Kingdom | 30,118 | 31,816 | 5.6 |
| Denmark | 30,365 | 35,866 | 18.1 |
| Austria | 30,859 | 36,733 | 19.0 |
| Sweden | 30,859 | 35,577 | 15.3 |
| Netherlands | 33,327 | 37,312 | 12.0 |
| Ireland | 36,043 | 41,940 | 16.4 |
| Luxembourg | 63,199 | 78,384 | 24.0 |

Source: Eurostat and calculations by the author

Since the beginning of the crisis, recovery in Europe has been unequal. The resulting divergence does not appear in the general measures as most of the poorer Member States in CEE returned to their former growth path while the depressed, austerity-struck economies of Ireland, Greece, Spain, Portugal and Cyprus belonged to the European top or middle 'class', regarding income per capita. Has there been convergence after all? The answer depends on the measure or metric. If one measures relative disparities (e.g. by using S80/S20), countries did converge. If one considers absolute differences (e.g. by using standard deviation), countries did not converge.[7]

### 2.2.2 Regional Cohesion

Income (average per capita income) disparities between regions are higher than between Member States (see above A) because regional income disparities within countries are high and tend to increase. Many economic activities are concentrated in growth centres, often the country's capital. In Great Britain, for instance, the ratio of average income between London and Wales (the poorest region) is 1:5. In the EU as a whole, the richest region (on the NUTS-2 level[8]) is the City of London with a per capita income (at PPP) of more than €80,000 compared to €7200 in the Romanian border region Nord-Est.

For the EU as a whole, regional inequality (measured by the standard deviation) has increased (no sigma convergence). Nonetheless, there has been beta convergence as regions in poorer Member States have grown faster thanks to the faster growth of their national economies. If one calculates a European S80/S20 ratio by creating the poorest and richest European quintiles (of 100 million people) by adding up poorest and richest regions neglecting intra-region inequalities, the resulting values are 4 in 2000 and 2.8 in 2011. This decline again reflects the catching-up growth of poorer Member States. Within countries, regional inequality has increased. For the 22 Member States of the EU-28 that are divided into NUTS-2 regions (all except the smaller countries Luxemburg, Malta, Cyprus and the three Baltics), the standard deviation increased on average by 106% between 2000 and 2011, while within the new Member States, the rise was even stronger. Regional inequality in Romania increased by 300%.[9]

### 2.2.3 National Inequality

Recently, concerns about national inequality have increased. Even international institutions not known as progressive or concerned about social justice such as the OECD and the IMF have started to publish critical studies of inequality and its consequences for growth and stability.[10] On average in the EU, inequality within countries has hardly increased. The average of the national S80/S20 ratios has remained at about 5 (see the

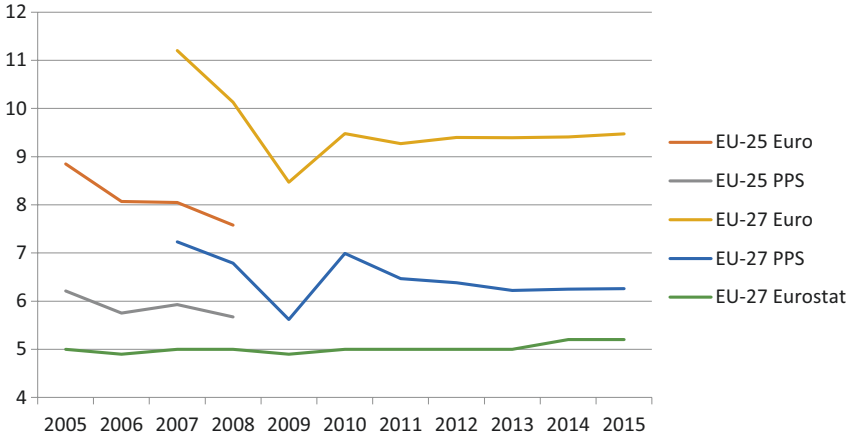


**Fig. 2.1** Development of inequality in the EU (2005–2015)
Source: Eurostat, authors' calculations

bottom curve in Fig. 2.1 below). But that average hides substantial disparities. In Croatia, Denmark and France, the ratio increased between 2007 and 2013 by more than 15%, in Greece by 10%, while it declined by more than 10% in Romania, the United Kingdom and the Netherlands.

National inequality is affected by redistributive policies such as progressive taxation, social protection and transfer payments to old, sick and unemployed people. The resulting distribution of disposable income is more equal than the primary distribution of market income. However, the effect of these policies varies widely among Member States. The differences between the Gini coefficients for market and disposable income range from 0.14 (e.g. Finland, Slovenia, France) to 0.09 (Spain, Netherlands) and 0.08 (Estonia).[11]

### 2.2.4 European-Wide Inequality

While much research and statistical evidence focuses on the first three dimensions of inequality (A, B and C), European-wide inequality (D) is more difficult to calculate and rarely assessed. Using the S80/S20 ratio as an indicator, Eurostat, the statistical office of the EU, offers a value which

it calculates as the weighted (by population) average of the national S80/S20 values. This measure is obviously false[12] as it neglects the enormous income differences among countries and assumes that the richest (poorest) quintile of the EU population (about half a billion people) consists of the sum of the richest (poorest) national quintiles. This mistake can be corrected by constructing the true richest and poorest quintiles of the EU.

How do we construct the richest and the poorest EU quintiles, which comprise each around 100 million people? If we had income data for all EU households, we could calculate the income of the bottom and the top quintiles and get a relatively good S80/S20 ratio for the EU as a whole. If we do not have these detailed data, we can approximate the value by building the bottom and top quintiles in different ways.

The easiest (but also very rough) estimate would use Member States and their average GDP/capita, thus neglecting the disparities within the countries. By ordering Member States according to their average GDP/capita, we can form the desired EU quintiles by adding up countries from the bottom respectively from the top until we have arrived at 100 million people. Usually this means cutting off part of the last country's population when the limit of 100 million is reached. This is approach 1 in Table 2.3.

In quite a similar way one can use regions. The distortion will be lower because regions are smaller and an appropriate selection of regions can fit the actual poorest (or richest) quintile of the whole EU more closely. But the inequality within regions is neglected. This is the approach 2 in Table 2.3.

In our approach we wanted to get even closer. Thus we constructed our EU quintiles out of the 135 national quintiles[13] derived from the EU-SILC data (household survey). We ordered these 135 quintiles by average per capita income (see Tables 2.2a and 2.2b). For the poorest EU quintile, we began from the bottom, for the richest quintile from the top and selected as many national quintiles as necessary to make up 100 million people (= a fifth of the EU population). We were then able to sum the total income of these quintiles in order to get the income of the EU quintile. The ratio between the incomes of the poorest and the richest quintiles thus construed yields the S80/S20 ratio for the EU as a whole.

**Table 2.2a** The poorest (dark grey) and richest (light grey) quintiles in the EU (euros) (2015)

| 2015 | Income per capita in euros | | | | |
|---|---|---|---|---|---|
| Member state | Q1 | Q2 | Q3 | Q4 | Q5 |
| Bulgaria | 1256 | 2388 | 3350 | 4557 | 8902 |
| Romania | 685 | 1563 | 2310 | 3134 | 5674 |
| Latvia | 2243 | 4081 | 5828 | 8110 | 14579 |
| Lithuania | 2005 | 3625 | 5186 | 7451 | 14395 |
| Poland | 2512 | 4217 | 5562 | 7220 | 12366 |
| Estonia | 3169 | 5580 | 7947 | 11089 | 19663 |
| Hungary | 2220 | 3571 | 4586 | 5915 | 9530 |
| Slovakia | 3419 | 5623 | 6900 | 8430 | 12088 |
| Czech Republic | 4214 | 6123 | 7424 | 9185 | 14777 |
| Portugal | 3436 | 6232 | 8416 | 11234 | 20656 |
| Greece | 2714 | 5443 | 7515 | 10103 | 17626 |
| Malta | 6768 | 10166 | 13485 | 17321 | 28082 |
| Spain | 4549 | 9499 | 13360 | 18375 | 31255 |
| Slovenia | 6280 | 9831 | 12321 | 15060 | 22553 |
| Italy | 5996 | 11593 | 15884 | 20959 | 35014 |
| Cyprus | 6780 | 10281 | 13827 | 18563 | 35251 |
| Germany | 9339 | 15845 | 20723 | 26782 | 44788 |
| France | 11219 | 16924 | 21471 | 27179 | 48094 |
| Belgium | 10891 | 16621 | 21753 | 27484 | 41578 |
| United Kingdom | 9540 | 15808 | 21043 | 28373 | 49901 |
| Austria | 11649 | 18413 | 23340 | 29250 | 47099 |
| Finland | 12920 | 18868 | 23766 | 29711 | 45929 |
| Netherlands | 11346 | 16957 | 21346 | 26600 | 43367 |
| Sweden | 12974 | 20904 | 26651 | 33104 | 48790 |
| Ireland | 10528 | 16159 | 21617 | 28475 | 47391 |
| Denmark | 14056 | 22553 | 28388 | 35248 | 57340 |
| Luxembourg | 17385 | 26925 | 35081 | 45258 | 73832 |

Source: Eurostat and authors' calculations

**Table 2.2b** The poorest (dark grey) and richest (light grey) quintiles in the EU (PPP) (2015)

| 2015 | Income per capita in PPP | | | | |
|---|---|---|---|---|---|
| Member state | Q1 | Q2 | Q3 | Q4 | Q5 |
| Bulgaria | 2595 | 4933 | 6921 | 9414 | 18388 |
| Romania | 1289 | 2941 | 4347 | 5898 | 10679 |
| Latvia | 3114 | 5665 | 8092 | 11259 | 20241 |
| Lithuania | 3194 | 5774 | 8260 | 11867 | 22929 |
| Poland | 4499 | 7552 | 9961 | 12930 | 22147 |
| Estonia | 4190 | 7380 | 10509 | 14664 | 26002 |
| Hungary | 3858 | 6207 | 7971 | 10281 | 16563 |
| Slovakia | 5042 | 8293 | 10175 | 12433 | 17827 |
| Czech Republic | 6615 | 9612 | 11654 | 14419 | 23196 |
| Portugal | 4203 | 7623 | 10294 | 13740 | 25263 |
| Greece | 3177 | 6371 | 8796 | 11826 | 20631 |
| Malta | 8367 | 12568 | 16671 | 21414 | 34718 |
| Spain | 4928 | 10290 | 14472 | 19906 | 33858 |
| Slovenia | 7691 | 12040 | 15090 | 18444 | 27620 |
| Italy | 5825 | 11263 | 15431 | 20362 | 34016 |
| Cyprus | 7527 | 11414 | 15350 | 20609 | 39136 |
| Germany | 9202 | 15613 | 20420 | 26390 | 44131 |
| France | 10417 | 15715 | 19937 | 25237 | 44657 |
| Belgium | 10019 | 15291 | 20012 | 25284 | 38250 |
| United Kingdom | 8068 | 13368 | 17795 | 23993 | 42199 |
| Austria | 10909 | 17244 | 21858 | 27393 | 44109 |
| Finland | 10564 | 15427 | 19432 | 24293 | 37553 |
| Netherlands | 10331 | 15440 | 19436 | 24220 | 39487 |
| Sweden | 10332 | 16648 | 21224 | 26364 | 38856 |
| Ireland | 5737 | 8804 | 11778 | 15515 | 25822 |
| Denmark | 10101 | 16208 | 20402 | 25332 | 41209 |
| Luxembourg | 14435 | 22356 | 29128 | 37579 | 61304 |

Source: Eurostat and authors' calculations

**Table 2.3** Different measures of European-wide inequality (quintile ratios)

| | Indicator (S80/S20) | | | | | |
|---|---|---|---|---|---|---|
| Approach | Using | Neglecting | Earliest | Year | Latest | Year |
| 1 | Average national incomes | Intra-country inequality | 2.6 (PPP) 5.4 (€) | 2005 | 2,0 (PPP) 3.7 (€) | 2014 |
| 2 | Average regional incomes | Intra-region inequality | 4 (PPP) | 2000 | 2.8 (PPP) | 2011 |
| 3 | Average of national ratios weighted by population, (Eurostat value) | Inter-country inequality | 5 (PPP) | 2005 | 5 (PPP) | 2013 |
| 4 | National quintiles, taking into account both inequalities | Intra-quintile inequality | 7 (PPP) 11 (€) | 2007 | 6.2 (PPP) 9.4 (€) | 2014 |

Source: Eurostat and authors' calculations

The composition of the EU quintile has changed only slightly over the years. The poorest quintile generally comprises the four or five poorest quintiles of Bulgaria and Romania, the three or four poorest in the Baltic States, Poland and Hungary, the two poorest in the Czech Republic, Slovakia and Portugal, and one each from Greece, Malta, Spain, Slovenia and Italy. The richest EU quintile comprises the three richest quintiles of Luxembourg and Denmark, the two richest of Ireland, Sweden, the Netherlands, Finland, Austria and France, as well as the richest from the United Kingdom, Belgium, Germany, Cyprus, Italy and Spain. If a country grows strongly and moves up in the EU ranking of per capita incomes, its national quintiles will show up less in the poorest and more in the richest EU quintile.[14]

The Tables 2.2a and 2.2b show the national quintiles and the subsets that form the richest and poorest European quintiles in 2015.

If we summarise the different ways to calculate a S80/S20 ratio for the whole EU, one can measure European-wide inequality by constructing the respective quintiles of about 100 million people and calculating the ratio between the richest and the poorest quintile, which delivers different S80/S20 ratios depending on the approach:

1. Summing up whole nations (or parts thereof) to create the EU quintiles neglects intra-country inequality,
2. Summing up whole regions neglects intra-region inequality,
3. Summing up the poorest and richest national quintiles, as the official Eurostat value does, neglects inter-country inequality.
4. Our approach (Tables 2.2a and 2.2b) takes both dimensions into account.

The following Table 2.3 provides an overview of the values resulting from the different approaches in different years.

## 2.3 The Development of European Inequality

As illustrated in Fig. 2.1,[15] the EU S80/S20 ratio resulting from our method (4th approach) is much higher than the official and inaccurate Eurostat value. While the latter is about 5, our value ranges between 6 and 7 (at PPP) and 9 and 10 (in euros). For comparison, other major economies, according to the UN Human Development Report, have mostly lower values of 4.9 (India), 7.3 (Russia), 8.4 (United States) and 9.6 (China).[16] National S80/S20 values for EU Member States are between 3 and 4 (in relatively egalitarian Scandinavian countries) and 6 and 7 (in Spain, Greece, Baltics); the direction of change is also sometimes different. While the Eurostat value (lowest curve in Fig. 2.1) is relatively stable, the true value declined until 2009, increased shortly after the great recession and has stagnated since.

The decline of European-wide inequality was mostly due to the catch-up growth of poorer countries (see section 2.2.1 above), as intra-country inequality did not change much (see section 2.2.3 above). After a short but substantial rise of inequality during the great recession, the former trend continued, albeit much more slowly. Measured in terms of PPPs, inequality has still fallen. If one considers the changes in the income of the richest and poorest quintiles in the EU between 2011 and 2014, one sees the opposite development, depending on how one measures it. In exchange rate terms, the income of the richest quintile increased by 3.9% between 2011 and 2014, while in terms of PPP, it rose by only 1.9%. In the case of

the poorest quintile, it was the other way around: income in exchange rate terms rose by only 2.4%, while in terms of PPP, it rose by 6.3%.

What underlies this discrepancy? Basically, it was the different development of exchange rates and inflation. Especially in poorer countries and in countries compelled to pursue austerity policies, the trend between 2011 and 2014 was deflationary development or below-average inflation. This applies in particular to Greece, Ireland, Portugal and Spain (GIPS), but also to many of the new Member States.

More recently, a study on European inequality using Gini and Theil indexes has been published (Bönke and Schröder 2015), which covers the years 2004–2011 and most (but not all) EU Member States. Calculating a European Gini index is difficult as the Gini cannot be decomposed into intra-country and inter-country components without a residual, while the Theil can. The authors arrive at a Gini value of around 0.32 and a Theil of 0.16. Both values declined since 2004 for the EU-22 until the crisis and stagnated afterwards, thus confirming our findings. In contrast, after 2009 within the Euro zone, inequality increased, according to the authors. It was the deep recession in the southern periphery that showed up in the supranational inequality indicator, if one excludes the non-Euro countries in CEE.

The different development of inequality according to different approaches, particularly approaches 3 and 4 illustrated in Fig. 2.1, is also responsible for different poverty dynamics in the EU. Poverty is measured here as the share of households with an income below 60% of the median income. While national poverty rates (using national median incomes) stagnated, EU-wide poverty (using the median EU income) decreased substantially between 2005 and 2011 (Goedemé et al. 2014).

## 2.4 Crisis and Inequality

Up to the threefold crisis—financial market crisis, great recession and sovereign debt panic—Europe, which is committed to social cohesion, was able to point to solid progress. Unemployment was falling; life expectancy was rising; and income inequality, although increasing in some countries, was declining in the EU as a whole thanks to growth in the

poorer Member States. After falling substantially up to the great recession of 2009, convergence within the EU suffered a setback in 2010, but then appeared to resume its long-term trajectory of income convergence. Since 2011, however, this process has practically ground to a halt, especially in euro terms (rather than in PPP).

Inequality has contributed to the crisis in various ways. Rising inequality in the United States led to more borrowing by the poor and higher savings of the rich, in search of yield. The collapse of the mortgage market triggered the financial crisis. In Europe, imbalances resulted from inequality, too. Large export surpluses in Germany in particular reflect the lack of internal demand due to stagnating wages and the growing savings of the rich. These savings then financed the current account deficits of the countries in the poorer EU periphery, which have been eager to catch up with the richer core. It was this, unfortunately debt-driven, boom that fuelled growth and reduced inequality in the EU.

After the financial market crisis and great recession of 2008, many poorer countries—especially in Central and Eastern Europe—were able to resume their growth path. It was the countries affected by the sovereign debt panic and austerity policies—Greece, Ireland, Portugal, Spain and Cyprus—that fell back. Because they do not figure among the poorest countries in the EU, however, their deep crisis scarcely increased European-wide inequality, but only retarded its reduction.

This effect continues to be felt, but now—after 2012—some of the new Member States (Bulgaria, Czech Republic, Slovenia) have experienced a slump, while two large, wealthy countries—Germany and the United Kingdom—exhibited weak, but above-average, growth. The economies of some richer countries—such as Finland, Italy, Belgium and Denmark—shrank, while many new Member States continued to grow strongly (Baltic States, Poland, Romania, Hungary, Slovakia). Thus, the main cause of the stagnating inequality is not the diverging development of domestic inequality, but the end of strong catch-up growth in some poorer EU Member States.

The key finding with regard to recent years is the notable slowdown of the former decline in inequality. Social Europe's promise to reduce income differences in the EU is no longer really being kept. Without vigorous growth in the poorer countries, inequality remains high. But where is

growth supposed to come from? Germany and important EU bodies continue to rely on structural reforms and austerity policies, whose effects on growth are scarcely discernible. The policies forced upon the countries in the Southern periphery suffer from conflicting goals: Austerity, internal devaluation and growth hardly reinforce each other. Reducing government spending harms growth. Lowering wages to improve competitiveness reduces tax revenues and slows down budget consolidation. Growth and structural competitiveness (higher productivity, better quality, export diversification) require appropriate public policies such as improved education and more spending on research and development.

Given these multiple, self-imposed constraints on fiscal policy, demand growth had to rely on monetary policy and exports. But the European Central Bank (ECB's) more assertive policy (after 2012) could only reduce interest rates and stabilise asset prices without restoring vigorous growth. The weakness of the euro vis-à-vis other currencies (one consequence of the loose monetary policy) has supported exports. But without sufficient internal demand, growth remains weak.

In the meantime, at least, the new (elected in 2014) European Commission has recognised that other policies are needed. However, the planned European Fund for Strategic Investment is on too small a scale and depends on a somewhat questionable willingness on the part of private investors to leverage the relatively meagre public resources of €16 billion on a massive scale (by a factor of 15). It is doubtful that the expected total volume of almost €300 billion of additional private resources will be mobilised. The effects will take much time to be felt in the form of higher growth and lower unemployment due to a complex process of project identification, evaluation and implementation.

In order to reduce disparities between countries, investment funds should be concentrated in poorer Member States. Within countries, the build-up of wealth resulting from investment will primarily benefit richer households. This holds in particular when the EU funds are used to reduce risks for the private investors and policies to improve the investment climate aim exclusively at lower wages, more flexible labour markets and weaker social protection. But the greatest obstacle to investment remains the lack of demand. Only stronger demand based on widespread income growth will lead to sustainable growth. In order to achieve this, investment must create jobs that deserve the label 'decent work'.

## Notes

1. Income after taxes and social transfers.
2. The Theil index varies between 0 and N (with N the number of compared units).
3. See Goedemé et al. (2014) for an application on Europe.
4. For the latest, the sixth report of 2014 see: http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion6/6cr_en.pdf
5. For a detailed analysis, see Dauderstädt (2014).
6. Calculation by the author using Eurostat data; see also Table 2.3.
7. For a more in-depth discussion of the influence of different metrics on multi-country inequality, see Nino-Zarazua et al. (2016).
8. Nomenclature for Territorial Units for Statistics (NUTS) is the EU classification of regions; NUTS-1 are big regions such as German 'Länder'; NUTS-2 are smaller regions defined for regional policy measures.
9. Calculation by the author using Eurostat data.
10. See OECD (2011), OECD (2015), Kumhof and Ranciere (2010), Gupta (2014).
11. See OECD (2011); the OECD average is 0.1.
12. See also Atkinson et al. (2010), p. 109.
13. Today we would need 140 as Croatia has joined the EU as its 28th member state. In order to facilitate the comparison over time, we still use 135 (=5 × 27).
14. For a detailed explanation, see Dauderstädt (2008) or Dauderstädt and Keltek (2011).
15. Taken from Dauderstädt and Keltek (2015, 2016).
16. The figures might nevertheless not be fully comparable as data sources and methodologies of household surveys vary from country to country.

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