Towards a better measurement of welfare and inequalities

This supplement to the Quarterly Review provides in-depth analysis of recent labour market and social developments. It is prepared by the Employment Analysis and Social Analysis Units in DG EMPL.

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1. Introduction

This supplement briefly reviews a set of indicators that complement Gross Domestic Product (GDP) growth. They provide a more comprehensive measure of growth in society, encompassing not only macro-economic performance but also progress in other important aspects of sustainable and inclusive growth. Building on the chapter on *Indicators of inclusive growth to complement GDP growth* of *ESDE 2013,*[1] which contributed to the 'Beyond GDP' debate,[2] this supplement updates some of the ESDE analysis and examines social aspects and distributional trends since the first half of the 2000s. First, it sketches the situation across the EU and then looks at selected Member States.

GDP is the most widespread measure of macro-economic performance. In order to reflect progress in our societies more broadly, it needs to be complemented by measures of environmental sustainability and social progress. The limitations of GDP as a measure of key societal goals such as well-being and sustainable development are widely recognised,[3] notably in the report by Stiglitz *et al.* (2009).[4] At political level, the 'Europe 2020' strategy, which is based on a vision of smart, sustainable and inclusive growth[5], acknowledges that improvements brought about by economic growth ought to be distributed widely and fairly to all individuals in society. In the global arena, discussion is now underway to set up a new post-2015 framework for sustainable development, where goals that are supported by indicators other than GDP, including a focus on social cohesion, would help direct policies towards more inclusive and sustainable growth.[6]

A set of indicators is reviewed here which complement GDP per capita growth as a measure of the socio-economic progress of societies. They focus on distributional measures in particular. These indicators cover growth in average and median household income, including for specific income quintiles, as well as inequality indicators and inequality-adjusted growth in GDP per capita.

2. Developments across the EU

The EU is undergoing a rather fragile economic recovery. The economy expanded in all Member States from 2000 until the pre-crisis peaks in 2007/2008.[7] The effects of the double-dip crisis have sometimes been severe, and economic activity remains below peak levels in many Member States.[8]

2.1 GDP per capita as a measure of the standard of living in a society

Growth in real GDP per capita is often used to measure improvements in average living standards in a society, the rationale being that all citizens benefit from their country's increased output (or bear its losses). It shows the extent to which the total growth in the production of goods and services (additional wealth) is shared by the population, and the potential for improving each individual's well-being through an increase in GDP.

[1] European Commission (2013), 'Employment and Social Developments in Europe 2013', Chapter 7: Indicators of inclusive growth to complement GDP growth' http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7684.
[2] European Commission (2009), 'GDP and beyond: Measuring progress in a changing world', Communication from the Commission to the Council and the European Parliament, COM(2009) 433 final.
[3] For review, see van den Bergh, J. (2009), 'The GDP Paradox', *Journal of Economic Psychology*, 30: pp. 117-35.
[4] Stiglitz, J., Sen, A., Fitoussi, J-P. (2009), 'Report by the Commission on the Measurement of Economic Performance and Social Progress'.
[5] The European 2020 Strategy is about delivering growth that is: smart, through more effective investments in education, research and innovation; sustainable, thanks to a decisive move towards a low-carbon economy; and inclusive, with a strong emphasis on job creation and poverty reduction. The strategy is focused on five ambitious goals in the areas of employment, innovation, education, poverty reduction and climate/energy. See http://ec.europa.eu/europe2020/index_en.htm.
[6] See Millennium Development Goals at www.un.org/millenniumgoals/beyond2015-news.shtml.
[7] Member States reached a pre-crisis peak in 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK) or 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK).
[8] See the recurrent part of the ESSQR for latest developments in GDP.

Real GDP per capita is calculated as the ratio of real GDP to the average population of a specific year (as reflected by the European system of National Accounts). Real GDP is the result of removing price changes from one year to another, thus allowing for comparisons based on the volume, rather than the nominal value, of goods and services produced.

Real GDP per capita gives a measure of average real income in the country. It is not, however, a comprehensive measure of economic welfare. For example, it does not include most unpaid household work and does not take account of the negative effects of economic activity, such as environmental degradation. GDP per capita does not measure the effective distribution of the existing wealth a country is able to generate.

Real GDP and real GDP per capita improved in all EU Member States between 2000 and 2007-2008, when the crisis began. Real GDP per capita growth was particularly high in some of the new Member States (BG, EE, LT, LV, RO and SK) between 2000 and 2007/2008 (see Chart 1).

As a result of the economic crisis, real GDP dropped (-5% in 2009 in the EU) and kept declining for many EU Member States up until 2013 and 2014, with particularly negative impact on the living standards of the EU population.[9] In 2012[10], the GDP per capita for most Member States was still lower than in 2007-2008. These were the countries that suffered from the double-dip recession or where the initial recession was extremely severe. In particular, GDP per capita has continually declined since the beginning of the crisis in Cyprus and, most markedly, in Greece (see Chart 2).

2.2 (Adjusted) gross disposable household income per capita as a measure of the welfare of households

GDP per capita mainly reflects the level of economic activity, but it does not measure what individuals actually accrue, since not all the wealth created in a country accrues to households.[11] In this context, household disposable income can better describe the welfare situation of households. Gross[12] disposable household income (GDHI) mainly comprises income from work, social transfers, property income and other transfers, and is net of taxes. In addition to GDHI, populations benefit from in-kind services that governments provide (e.g. education, health and social security services). GHDI is then adjusted to include these items to produce adjusted GDHI. Adjusted GDHI can be considered as a more extensive measure of the welfare of households.

Real gross disposable household income per capita (measured by National Accounts) is calculated as the ratio of real gross disposable income of households and non-profit institutions serving households (NPISH) to the average population of a specific year. (Gross) disposable household income (GDHI) comprises payments to employees, revenues of the self-employed, net property income, net social benefits, net social contributions, and net other current transfers; it is net of current taxes on income and wealth. Gross means that income is calculated before deducting the consumption of fixed capital. Real GDHI is deflated by the price index of household final consumption expenditure, measured in national currency. **Adjusted GDHI** includes in-kind services that the government provides, i.e. education, health and social security services.

Economic growth had contributed to improvements in the economic situation and welfare of households in all Member States between 2000 and 2007-2008. However, growth in both real

[9] The population has grown in the post crisis-period in most Member States, except BG, DE, EE, EL, HR, HU, LT, LV, PT, RO and SK.
[10] 2012 is selected due to GDHI availability. See the recurrent part of the ESSQR for latest developments in GDP.
[11] In the EU around 65% of the national income accrues to households and non-profit institutions serving the household sector, and this share varies over time. The rest of the income accrues to non-financial corporations, financial corporations and general government.
[12] In National Accounts, 'gross' refers to items calculated before deducting the consumption of fixed capital and 'net' refers to items calculated after this deduction.

GDHI per capita and real adjusted GDHI per capita was slower than in real GDP per capita in one third of Member States. In general, social transfers in kind (included in adjusted GDHI) made some contribution to the growth in GHDI with the exception of Latvia. (see Chart 1).

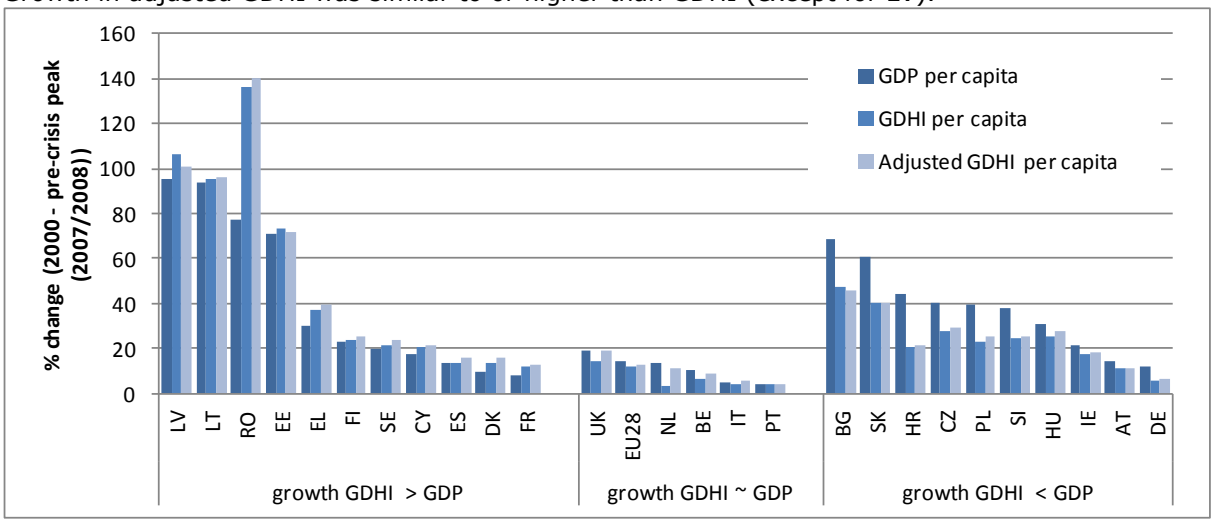
The size of the adjustment of household incomes to the economic shock varied across countries depending on the size of the economic crisis, its impact on employment and on the adjustment of taxes and transfers. The functioning of automatic stabilisers and the impact of stimulus packages protected household incomes during the early phase of the crisis, but these were eroded in the second phase of the crisis.[13] By 2012, many of the Member States that had registered a decline still had a household disposable income level that was lower than that of 2007-2008. Real GDHI per capita (and real adjusted GDHI per capita) sometimes declined more strongly than real GDP per capita after the onset of the crisis, with large differences observed in EL, ES, HU, LV and RO. Conversely, in some countries, such as DK, FI and LU, household incomes were maintained during the crisis in spite of significant declines in GDP per capita.

The contribution of in-kind services to household incomes during the crisis varied across the EU. were generally similar Among Members States with growing or stable households' income, GDHI and adjusted GDHI per capita growth were generally similar. In some Member States (notably EE, IE, NL and SI), the provision of in-kind services appears to have limited the decline in household income. By contrast, expenditure on in-kind services declined in some other Member States (notably in HU, LV and PT) compounding the decline in GDHI (see Chart 2).

[13] European Commission (2013), 'Employment and Social Developments in Europe 2013, Chapter 6: Efficiency and effectiveness of social expenditure in the crisis' .

Chart 1: Growth in GDP per capita, GDHI per capita and adjusted (incl. in-kind services) GDHI per capita in EU Member States before the onset of the crisis, 2000 to 2007/2008

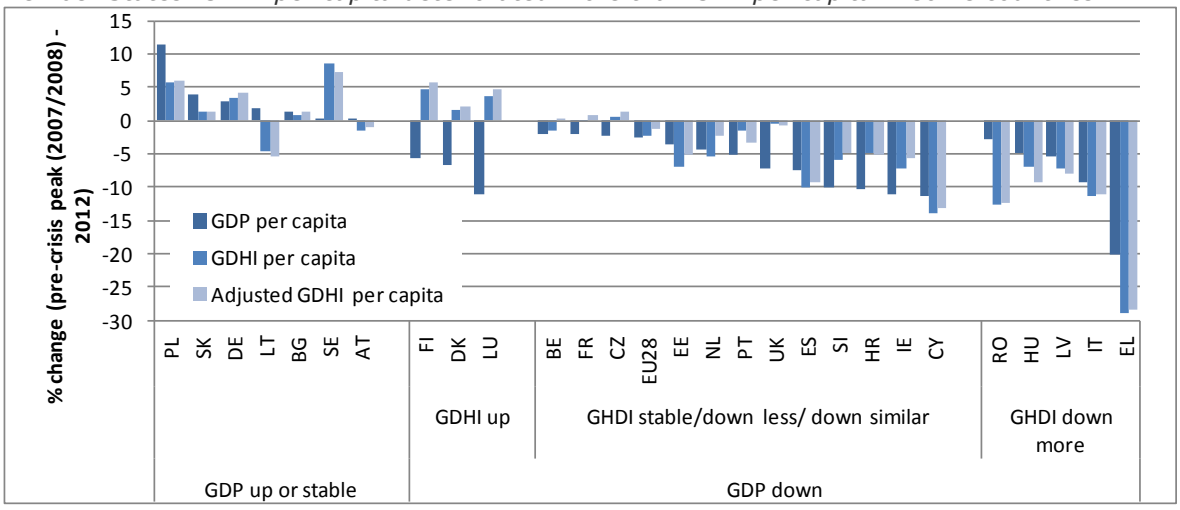
GDP, GDHI and adjusted GDHI per capita grew in real terms until 2007/2008 in all Member States. In one third of Member States, growth in GDHI/adjusted GDHI was slower than in GDP. Growth in adjusted GDHI was similar to or higher than GDHI (except for LV).



Source: Eurostat, National Accounts (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). Countries grouped by difference in GDHI-GDP, and sorted by GDP within the group. GDHI/adjusted GDHI: deflated by price index of household final consumption expenditure; BG, HR, IE and EU28 2002 instead of 2000, no data for MT and LU.

Chart 2: Growth in GDP per capita, GDHI per capita and adjusted (incl. in-kind services) GDHI per capita in EU Member States after the onset of the crisis, 2007/2008 – 2012

In 2012, GDP per capita and GDHI per capita have not returned to pre-crisis levels in most Member States. GDHI per capita deteriorated more than GDP per capita in some countries.



Source: Eurostat, National Accounts (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). GDP 2013-2014 data available but 2012 selected to compare with GDHI. Countries grouped by difference in GDHI-GDP, and sorted by GDP within the group. GDHI/adjusted GDHI: deflated by price index of household final consumption expenditure; RO 2011 instead of 2012, no data for MT.

2.3 Median equivalised disposable household income as a measure of the living standards of a 'typical' individual

While providing a better view of households' welfare, the GDHI per capita indicator (just as the GDP per capita) still refers to average incomes and therefore masks distributional differences. The first step in overcoming this and analysing how available resources are distributed across individuals or households is to look at the disposable income of the median individual,[14] as this is not affected by extreme values at the top of the income distribution. The disposable income of households includes income from work, social transfers, property income and other transfers, and is net of taxes. It is equivalised to take into account household size and structure. Median disposable equivalised household income better reflects progress in the middle of the income distribution.

Real median equivalised disposable household income is a measure based on the EU-SILC survey. Disposable household income is the total income of all household members (income of employees and the self-employed and the social benefits of all individuals, plus household's investments and social benefits, after tax and other deductions) that is available for spending or saving. These components are broadly similar to the components of GDHI; however differences in income exist in National Accounts in EU-SILC. It is equivalised in following way: total disposable income is divided by the number of 'equivalent adults' (sum of weights of each member according to their age, using the 'modified OECD equivalence scale' — 1.0 for the first adult, 0.5 for the second and each subsequent person aged 14 and over, 0.3 for each child aged under 14), and then attributed equally to each member of the household. Median is the amount of income that divides the equivalised disposable household income distribution into two equal groups, half having income above that amount, and half having income below that amount. Real median equalised disposable household income is adjusted by inflation (HICP).

Real median equivalised disposable household income is a measure of the living standards of a 'typical' member of society, but it does not take account of income in kind.

Real median equivalised disposable household income for each income quintile measures living standards at different parts of distribution, including at the bottom and the top.

In line with economic developments, the real median disposable equivalised household income expanded in all Member States between 2005 and 2007-2008.[15] This was especially the case in some of the new Member States (BG, EE LV, LT, PL SK), where the cumulative growth in median income exceeded the already very high cumulative growth in GDP per capita in that period (see Chart 3).

As a result of economic deterioration and employment losses, increases in unemployment and long-term unemployment, equivalised median income has declined in nearly all Member States at some point since the onset of the crisis. By 2011 it had still not reached the level of 2007-2008 in most countries. In particular, real median income declined significantly in EL, IE, LT, LV and ES, exceeding by far the decline in GDP per capita (see Chart 4).

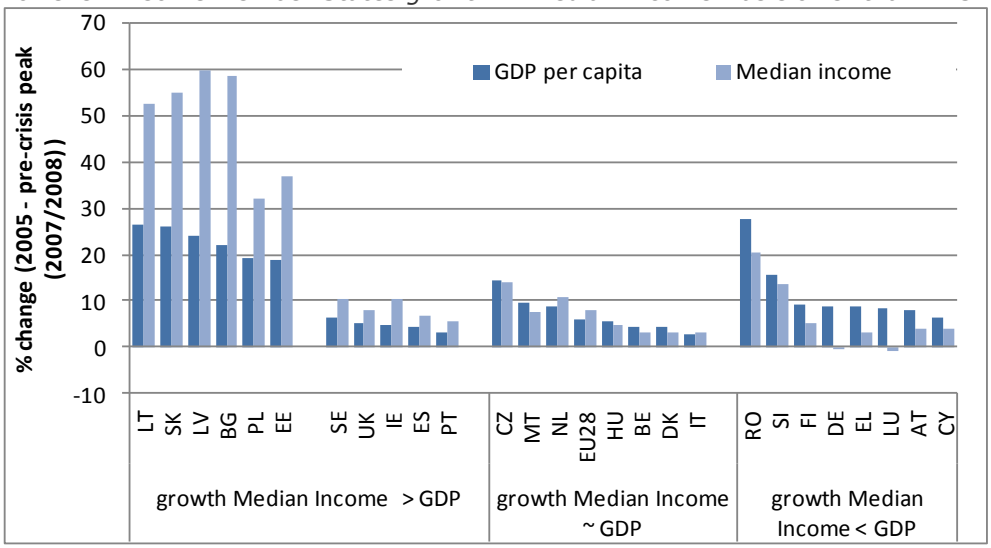
2.3.1 Median equivalised disposable household income per quintile, including measures of living standards at the 'bottom' and 'top'

It is also important to examine developments in the different parts of the income distribution, in particular at the bottom and at the top of the distribution, in order to have a better picture of the sharing of the benefits of economic growth (and likewise the distributional impact of a recession). The comparative analysis across the EU is complex. Section 3 will analyse real growth in median income per quintile for selected Member States.

[14] An income level where half of all individuals are above it, and half below.
[15] 2005 is selected due to SILC data availability, which differs for EU Member States.

Chart 3: Growth in GDP per capita and median income in EU Member States before the onset of the crisis, 2005 to 2007/2008

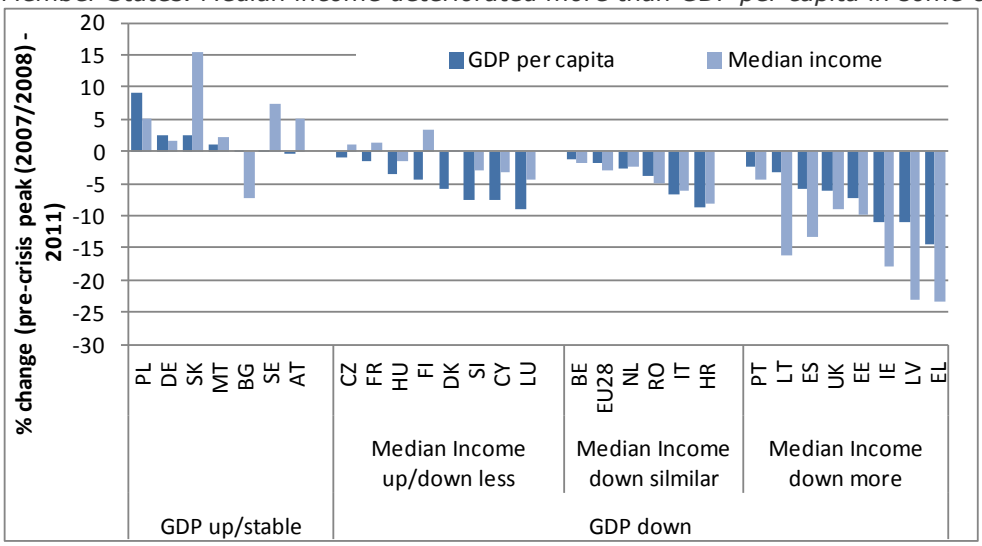
GDP per capita and median income grew in real terms until 2007/2008 in all Member States; however in some Member States growth in median income was slower than in GDP.



Source: Eurostat, EU-SILC (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). Countries grouped by difference in median-GDP and sorted by GDP within the group. Median income: deflated by inflation (HICP); years refer to income years not survey years; EU27 instead of EU28 for 2005-2008, DE and RO 2006 instead of 2005, no data for FR and HR.

Chart 4: Growth in GDP per capita and median income in EU Member States after the onset of the crisis, 2007/2008 to 2011

In 2011, GDP per capita and median income have not returned to pre-crisis levels in most Member States. Median income deteriorated more than GDP per capita in some countries.



Source: Eurostat, EU-SILC (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). GDP 2012-2014 available but 2011 selected to compare with median income. Countries grouped by difference in median-GDP, sorted by GDP within the group. Median income: deflated by inflation (HICP); years refer to income years not survey years; AT and UK 2010 instead of 2011.

2.4 Standard indicators of income inequality

Inequality in income distribution is captured by several well-established measures.[16] Deciding which indicator to use depends on which particular aspects of the differences in the income distribution are considered the most important, e.g. the gap between the income received by the top quintile compared to that received by the bottom quintile (S80/S20), or that of the top 10 % compared to that of the bottom 40 % (Palma ratio), or the extent to which the distribution of income among individuals differs from a perfectly equal distribution (Gini coefficient). Section 3 will analyse some of the inequality measures for selected Member States.

The **Gini coefficient** measures the extent to which the distribution of equivalised disposable income of individuals deviates from a perfectly equal distribution. A Gini index of zero represents perfect equality and 1 (or 100 %), perfect inequality. It is relatively insensitive to the tails of the income distribution, being more sensitive to changes around the mode, making it relatively robust as regards problems associated with the reliability of extreme values.

The **S80/S20 ratio (or the income quintile share ratio)** is the ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile). If S80/S20 is equal to x, the implication is that the average income of the richest 20 % of the population is x times higher than the average income of the poorest 20 %. This ratio represents an effective way to measure the distance between the extremes of a distribution. However, it ignores the information on income and income dispersion between the 20th and the 80th percentiles, which constitutes the majority of the population. The presence of extreme income values, belonging to either the upper or the lower tail of the income distribution, could produce a high value of the ratio even if the inter-quintile range 80/20 is fairly equitable.

The **Palma ratio (top 10 %/bottom 40 %)** is the ratio of the top 10 % of the population's share of income divided by the poorest 40 % of the population's share of income. It is based on the observation that, in countries at quite different income levels, the five 'middle' deciles (5 to 9) tend to capture around 50 % of national income. However, the other half of national income is shared between the richest 10 % and the poorest 40 %, but the share held by each varies considerably across countries. It may be a more relevant measure of inequality for poverty reduction policy as it is intuitively easier to understand than the Gini. For a given, high Palma value, it is clear that raising the share of national income of the poorest 40 % and/or reducing the share of the top 10 % narrows the gap.

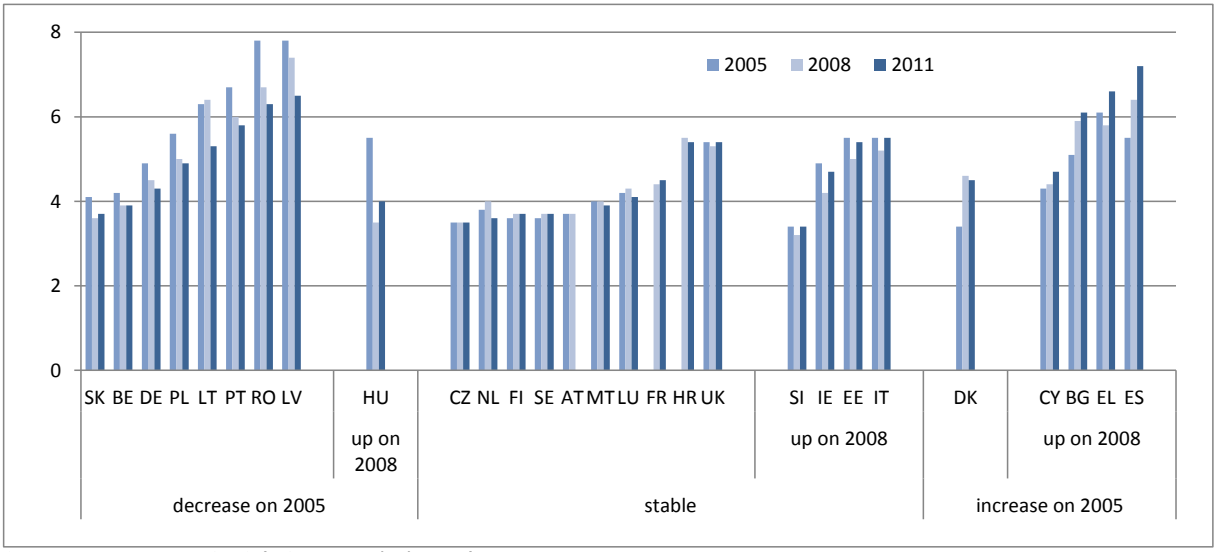
2.4.1 Gap between the top quintile compared to the bottom quintile — S80/S20 ratio

Country income inequality is commonly measured by the distance between the extremes of the income distribution — the income quintile share ratio S80/S20 (see box). Analysis of the S80/S20 shows a very mixed picture concerning recent developments in inequality across EU Member States between 2005 and 2011. Some countries (BE, DE, HU, LT, LV, PL, PT, RO and SK) experienced a trend toward greater equality of the income distribution; however the S80/S20 has increased since 2008 in HU. By contrast, in some countries (BG, CY, DK, EL and ES) the S80/S20 has increased since 2005, though it has been stable in DK since 2008. In a few others (SI, IE, EE, IT) inequality appears to have increased since 2008 after decreasing between 2005 and 2008. For the remaining countries there was little change in the income ratio or no decline below the 2005 level.

[16] Se Chapter 7 of ESDE 2013.

Chart 5: Income quintile S80/S20 ratio in 2005, 2008 and 2011

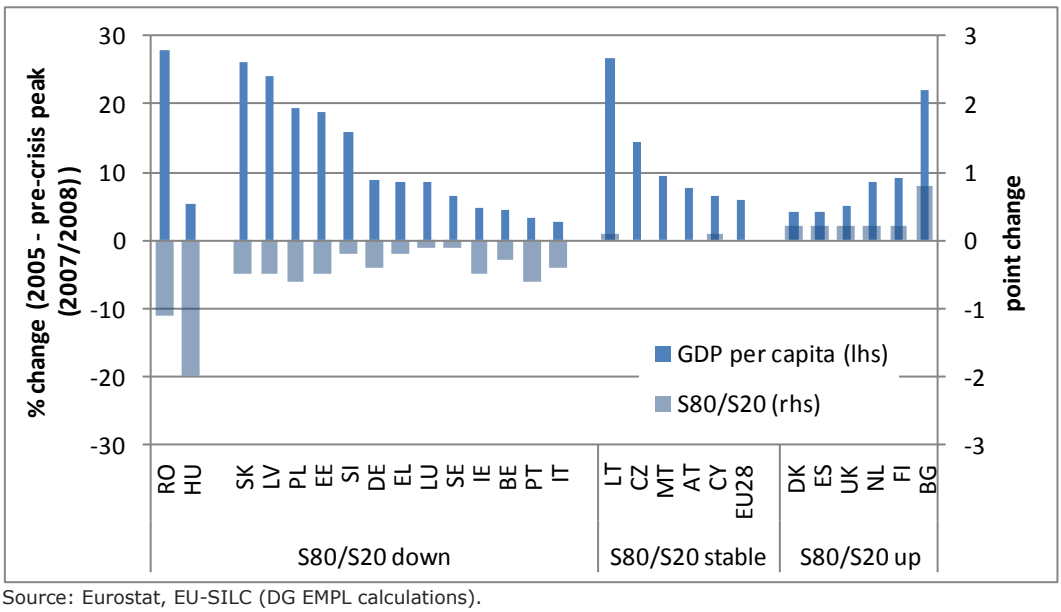
S80/S20 shows a mixed picture of recent developments in inequality across the EU.



Source: Eurostat, EU-SILC (DG EMPL calculations).
Note: Years refer to income years not survey years. Countries grouped by difference 2005-2011, and sorted by S80/S20 within the group. EU27 instead of EU28 for 2005 and 2008, DE and RO 2006 instead of 2005, FR 2007 instead of 2005, AT and UK 2010 instead of 2011.

Chart 6: Growth in GDP per capita and S80/S20 in EU Member States before the onset of the crisis, 2005 to 2007/2008

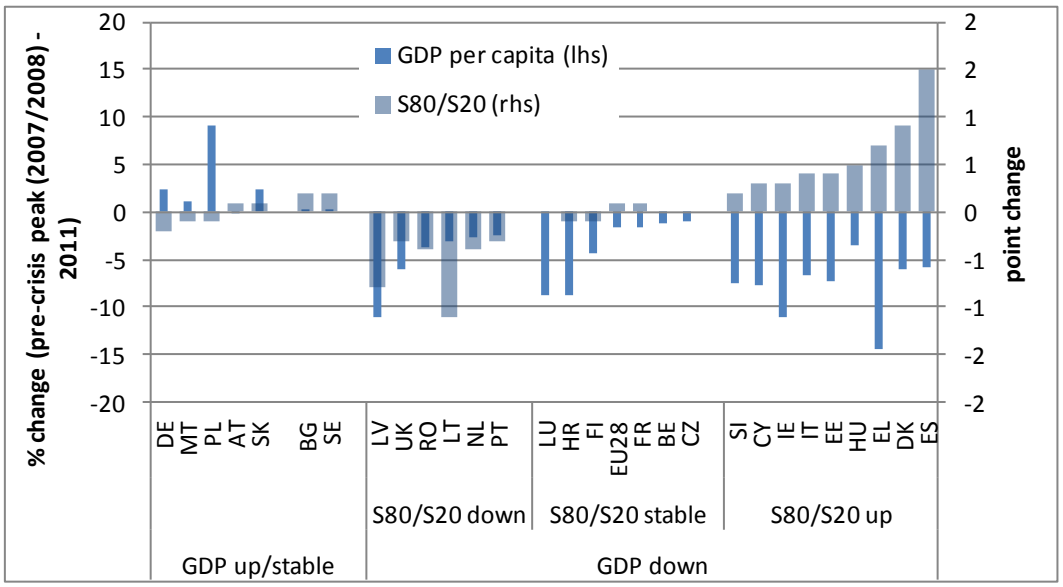
GDP per capita grew in real terms until 2007/2008 in all Member States. S80/S20 declined or remained unchanged in most Member States, and increased in a few countries.



Source: Eurostat, EU-SILC (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). Countries grouped by difference in S80/S20-GDP, and sorted by GDP within the group. S80/S20: deflated by inflation (HICP); years refer to income years not survey years; EU27 instead of EU28 for 2005-2008, DE and RO 2006 instead of 2005, no data for FR and HR.

Chart 7: Growth in GDP per capita and in the S80/S20 in EU Member States after the onset of the crisis, 2007/2008 to 2011

In 2011, GDP per capita has not returned to pre-crisis levels in most Member States. The S80/S20 increased significantly in some Member States.



Source: Eurostat, EU-SILC (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). GDP 2012-2014 available but 2011 selected to compare with S80/S20. Countries grouped by difference in S80/S20-GDP, and sorted by GDP within the group. S80/S20: years refer to income years not survey years; AT and UK 2010 instead of 2011.

2.5 Inequality-adjusted growth

Distributional variations in income across the population can be taken into account by adjusting GDP per capita data, or any other income variable. The most commonly used distributionally-sensitive measures of national income are those developed by Sen, Atkinson and Jenkins.[17]

For instance, inequality-adjusted GDP per capita (i.e. adjusted by the factor 1-Gini) enables a comparison to be made across countries in terms of the real per capita incomes of the first 70 % of the population.

Inequality-adjusted (1-Gini) GDP per capita is adjusted by the Sen index with the factor (1–Gini). Since a higher inequality implies a lower (1-Gini), this penalises regions or countries with higher inequalities, i.e. income is adjusted downwards if inequality measured by the Gini is high. The inequality-discounted GDP per capita (i.e. adjusted by the factor 1-Gini) can be interpreted as a measure of the relative per capita income of the first 70 % of a nation's population, and as such is a measure of the income of the 'vast majority' of the population.

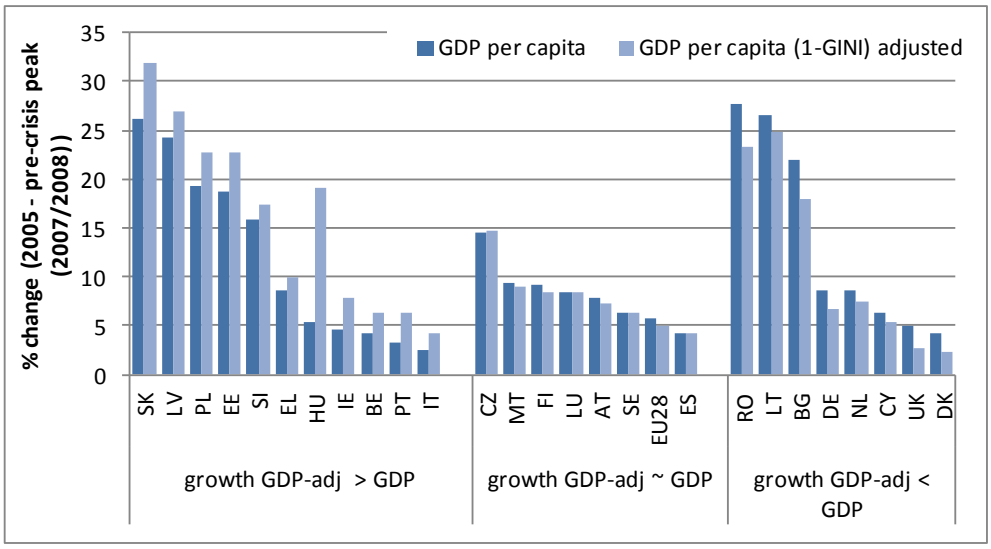
Both real GDP per capita and inequality-adjusted GDP per capita grew between 2005 and 2007/2008 in all Member States. In some Member States, however, inequality-adjusted GDP per capita grew faster, in some slower and in some at a similar pace (see Chart 8).

By 2011, most Member States still had an inequality-adjusted GDP per capita that was lower than that of 2007-2008, in response to the economic shock. However, the gap in growth between GDP per capita and inequality-adjusted GDP per capita varied across the EU. The largest differences in the decline in real inequality-adjusted GDP per capita and real GDP per capita were registered in HR and ES. Interestingly, some countries (LV, NL, PT and RO) managed to decrease inequality (see Chart 9).

[17] See Chapter 7 of ESDE 2013.

Chart 8: Growth in GDP per capita and inequality (1-Gini)-adjusted GDP per capita growth in EU Member States before the onset of the crisis, 2005 to 2007/2008

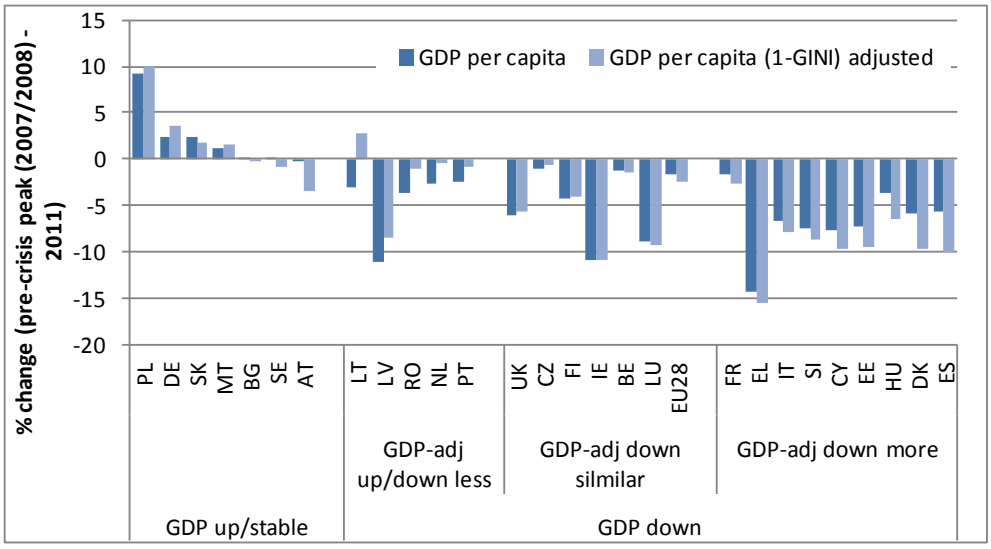
GDP per capita and inequality-adjusted GDP per capita grew in real terms before 2007/2008 in all Member States; however in some Member States, growth in inequality-adjusted GDP per capita was slower.



Source: Eurostat, National Accounts and EU-SILC (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). GDP (1-Gini) adjusted: years refer to income years not survey years; EU27 instead of EU28 for 2005-2008, DE and RO 2006 instead of 2005, no data for FR and HR.

Chart 9: Growth in GDP per capita and inequality (1-Gini)-adjusted GDP per capita in EU Member States after the onset of the crisis, 2007/2008 to 2011

In 2011, GDP per capita and inequality-adjusted GDP per capita have not returned to pre-crisis levels in most Member States. Deterioration in inequality-adjusted GDP per capita was greater than in some countries.



Source: Eurostat, National Accounts (DG EMPL calculations).
Note: Pre-crisis peak: 2007 (DK EE EL ES FI FR IE IT LU LV PT SE UK), 2008 (AT BE BG CY CZ DE HR HU LT MT NL PL RO SI SK). GDP 2012-2014 available but 2011 selected to compare with GDP (1-Gini) adjusted. GDP (1-Gini) adjusted: years refer to income years not survey years; AT and UK 2010 instead of 2011.

3. Developments in selected Member States

Overall, the analysis of 'beyond GDP' indicators reveals a mixed picture across the EU and across indicators. The relationship between economic growth, household income and inequality is a complex one, given different country features. In particular, the timing and depth of the recession, and subsequent adjustments in total household income and changes in income distribution, vary across Member States. This section examines the situation in selected Member States, while the annex contains charts for the remaining ones.

France

The French **economy** contracted strongly in 2009, has not recovered. and GDP stagnated in the first half of 2014. Real **GDP per capita** has been in decline —due partly to population growth, and remains below the pre-crisis level.
The effect of the economic shock on **household income** was initially well contained. Real GDHI per capita has been increasing (even in 2009 when employment contracted but social benefits and wages increased and taxes decreased[18]), only declining sharply in 2012. Social transfers in kind (included in adjusted GDHI) have also been increasing over the years and have added to household incomes (panel a).

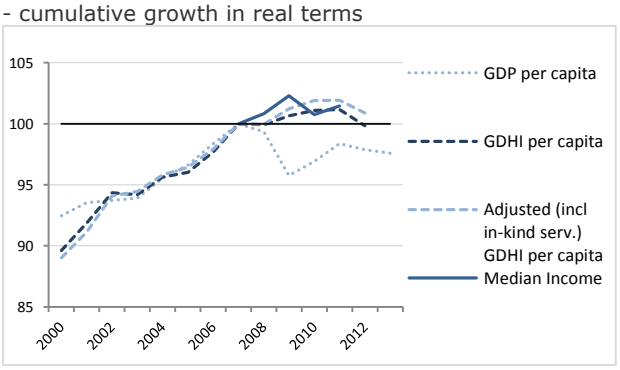
Median individual income improved slightly, following an improvement in disposable household income in 2009 despite the recession. Real median equivalised disposable household income remains slightly higher than in 2007, despite a large decline in 2010.
However, the incomes of **poorer individuals** have deteriorated considerably. Incomes[19] in the first and second quintiles have declined in real terms, and incomes in the bottom quintile in particular remain much lower than in 2007. By contrast, real incomes of wealthier individuals have remained above (for the fourth income quintile) or around the 2007 (the fifth top income quintile) level (panel b).

Inequalities increased slightly in 2010, but less compared to other Member States. The Gini rose above 30%, the S80/S20 reached 4.6, and the Palma ratio exceeded 1.1[20](panel c). Inequality-adjusted (1-Gini) real growth for GDP per capita had a similar pattern to real GDP per capita growth until 2009, but fell below it in 2010 (panel d).

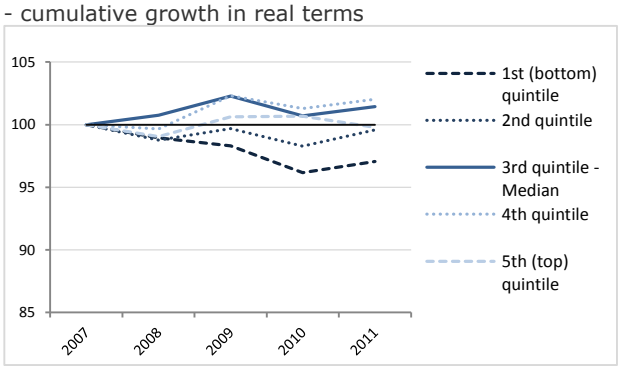
Nevertheless, the changes **in** GDHI per capita, median income and inequality indicators for France are low compared to changes in other Member States.

Chart 10: Indicators for France

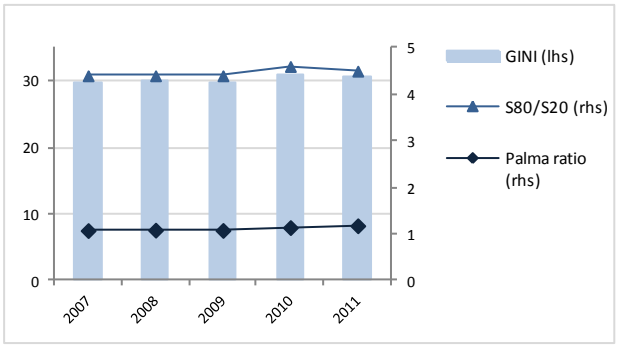
a) Economic growth and income growth
- cumulative growth in real terms



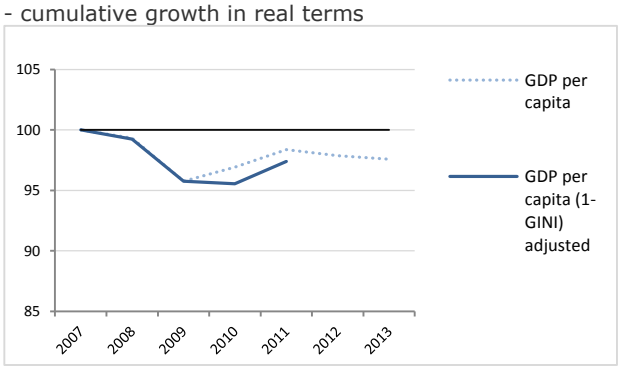
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2007 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[18] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[19] More precisely, median incomes of each quintile are analysed.
[20] OECD estimates of GINI and S80/S20 are lower than Eurostat ones for 2007-2010 but higher for 2011.

Germany

The German **economy** contracted very strongly in 2009 wiping out the progress made since mid-2000. It had recovered well by 2011 but economic output recently saw a decline. **GDP per capita** has followed the same path (since changes in population have been negligible) — it recovered and remained higher than in 2006, only stagnating since the beginning of 2013.
The effect of the economic shock in 2009 on **household income** was well contained. Real GDHI per capita has almost constantly been on an upward trend (remaining stable in 2009 due to limited employment redundancies and an increase in social benefits[21]). Social transfers in kind (included in real adjusted GDHI) have been increasing continuously, gaining especially in 2009, and have added to household incomes (panel a).

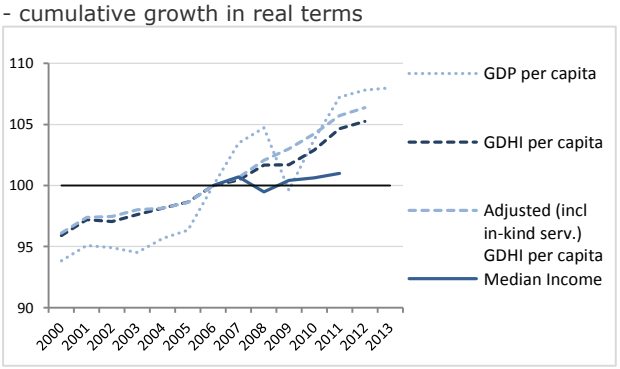
The evolution of **median individual** income has been more modest than that of the economy. Real median equivalised disposable household income remains very close to the level observed in 2006. Looking at the distribution tails, Germany has seen some cumulative improvement in the incomes of the **poorest individuals** measured by real income[22] in the first quintile and a stagnation of incomes of the 20% richest individuals (panel b).

Inequalities have largely been declining since 2006.[23] In 2011, the Gini fell by 2 points to below 30%, the S80/S20 went down to 4.3, and the Palma ratio stood at 1.1 (panel c). Progress made in reducing inequality resulted in the inequality adjusted (1-Gini) real growth for GDP per capita being higher than the unadjusted figures since 2008 (panel d).

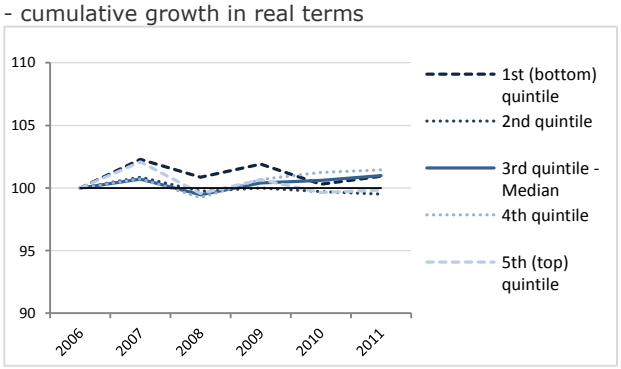
Overall, developments in the 'GDP and beyond' measures in Germany have recently been better than in other Member States.

Chart 11: Indicators for Germany

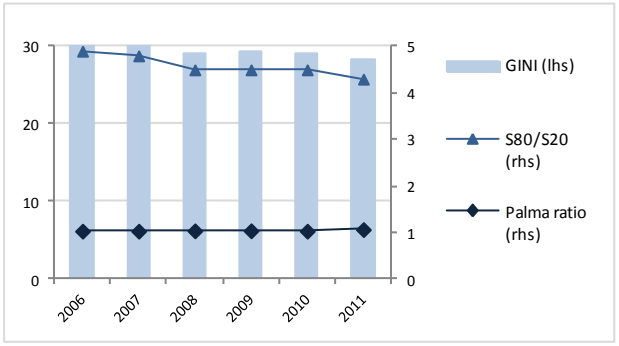
a) Economic growth and income growth
- cumulative growth in real terms



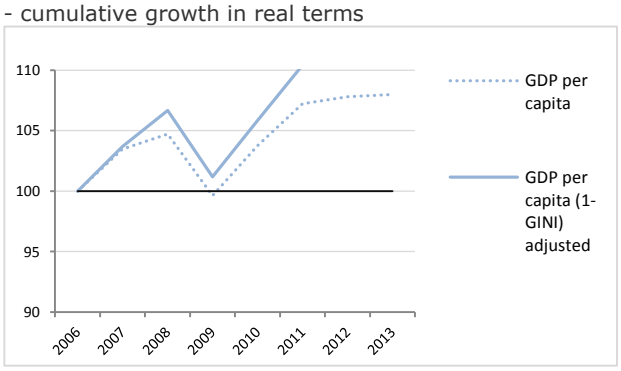
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2006 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[21] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[22] More precisely, median incomes of each quintile are analysed.
[23] However, OECD estimates of GINI and S80/S20 are lower than those of Eurostat for 2006-2010 but higher for 2011, implying an increase in inequality in 2011.

Greece

The Greek **economy** grew more than that of most other Member States until 2007, but then went into a severe recession. **GDP per capita** has followed the same path (since changes in population have been negligible) — it has been in decline and remains much below the pre-crisis peak, receding to the 2000 level.

The effect of the economic shock on **household income** has been severe. Between 2004 and 2007, household income improved faster than the economy, but since then real GDHI per capita, has been in continuous decline, which has been particularly strong since 2010 (when cuts in social benefits accompanied large declines in income from work[24]). Social transfers in kind have also been cut sharply since 2010, and adjusted GDHI per capita has declined at the same pace as GDHI to the 2000 level (panel a).

Median individual income has tracked economic and total income growth, although the positive changes were smaller and negative ones larger. Real median equivalised disposable household income generally improved from 2003 to 2009, but all progress was wiped out in 2010 and 2011.

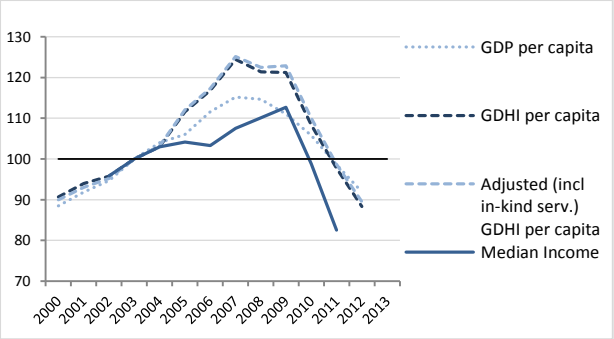
Incomes of the **poorest individuals** have suffered the most. Real income[25] in the bottom quintile has declined the most and remains 30 points lower than in 2003. Real incomes of individuals in other quintile groups have also declined, but not as much, and remain 20 points lower than in 2003 (panel b).

Inequalities have increased since 2010. The Gini rose to nearly 35%, the S80/S20 reached 6.6, up 1 point on 2009, while the Palma ratio remained stable at 1.3[26] (panel c). Inequality-adjusted (1-Gini) real growth for GDP per capita followed a similar pattern to real GDP per capita growth until 2009, and started to drop below it in 2010-2011 (panel d).

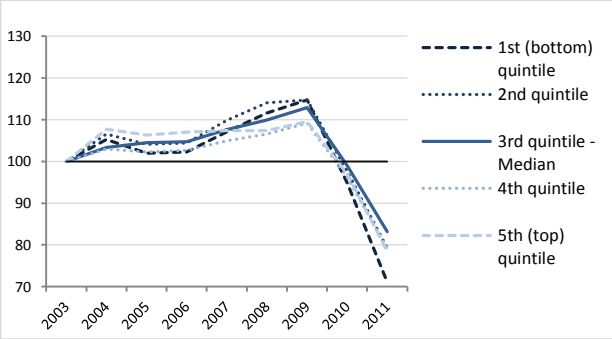
Overall, economic developments and decreases in GDHI per capita and median income in Greece, along with the recent increase in inequality, have been the most severe in the EU.

Chart 12: Indicators for Greece

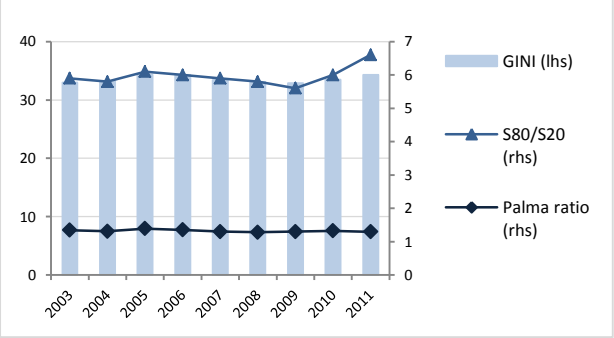
a) Economic growth and income growth
- cumulative growth in real terms



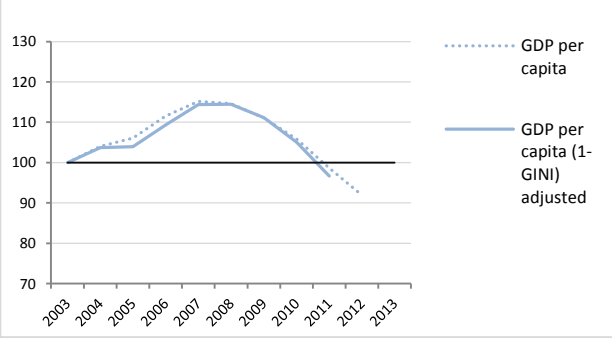
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2003 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[24] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[25] More precisely, median incomes of each quintile are analysed.
[26] OECD estimates of GINI and S80/S20 are similar to those of Eurostat for 2003-2010 but lower for 2011.

Italy

The **economy** grew less than that of many other Member States until 2007, and up until now, Italy has been experiencing a double-dip recession. The decline in **GDP per capita** has been even greater, partially due to population growth, and real GDP per capita has receded to the mid-90 level.
The effect of the economic shock on **household income** has been severe. After a period of modest improvement up to 2007, real GDHI per capita has been on a continuous decline (due to cuts in income from work and in property incomes, despite large support in the form of social benefits in 2008-2010[27]). Social transfers in kind have been cut back since 2007, and adjusted GDHI per capita declined slightly faster than GDHI, to the lowest level since data became available (panel a).

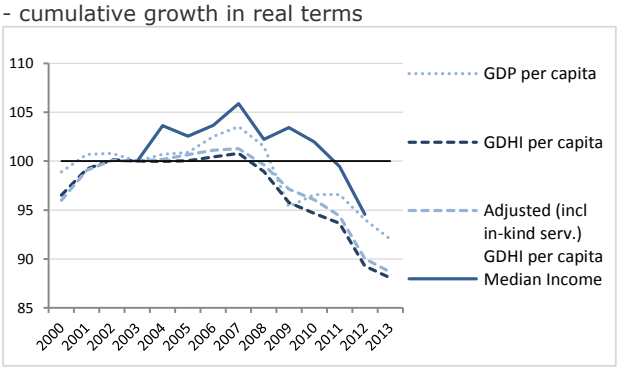
Median individual income has tracked economic and total income growth, although there were more positive changes (as measured by the EU-SILC). Median equivalised disposable household income generally improved until 2007 in real terms, but the subsequent declines wiped out all progress that had been made since data became available.
Incomes of **poorer individuals** have greatly deteriorated. Real income[28] in the bottom quintile deteriorated the most and remains much lower than in 2007, erasing any notable progress made since 2003. However, real incomes of most wealthy individuals, which had not been evolving fast in the pre-crisis level, also declined (panel b).

Inequalities between the richest and the poorest have increased since 2010. The Gini rose slightly to 32.5% and the Palma ratio remained stable at 1.2, but the S80/S20 reached 5.7, up 0.5 point on 2007[29] (panel c). Progress was made in reducing inequality, resulting in the inequality adjusted (1-Gini) real growth for GDP per capita being higher than for unadjusted figures until 2007, but recent increases in the Gini have brought both the downward curves closer together (panel d).

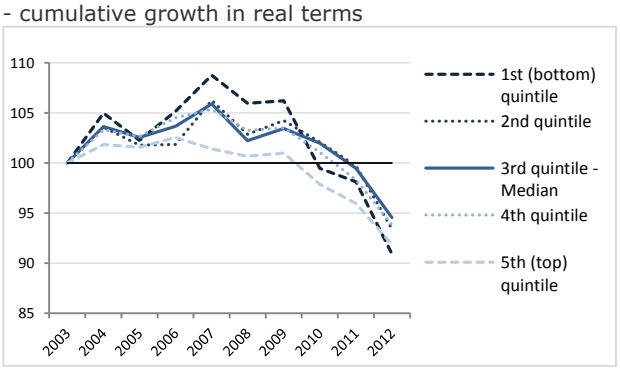
Overall, economic developments and decreases in GDHI per capita and median income in Italy have been one of the worst in the EU, and inequality has returned to mid-2000 level.

Chart 13: Indicators for Italy

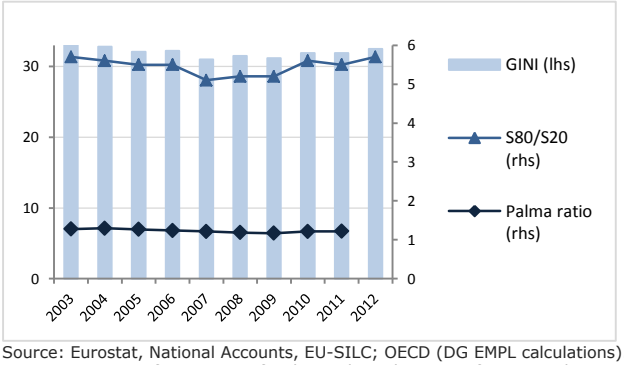
a) Economic growth and income growth
- cumulative growth in real terms



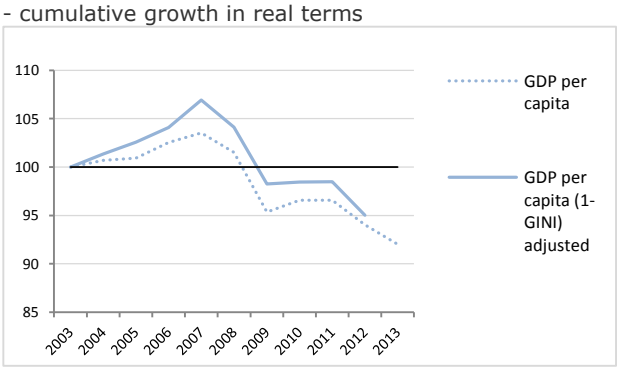
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2003 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[27] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[28] More precisely, median incomes of each quintile are analysed.
[29] OECD estimates of GINI and S80/S20 are similar to those of Eurostat ones.

Portugal

The **economy** grew less than that of many other Member States until 2007, and it is uncertain whether Portugal is out of the double-dip recession. **GDP per capita** has followed the same path (since changes in population have been negligible) — it receded to the level of the late 90s.
The effect of the economic shock on **household income** was initially well contained, only becoming severe in the second phase of the recession. After a period of slow improvement until 2007, real GDHI per capita has been in continuous decline (due to large cuts in income from work[30]). Social transfers in kind have been cut sharply since 2010, and adjusted GDHI per capita has receded to 2000 levels (panel a).

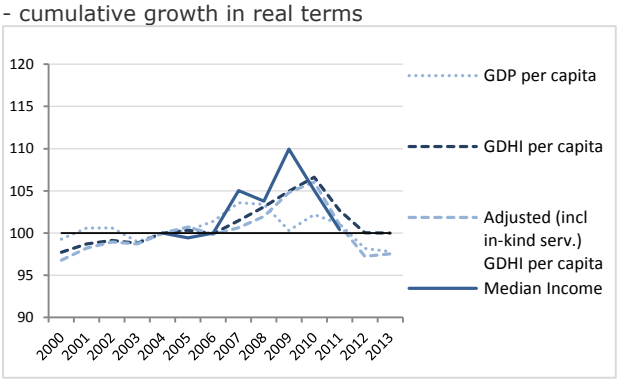
Median individual income has tracked economic and total income growth, although there were more positive changes (as measured by the EU-SILC). Real median equivalised disposable household income generally improved until 2009, but subsequent declines have erased progress.
The incomes of **poorer individuals** and in other quintiles except the top one have improved considerably until 2009, before steep declines in 2010-2011. Nevertheless, incomes[31] in all but the top quintile remain higher than or at similar level as in 2004 in real terms. Real incomes of most wealthy individuals have generally declined (panel b).

Inequalities had generally been in decline between 2004 and 2009,[32] and remained unchanged since then, but are still among the highest in the EU. The Gini went down from 38 % to 34 %, the S80/S20 went down from 7 to just above 5.5, while the Palma ratio went down to 1.4 (panel c). Progress in reducing inequality has resulted in the inequality adjusted (1-Gini) real growth for GDP per capita being higher than for unadjusted figures (panel d).

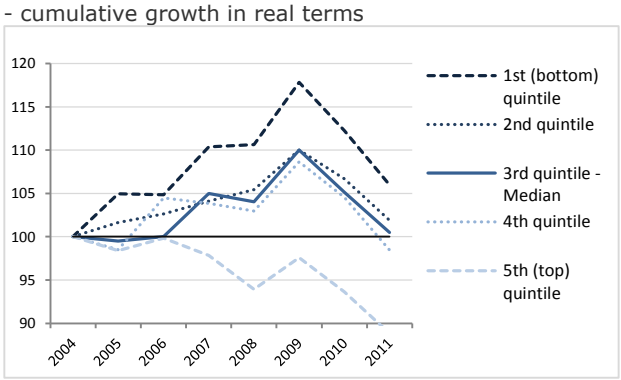
Overall, cumulative decreases in GDHI per capita and median income in Portugal have been moderate compared to other Member States, but inequality remains among the highest in the EU.

Chart 14: Indicators for Portugal

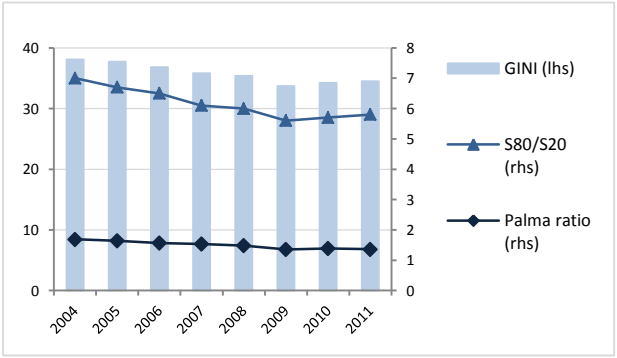
a) Economic growth and income growth
- cumulative growth in real terms



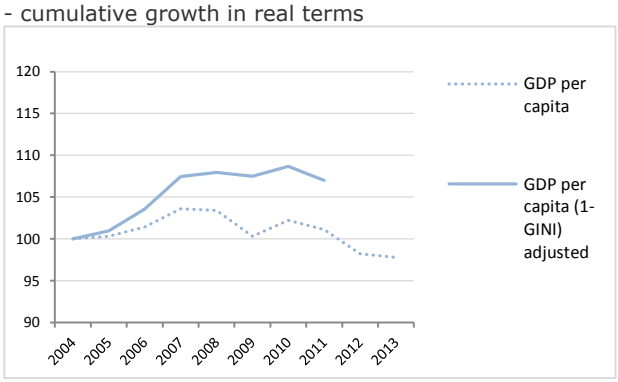
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2004 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[30] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[31] More precisely, median incomes of each quintile are analysed.
[32] OECD estimates of GINI and S80/S20 are similar to those of Eurostat ones.

Spain

The Spanish **economy** went through a strong double-dip recession, wiping out the progress made since mid-2000, but there have been signs of recovery since mid-2013. Real **GDP per capita**, on an upward trend until 2009, has been declining more strongly since 2008, partially due to population growth, receding to 2002-2003 levels.
The effect of the economic shock on **household income** was initially well contained. Real GDHI per capita increased initially (even in 2009 when employment contracted and income from work decreased but social benefits increased and taxes decreased[33]), but has declined sharply since 2010, to early 2000 levels. Social transfers in kind (included in the adjusted GDHI) also increased over the years, especially in 2009, adding to household incomes, but have declined sharply since 2010 (panel a).

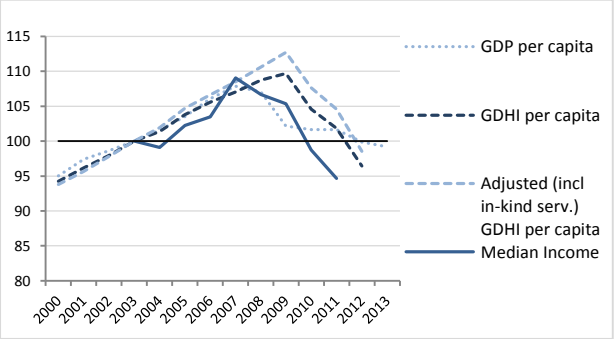
Median individual income has largely tracked economic and total income growth, although positive changes were smaller and it declined earlier. Real median equivalised disposable household income generally improved until 2007, but subsequent declines wiped out any improvement by 2011, bringing it to a level not observed since data became available.
Incomes of the **poorest individuals** have suffered the most. Real incomes[34] in the first and second quintiles have declined the most and remain almost 20 and 10 points lower than in 2003. Real median incomes of individuals in richer quintile groups have also declined, but not as much and are no lower than in 2003 (panel b).

Inequalities surged in 2009 and are the highest in the EU. The Gini rose to 35%, the S80/S20 reached 7.2, up 1.5 points on 2008, while the Palma ratio remained more stable at 1.3[35] (panel c). Inequality-adjusted (1-Gini) real growth for GDP per capita increased slightly more slowly than real GDP per capita growth until 2007, but started to deteriorated faster in 2009 (panel d).

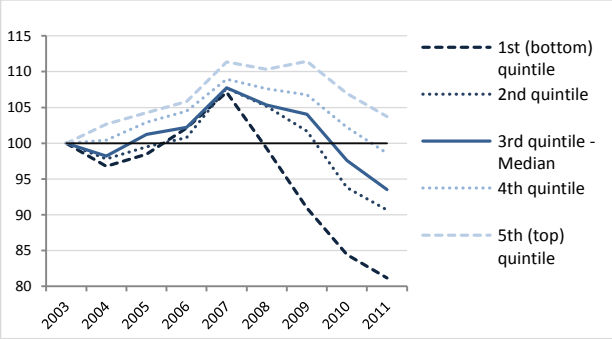
Overall, economic developments and decreases in GDHI per capita and median income in Spain have recently been among the most severe, and inequality is the worst in the EU.

Chart 15: Indicators for Spain

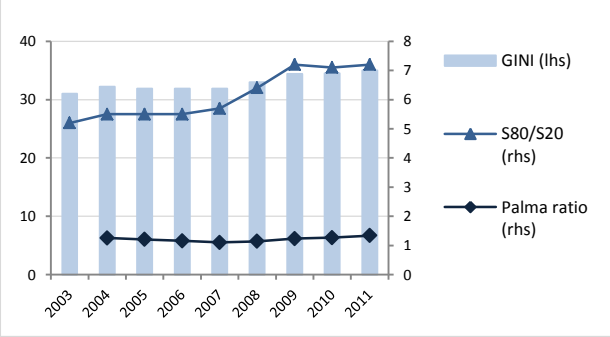
a) Economic growth and income growth
- cumulative growth in real terms



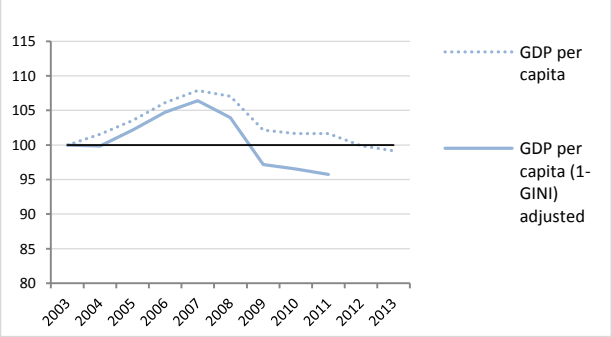
b) Median income growth within quintiles
- cumulative growth in real terms



c) Income inequality



d) Growth and inequality adjusted growth
- cumulative growth in real terms



Source: Eurostat, National Accounts, EU-SILC; OECD (DG EMPL calculations).
2003 =100 as a reference year for the analysis, because of EU-SILC data availability. SILC income years not survey years.
GDHI deflated by price index of household final consumption expenditure; median incomes deflated by inflation (HICP).

[33] See the annex in the recurrent part of the ESSQR for quarterly developments in GDHI.
[34] More precisely, median incomes of each quintile are analysed.
[35] OECD estimates of GINI and S80/S20 are lower than those of Eurostat ones for 2007-2011.

European Commission

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