CHAPTER 1

Main Employment and Social Developments

1. INTRODUCTION ([1])

In 2017 and early 2018 the pace of economic recovery in the EU accelerated. Economic growth was faster, spread across more Member States and broadened its sectoral base. Domestic demand remained the main growth engine, supported by investment growth and expansion in private consumption. Net exports performed strongly in 2017, supported by robust global trade. Over the coming years, the expansion is set to remain solid, broad-based across sectors and countries, and increasingly self-sustaining.

Economic growth has been a fertile ground for labour market conditions, which continued to improve in 2017 and early 2018. The numbers of people in employment reached new record levels, well above those observed before the economic and financial crisis which started in 2008. ([2]) In 2017 over three and a half million people more were in employment in the Union, compared with 2016. The positive trend continued in early 2018: in the first quarter, there were 237.9 million people in employment. In line with these developments, participation in the labour force increased and unemployment continued to diminish in practically all Member States. By April 2018 the unemployment rate had dropped to 7.1% in the EU, its lowest level since September 2008.

Improved labour market conditions have continued to benefit the social situation in the EU. In particular, there has been a slow yet uninterrupted reduction in poverty. In 2016 there were 118 million people at risk-of-poverty or social exclusion (AROPE), one million fewer than in 2015 and 5.6 million fewer than at its peak in 2012.

Nonetheless, the European economy's known challenges persist, especially in the euro area Member States hardest hit by the crisis.

- Productivity made only modest gains in 2017
- Large disparities in labour market performance persist
- Income inequality in the EU has largely stabilised, while the number of people in AROPE remains well above the Europe2020 strategic target.

This chapter will review the main economic developments and analyse their implications for the labour market and society. Indicators based on the latest available data will show the macroeconomic, labour market and social situation and trends for the EU, euro area and Member States. Attention will also be given to the dynamics of convergence in the EU.

The analysis in this chapter complements the findings from the Social Scoreboard. ([3]) The Social Scoreboard accompanies the European Pillar of Social Rights. Its role is to help screen the performances of Member States in the employment and social field. The Social Scoreboard provides a number of indicators to gauge progress along the three dimensions of the Social Pillar: (i) equal opportunities and access to the labour market; (ii) dynamic labour markets and fair

([1]) This chapter was written by David Arranz, Petrica Badea, Magdalena Grzegorzewska and Argyrios Pisiotis.

([2]) Henceforth referred to as "the crisis" or "the Great Recession."

([3]) See European Commission (2017f).

working conditions; and (iii) public support/social protection and inclusion. The Scoreboard was used for the first time to support EU policy guidance in the framework of the European Semester 2018. ([4])

2. A FAVOURABLE MACROECONOMIC ENVIRONMENT

Economic activity continued to expand in both the EU and the euro area. The largely synchronised expansion of the global economy at an annual pace of 3.7% in 2017 (up from 3.0% in 2016) helped to offset the disadvantageous effect of euro appreciation on exports. The resilience of net exports contributed to the upswing in investment. It also shielded labour demand in export-strong economies from potential negative second-round effects. These positive macroeconomic developments supported improvements in the labour market throughout 2017. This was so in spite of certain exogenous and endogenous risks forecast earlier. ([5]) Developments in 2017 strengthened the positive outlook, with economic sentiment rebounding very markedly.

2.1. Stronger and more balanced GDP growth

The EU economy grew faster in 2017 than forecast earlier. ([6]) Growth rose to 2.4% in both the EU and in the euro area. ([7]) After the double-dip recession (2009 and 2012), the EU and euro area economies regained their GDP pre-crisis peaks in 2013 and 2014 respectively and have been growing steadily since *(Chart 1.1).* By the fourth quarter of 2017, quarter-on-quarter growth of at least 0.6% had been observed for five consecutive quarters. In the first quarter of 2018 this pace moderated only slightly, to 0.4%. Growth in other major developed economies also accelerated in 2017 but at a slower pace than in the EU: the US economy grew at 2.3% (up from 1.5% in 2016) while Japan's economy expanded at 1.7% annually (up from 1.0% in 2016). ([8]) At an annual rate of 2.4% in 2017 (up from 1.8% in 2016), the growth of OECD economies mirrored output growth in the EU. ([9]) Private consumption remained the key driver of economic expansion in the EU, supported by the improving employment situation, rising disposable incomes, and inflation which continued to hover below policy target values. Yet its contribution to overall economic growth declined relative to 2016, as did that of government expenditure.

Annual investment growth in the EU strengthened notably in 2017, accounting for roughly one third of the annual growth in output. Gross fixed capital formation made a stronger contribution to growth in 2017 than in any other year since the beginning of the crisis (see *Chart 1.2*). There were also qualitative elements in the 2017 investment upswing (such as the good performance of investment in equipment in the euro area) which bode well for its multiplier impact on economic growth. ([10]) Favourable financing conditions, buoyant business confidence, the lower levels of debt of non-financial companies, as well as the Investment Plan for Europe were among the supportive factors in this respect. ([11]) But other factors, such as the decreasing but still high levels of sovereign and private debt overhang in some Member States, ([12]) may be holding investment back from realising its full potential. Nonetheless, the performance of gross fixed capital formation in 2017, reflecting modernisation trends, makes for a positive investment outlook in 2018. ([13])

Investment increased in all Member States. In 2017 investment accounted for 20.3% of total EU output (19.8% in 2016). ([14]) The annual growth rate for investment reached 3.8% in the EU, the highest point in over a decade. ([15]) The largest annual increases in investment were registered in some of the Member States that had been hardest hit by the crisis (27.8% in Cyprus, 16% in Latvia, 9.6% in Greece, 9% in Portugal, 5% in Spain, while investment increased by 16.8% and 13.1% in Hungary and Estonia respectively). In these countries, a continuation of this positive trend could support sustainable output expansion, as long as this notable rise in investment does not signify a return to risk-laden pre-crisis trends

([4]) See European Commission (2018e).

([5]) The European Commission's *Spring 2017 European Economic Forecast* saw an improvement in the risk outlook relative to the Winter 2017 forecast, but still qualified 2017 risks as "tilted to the downside."

([6]) For instance, the European Commission's *Spring 2017 European Economic Forecast* expected annual economic growth of 1.9% in 2017.

([7]) See European Commission (2018d), p.1.

([8]) See European Commission (2018d), pp. 144-146.

([9]) Source: OECD data.

([10]) See European Commission (2018d), pp. 33-34 and European Commission (2017b), pp. 36-38.

([11]) As of March 2018, the operations approved under the Investment Plan for Europe were expected to trigger EUR 274 billion in investment. Among other investments, over half a million small-and-medium-sized enterprises are expected to benefit from measures enhancing access to finance. See European Commission (2018d), p. 33.

([12]) This includes the still high stock of non-performing loans (NPLs) in some countries.

([13]) The European Commission (2018d), pp. 26, 33 expects gross fixed capital formation to grow by 4.2% in 2018 in the EU and equipment investment in the euro area to grow by 6.1% in 2018.

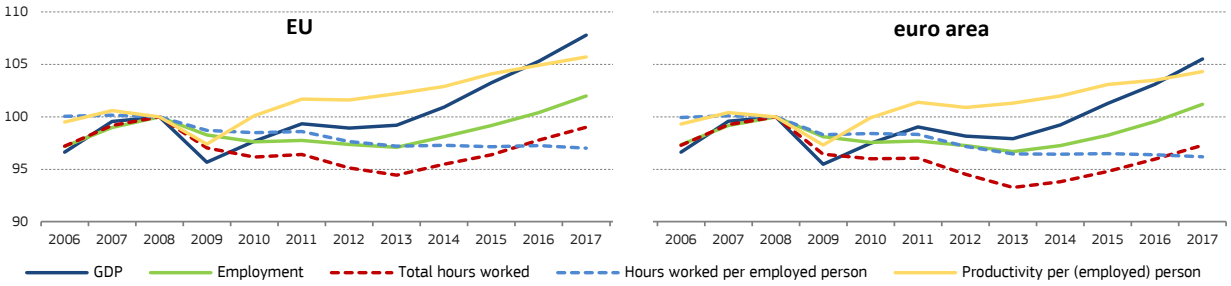
([14]) The euro area benefited from faster growth in investment than the EU as a whole, with investment rising to 20.5% of the currency union's gross domestic product in 2017 (up from 20.1% in 2016) without approaching pre-crisis levels (22.2% in 2008), which were partly due to unsustainable trends such as asset bubbles, especially in the construction sector.

([15]) This outcome was stronger when excluding the highly volatile developments in the Irish economy. This is due to a 36% quarter-on-quarter drop in fixed capital formation in Ireland in the third quarter of 2017 (due to a statistical re-classification of certain activities of multinational enterprises) which resulted in an overall quarter-on-quarter contraction of investment by 0.3% in the euro area. The volatility in the performance of investment in Ireland continued in the fourth quarter of 2017, when investment expanded by 6.1%. See European Commission (2018d), p.32; European Commission (2017b), p.36; and European Commission (2018c), p.5.

Chart 1.1

Productivity rises slowly in a context of robust output and employment growth, while hours worked per person employed have not rebounded and may be on a long-term decline accelerated by the crisis

Growth in real GDP, real productivity, employment and hours worked (cumulative change - index 2008=100), EU and euro area



Source: Eurostat, National Accounts [nama_10_gdp, nama_10_a10_e, nama_10_lp_ulc]

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(such as investment in dwellings and the resulting housing asset bubbles). Productive investment could help to absorb unutilised labour supply, raise productivity and thus smooth out differences in labour market situations across countries.

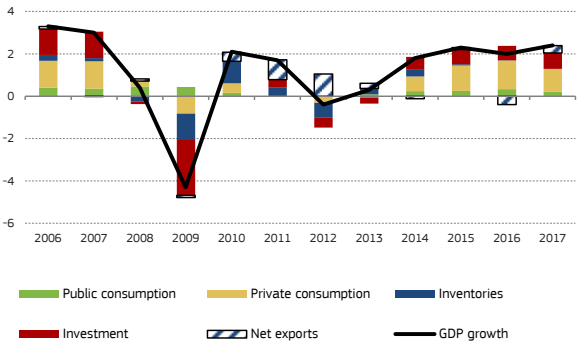
The external balance of goods and services rebounded strongly, accounting for 14.5% of overall economic expansion in 2017. In fact, the contribution of net exports to growth was the highest since 2013. This is the result of both a leap in export growth and a continuation of the previous downward trend in imports, despite the appreciation of the euro (*Chart 1.2*). While each Member State's share of total EU exports remained largely stable, ([16]) several Member States contributed particularly to this year's outcome. The Netherlands, Ireland, Denmark, Poland, Austria, Slovenia and Slovakia registered increases in the external balance of goods and services relative to 2016. The compositional change in EU-level GDP expansion also implies a greater sensitivity in the growth outlook to the degree of openness of world trade. The strengthening US resolve to pursue protectionist policies in trade relations with major partners, including the EU, signals potentially strong limitations to the future contribution of the EU's trade balance to economic growth.

([16]) As in previous years, Germany ranks at the top of Member States' shares of total EU net exports, followed by France and the Netherlands.

Chart 1.2

GDP increases faster, supported by rising investment and a strong external balance

Real GDP growth (% change on previous year) and contribution of its components, EU



Note: Investment here is defined as gross fixed capital formation, not gross capital formation, which would also include changes in inventories and acquisitions less disposals of valuables in a unit or sector.

Source: Eurostat, National Accounts [nama_10_gdp]

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Sustained economic growth is expected over the next two years in all Member States. According to the European Commission Spring 2018 Economic Forecast released in May 2018, real GDP growth in the EU and the euro area is projected to remain robust at 2.3% in 2018 and to moderate slightly to 2.0% in 2019. ([17]) Economic activity is set to increase in all Member States over the forecast period, buoyed by improved consumer and business sentiment and the positive feedback of rising investment and employment expansion.

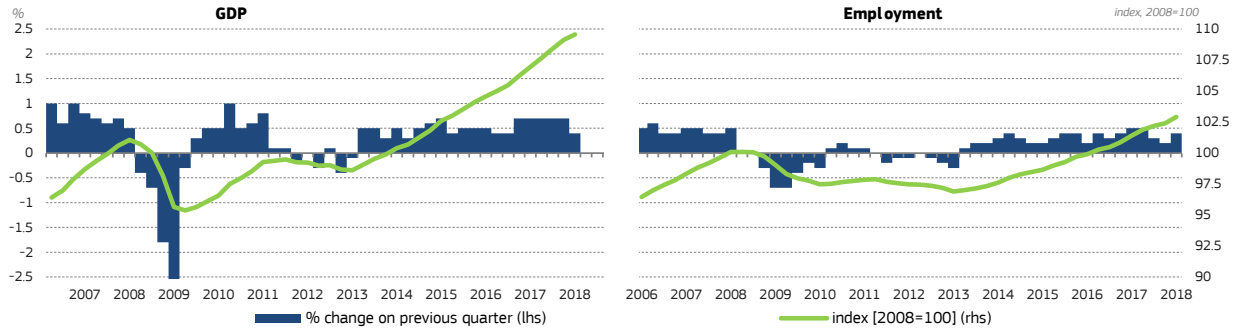
Nonetheless, certain earlier risks persist, while the year 2018 ushered in new risks as well. Remaining risks relate mainly to international and domestic security challenges as well as the strenuous political processes and business decision-making generated by Brexit. New risks include a potential faster tightening of US monetary policy by the Federal Reserve or a sharp correction in the assessment of asset valuation and credit risk by global financial markets, which could also curb the upswing in economic activity. There would be a similar effect from

([17]) See European Commission (2018d), pp. 1, 26-29.

Chart 1.3

Accelerating GDP growth accompanied by continuous employment growth

Real GDP growth and employment growth (% change quarter on quarter and cumulative change - index 2008=100), EU



Source: Eurostat, National Accounts [namq_10_gdp, namq_10_pe]. Data seasonally adjusted.

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an amplification of protectionist policies by the US or other non-EU governments. Also, the recent changes in US tax legislation, including the lowering of the corporate tax rate from 35% to 21%, may have adverse effects on business investment in the EU in the medium- to long-term.

2.2. Uninterrupted employment growth accompanies faster economic expansion

Employment in the EU continued to expand throughout 2017 to reach the highest level ever recorded. Following its decline from 2008 through 2013, employment has grown at a robust pace. It had surpassed its pre-crisis high point by mid-2016 in the EU and by the end of 2016 in the euro area (*Chart 1.3*). The pace of employment growth in 2017 rose to 1.6%. In 2017, the number of employed people was 235.8 million (155.9 million in the euro area). ([18]) In the first quarter of 2018 this number rose further to 237.9 million. This compares with 231.2 million in 2008. This expansion notwithstanding, Greece and Latvia still record employment levels more than 10% below their respective 2008 peaks, while in Lithuania, Spain, Croatia and Bulgaria the numbers of employed people still fall well short of the levels observed in 2008. ([19])

Employment growth in 2017 was more in line with the faster growth in gross domestic product (see *Chart 1.3).* In 2015 and 2016 employment grew faster than expected on the basis of economic expansion but the latter's stronger performance in 2017 has made this relationship more balanced. As analyses by the European Commission and the ECB show, ([20]) the earlier high responsiveness of employment (in number of people employed) to economic growth could be attributed, among other factors, to the declining trend in hours worked per employed person due to increased part-time work, as well as to a shift of activity towards the more labour-intensive service sectors. ([21]) In some Member States structural reforms have played a role in supporting employment expansion. ([22])

Employment growth in 2017 outperformed earlier forecasts. ([23]) It accelerated to 1.6% in 2017, both in the EU and the euro area. ([24]) The expansion is expected to continue in all Member States, prompted by growth in domestic demand, moderate but steady wage growth and in some Member States by structural reforms.

Since 2013, the recovery in the EU has been job-rich but not particularly hours-rich. The volume of total hours worked in the economy decreased in the EU and in the euro area until 2013, absorbing output contraction. Since 2015, total hours worked have been increasing but are not yet back to their 2008 peak levels (see *Chart 1.1*). This may be an indication of remaining slack in the labour market. On the other hand, hours worked per person in 2017 marked a slight decline (0.3%) relative to the previous year and were still at a level approximately 3.0% lower than in 2008. This was not a stand-alone annual decrease in hours worked per person but one more in what is a soft declining trend observed since 2000, long before the crisis. This trend points to a different interpretation, one that is less related to cyclical developments. The failure of hours worked per person to rebound to 2008 levels may be due not only to a

([18]) This level figure is based on data from National Accounts. According to the Labour Force Survey, the number of employed people aged 15+ in 2017 was 227.6 million in the EU and 148.3 million in the euro area.

([19]) In the case of Latvia, Lithuania and Bulgaria, a long-term decline in the overall population may be at play rather than negative labour market developments.

([20]) See European Central Bank (2016a), pp. 53-71 and European Commission (2016c), p.16.

([21]) See European Commission (2018d), p.38 and (2018c), p. 6, 7.

([22]) See European Commission (2016c), pp.5, 55.

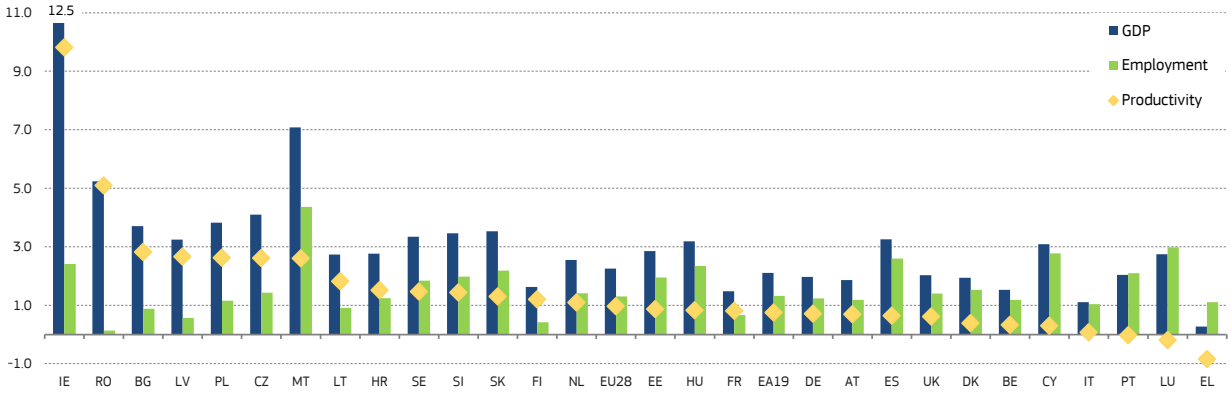
([23]) The European Commission's *European Economic Forecast Spring 2017* expected employment expansion to be just 0.9% in 2017. By the time the *European Economic Forecast Autumn 2017* was out, that projection was revised upwards to 1.4% for 2017, 1% for 2018 and 0.8% for 2019.

([24]) These outcomes were closer to the expectations of the European Commission's European Economic Forecast Winter 2018 (Interim), which expected annual employment growth in the EU to have accelerated to a robust 1.6% in 2017. As for the outlook, the European Commission's *European Economic Forecast Spring 2018*, pp.41-42 expects a deceleration of employment growth to 1.1% in 2018 and 0.9% in 2019 in the EU, which, however, it attributes primarily to weak employment growth in the UK (1.3% and 1.1% respectively in the euro area).

Chart 1.4

Modest productivity growth in the EU and in most Member States

Growth in real labour productivity per (employed) person, real GDP and employment (% compound annual growth 2014-2017), EU, euro area (EA19) and Member States



Note: Compound annual growth is a geometric average providing a constant rate over three years

Source: Eurostat, National Accounts [nama_10_gdp, nama_10_lp, nama_10_lp_ulc]; calculations by DG EMPL

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cyclical effect set in motion by the crisis but may be part of a long-term structural decline linked to higher incidence of part-time work and changing preferences of workers in favour of more leisure. Although headcount employment has increased, the hours worked per employed person have not escaped the weak dynamics induced by the crisis: they have moved in a largely flat pattern since 2012, well below the pre-crisis peak level observed in 2008. Only in the UK, Sweden, the Netherlands and Slovenia have the average annual hours worked per person employed increased above the 2008 level.

2.3. Productivity growth remains modest and varies across Member States

Labour productivity continued its moderate increase throughout 2017. ([25]) Labour productivity per person in the EU rose slightly by 0.8% (compared with 0.7% in 2016) although 15 Member States ranked below this mark. In the euro area it increased by 0.7% (compared with 0.5% in 2016). This was largely consistent with a longer-term trend observed during the recovery. Following an initial drop in 2009 and a strong rebound in 2010, growth in labour productivity stagnated from 2011 to 2012 ([26]) before it started rising again at a modest pace of 1% or less in 2013 (see *Chart 1.1*). But by 2016 yearly growth in productivity per person had slowed down again to 0.7% in the EU and 0.5% in the euro area. This overall evolution in labour productivity from the years prior to the recession up to 2017 captures primarily short-term changes, which were the outcome of fluctuations in output and employment. The decline of labour productivity in 2009 was due to the relative rigidity with which the labour market responded to lower demand during the economic downturn as a result of employment protection regulatory frameworks and labour hoarding. ([27]) The restrained pace of growth in productivity per person employed is linked to factors such as the higher share of part-time jobs and the lower numbers of hours worked. ([28]) Due to the reduction in hours worked per person it is important to examine more closely the evolution of productivity per hour worked.

Growth in productivity per hour in 2017 was faster than in productivity per person. In the EU it almost doubled, from 0.6% in 2016 to 1.1% (it rose from 0.6% to 0.9% in the euro area). In addition, from the start of the crisis (2008) to 2017, productivity per hour has cumulated more growth than productivity per person (a difference of 3.2 pps). In the future, an increase in the number of hours worked per person could both strengthen output growth in a more robust manner and support labour income.

There are differences in labour productivity growth across Member States. ([29]) Between 2014

([25]) Labour productivity here is measured specifically as labour productivity per person employed, which is the ratio of GDP in chain-linked volumes divided by employment. Labour productivity is also measured per hour worked, which would be the ratio of GDP in chain-linked volumes divided by average annual hours worked (i.e. average annual hours worked per person employed multiplied by the levels of employment). A series of chain-linked volumes is a series of economic data from successive years expressed in real (i.e. inflation- and deflation-adjusted) terms by computing the volume for each year in the prices of the preceding year, and then 'chain-linking' the data together to obtain a time-series of figures from which the effects of price changes have, at least in theory, been removed.

([26]) Long-term, sustainable growth in labour productivity, on the other hand, depends on three main factors: investment and saving in physical capital, new technology and innovation in production processes, and human capital (which includes the levels of skills and motivation of labour).

([27]) I.e. the practice of refraining from dismissal of redundant labour in order to maintain employee skills in anticipation of future growth.

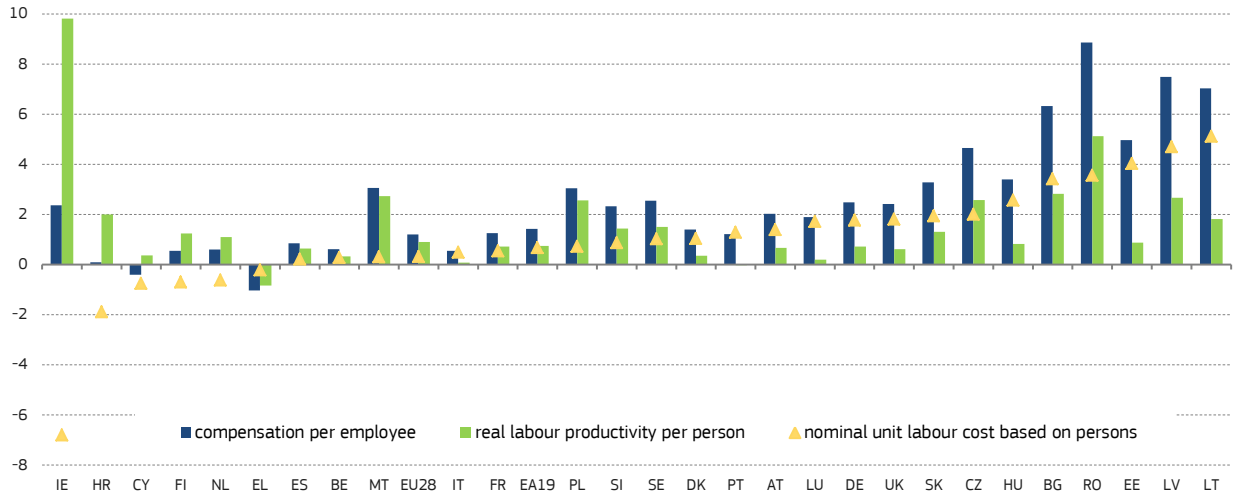
([28]) See "Part-time and temporary jobs" in section 3.3 below.

([29]) Growth in labour productivity (measured here as the percentage change in GDP per person employed) is the difference between the growth rate of output and the growth rate of employment. The change in the case of Ireland should be interpreted with caution due to the one-off effect of the change that led to the sharp increase of this country's GDP. The strong output increase in 2015 and 2016 was to a large extent driven by a surge in gross capital formation, mainly reflecting the doubling (in constant prices) of intellectual property products.

Chart 1.5

Unit labour costs continue their restrained upward trend in most Member States

Growth in nominal unit labour cost, nominal compensation per employee and real labour productivity (% compound growth 2014-2017), EU, Euro area and Member States



Note: Compound annual growth is a geometric average providing a constant rate over 3 years. Nominal unit labour cost measures compensation per employee adjusted for labour productivity. Compensation per employee covers the total remuneration - -including gross wages and salaries before deduction of taxes and employees' social security contributions, employers' social security contributions, bonuses and overtime payments -- which is payable in cash or kind by employers to employees for work done by the latter during the accounting period.

Source: Eurostat, National Accounts [nama_10_gdp, nama_10_pe, nama_10_lp_ulc]

Click here to download chart.

and 2017, most Member States registered modest increases in labour productivity growth per person. The average productivity growth rate per person employed across the Member States was approximately 1.5% in 2017. However, the differential growth of output and employment between Member States accounted for some large variations in labour productivity. Ireland, Lithuania, Romania, Poland, the Czech Republic, Hungary, Slovenia and Estonia led with labour productivity growth rates above 2%. At the opposite end, Greece and Portugal registered negative productivity growth. This reflects mainly the sharp and prolonged output contractions suffered until 2016 in Greece, and faster employment expansion than economic growth in Portugal. Productivity growth in Luxembourg was also negative in 2017, while the rates of Sweden, Italy, Belgium, Cyprus and Denmark hovered just above the zero mark, as their employment expansion was strong relative to output growth *(see Chart 1.4)*. The average growth in labour productivity per hour across Member States rose from 0.9% in 2016 to 2.0% in 2017.

2.4. Labour costs continue their slow upward trend

Despite receding unemployment, wage dynamics in 2017 remained restrained in most Member States. The accelerated momentum of economic expansion and the accompanying increase in employment has as yet hardly been reflected in wage developments at EU level, and even less so in the euro area, where wage growth in 2017 was particularly subdued. However, the aggregate picture hides considerable heterogeneity. Central and Eastern European countries, for instance, saw stronger wage growth than other Member States. ([30]) Wage moderation can be explained by, among other factors, low inflation and "sticky" inflation expectations, weak productivity growth and the weak dynamics in hours worked per employed person. In Member States with significantly underutilised labour resources, weak wage growth signals considerable remaining labour market slack. ([31]) Another factor behind this slack is the long-term and ongoing shift from manufacturing to service sectors: there is a higher incidence of involuntary part-time work in services. ([32]) Pent-up wage deflation may also be playing a role in the weak wage dynamics. ([33])

Restrained wage dynamics have moderated the rise in nominal unit labour costs. In 2017 annual growth in nominal unit labour costs based on persons slowed to 0.3% (down from 0.8% in 2016), as annual growth in compensation per employee declined slightly to 1.2% and productivity growth rose to a little over 0.8%. The overall modest growth of nominal unit labour costs in 2014-2017 mainly reflected the subdued dynamics of nominal wages (compensation per employee), adjusted by modest increases in labour productivity. ([34]) In a similar vein, growth in nominal unit labour costs based on hours worked in 2017 rose

([30]) European Commission (2017d), pp. 15-18, 40-44.

([31]) European Commission (2017d), pp. 10-11.

([32]) Hong et al. (2017), pp. 78-79. Although a higher proportion of part-time in total employment is one of the reasons behind the long-term decline of number of hours worked per employed person, overall part-time work has been stable and involuntary part-time work has declined since 2015.

([33]) This implies that wages, which (due to nominal wage protection measures) did not fall as might have been expected during the crisis as unemployment rose, are growing more slowly than might have been expected during the recovery, because of low productivity growth and labour slack. See European Commission (2017d), *Labour Market and Wage Developments in Europe - Annual Review 2017*, p.44.

([34]) On Ireland, see footnote in section 2.3.

to 0.1% in the EU (from -1.2% in 2016) and stood at 0.7% in the euro area.

The evolution in nominal unit labour costs varied considerably across Member States. In a few Member States nominal unit labour costs decreased between 2014 and 2017. In the case of Greece and Cyprus, this happened primarily because nominal wages fell. ([35]) Nominal unit labour costs also declined in Ireland, Croatia, Finland and the Netherlands, due to increases in labour productivity per person. By contrast, the Baltic Member States as well as Bulgaria, Romania and Hungary registered bold increases in nominal unit labour costs from 2014 to 2017, as nominal wages increased much more strongly than productivity (see *Chart 1.5*).

Inflation rose but overall remained moderate in 2017. The core inflation rate moved to well above the 1.0% mark, standing at 1.5% in the euro area and at 1.7% in the EU, in January 2018. The relatively low inflation rate supported real wage growth and household purchasing power, despite the modest growth in nominal wages. ([36])

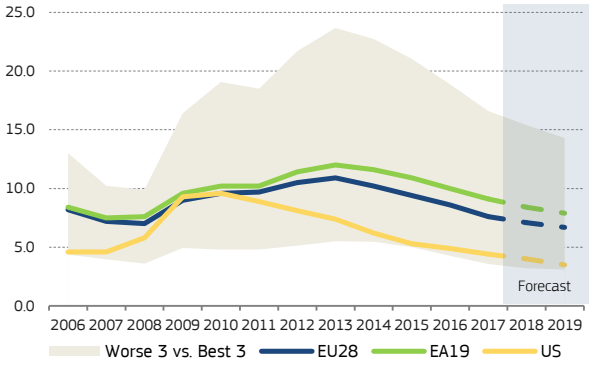
3. THE LABOUR MARKET

In general, 2017 has brought significant improvements in the labour markets of the majority of Member States. Decreases in the unemployment rate have been greater than expected. The shift towards more jobs in the service sector has continued but attenuated. Important challenges remain, for example there has been no progress in narrowing gender gaps (employment and pay). At the same time, as this Annual Review will show, new challenges and opportunities have arisen linked to technological evolution: automation, artificial intelligence and new forms of work combined with globalisation and ageing.

3.1. Unemployment is decreasing faster than expected

Unemployment fell slightly faster in 2017 than in previous years. Forecasts one year ago were for a slowdown in the pace of unemployment decrease. However, during 2017 the unemployment rate decreased slightly faster (0.9 pp, 2.1 million fewer unemployed than in 2016) than in previous years (0.8 pp in 2016 and 2015). The unemployment rate in 2017 was 7.6% in the EU, accounting for 18.8 million people (and declined further to 7.1% by April 2018). In the euro area the unemployment rate moved down to 9.1% (representing 14.7 million people), decreasing at the same pace as in the EU, by 0.9 pp (1.5 million fewer unemployed).

Chart 1.6
Unemployment continued to decline in 2017
Unemployment rate, % of labour force EU



Note: The grey area represents the gap between the average unemployment rate of the 3 countries with the lowest and the highest rate.

Source: Eurostat, series on unemployment [une_rt_a] and European Commission Forecast

Click here to download chart.

Unemployment decreased in all Member States in 2017. The drops varied quite widely, however. Vigorous decreases above 2 pps were recorded in the Member States with the highest unemployment rates, notably Spain (2.4 pps, down to 17.2%) and Greece (2.3 pps, down to 21.3%). Other countries, especially those with low rates, registered modest contractions of less than 0.5 pp. The main exceptions were Italy and the Czech Republic. Italy is the only country with a rate above 10% that registered a modest decline (0.4 pp). At the other end of the spectrum, the Czech Republic showed a robust decrease of 1.1 pps, down to a record low unemployment rate of 2.9% in 2017.

([35]) European Commission (2017d), pp. 15-16, 133, 136, 138.

([36]) The inflation rates quoted here conform to the methodology of the Harmonised Indices of Consumer Prices (HICP), which measures the changes over time in the prices of consumer goods and services acquired by households. The HICP is calculated according to a harmonised approach and a single set of definitions across the euro area, the EU, the European Economic Area as well as accession and candidate countries, providing a comparable measurement of inflation.

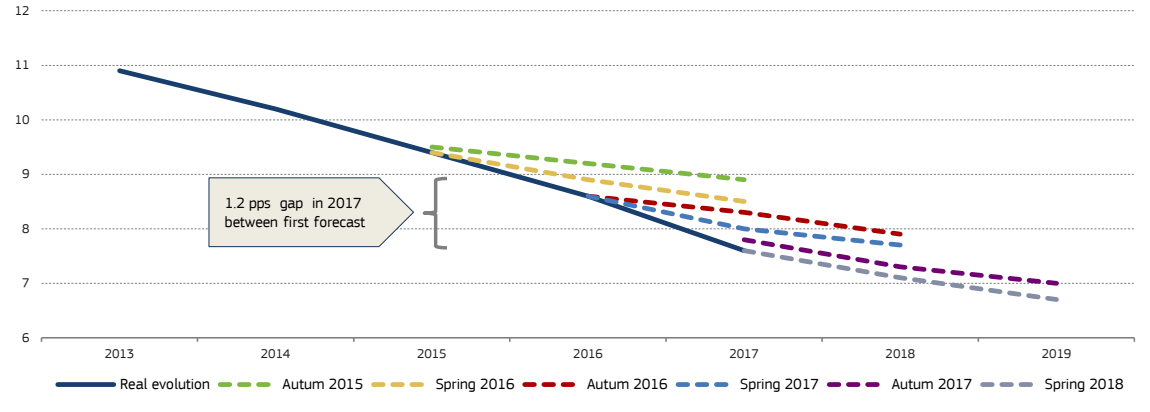
Box 1.1: Comparing the predicted with the actual unemployment rate

Since the start of the recovery, the labour market has performed much better than expected given the evolution of GDP. Job creation and economic growth are usually strongly correlated. Nevertheless, during the recovery some elements may have altered ways in which that relationship manifests itself. For example, more and shorter part-time work accounts for more people working but fewer hours. In fact, the total number of hours worked has not yet fully recovered to their pre-crisis levels. As result, predicting accurately the behaviour of the labour market has become more complex. In addition, labour market reforms in Member States have had a positive impact in the unemployment reduction, though this is difficult to measure. The chart below (Chart 1) shows how, over the last two years, forecasts have underestimated the reductions in the unemployment rate.

Chart 1

Forecasts have underestimated the reduction in the unemployment rate

Unemployment rate and forecasts, % of labour force, EU

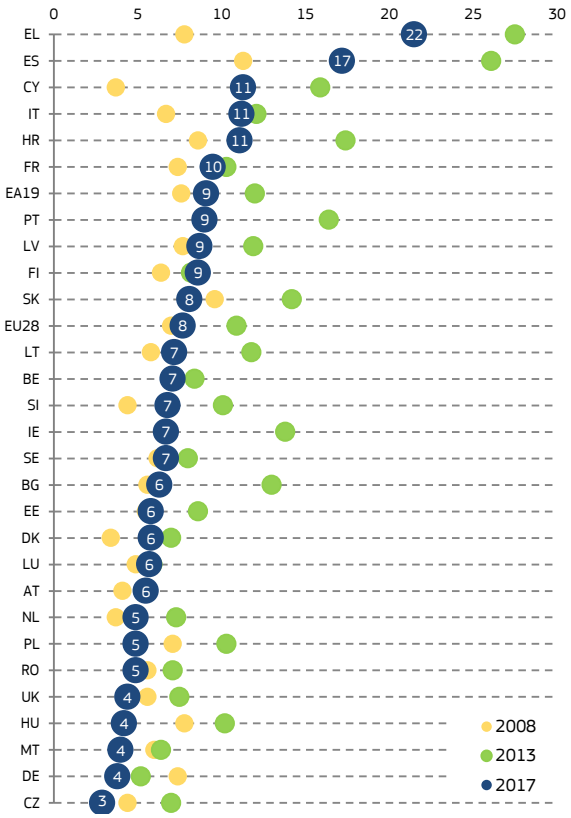


Source: Eurostat, series on unemployment [une_rt_a] and European Commission Forecasts

Chart 1.7

Many Member States register the lowest unemployment rates since the onset of the crisis

Unemployment rate, % of labour force



Source: Eurostat, series on unemployment [une_rt_a]

Click here to download chart.

The outlook remains positive for unemployment reduction. The EU unemployment rate is already below its 2009 rate and approaching its 2008 low point. The European Commission Spring Forecast was for further reductions: down to 7.1% for 2018, and 6.7% for 2019. ([37]) Reductions are also expected in the majority of Member States, particularly important in those with the highest rates. If the latest forecasts are correct, the dispersion of unemployment in the EU should decrease in the coming years (see section 5 of this chapter for more details about unemployment dispersion).

Long-term unemployment continues to decrease

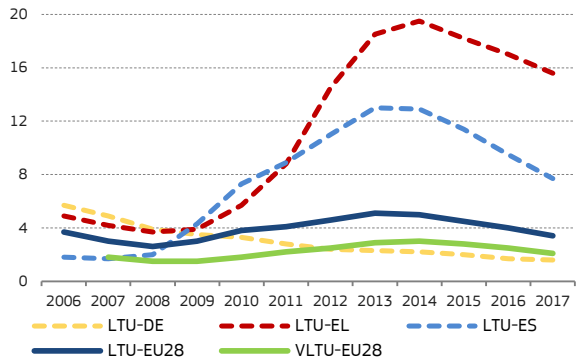
Long-term unemployment continued to fall at a similar pace as in 2016. In 2017 in the EU, the long-term unemployment rate (which measures those unemployed for at least one year) dropped by 0.6 pp to 3.4%. The very long-term unemployment rate (measuring those unemployed for at least two years) fell slightly faster than the previous year, by 0.4 pp to 2.1%.

([37]) See European Commission (2018d), p. 38.

Chart 1.8

Long-term unemployment decreases steadily

Long-term unemployment rate, % of labour force EU



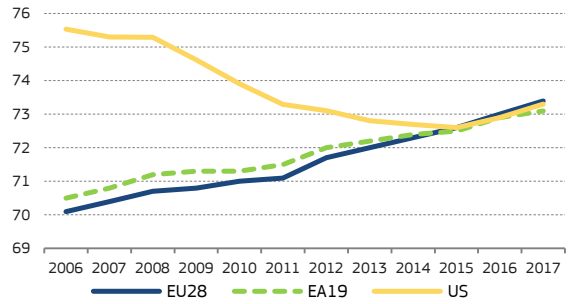
Source: Eurostat, series on unemployment [une_ltu_a]

Click here to download chart.

Chart 1.9

EU's activity rate growing steadily

Activity rate, % of population 15-64



Source: Eurostat, LFS [lfsi_emp_a]

Click here to download chart.

Long-term unemployment decreased in all Member States in 2017. The majority (18 countries) registered rates below the EU average. On the other hand, there are three countries with rates much higher than the EU average: Greece (15.6%), Spain, (7.7%) and Italy (6.5%). In particular, Greece presents a very high rate of very long-term unemployed, 11.3%, which is five times higher than the EU average.

3.2. Solid growth in the labour market participation rate

Labour market participation continued its stable increase in the EU and euro area in 2017. As shown in *Chart 1.9*, EU labour market participation has followed a structural upward trend over the last decade, reaching an activity rate of 73.4% in 2017. The activity rate increased in the EU at a constant pace even during the crisis. This contrasts with the picture in the US, where labour market participation was higher than in the EU a decade ago, but declined strongly between 2008 and 2015, recovering slightly in 2016 and 2017. Over the last three years, participation rates in the EU and in the US have been almost identical. In 2017, the active population was almost 240 million people in the EU and almost 159 million in the euro area. The increase in 2017, of approximately 0.9 million, was modest. However, this modest increase has to be seen in the context of an EU working-age population which shrank by more than 5 million people between 2009 and 2017.

Older workers and women continued to drive the increase in the activity rate in 2017. There is still significant scope for both groups to increase their participation in the labour market. However, the participation rate of men aged 25 to 54 has been stable at 91% for the last ten years, with little margin for further increases. Therefore, tackling the demographic challenge in the near future will require further increases in the participation of both older workers and women. The positive factors (educational, socio-economic or health) that drove the growth in labour participation for those groups in recent years will be of reduced importance in the future. ([38]) Specific and targeted policies will be required to maintain increases. For the female population policies could focus on tax incentives, the availability of part-time jobs as well as family and maternity support (i.e. childcare and family home care). ([39]) Participation of older workers could be encouraged by improvements in health conditions and life expectancy, appropriate retirement policies, flexible working arrangements and lifelong learning opportunities.. ([40])

Participation rates of third-country migrants are lagging behind rates of EU nationals. In particular, the activity rate of women from third countries is 54.8%, 13 pps below the overall women activity rate in the EU. By contrast, intra-EU migrants show a higher participation rate than country nationals, 6 pps above.

([38]) See Fernandez and Martinez (2017).

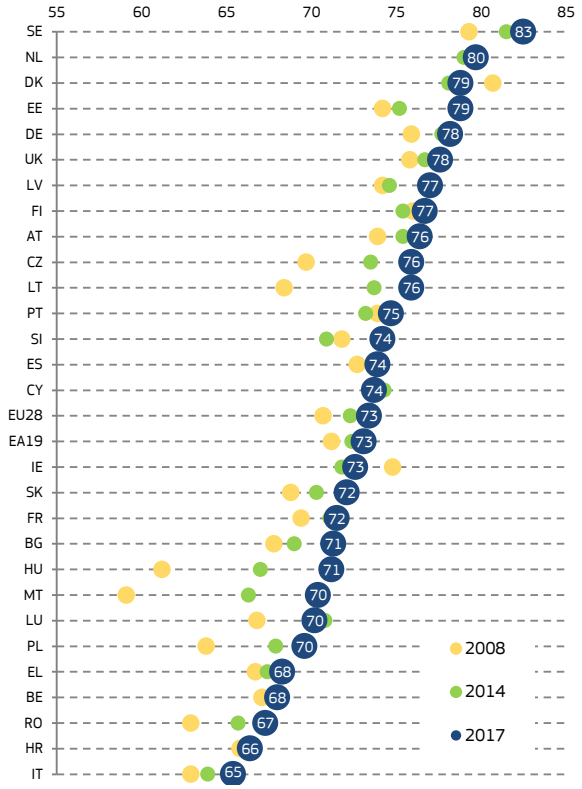
([39]) See Thévenon (2013).

([40]) See OECD (2017).

Chart 1.10

Activity rates in almost all Member States surpass 2008 values

Activity rate, % of population 15-64



Source: Eurostat, LFS [lfsi_emp_a]

Click here to download chart.

Activity rates increased in most Member States in 2017. The long-term trends and patterns seen in the EU as a whole reflect a widespread positive change in Member States, as shown by *Chart 1.10.* This has produced some upward convergence in activity rates in the EU. ([41]) Only two Member States have lower activity rates than in 2008: Ireland (down by 2.2 pps ([42])) and Denmark (down by 1.9 pps). By contrast, Malta and Hungary, which registered the lowest activity rates in 2008, have achieved the greatest increase since then (11.3 pps and 10 pps respectively).

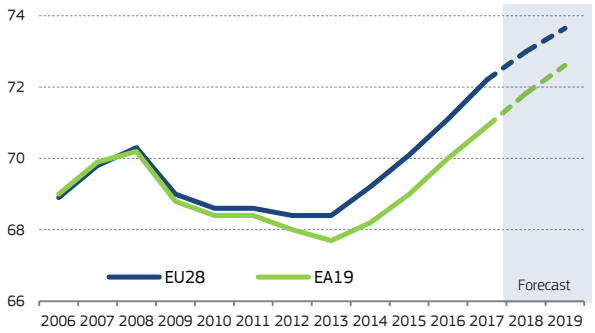
3.3. Employment growth driven by more jobs in service sectors

In view of its continued solid employment growth the EU is now on a path to reach the Europe 2020 target. In 2017 the employment rate reached 72.2% for people aged 20 to 64 (accounting for about 217 million people, compared with 214 million in 2016). The yearly growth was 1.1 pps, similar to the pre-crisis pace. With a similar evolution over the next few years, the 75% target for 'Europe 2020' is achievable. In the euro area the rate of employment growth was similar to the EU's: 1 pp. The euro area employment rate surpassed its pre-crisis peak (71% in 2017, up from 70.2% in 2008). Nevertheless, the European Commission Spring Forecast 2018 predicts a slowdown in job creation over the next few years as the effect of fiscal incentives decreases and as (skill) shortages appear (*Chart 1.11*). ([43])

Chart 1.11

Employment rate in the euro area is well above the 2008 peak

Employment rate, % of population 20-64



Note: The forecast is calculated with the estimation of employment growth and assuming a similar size of the workforce

Source: Eurostat, LFS [lfsi_emp_a], Commission Forecast and EMPL calculations

Click here to download chart.

The employment rate has increased in all Member States since the beginning of the recovery. In 2017 only Denmark saw a decrease in its employment rate (although the rate is still high at around 77%) while the average increase was around 1.4 pps. Thanks to the latest positive developments, there are already nine Member States above their national targets. Another nine Member States are less than 2 pps below their targets, which are therefore likely to be reached. However, there are still 10 Member States with employment rates below their 2008 levels, notably Greece and Cyprus (down by 8.6 pps and 5.9 pps respectively) as shown in *Chart 1.12.*

All the main demographic groups saw gains in employment in 2017. The employment rate increased for all the most relevant age and gender groups. As in recent years, older workers led the increases (especially women aged 55 to 64, who showed an increase of 2 pps). The youth employment rate grew at roughly the same pace as the rate for prime age workers, ([44]) around 0.9 pp. Since 2008 three main trends have arisen: older workers have strongly led the increase in employment (gaining almost 12 pps since 2008), youth employment has not yet recovered from the crisis (it is still 2.7 pps below the 2008 rate) and women have increased their employment rate (by 3.7 pps) while the rate for men has remained almost unchanged.

([41]) The upward convergence is due to an increase in the average activity rate (it has grown in nearly all Member States) combined with a reduction in the dispersion among Member States (coefficients of variation).

([42]) The activity rate in Ireland has been driven mainly by the drop in the youth activity rate of young people (15-25). Its rate has dropped around 20 pps since 2008.

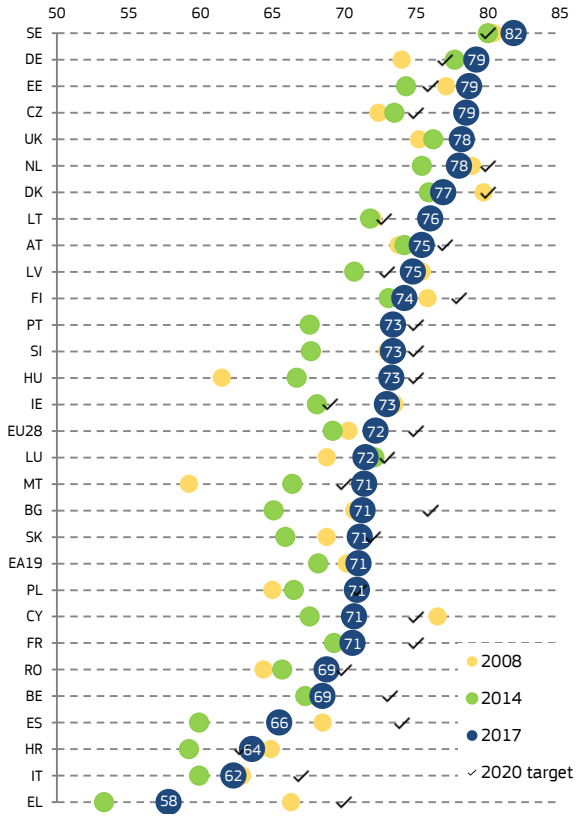
([43]) See European Commission (2018d), pp. 37-42.

([44]) Those aged 25 - 54.

Chart 1.12

Nine Member States have already reached their 'Europe 2020' targets

Employment rate, % of population 20-64



Note: FR data is for France metropolitan

Source: Eurostat, LFS [lfsi_emp_a]

Click here to download chart.

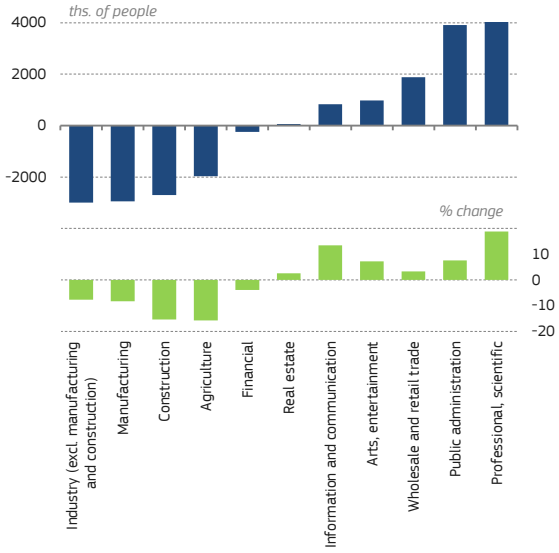
Employment by sectors

Employment continued to shift towards service sectors in 2017. Since 2008 there has been a clear trend in the sectors leading the destruction and creation of jobs. While the secondary sector (Industry, Manufacturing and Construction) showed the highest decrease in jobs, service-oriented activities have expanded strongly. In 2017 this trend continued but weakened as employment grew in all sectors, with the exception of the financial sector, which suffered a small decrease. Service sectors showed the highest job creation in both levels and growth, while signs of recovery appeared in Construction and Manufacturing (1.6% in both cases). Chapter 2 provides a detailed analysis of the specific structural changes related to the future of work.

Chart 1.13

Service sectors have led job growth during the recovery

Changes in employment by sector in the EU (2008-2017)



Note: Exact NACE activities: (A) Agriculture, forestry and fishing, (B-E) Industry (except construction), (C) Manufacturing, (F) Construction, (G-I) Wholesale and retail trade, transport, accommodation and food service activities, (J) Information and communication, (K) Financial and insurance activities, (L) Real estate activities, (M-N) Professional, scientific and technical activities; administrative and support service activities, (O-Q) Public administration, defence, education, human health and social work activities, (R-U) Arts, entertainment and recreation; other service activities; activities of households and extra-territorial organisations and bodies

Source: Eurostat, National Accounts [nama_10_a10_e]

Click here to download chart.

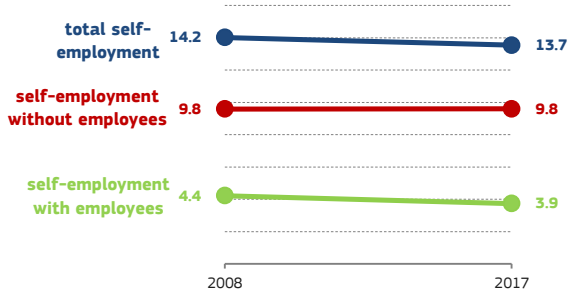
Self-employment

Levels of self-employment remained stable in 2017. In the last five years, there have been no significant changes in the number of self-employed people, which stood at between 30 and 31 million. Nevertheless, as total employment grows, self-employment is falling as a proportion of the total. This effect was very visible between 2008 and 2017 as this proportion fell by about 0.5 pp while the number of self-employed people remained stable. Although the new forms of work (e.g. platform work) may drive a future increase in the number of the self-employed, their levels have so far been stable with no significant changes observed in recent years (see Chapter 2 for more details).

Chart 1.14

Self-employment accounts for less of total employment than in 2008

Self-employment, % of total employment 15-64, EU



Source: Eurostat, LFS [lfsa_egaps]

Click here to download chart.

Part-time and temporary jobs

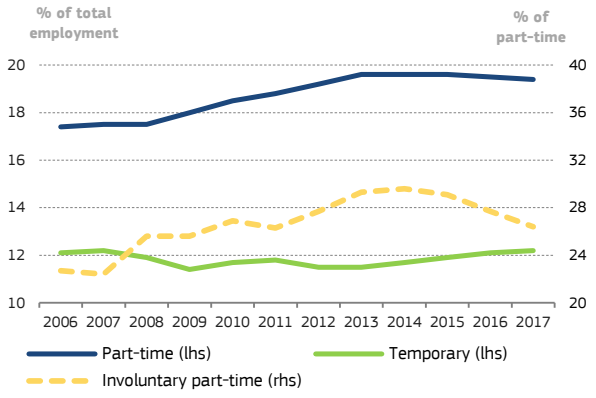
Temporary employment as a proportion of total employment remained stable during 2017. However, the situation at Member State level is very different. In the case of temporary work in particular the recovery has increased the gaps between countries. For instance, Spain has registered the highest share of temporary employment (22.4% of total employment), which has increased by 3.3 pps since the start of the recovery and by 0.6 pp in 2017.

Part-time work as a proportion of total employment has been almost stable since 2013. However, Member States present very different patterns. The Netherlands has a very high proportion of part-time work, (almost 50%, with a big proportion of voluntary part-time work), while part-time jobs make up less than 10% of employment in 12 Member States. While the proportion of part-time is slowly decreasing, the recent reductions in involuntary part-time work are a positive development, see *Chart 1.15*.

Chart 1.15

Proportions of part-time and temporary work remain stable in 2017

Part-time and temporary work, %s of total employment 15-64 in the EU



Source: Eurostat, LFS [lfsi_pt_a, lfsa_eppgai]

Click here to download chart.

The gender dimension in employment

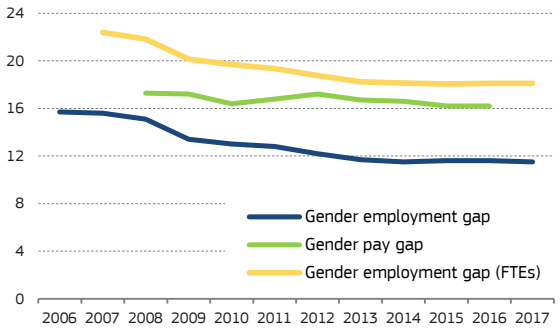
The recovery is not reducing the gender employment gap. Compared with 2008, women in 2017 have higher rates of employment (66.5% vs 62.8%), but in 2017 the gender employment gap remained unchanged at 11.5 pps. In fact, this gap has remained the same since 2013. The crisis years 2008 to 2012 had seen significant improvement: the gender gap decreased from 15.1 pps to 12.2 pps. However, this decrease reflected the fact that the crisis had a stronger negative impact on men than on women; the employment rate for men is still below the 2008 rate. In terms of full-time equivalents (FTEs) the gender gap is even larger, as women register higher rates of part-time work (see Chapter 3 for further analysis of the gender employment gap).

The gender pay gap ([45]) shows no significant reduction. Despite increases in the employment rate of women, the gender pay gap persists, standing at 16.2% in the EU and 16.3% in the euro area in 2016. The crisis and the recovery have not particularly influenced its evolution (see Chapter 4 for more details on inequalities in labour market outcomes).

Chart 1.16

No reduction in gender gaps over the last years

Gender employment gap (20-64, pps) and pay gap (% difference), in the EU



Note: The gender employment gap is calculated as the difference in the employment rate of men and women aged 20 to 64.
The gender pay gap represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is calculated in unadjusted form.

Source: Eurostat, LFS [lfsi_emp_a] and earnings survey [earn_gr_gpgr2] and EMPL own calculations

Click here to download chart.

3.4. A more dynamic EU labour market

Job vacancies continue to increase in the EU. Since the start of the recovery there has been a constant increase in the EU vacancy rate. Nevertheless, different dynamics appear at Member State level. There are still low vacancy rates (below 0.8%) in some countries, often countries with the highest unemployment rates: Greece, Spain and Italy. By contrast, the Czech Republic, Malta, Germany and United Kingdom have high vacancy rates (above or close to 2.5%) combined with low unemployment rates, hinting at tightening job markets.

Job-finding rates ([46]) have increased since the recovery, especially in 2017. Reductions in unemployment are usually accompanied by increases in the job-finding rate. That was the case in 2017 when, in a more dynamic labour market, the unemployed had more chances to find jobs. Separation rates ([47]) also decreased significantly in 2017.

([45]) The gender pay gap is measured as the difference between average gross hourly earnings of male and female paid employees. It represents a percentage of the average gross hourly earnings of male paid employees.

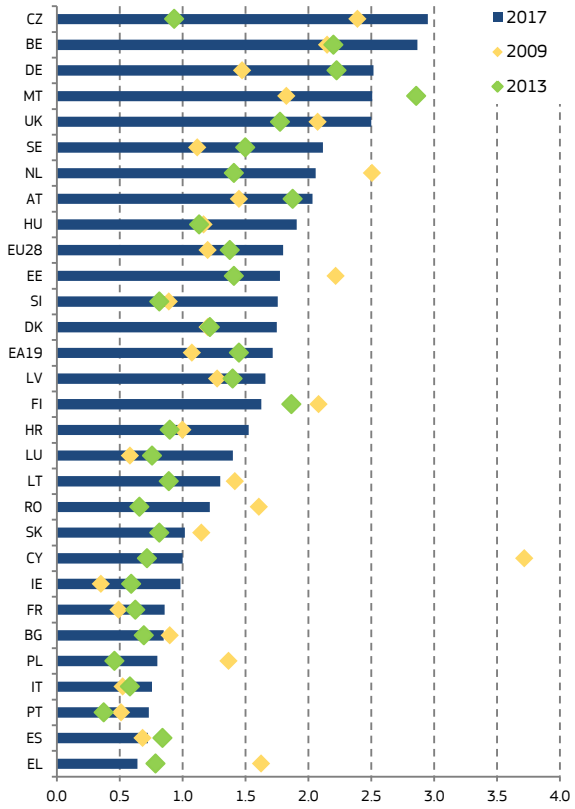
([46]) Percentage of unemployed people finding jobs.

([47]) Percentage of employed people losing their jobs.

Chart 1.17

Job vacancy rate grows in the EU and in most Member States

Job vacancy rate: job vacancies as % of job vacancies plus occupied posts



Note: 1. Data for DK from 2010 and HR from 2012
2. Annual data based on quarterly data
3. Any company size except for IT, FR and MT where only companies with at least 10 employees are captured
4. Based on sectors: Industry, construction and services (B-S) except for IT and DK based on "Business Economy" (B-N)

Source: Eurostat, Job Vacancies Statistics [jvs_q_nace2]

Click here to download chart.

Labour shortages could be increasing in some countries. Low levels of unemployment could be producing shortages in certain sectors or professions. ([48]) The Czech Republic may be facing quantitative labour shortages ([49]), as in 2017 they had the biggest increase in job vacancy rates since 2013, combined with the lowest unemployment rate in the EU. Belgium, on the other hand, shows non-quantitative labour shortages, for example skills shortages: it combines one of the highest vacancy rates in the EU with an unemployment rate close to the EU average. Factors explaining these labour shortages include: labour costs and taxation ("tax wedge") which have been historically high even if recently declining, a regional imbalance between supply and demand (linked to low mobility) and some skills mismatches (e.g. inadequate language and high-qualification technical skills). ([50])

([48]) For a discussion of the typology and measurement methodology of labour shortages, see European Parliament (2015), pp. 19-31.

([49]) The total supply of labour in an economy falls short of the total demand for labour in that economy.

([50]) See European Commission (2018a), p3. For a historical perspective on labour market mismatches in Belgium and other Member States see European Parliament (2015), pp. 35, 39-42.

In central and eastern European countries, labour shortages are even higher than in the pre-crisis period. According to the European Business and Consumer survey, labour shortages, as a factor limiting production, are rising especially in central and eastern European countries. Migration from these countries could have played an important role in the sharp rise of shortages ([51]) there. At the same time, this migration may have mitigated the shortages in some northern and western European Member States where, nevertheless, shortages are also rising. Southern European countries, on the other hand, have low levels of shortages, in line with their low vacancy rates.

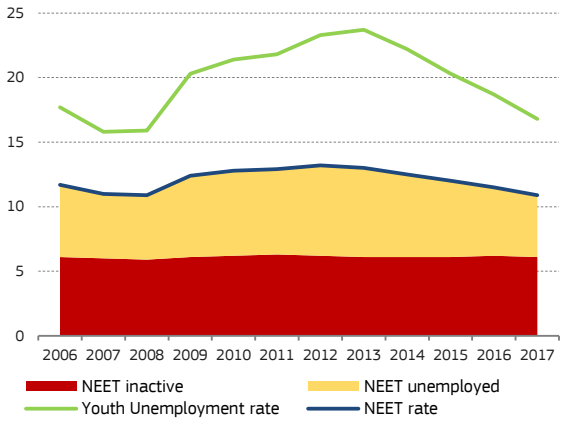
3.5. Sustained improvements in the labour market and education for young people

The youth unemployment rate dropped significantly in 2017. It decreased by 1.9 pps, down to 16.8%, approaching pre-crisis rates. Nevertheless the youth unemployment rate is still quite high in several Member States, with rates above 30% in Spain and Italy and 40% in the case of Greece. A similar and positive trend was observed in the NEET rate (aged 15 to 24). ([52]) In 2017, it declined by 0.6 pp to 10.9%, reaching the same NEET rate than in 2008. Most of the reduction in the NEET rate was due to the decrease in unemployed NEETs. At the same time, the proportion of inactive NEETs has remained constant in the last decade at around 6.1%, as seen in *Chart 1.18*.

Chart 1.18

Youth unemployment rate is dropping fast

Unemployment rate (% of labour force, 15-24) and NEET rate (% of population 15-24), EU



Source: Eurostat, LFS [une_rt_a, lfsi_neet_a]

Click here to download chart.

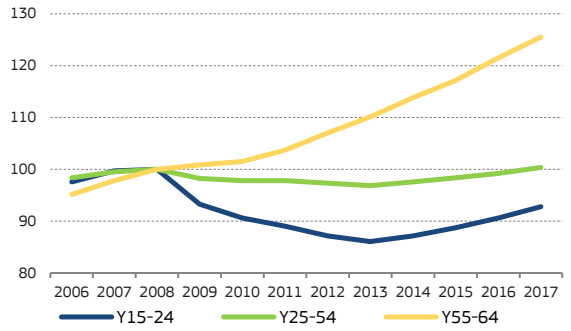
Youth employment continued its recovery in 2017. The youth employment rate rose by 0.8 pp to 34.7%, slightly less than the increase in the overall employment rate. In combination with the decrease in the unemployment rate, this indicates recent positive development in the labour market for young people. Nevertheless, the effects of the crisis can still be

([51]) See Darvas and Goncalves Raposo (2018).

([52]) NEET stands for (young people) Not in Employment, Education or Training. The NEET rate represents the percentage of the population in a given age group who match that description.

observed in the employment situation of young workers, who suffered the biggest relative loss of jobs compared with other age groups. ([53]) Despite recent progress, youth employment has not yet fully recovered from the crisis and is still registering rates below those of 2008.

Chart 1.19
Youth employment rate still below its 2008 level
Employment rate per age group (index 2008=100), EU



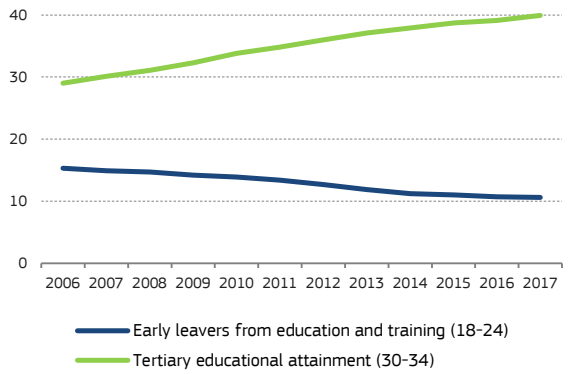
Source: Eurostat, LFS [lfsi_emp_a]
Click here to download chart.

After several years of steady decline, the rate of early leavers from education and training ([54]) remained almost stable in 2017, just above the Europe 2020 target. The different evolution of youth employment and unemployment seen above can be partly explained by a higher attachment to education. In fact, longer stays in education can compensate for the fact that the youth employment rate has not fully recovered yet. This has been reflected in the continuous decrease in the rate of early school leavers over the last decade, bringing the rate very close to the Europe 2020 target of 10%. During the crisis, bad economic prospects may have discouraged young people from leaving education for a paid job. This may also explain why in a context of improved employment dynamics the pace of decrease has been modest recently, in particular in 2017 (0.1 pp). If the pace of the reduction in the early school leavers rate does not pick up, the target may be missed, if only narrowly. That young people are staying longer in education is a key factor in responding to the challenges and taking advantage of the opportunities the changing world of work brings. Staying in school facilitates higher educational attainment and the potential for upskilling during working life.

The continuous rise in the higher educational attainment rate brings the EU closer to its strategic Europe 2020 target. Tertiary educational attainment for those aged 30 to 34 has increased over the last few years, almost reaching the Europe 2020 target of 40% in 2017 (39.9%). In the near future, the cohorts who are now staying longer in education should achieve even higher rates of educational attainment.

([53]) See a succinct discussion of the problem with policy suggestions in Andersen and Keuschnigg, pp. 9-11, 27-28.
([54]) Henceforth also referred to as "early school leavers".

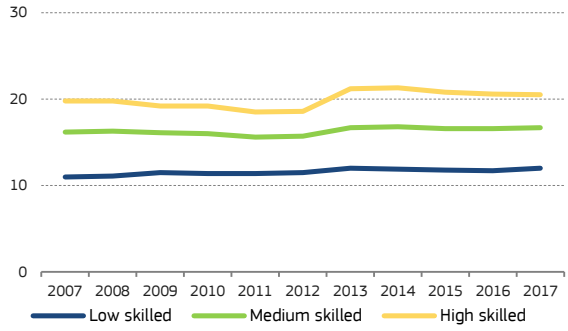
Chart 1.20
The EU has almost attained two Europe 2020 targets despite the crisis: lower school-leaving and higher tertiary educational attainment rates
Early school leavers (% of population 18-24), and tertiary educational attainment (% of people aged 30-34), EU



Source: Eurostat, LFS [t2020_40, t2020_41]
Click here to download chart.

Lifelong learning is not increasing in the EU. Initial education and training need to be complemented through lifelong learning. Educational attainment correlates strongly with successful careers in terms of employability and earnings. At a time of fast technological change, ageing and globalisation, lifelong learning is key to maintaining a productive labour force and facilitating longer working lives. For the moment, however, as seen in *Chart 1.21*, participation in life-long learning is relatively limited (particularly among low-skilled persons) and there is no trend towards increasing participation, regardless of the educational attainment level.

Chart 1.21
Lifelong learning is not picking up
Participation rate in education and training (last 4 weeks), % of population 18-64 by educational attainment level, EU



Note: Break in series in 2013
Source: Eurostat, LFS [trng_lfs_02]
Click here to download chart.

4. IMPROVING BUT STILL CHALLENGING SOCIAL SITUATION IN THE EU

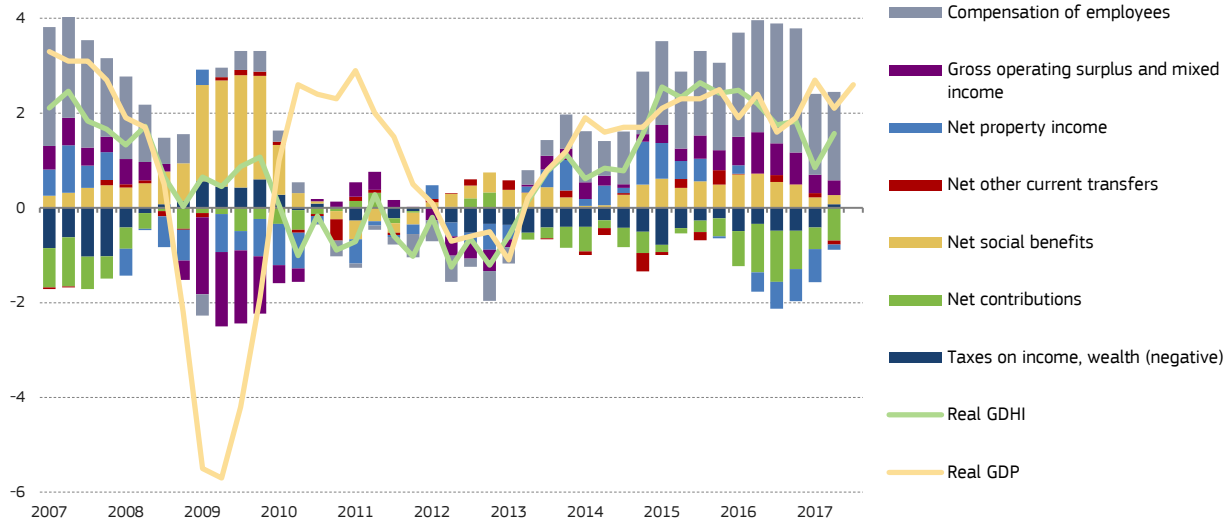
The social situation in the EU continues to improve. In 2016 ([55]) 118 million people were living at

([55]) **Note on the reference year**: EU-SILC data, used in poverty and inequality indicators, reflect incomes of the previous year (except for the UK and Ireland where incomes refer to the interview period). EU-SILC data also reflect activity status of the previous year. However, in this document, the reference

Chart 1.22

Disposable household income supported primarily by higher income from work

GDP and GDHI growth (% change on previous year), and contribution of GDHI components (pps), EU



Note: The nominal GDHI is converted into real GDHI by deflating with the deflator (price index) of household final consumption expenditure.

Source: DG EMPL calculations based on Eurostat data, National Accounts [nasq_10_nf_tr, namq_10_gdp]; Data non-seasonally adjusted;

Click here to download chart.

risk-of-poverty or social exclusion. This was 5.6 million fewer than at the peak of 2012. The standard of living has improved: median income has been increasing in real terms and the number of people in material deprivation has declined. Disposable income inequality has stabilised since 2014. Flash estimates from Eurostat show the same tendency for 2017: no significant changes in nearly all Member States (the exceptions are Ireland and Poland with significant decreases and Belgium with a very slight increase). Continuing favourable developments in the economic situation, in the labour market and in household incomes in 2017 are likely to have led to improvements in the social situation.

4.1. The financial situation of households buoyed by labour market improvements

Disposable household income benefits largely from higher income from work

The disposable income of households ([56]) in the EU increased further in 2017. Having dropped to a low point in 2012-2013, gross disposable household income (GDHI) has since then been increasing again in real terms. ([57]) Household income has continued to benefit from the expansion in economic activity and improved labour market conditions. ([58]) In the EU, GDHI had by 2015 returned to its previous peak of 2008-2009. In the euro area, where GDHI had dropped much more strongly than in the EU as a whole, it returned to its previous peak one year later in 2016 (*Chart 1.23*). There are signs that GDHI annual growth moderated in 2017, but remained above 1.5% in real terms in the EU and in the euro area (*Chart 1.22*).

The disposable income of households improved in nearly all Member States, but recovery to the pre-crisis level is incomplete in some. All Member States except for Greece saw growth in household incomes in 2017, while the change was not significant in Italy and Portugal. However, household incomes in some southern Member States have not yet recovered to the pre-crisis levels. In Greece GDHI is about 65% of what it was in 2009, and in Croatia, Italy, Portugal and Spain it is about 6-7% below previous highs.

year is the survey year and not the income year. This choice is for consistency with indicators commonly used: Eurostat indicators and most of EMPL monitoring tools and reports use the survey year. Moreover AROPE combines AROP, VLWI (previous year) and SMD (survey year).
The 2016 reference year is based on EU-SILC 2016, which reflects the 2015 income year and activity status in 2015.

([56]) The households sector is combined with non-profit institutions serving households (NPISH) under a single heading. The NPISH sector is relatively small.

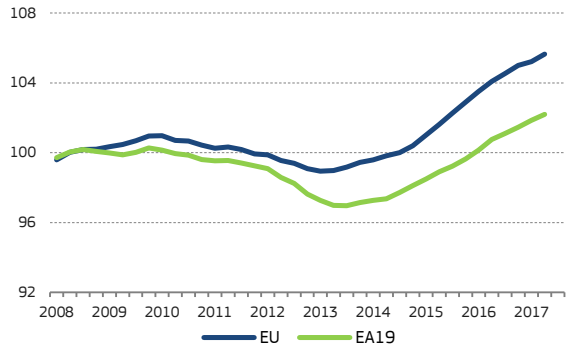
([57]) Yearly gross disposable income of households and adjusted gross disposable income of households in real terms per capita can be found on the Eurostat non-financial transactions database: nasa_10_nf_tr. Quarterly unadjusted and seasonally adjusted, gross disposable income of households and adjusted gross disposable income of households in real terms per capita, are available on the Eurostat non-financial transactions database: nasq_10_nf_tr. EU and EA19 quarterly seasonally adjusted, adjusted gross disposable income of households in real terms per capita (% change on previous period) are available under nasq_10_ki

([58]) See European Commission (2018b).

Chart 1.23

Household income tops its previous peak

GDHI growth (cumulative change – index 2008=100), EU and EA



Note: The nominal GDHI is converted into real GDHI by deflating with the deflator (price index) of household final consumption expenditure.

Source: Eurostat, National Accounts [nasq_10_nf_tr, namq_10_gdp]; Data non-seasonally adjusted; DG EMPL calculations

Click here to download chart.

Households continued to benefit from higher income from work, while increases in social benefits have stabilised. The labour income of both employees and the self-employed resumed its growth in 2014, mainly due to the recovery in the labour market, and has continued since then. Growth in property income and other transfers has been mixed in recent years. Households began to get less support in social benefits and to make higher contributions as market incomes improved. Increases in social benefits have moderated since the second half of 2016 and virtually stabilised in 2017. Increases in social contributions have been strong since 2016 (*Chart 1.22*). ([59])

More social protection expenditure went towards old-age pensions and health needs

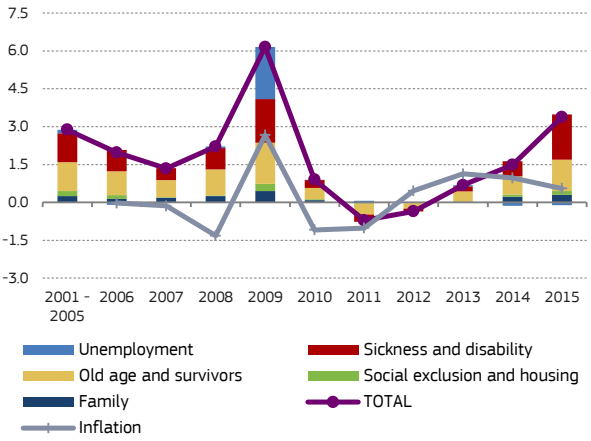
Detailed data are only available up to 2015 to show what types of social protection have supported household incomes in the EU and that social protection played a major role in stabilising incomes between 2007 and 2009, especially for the higher number of unemployed people. After some reduction in 2011-2012 for all categories of people benefiting from social protection, social expenditure started to accelerate again in real terms from 2013. ([60]) It reached 3% in 2015, driven in particular by in-kind expenditure. ([61])

By 2015, social protection shifted to structural expenses (old-age pensions and health-related protection). The increases in social expenditure in the years 2013 to 2015 (*Chart 1.24*) were mainly due to further increases in spending on old-age (driven partly by demographic factors) and on healthcare. By contrast, expenditure on unemployment stabilised in 2013 and declined in 2014, as the economic environment improved. Expenditure on families, housing and combating social exclusion increased slightly in 2014-2015.

Chart 1.24

Old-age pensions and health-related expenditure drive up social protection spending

Growth in social protection expenditure (% change on previous year, in real terms) and contribution by functions (pps), EU



Note: Nominal expenditure is converted into real expenditure by deflating with the Harmonised Index of Consumer Prices (HICP).

Source: Eurostat, ESSPROS [spr_exp_sum] and Price Statistics [prc_hicp_aind]; DG EMPL calculations

Click here to download chart.

([59]) For a detailed discussion of disposable household income from work and wealth across different household compositions, based on the Household Finance and Consumption Survey (HFCS), see European Central Bank (2016b). https://www.ecb.europa.eu/pub/pdf/scpsps/ecbsp18.en.pdf

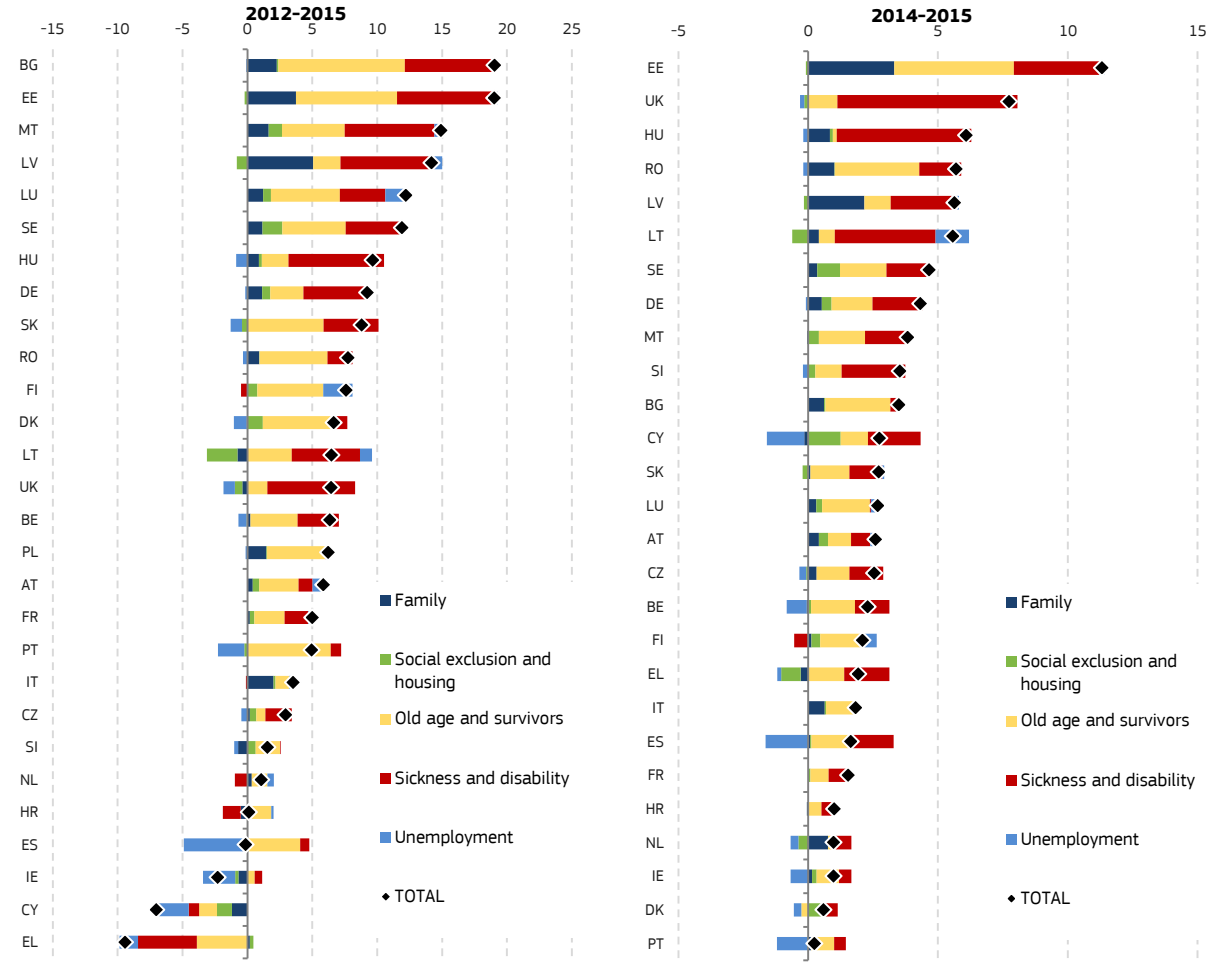
([60]) To reflect trends in real social expenditure, the harmonised index of consumer prices (HICP) is used as a deflator. It allows estimation of the trend in the overall real value or purchasing power of social expenditure. Inflation reflects the differential in HICP growth from one year to the other. When inflation is constant it has no impact, when inflation is declining it contributes positively, when inflation increases it contributes negatively. The HICP is a price index that reflects changes in prices of a basket of goods and services, which appears closer to the actual expenditure on consumption of households than the deflator of household consumption from the National Accounts (which also includes imputed rents, for instance).

([61]) The available National Accounts data disaggregate expenditure by in-cash and in-kind, but do not disaggregate it by function. The National Accounts data on government expenditure are available through 2016, as covered by the ESDE Annual Review.

Chart 1.25

Social protection expenditure increases in most Member States

Growth in social protection expenditure in 2012-2015 and in 2014-2015 (% change, in real terms) and contribution (pps) by functions, EU Member States



Note: The nominal expenditure is converted into real expenditure by deflating with the Harmonised Index of Consumer Prices (HICP). Poland data from 2014

Source: Eurostat, ESSPROS [spr_exp_sum] and Price Statistics [prc_hicp_aind]; DG EMPL calculations

Click here to download chart.

Social protection expenditure continued to increase in all Member States in 2015. Expenditure on old-age pensions and survivors' pensions increased in most Member States, partly reflecting demographic change, except in Denmark, where expenditure on pensions declined. Sickness and disability expenses contributed significantly to this growth in most Member States, except in Finland where it declined (*Chart 1.25*, right column). Compared with 2012, countries with large crisis-related fiscal consolidation needs, notably Greece and Cyprus, had lower expenditure on pensions as well as on sickness and disability (*Chart 1.25*, left column). Expenditure on unemployment benefits declined notably in Belgium, Cyprus, Ireland, Portugal and Spain, as labour markets improved (*Chart 1.25*, right column). Social protection in the EU will continue to play an important role, in particular in relation to new forms of work (see Chapter 5).

4.2. Social transfers mitigate the constant income inequality in the EU

Disposable income inequality in the EU remained broadly stable in 2016 (income year 2015) and is still slightly higher than in 2012. ([62]) Inequality, as measured by the GINI coefficient, ([63]) was fairly constant at EU level between 2013 and 2016 (*Chart 1.27*). The quintile share ratio S80/S20 ([64]) indicated that the richest 20% (top quintile) had an equivalised ([65]) disposable income around five times higher than

([62]) The reporting year in this chapter refers to the EU-SILC survey year, which measures income of the previous year. The latest survey 2016 data refer to income distribution in 2015.

([63]) The **Gini coefficient** of equivalised disposable income measures the extent to which the distribution of equivalised disposable income after social transfers deviates from a perfectly equal distribution. It is a summary measure of the cumulative share of equivalised income accounted for by the cumulative percentages of the number of individuals. Its value ranges from 0 (complete equality) to 100 (complete inequality).

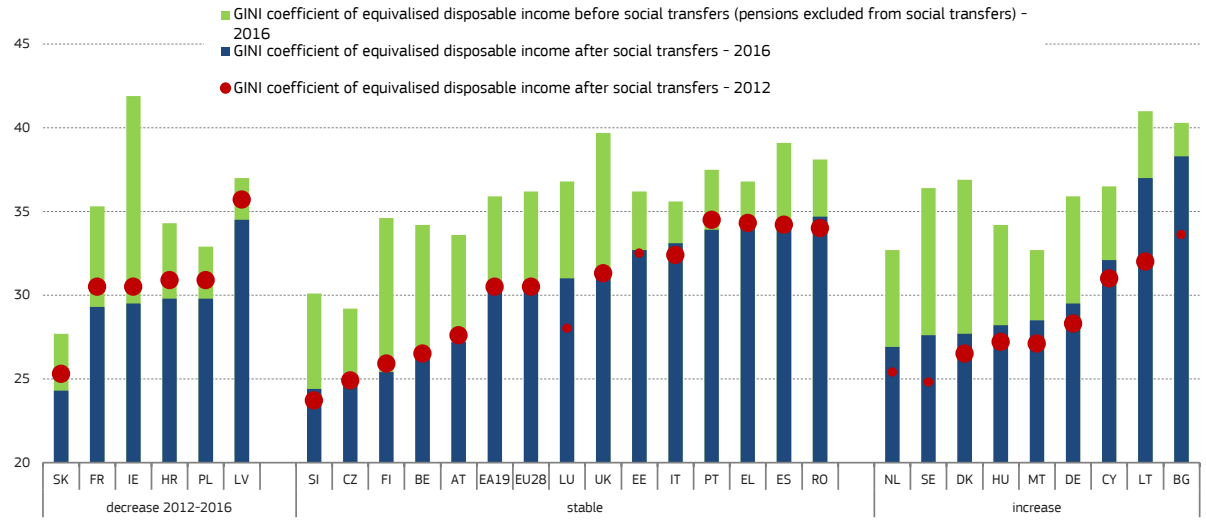
([64]) The **S80/S20 income** quintile share ratio refers to the ratio of total equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top quintile) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest quintile).

([65]) The Equivalised disposable income of a household: Eurostat applies an equivalisation factor calculated according to the OECD-modified scale - which gives a weight of 1.0 to the first person aged 14 or more, a weight of 0.5 to other persons aged 14 or more and a weight of 0.3 to persons aged 0-13. See

Chart 1.26

Income inequality increases in roughly a third of the Member States, while the impact of social transfers the tax-benefit system varies across Member States

GINI coefficient before social transfers and GINI coefficient of disposable income, EU Member States



Note: The Gini coefficient is an indicator with value between 0 and 1(between 0 and 100 in this chart). Lower values indicate higher equality. In other words a value equal to 0 indicates everybody has the same income, a value equal to 1 indicates that one person has all the income.
Gini is based on total equivalised disposable household income. The year refers to the EU-SILC survey year, income measured is from the previous year.
Green bars reflect redistributive effects of taxes and transfers, measured by differences between market income inequalities (the top of green bars) and disposable income inequalities (the top of dark blue bars).
Breaks in series: EE 2014, SE 2015, BG, LU and NL 2016. These Member States are classified based on EMPL estimation. For these Member States GINI 2012 is marked with smaller dots to indicate that comparison of 2012 to 2016 values should be avoided.

Source: Eurostat, EU-SILC [ilc_di12, ilc_di12bdi12c]

Click here to download chart.

that of the poorest 20% (lowest quintile) (5.2 between 2014 and 2016 compared with 5.0 in the period 2011-2013). However, in Lithuania, Romania and Bulgaria the S80/S20 ratio was higher than 7.0 in 2016.

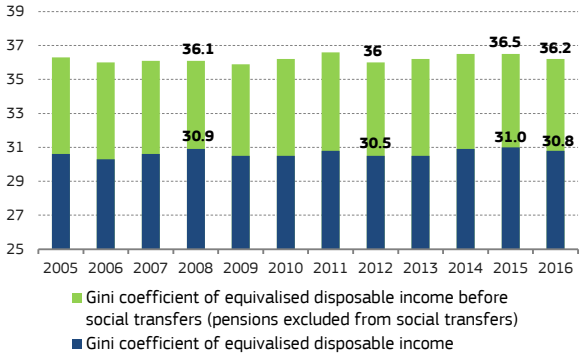
According to Eurostat Flash Estimates, inequality remained stable in 2017 (income year 2016). Flash estimates for the income year 2016, released as experimental data by Eurostat for the first time in Autumn 2017, ([66]) indicate that no statistically significant change in inequality, as measured by S80/S20, will be observed between (income years) 2015 and 2016 in most Member States. Inequality was estimated to have decreased markedly only in Poland and to a lesser extent in Ireland, and to have increased somewhat in Belgium.

Income inequality would have been much higher without the redistributive effects of taxes and transfers. These effects are measured by the difference between market income inequality and disposable income inequality. ([67]) Market income inequality (before taxes and transfers) has stabilised over recent years. The same is largely true for the redistributive effects of transfers, although these were slightly stronger between 2008 and 2011 and weaker between 2013 and 2016 (*Chart 1.26*). ([68])

Chart 1.27

Income inequality in the EU before and after social transfers has been fairly stable over the last decade

GINI coefficient before social transfers and GINI coefficient of disposable income, EU



Note: The Gini coefficient is an indicator with value between 0 and 1(0 to 100 in this chart). Lower values indicate higher equality. In other words a value of 0 indicates everybody has the same income, a value of 100 indicates that one person has all the income. Gini is based on total equivalised disposable household income. The year refers to the EU-SILC survey year; income measured is from the previous year. Values refer to EU27 between 2005 and 2007

Source: Eurostat, EU-SILC [ilc_di12, ilc_di12bc]

Click here to download chart.

Progress in reducing inequality varies across Member States

Income inequality widened in some Member States between 2012 and 2016, while the extent of the redistribution effect differed. Several Member States (notably Bulgaria and Lithuania) saw

http://ec.europa.eu/eurostat/cache/metadata/en/ilc_esms.htm, chapter 3.4.

([66]) See report on Flash Estimates by Eurostat at http://ec.europa.eu/eurostat/documents/7894008/8256843/Flash-estimates-of-income-inequalities-and-poverty-indicators-experimental-results.pdf

([67]) Market incomes are the gross incomes earned by individuals or households before any redistribution via taxes and transfers, while disposable incomes are final incomes taking into consideration the effects of redistributive policies (which may involve the provision of in-kind benefits and services).

([68]) See European Commission (2016b).

increases in disposable income inequality between 2012 and 2016. At the same time the impact of social transfers on income inequality (*Chart 1.26*, shown by the green parts of the bars, pensions excluded from social transfers) differed across Member States. Social transfers reduced income inequality by less than 10% in Bulgaria, Estonia, Greece, Italy, Latvia, Lithuania, Poland, Portugal and Romania but by more than 20% in Belgium, Denmark, Finland, Ireland, Sweden and UK.

Income inequality in the EU is lower than in some other major advanced economies, but remains a concern. Inequality in EU is still lower than in Japan, United States or Australia. However, it increased slightly between 2012 and 2016, driven by increases in countries such as Bulgaria, Italy and Romania. High inequality may have a detrimental impact on economic growth and its sustainability. ([69]) Furthermore, high inequality raises concerns about fairness, ([70]) as it usually reflects a higher risk-of-poverty and social exclusion ([71]) as well as a higher incidence of financial distress and, as such, it tends to threaten social cohesion.

Financial distress faced by the poorest people continued to ease in 2017 but remains at high levels, Measured as the percentage of people who need to draw on savings or to run into debt in order to cover current expenditure ([72]), financial distress has eased over recent years, following a strong increase between 2011 and 2013 when the gap between income groups widened as financial distress increased most for people in the lowest quartile of household income. In 2017, 9% of adults in low-income households in the EU were in debt and a further 14% drew on savings to cover current expenditure (compared with 4% and 9% respectively for the total population).

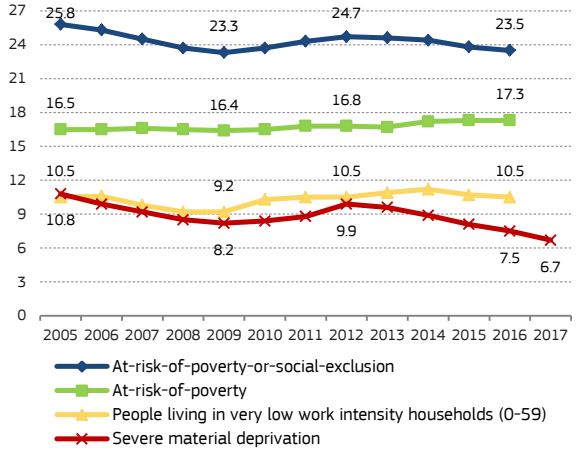
4.3. The decline in the risk-of-poverty or social exclusion is driven by lower rates of joblessness and material deprivation

The number of people at risk-of-poverty or social exclusion (AROPE) in the EU continued to decrease in 2016. ([73]) In 2016 (referring to income in 2015) 5.6 million fewer people in the EU were at risk-of-poverty or social exclusion than at the peak in 2012. The AROPE decrease followed strong increases in incomes stemming from the recovery in economic activity and improvements in labour markets, including declines in long-term unemployment and youth exclusion and continued increased participation of older workers and women in the labour market.

Chart 1.28

Risk-of-poverty and social exclusion declines modestly due mainly to decrease in severe material deprivation

At risk-of-poverty or social exclusion rate, at-risk-of-poverty rate, severe material deprivation rate (% of population), very low work intensity households (% of population aged 0-59), EU



Note: The year refers to the EU-SILC survey year; income measured is from the previous year. AROPE, AROP: income from the previous year, SMD: current year, 2017 data estimated, VLWI: status in the past year. EU27 until 2009, EU28 thereafter. See the footnote (64) on page x for definitions.

Source: Eurostat, EU SILC [ilc_peps01, ilc_li02, ilc_mddd11 (estimates) and , ilc_lvhl11]

Click here to download chart.

The number of people at risk-of-poverty or social exclusion has been falling slowly towards the pre-crisis level. By 2016 the number of people at risk-of-poverty or social exclusion in the EU had returned to a level closer to the 2008 low point and was roughly one million above that year's level: 968 000 for the EU27, 806 000 (estimated) for the EU28. The decline brought the AROPE rate down to 23.5%, just above the bottom 2009 value (23.3%). (*Chart 1.28*) Despite this improvement, 118 million Europeans, including 77 million in the euro area, were at risk-of-poverty or social exclusion (AROPE) in 2016. The Europe 2020 target of lifting 20 million people out of poverty by 2020 was set before the crisis, in 2008. The onset of the crisis, which, among other, resulted in a sharp increase of the AROPE rate in 2010, made this target far more challenging to reach.

The risk-of-poverty or social exclusion is also higher among certain types of employed people and could be linked to new forms of work (see Chapter 4).

The reduction in AROPE at EU level has been underpinned by different trends in AROPE's three components: at risk-of-poverty, severe material deprivation and living in very low work intensity households (*Chart 1.28*).([74])

([69]) See Halter et al. (2013), Cingano (2014), Ostry et al. (2014), Dabla-Norris et al. (2015), OECD (2015).

([70]) However income is only a part of the multidimensional context of fairness, which includes inequality of opportunities, including health and health care, housing, education and mobility, see European Commission (2015a) and (2016d).

([71]) See European Commission (2016a)and (2017c).

([72]) See European Commission (Directorate General for Economic and Financial Affairs), *Business and Consumers Survey*.

([73]) The year in this chapter refers to the EU-SILC survey year, which measures income in the previous year. The latest survey 2016 data refer to income distribution in 2015.

([74]) The **at-risk-of-poverty or social exclusion (AROPE)** indicator corresponds to the number of people who are in at least one of the following situations: at risk-of-poverty or severely materially deprived or living in households with very low work intensity.
People at risk-of-poverty (AROP) have an equivalised disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable

Severe material deprivation (SMD) has been declining since 2013, indicating improvements in standards of living. In 2017 ([75]), 4.4 million fewer people were in SMD than in 2016. This decline added to a cumulative reduction of 16.1 million since 2012. This continuous and significant drop at EU level was mainly driven by strong decreases in a few Member States, i.e. Germany, Hungary, Poland, Romania and the UK. However, the rate for people from non-EU countries is still much higher than for natives (15.2% against 6.4%, population over 18).

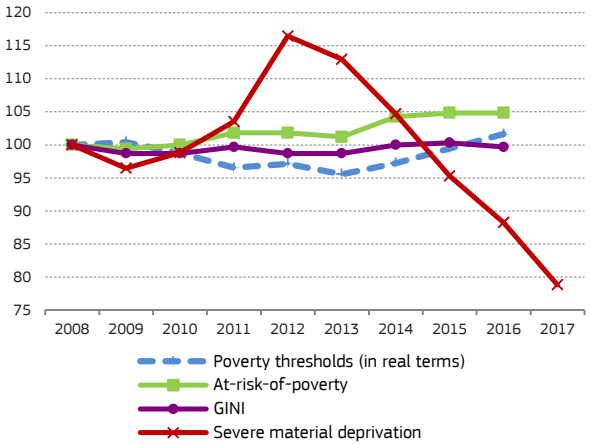
A recovery in the labour market led to a decrease in the number of people living in very low work intensity (VLWI) households in 2016. The rate of population in jobless households decreased in 2016 to 10.5%. ([76])

The at risk-of-poverty rate has stabilised. This component of AROPE has a different pattern due to its dependency on both poverty and income distribution. Since its surge in 2014, the proportion of people at risk-of-poverty (AROP) has remained broadly unchanged at 17.3%. The increase in the number of people in AROP slowed to 152 000 in 2016 (referring to incomes in 2015) after more substantial increases in the previous two years: 783 000 in 2015 and 2.6 million in 2014. This slight deterioration in 2016 was mainly driven by the increase in the number of people in AROP in Italy and the Netherlands. Flash estimates available for individual Member States suggest that the levels of people at risk-of-poverty in the EU did not change significantly between 2016 and 2017 (income years 2015 and 2016).

Chart 1.29

Living standards improve despite persistent poverty and inequality since 2012: median income (and the poverty threshold) rise and severe material deprivation falls

Poverty threshold (in real terms), at-risk-of-poverty rate, Gini coefficient of disposable income, severe material deprivation rate (cumulative change – index 2008=100), EU



Note: The year refers to the EU-SILC survey year; income measured is from the previous year. EU27 until 2009, EU28 thereafter. Severe Material Deprivation for 2017 is estimated
The nominal income is converted into real income by deflating with the Harmonised Index of Consumer Prices (HICP).

Source: Eurostat, EU SILC [ilc_li02, ilc_mddd11, ilc_di12, ilc_di04]; DG EMPL calculations

Click here to download chart.

However, the rise in median income has improved standards of living, even if the at risk-of-poverty rate has stabilised. The 2014 surge in people at risk of poverty reflected two different trends: first, the weak economic and labour market situation until mid-2013, and secondly, the upward shift in the median income and therefore the poverty threshold ([77]) as household incomes started to recover in mid-2013. However, after the surge in 2014, both AROP and inequality in the EU stabilised, whereas median incomes and poverty thresholds increased by a significant 6.4% between 2013 and 2016 (*Chart 1.29*). See Box 1.2 for more details. Eurostat flash estimates indicate that in 2017 there will be a significant increase in median income in most EU countries, with more than 5% in Bulgaria, Czech Republic, Estonia, Lithuania, Hungary, Poland and Romania**.** The effect on AROP changes is difficult to assess due to its high level of dependence on inequality.

income (after social transfers).
Severely materially deprived (SMD) people have living conditions severely constrained by a lack of resources, i.e. they experience at least 4 out of the following 9 deprivations: they cannot afford i) to pay rent or utility bills, ii) to keep their home warm enough, iii) to face unexpected expenses, iv) to eat meat, fish or a protein equivalent every second day, v) a week's holiday away from home, vi) a car, vii) a washing machine, viii) a colour TV or ix) a telephone.
People living in households with very low work intensity (VLWI) are those aged 0-59 living in households where the adults (aged 18-59, excluding students aged 18-24) worked not more than 20% of their total work potential during the past year.

([75]) Latest data available, estimated by Eurostat.

([76]) Further, the population in jobless households decreased in 2016 to 10.5%, according to Eurostat, LFS data [lfsi_jhh_a].

([77]) **The risk-of-poverty threshold** is set at 60% of the national median equivalised disposable income (after tax and other deductions and after social transfers).
The total **equivalised disposable** household income, used in poverty and inequality indicators, takes into account the impact of differences in household size and composition. The equivalised income attributed to each member of the household is calculated by dividing the total disposable income of the household by the equalisation factor. This indicator gives a weight of 1.0 to the first person aged 14 or more, a weight of 0.5 each to other people aged 14 or more and a weight of 0.3 each to people aged 0-13.

Box 1.2: Why is AROP not falling although AROPE is shrinking? Under which cases would AROP decrease?

Starting from 2012, the at risk-of-poverty and social exclusion rate has been continuously decreasing, mainly driven by a strong decrease in Severe Material Deprivation. On the other hand, the at risk-of-poverty rate increased slightly in 2014 and has since stabilised while the poverty threshold has steadily increased since 2013. The three components of AROPE do not necessarily always move in the same direction. When this is happening, one could try and see which is the link between the increase in median income and relatively high levels of the AROP rate. Answering this, requires an analysis of scenarios following a hypothetical change in the distribution of income, an increase in median income and a consequent increase in the AROP threshold:

- If the increases in income are proportional for the whole population, median income will increase in the same proportion and AROP will remain constant.
- If increases in income are not equally distributed and low-income households experience lower/higher growth than median-income households, the poverty threshold will increase and AROP will accordingly increase/decrease.

Figures show that the people below the threshold are in the lowest three deciles of the income distribution. In countries where the AROP share is below 20% all the people below the threshold are in the first two deciles. In countries where AROP is over 20%, some people below the threshold are in the third decile. If the whole distribution shifts by an equal increase in income for everyone, a reduction in AROP will be observed because the shift "x" will be the same for the median as for every individual. When the threshold rises by 0.6*x, a certain number of people will move above the threshold and the AROP proportion will decrease.

A closer look at the distribution of equivalised income at lower levels shows that the first three deciles of the EU-28 distribution increased at a slower pace as compared with the AROP threshold (see Chart, left side). The chart indicates the yearly change for the threshold and the top cut-off points of the first three deciles of the EU28 distribution, represented as indexes (2005 = 100 for all series). While the threshold moved up between 2008 and 2016 from €8771 to €9969 (13.7% growth), the first decile cut off point changed from €7485 to €8230 (9.95% growth). For the second decile the growth for the same period was 12.9%, which was still lower than the growth in the threshold. There is a gap for the third decile too but to a lesser extent. Simply stated, income grew across the income distribution but more slowly in the low income deciles than the poverty threshold, thus, preventing a reduction in AROP (see Chart, left side).

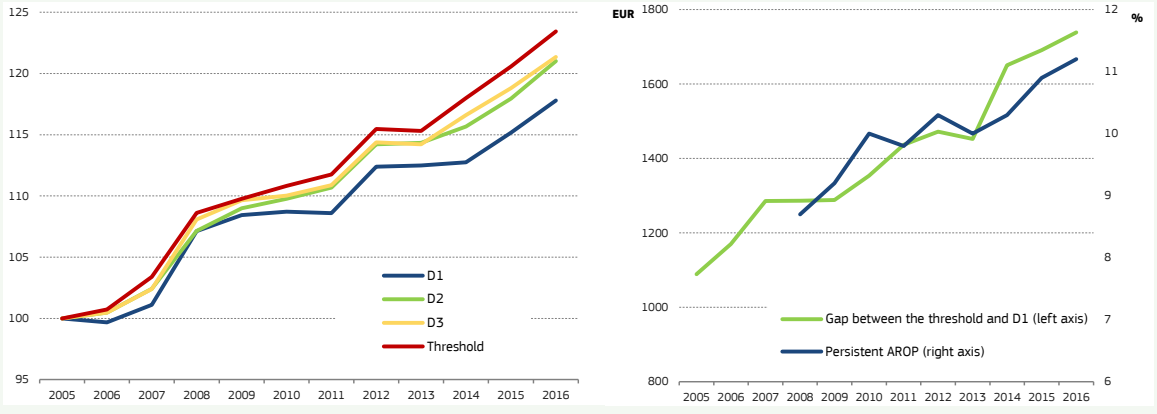
A decrease in the AROP rate would require a higher pace of income increase for these three deciles as compared with the increase in the median. For there to be a short-term decrease in the AROP rate, it would be enough to have an increase in the income of people just below the threshold. However, for a sustainable and/or substantial downward trend in AROP rate, most people in these three deciles would have to experience faster income growth as compared with change in the threshold.

In addition, this increasing gap between the cut-off point for the first decile and the AROP threshold correlates with the increase of the 'persistent AROP' indicator (the percentage of AROP people during the current year who were AROP for at least two of three previous years: see Chart, right side). This observation is true for the second and third deciles as well, though to a lesser extent. The enlarging gap between the threshold and the first decile traps more people in AROP, for longer time. This gap provides also the most plausible explanation for the increase in the rate of persistent risk-of-poverty. Closing this gap would lower the inequality and drive the AROP rate down.

Chart 1

Lower deciles of the income distribution are growing more slowly than the poverty threshold (left). The increasing gap between the threshold and the first decile correlates with the increasingly persistent AROP (right)

Left: Income growth (index 2005 = 100), Right: The difference AROP threshold- first decile cut off (EUR) and persistent AROP (% of total population)



Source: Source: Eurostat, SILC [ilc_d01]

Chart 1.30

Risk-of-poverty or social exclusion are declining in half of the Member States

At risk-of-poverty or social exclusion rate, at-risk-of-poverty rate, severe material deprivation rate (% of population), very low work intensity households (% of population aged 0-59), EU Member States, 2012-2016

Note: Green bars indicate decrease between 2012 (where light green bars end) and 2015 (where dark green bars end)
Red bars indicate increase between 2012 (where light red bars end) and 2015 (where dark red bars end), and grey bars indicate little or no change.
AROPE combines AROP, SMD and VLWI. The length of bars of components should not add to the length of AROPE bar, because components overlap in AROPE and in components.
The year refers to the EU-SILC survey year, income measured is from the previous year. AROPE, AROP: income from the previous year, SMD: current survey year, VLWI: status in the past year.
Breaks in series: AROPE: BG EE 2014, SE 2015, LU NL 2016, AROP BG LU NL 2016, SMD SE 2015, BG LU NL 2016, VLWI EE 2014, SE 2015, BG LU NL 2016. These Member States are classified based on EMPL estimation. For these Member States the values for 2012 should not be compared to values in 2016.

Source: Eurostat, EU SILC [ilc_peps01, ilc_li02, ilc_mddd11, ilc_lvhl11]

Click here to download chart.

Progress in reducing poverty and social exclusion varies across Member States

The risk-of-poverty or social exclusion (AROPE) has decreased or stabilised since 2012 in most Member States. Some recorded notable declines in AROPE, namely Croatia, Hungary, Ireland, Latvia, Poland and Romania while other six countries recorded smaller declines. Small increases appear only in Estonia and the Netherlands (*Chart 1.30*).

AROP does not follow the same trend. The at risk of poverty rate (AROP) has grown or stagnated since 2012 in most Member States (*Chart 1.30*, second column). Only Croatia, Finland and Greece recorded declining poverty rates between 2012 and 2016. In Greece this decline must be seen in the context of the 18% reduction in the median income or poverty threshold.

The persistence of at risk-of-poverty is linked to the evolution of median income. Median income in the EU increased by 6.4% in real terms between 2013 and 2016, supported by improvements in all Member States. However, different distributional patterns emerge when looking at disposable income in different quintiles of the distribution. In Bulgaria, Estonia, Lithuania and Poland the income of the richest quintile has increased faster than both median incomes and the income of the poorest quintile, while in Croatia, Greece and Portugal the opposite is the case. Overall, the income of the richest people has been 1.6 to 2.7 times higher than the median income in most Member States. These details of the income distribution are in line with developments in disposable income inequality, measured by S80/S20 and GINI, as well as in relative monetary poverty (AROP) in some Member States.

Higher median income raises the poverty threshold. To illustrate the point, the substantial rise of at risk-of-poverty rates (AROP) in the Baltic States and Romania was accompanied by an evident increase in median incomes, which lifted the poverty thresholds (*Chart 1.31*).

The trend in disposable income is forecast as stable in the short term. Flash estimates for 2016 indicate an overall increase in the equivalised disposable income across the distribution for almost

all Member States. These estimated changes were supported by the main trends in the labour market including the average gain in wages, as well as by the evolution of gross disposable income in Sectoral Accounts.

The decreases in severe material deprivation have been the main driver to reduce AROPE across Member States. Severe material deprivation has gone down in most member States since 2012, and has stayed constant in Denmark, Spain, Luxembourg, Portugal and the Netherlands. The only Member State where severe material deprivation has increased is Greece.

The decrease in low work intensity has contributed to reduce AROPE in many Member States. This third component of AROPE has declined in 12 Member States, has stayed constant in another 8 and has increased in 8 (*Chart 1.30*, the most right column).

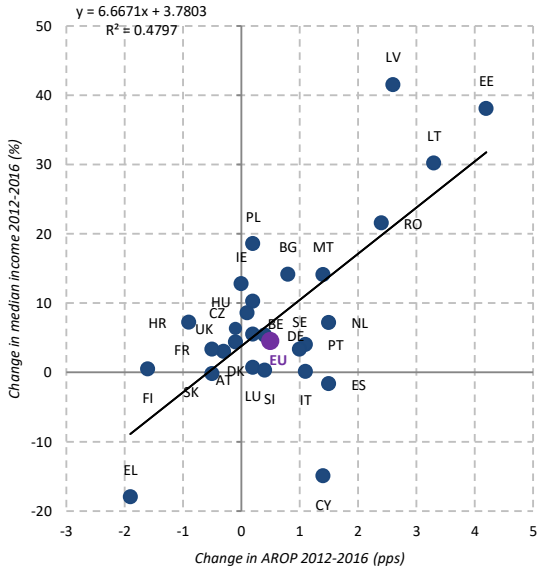
The number of people living in social and material deprivation declined between 2014 and 2016. According to Eurostat's new measure of deprivation ([78]), 15.7% of Europeans (75 million) were limited by lack of resources to cover material needs and ensure social participation in 2016, down from 19.3% in 2014. Only Belgium registered some increase between 2015 and 2016 (*Chart 1.32*).

Despite positive signs, the risk-of-poverty or social exclusion remains a challenge, especially in southern and Baltic Member States. The risk remains high in Bulgaria and Romania despite recent improvements, as well as in Greece – the only Member State where severe material deprivation has intensified since 2012. Between 2012 and 2016, AROP increased in the Baltics and Cyprus, Portugal and Spain to the levels of the most challenged countries mentioned above (*Chart 1.30*, second column). Together with an increase in inequality in many Member States, the persistence of the risk-of-poverty or social exclusion ranks at the top of the challenges to social cohesion in the EU.

Chart 1.31

Increase in risk-of-poverty sometimes coupled with increase in income

Poverty threshold (in real terms) and at-risk-of-poverty rate (%), EU Member States



Note: The year refers to the EU-SILC survey year, income measured is from the previous year.
Breaks in series: BG LU NL 2016. Changes in AROP for these Member States are indicative, based on EMPL estimation.

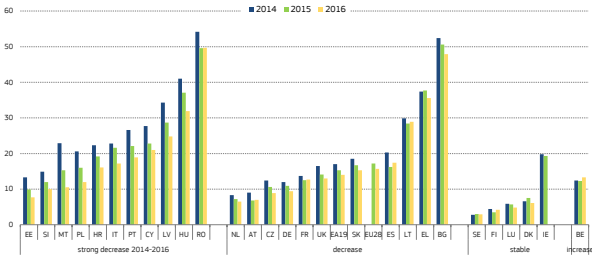
Source: Eurostat, EU SILC [ilc_li02, ilc_di04]; DG EMPL calculations

Click here to download chart.

Chart 1.32

Social and material deprivation continued to decline in most Member States in 2014-2016

Social and material deprivation rate (% of population), EU Member States, 2014-2016



Note: This new indicator of social and material deprivation relates to people who have experience living conditions constrained by a lack of resources, as explained in the footnote.
The year refers to the EU-SILC current survey year,
Breaks in series: BG 2016, LU 2016, NL 2016, SE 2015. These Member States are classified based on EMPL estimation.

Source: Eurostat, EU SILC [ilc_mdsd07]

Click here to download chart.

5. CONVERGENCE IN THE EU

5.1. The political and economic relevance of convergence

Convergence across Member States, including through the single market and the economic and monetary union, has from the outset been at the heart of the EU integration process. ([79]) It is therefore unsurprising that EU primary law, notably the Treaty on the Functioning of the European Union (TFEU), abounds with references to (economic)

([78]) A new indicator on social and material deprivation relates to people who experience living conditions constrained by a lack of resources, i.e. they experience at least 5 out of the following 13 deprivations: i) face unexpected expenses, ii) one week annual holiday away from home, iii) avoid arrears (in mortgage, rent, utility bills and/or hire purchase instalments), iv) afford a meal with meat, chicken or fish or vegetarian equivalent every second day, v) keep their home adequately warm, vi) a car/van for personal use, vii) replace worn-out furniture, viii) replace worn-out clothes with some new ones, ix) have two pairs of properly fitting shoes, x) spend a small amount of money each week on him/herself ("pocket money"), xi) have regular leisure activities, xii) get together with friends/family for a drink/meal at least once a month, xiii) have an internet connection

([79]) At least since the Single European Act (1986), convergence has been considered as the fundamental economic mechanism and precondition for achieving socio-economic cohesion in the Union. See Alcidi et al. (2018), and LSE Enterprise (2011).

convergence and to balanced economic development more broadly. ([80]) Additionally, some of the Union's hallmark policies, such as cohesion policy with its financial instruments, have been put in place precisely in order to foster and monitor balanced economic development and to combat socio-economic disparities at the level of sub-national territories, i.e. to promote the desired (upward) convergence not only between but also within Member States. ([81]) In this context, the relationship between integration and convergence has been two-way. An initial trend of (at least *nominal*) convergence was considered as an enabling, if not necessary, prerequisite for stable and socio-politically relevant integration, ([82]) which, in turn, feeds strongly back into the process of *real* convergence. ([83]) Additionally, for countries participating in a monetary union, real convergence was implicitly assumed to work towards making the structures of their economies more similar. ([84])

Much of economic literature has framed real convergence as the hypothesis that living standards in poorer economies will tend to grow faster than those in richer economies. Poorer countries catch up with the rest insofar as they improve their human capital and achieve productivity gains due to capital and technology crossing borders. Thus economies in different territories should eventually achieve convergence in terms of narrowing differences of per-capita GDP, relative endowments of productive factors, and relative factor prices. ([85]) This convergence is mostly relevant, and therefore customarily measured, over the longer term, so as to capture the effects of labour market behaviour and social outcomes which may track but typically outlast short- and medium-term business cyclicality.

Measuring real convergence among Member States is relevant for evidence-based EU policy in various domains. For instance, within the euro area, the issue of convergence is crucial to assessing the overall smooth functioning of the currency zone and its vulnerability to asymmetrical shocks, given the absence of systemic fiscal transfer mechanisms. ([86]) It is also recognised that the establishment and deepening of the single market may be impeded by divergent economic development. ([87]) In a similar vein, convergence between the EU15 Member States and the central and eastern European countries in terms of citizens' welfare was a central expectation of the 2004 and subsequent enlargements of the EU and its internal market. ([88])

On 17 November 2017, the European Parliament, the Council and the European Commission jointly proclaimed the European Pillar of Social Rights at the Social Summit in Gothenburg, Sweden. The Pillar, which the European Commission had elaborated and presented in April 2017, is an example of an EU-level initiative aimed at focusing the efforts of Member States, EU institutions and social partners in order to achieve real and, tangible convergence in the rights EU citizens enjoy in the labour market and in welfare (centred around 20 principles), regardless of the state they live in.

Evidence suggests that real convergence took place within the EU from the 1960s to the onset of the crisis in 2009. ([89]) Studies attest to a relatively broad consensus regarding the long-term converging trends in living standards across Member States, regardless of the (changing) composition of the Union. Research also vindicates the expectations of stronger (catch up) dynamics in central and eastern European countries relative to the rest of the Union. ([90]) Economic theory's hypothesis of real convergence due to the dynamics of faster-growing (former) laggards found further confirmation in the short-lived yet vigorous catching-up process of Greece and Spain within the founding members of the euro area (EU12) up to 2007. ([91])

([80]) For instance, Article 121(3) TFEU concerns measures "to ensure coordination of economic policies and sustained convergence of the economic performances of the Member States..." while Art 140(1) TFEU on the euro sets out the criteria for assessing "the achievement of a high degree of sustainable convergence" by the Member States.

([81]) As stipulated in Articles 174 and 176 TFEU – the legal basis for cohesion policy - which mandate the Union to develop actions aimed at "reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions."

([82]) In this respect, the so-called "Maastricht criteria" laid down by the Treaty on the Functioning of the European Union in 1992 are an example of criteria measuring nominal convergence in preparation for the launching of the advanced phases of monetary union. The elaborated "convergence criteria" were later enshrined in Protocol No. 13 annexed to the TFEU.

([83]) This is consistent with the conclusion that greater economic integration is needed in order to support further the convergence process in European Central Bank (2015), p. 42.

([84]) See Buti and Turrini (2015).

([85]) This is what neo-classical growth theory predicts. See Barro and Sala-i-Martin (1992), pp. 223–51. This evolution should take place as a result of productivity catching up as cross-border flows of capital and technology raise the quantity and quality of capital available to lagging economies, and insofar as the latter improve their human capital.

([86]) See, for instance, Berti and Meyermans, (2017), pp. 9-23 and European Central Bank (2015), p.31. Also, Article 121 (4) of the TFEU on economic policy is based on the premise that the economic policies of a single Member State "may risk jeopardising the proper functioning of economic and monetary union."

([87]) Article 27 of the TFEU recognises indirectly the importance of convergent economic development by acknowledging that "economies showing differences in development" may present difficulties for the establishment of the internal market.

([88]) See, for instance, the recent study by Tilford (2017).

([89]) See European Commission (2017b), p.11.

([90]) In specific terms, this outcome is substantiated by the observed decrease in the coefficient of variation in real GDP per capita for the group of 7 Member States that joined the euro area in 2007 or later, from 0.38 in 2000 to 0.13 in 2015, as calculated in European Commission (2017b), pp. 11-12. See also the concurring conclusions in the recent study by Alcidi et al..

([91]) See European Central Bank (2015), p. 32.

Box 1.3: Measuring convergence

Nominal convergence is convergence in nominal variables such as inflation and interest rates. **Real convergence** has been commonly understood primarily as convergence in economic and social performances. Real convergence across Member States has been generally analysed by two different measures: a) the so-called 'sigma-convergence', which measures the overall dispersion across countries, and b) 'beta-convergence' that occurs when countries with lower GDP per capita grow faster than those with higher (catching-up process). ([1]) Both concepts have been used to analyse convergence within and between Member-State groupings of particular functional relevance, as the EU aims to build a better and fairer economic and monetary union (EMU). ([2])

This section will analyse only 'sigma-convergence' and its evolution over the last decade. Coefficients of variation will be the statistical tool to measure the evolution of EU Member States in terms of convergence/divergence.

The coefficient of variation is the ratio between the standard deviation and the mean of a given distribution, in this case all EU countries. Lower coefficients mean higher levels of convergence. If all countries evolve at the same pace, the coefficients of variation will remain stable. This approach yields consistent results with different types of indicators.

It is necessary to analyse not only coefficients of variation, but also the evolution of the mean of each indicator. If there are no signs of convergence but the average is nonetheless improving, the evolution can be considered as positive. At the same time, convergence combined with a worsening of the mean represents an unfavourable evolution, which can be defined as 'downward convergence' ([3]). The best scenario is one in which convergence is increasing at the same time that the average is improving, 'upward convergence.'

([1]) For a recent analysis based on evidence from the euro area, see European Central Bank (2015), 'Real convergence in the euro area: evidence, theory and policy implications,' Economic Bulletin, Issue 5/2015, pp. 30–45.

([2]) Commission priorities, https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union_en

([3]) In this section the terms 'upward convergence' and 'downward convergence' will have always signify "positive" and "negative" respectively regardless of the type of indicator discussed. For instance, "upward convergence" in unemployment rates will signify convergence with falling unemployment rates although the values of the unemployment indicator actually decrease in this type of outcome.

However, the ascertained long-term convergence may have been destabilised by the crisis, skills-biased technological change, and globalization. ([92]) Additionally, the recent shocks may have affected Member States lagging behind the EU average to a larger degree: these Member States tend to have a lesser endowment in institutions, and may have been caught at lower, and therefore less resilient, base social situation conditions at the onset of the crisis. If these assumptions are even partly valid, the crisis may indeed have broken the long-term converging trend in social and employment characteristics. ([93]) Additionally, the accelerating changes in technologies and production processes (which Chapter 2 will analyse) may have also counteracted convergence in the EU. Indeed, some economic analysis posits that technological change drives a wedge in product and labour markets by providing vast new opportunities for some firms, workers, and economies, while leaving others behind. ([94])

This section will review the entire period from just before the onset of the crisis through the recovery (2008-2017) in terms of upward convergence. The focus will be on the evolution of some of the most relevant economic, labour market and social situation indicators across the whole of the EU, without clustering Member States in particular sub-groups. ([95])

5.2. Economic performance and living standards improve without converging significantly

Real GDP per capita is improving but has not converged over the last decade. GDP per capita in the EU (based on constant euro) has increased by approximately 12% (i.e. by EUR 2 700) despite the effects of the crisis, as shown in *Chart 1.33*. This is a positive development for most European citizens. However, in terms of convergence, changes over the last decade have not been consistent with the clearly positive trend observed over the long term, starting

([92]) For a discussion of the conditions for sustainable real convergence see European Central Bank (2015), pp. 40-44. Indeed, insofar as the aftermath of the crisis saw a substantial reduction of resources allocated to investment in the quality of labour and in R&D –identified as key determinants of productivity growth and therefore of convergence - the crisis can well be expected to have had a negative impact on the convergence trends of at least the hardest-hit countries.

([93]) See European Commission (2013), *Employment and Social Developments in Europe – Annual Review 2013*, p. 21. Buti and Turrini (2015), who argue that convergence inside the euro area never stopped but the type of convergence (nominal, real and structural) differed across the main phases of the monetary union, and that structural convergence is ongoing. However, they concede that for this to lead to real convergence the right institutions and policies need to be in place at the EU, euro area and national levels.

([94]) See Ridao-Cano and Bodewig (2018), pp. 19-20.

([95]) For an analysis of convergence relative to wages see *Labour Market and Wage Developments in Europe – Annual Review 2018* by the European Commission, forthcoming in early fall 2018.

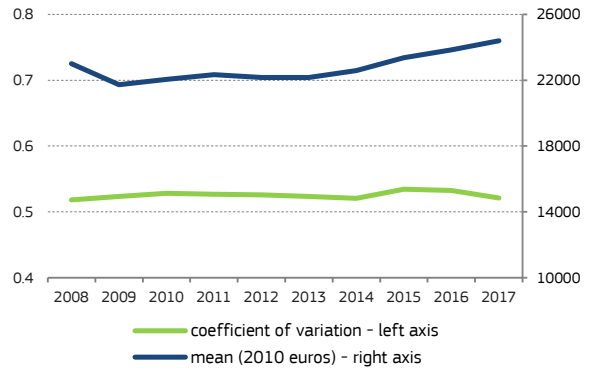
with the 1990s and continuing up to the years immediately preceding the crisis. ([96])

GDP per capita in PPS also shows the gain realised in living standards. At the same time, as was to be expected, measurement of GDP per capita in PPS shows a greater degree of convergence since the start of the crisis. ([97])

Chart 1.33

GDP per capita is slightly growing and but not converging

Real GDP per capita, coefficient of variation and mean (2010 euros), EU



Note: LU excluded

Source: Eurostat, National Accounts [nama_10_pc]

Click here to download chart.

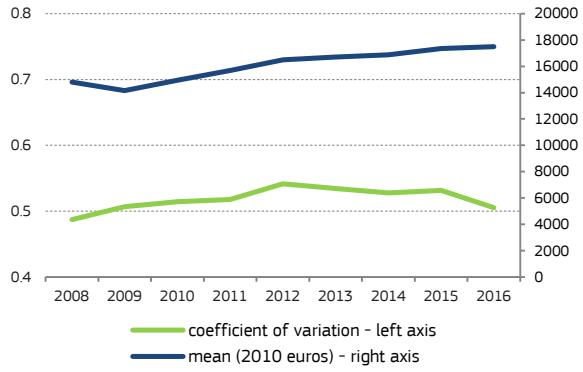
The gap between the richest and the poorest countries remains large. GDP per capita in Luxembourg exceeds EUR 80 000, while in Romania and Bulgaria it is only just above EUR 10 000.

Gross Disposable Household Income (GDHI) has grown in the last decade, but has not converged substantially. This indicator should provide a picture similar to GDP per capita but more precise in terms of standards of living. The increase in GDHI over the last decade was more significant than in GDP per capita. Starting in 2012, there has been some convergence in the EU. The crisis induced some divergence that was subsequently offset by the recovery. ([98]) Only some countries, such as Greece and Cyprus, registered strong drops in GDHI. As a specialised study on convergence has recently found, following the crisis, Mediterranean Member States saw a decline in income levels, while most Eastern European countries continued to grow but at a much lower rate than before. This, combined with income growth in the UK and Germany, halted the process of income convergence in the EU. ([99])

Chart 1.34

Household income has increased significantly without convergence over the last decade

Real GDHI per capita, coefficient of variation and mean (2010 euros), EU



Note: HR excluded by lack of data

Source: Eurostat, National Accounts [nasa_10_nf_tr, nama_10_gdp, nama_10_pe]

Click here to download chart.

5.3. Widespread improvements in labour market conditions do not always translate into convergence

The evolution of labour markets depends not only on the growth of economic activity. It also depends on other elements, such as legal frameworks and institutional capacity to enforce them, in the labour as well as in other policy domains (not least in taxation policy). ([100]) A deep and complete internal market should in principle induce a more efficient allocation of resources, including labour, acting in the long run as an equaliser of employment opportunities and unemployment risks across the EU. However, language, mobility and legislation are some of the frictions and barriers impeding this sort of optimal allocation of labour resources. The evolution of employment and unemployment in the EU has differed in terms of convergence.

The employment rate has shown upward convergence since the recovery. Divergence and convergence in the employment rate was very much linked to the unfolding of the crisis and the subsequent recovery. Nevertheless, a coefficient of variation in 2017, similar to that of 2009 but with a higher mean, indicates a slightly improved situation.

([96]) See European Commission (2017b), pp. 11, graph 1.3.

([97]) The purchasing power standard (PPS) is essentially an artificial currency unit used for cross-country comparisons, based on the informed and calculated assumption that one PPS can buy the same amount of goods and services in each country.

([98]) This finding is consistent with, among other things, the conclusion by Franks et al. (2018), who argue that lack of income convergence among the original euro area countries (including Greece) was due to limited or even eroding productivity catch-up by Greece, Portugal, Ireland and Spain, where the convergence of nominal interest rates faster than inflation rates fuelled credit flows from the core countries to the aforementioned Member States, reinforcing inflationary pressures, creating asset bubbles and undermining the latter's competitiveness.

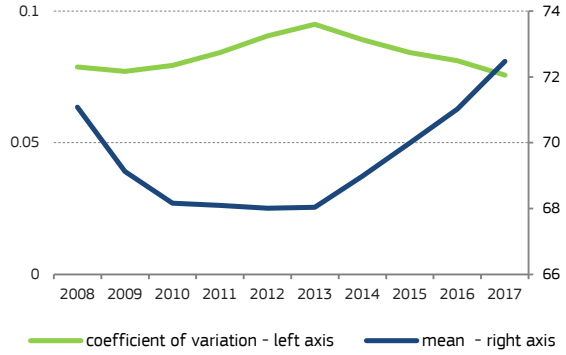
([99]) See Vacas-Soriano and Fernandez-Macias" (2017).

([100]) For a discussion of the impact of legal frameworks and institutional capacity variables on the labour market and its segmentation, see European Commission (2017d), pp. 78-115.

Chart 1.35

Employment rate converging since the start of the recovery

Employment rate 20-64, coefficient of variation and mean (% of labour force) ,EU



Source: Eurostat, LFS [lfsi_emp_a]

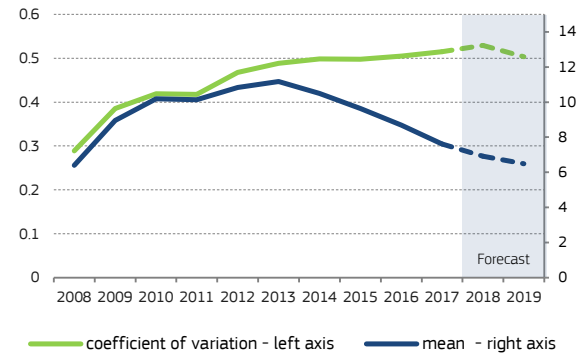
Click here to download chart.

Convergence in the unemployment rate has not occurred yet, but it may soon be discernible. The crisis increased divergence, and despite very positive developments in the recovery years up to 2017, convergence is still not visible. The absence of faster convergence is explained partly by still high unemployment rates in Greece and Spain, and partly by further reductions in countries which already had very low unemployment rates, such as the Czech Republic, Poland and Hungary. Indeed, although the unemployment rate in 2017 was similar to that of 2008, the degree of divergence was much higher in 2017. This is the legacy of the crisis, shown in *Chart 1.36*. However, based on data in the latest forecast, a converging trend can be expected to start appearing as of 2019 (see forecast part of *Chart 1.36*).

Chart 1.36

Unemployment rate is dropping but still diverging

Unemployment rate (% of labour force), EU



Source: Eurostat, LFS [une_rt_a]

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5.4. The social dimension: a mixed picture

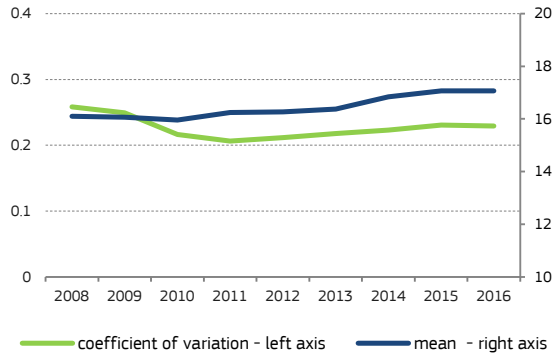
Convergence in the social dimension can be analysed by reference to poverty - either relative, as measured by the at-risk-of-poverty rate (AROP), or in standards of living, as measured by the severe material deprivation rate (SMD). Alternatively, it can be analysed by reference to inequality, which remains a challenge in terms of inclusive growth, especially in certain Member States.

The AROP rate has not converged over the last decade. As discussed in section 4, the average AROP in the EU increased over the last decade. Moreover, the trend has remained unchanged since the beginning of the recovery. In terms of convergence, the evolution has been stable, except during the first years of the crisis when some downward convergence was observed. This downward convergence can largely be attributed to exceptionally large reductions of the rate in Latvia and Estonia (-5.5 and –3.9 pps in 2010), but these reductions were linked to sharp declines in income.

Chart 1.37

Increases in the AROP rate did not translate into higher divergence across the EU

At-risk-of-poverty rate, % of population, EU



Source: Eurostat, SILC [ilc_li02]

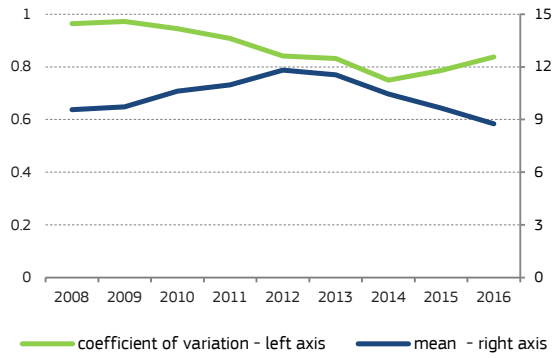
Click here to download chart.

The negative evolution of relative poverty contrasts with positive developments in standards of living. Over the last decade living standards, measured by the SMD rate, showed clear upward convergence as the rate declined strongly in the EU. More recently, since 2014, while the average SMD rate continued to decrease in almost all Member States, there has been some divergence, explained by developments in particular countries: the speed of decrease has been especially low in some of the countries with the highest rates, namely Bulgaria, Romania and Greece.

Chart 1.38

Severe material deprivation converged across the EU

Severe material deprivation rate, % of population, EU



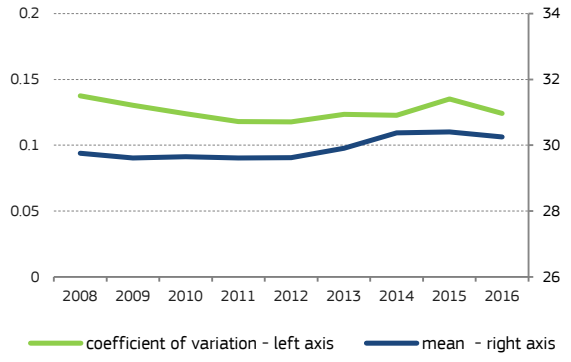
Source: Eurostat, SILC [ilc_mddd11]

Click here to download chart.

Inequality has shown some downward convergence. As measured by the GINI coefficient,

([101]) inequality remained stable during the crisis and deteriorated slightly during the recovery. During this time, the indicator moved in a pattern of long-term slow convergence.

Chart 1.39
Inequality remained unchanged during the recovery but its divergence across the EU has not increased
GINI coefficient, EU



Source: Eurostat, SILC [ilc_di12]
Click here to download chart.

6. Conclusions

In 2017 the EU economy grew at its fastest rate since the crisis. This happened in a favourable context of global economic expansion. Nonetheless, important disparities persist despite the progress registered by all Member States in output expansion.

The labour market in the EU improved solidly but unevenly across Member States in 2017. Economic growth led to the highest ever levels of employment, rising employment rates and falling unemployment rates in the overwhelming majority of the Member States. However, there are still large disparities between Member States. For instance, over ten percentage points still separate the unemployment and long-term unemployment rates and up to thirty percentage points separate the youth unemployment rates of the worst performers from those of the best.

Despite five years of recovery, certain labour market challenges persist. New challenges will also require special attention in the near future. In relation to the future of work, the continuing ability of the EU economy to create more high-added-value jobs will depend, among other things, on more equitable access to well-functioning educational systems and skills training.

Member States could address the challenges of the labour market in line with the key principles of the European Pillar of Social Rights. In this respect, policy action could focus in particular on the right to inclusive and quality education, training and life-long learning; the right to equal pay for work of equal value regardless of gender; active support for employment; prevention of employment relationships that lead to precarious working conditions; and social dialogue.

The social situation in the EU has improved, especially with regard to higher standards of living in most Member States. Over the last three years, incomes from work have continued to increase and, together with social transfers, have led to an increase in the disposable incomes of households. The risk-of-poverty or social exclusion in the EU has steadily declined from its 2012 peak. And, notably, severe material deprivation has decreased in all Member States except Greece.

However, progress in reducing inequality and relative poverty (AROP) has been modest. Inequality in the EU has been largely stable since 2014. Without the redistributive effects of tax-benefit systems, inequality and poverty in the EU would have been much higher. Additionally, evolution at the EU level conceals significant differences between Member States. The risk-of-poverty (AROP) has increased or stabilised in most Member States, while inequality has intensified in ten Member States and can therefore be considered one of the main socio-economic challenges in the EU. ([102]) The risks of poverty or social exclusion are more pronounced for certain types of workers and vulnerable groups.

Improvements in labour markets should in principle translate into better social situations for more Europeans. Addressing the aforementioned challenges in social situations calls, among other, for more effective and efficient social protection systems, as discussed in in Chapter 5. In this respect, there is scope for more effective policy action by the Member States. Such action could be focused on principles of the Pillar of Social Rights, particularly on: the right to adequate social protection; the right to adequate minimum income; facilitating access to housing and assistance for the homeless and to essential services for all.

It has taken most of the last decade to offset the effects of the crisis in terms of convergence. Convergence in labour market and social situations is either weak or imperceptible during this period, which spans both the crisis and the recovery. ([103]) Very positive recent developments make it likely that all-encompassing convergence in unemployment rates

([101]) For the definition of GINI see footnote in section 4.2.

([102]) While this statement is accurate in the EU context, Darvas and Wolff (2016), p. 2, remind that income inequality in the EU can be considered low by comparison with the USA and the emerging economies of Asia, Africa and Latin America and poverty defined as very low absolute income is rare in the EU.

([103]) This is consistent with Darvas and Wolff (2016), pp. 2, 7-8, 67-69, who find that the EU economies diverged after 2008 in terms of social dynamics, as some southern countries in particular suffered increases in material deprivation, total unemployment and youth unemployment at the same time as they continued to register high income inequality as well. Also, Rusek (2015) argues that policy measures following the crisis restored nominal convergence but real divergence continued and posed a threat to socio-political stability in certain member States.

will be observable from 2019 on. Clear progress towards upward convergence has also been observed in severe material deprivation rates. In other indicators, such as the employment rate or household income, the crisis brought about some divergence, which was for the most part offset during the recovery. ([104])

([104]) This finding is consistent, in terms of income inequality, with Vacas-Soriano and Fernandez-Macias (2017). It is also broadly consistent with the conclusions of Ridao-Cano and Bodewig (2018), who, additionally, emphasise a growing divide in total factor productivity across national and sub-national territories (regions) in the EU. For a general analysis of how EU regions have fared in terms of socio-economic development up to 2017, see European Commission (2017e).

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