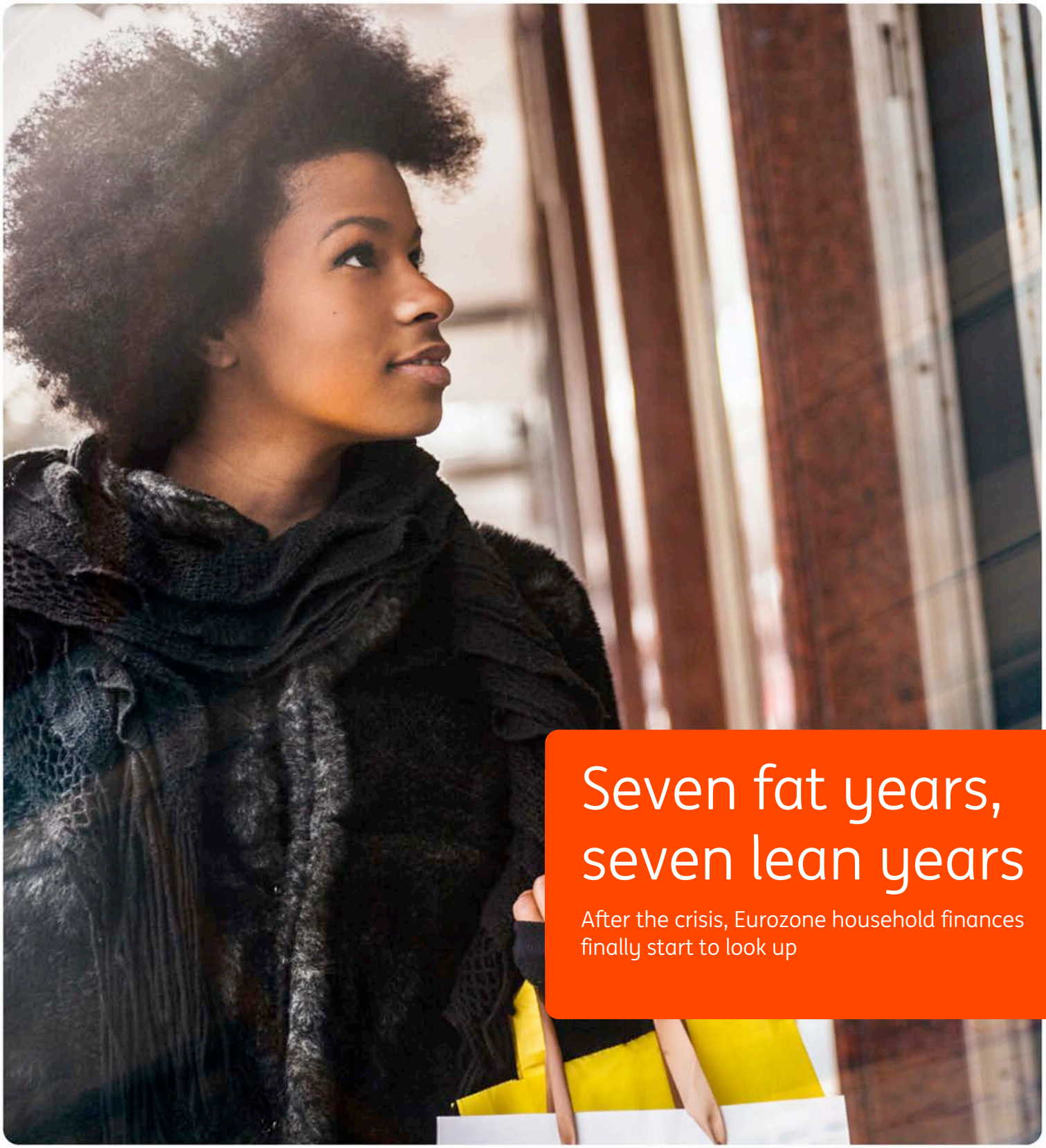


Seven fat years, seven lean years

After the crisis, Eurozone household finances finally start to look up

Economic and Financial Analysis
Consumer Economics

ING

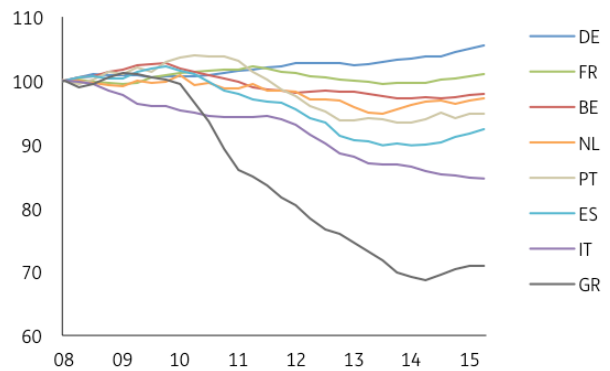
Seven fat years, seven lean years

After the crisis, Eurozone household finances finally start to look up

This report analyses how disposable income, consumption and saving of Eurozone households have evolved in the seven 'fat' years before the crisis and the seven 'lean' years between the start of the crisis and today. Based on this, it sketches an outlook for aggregate household finances. The analysis was conducted for the Eurozone as a whole and for a panel of the eight most populous Eurozone countries: Germany, France, Italy, Spain, the Netherlands, Belgium, Greece and Portugal.

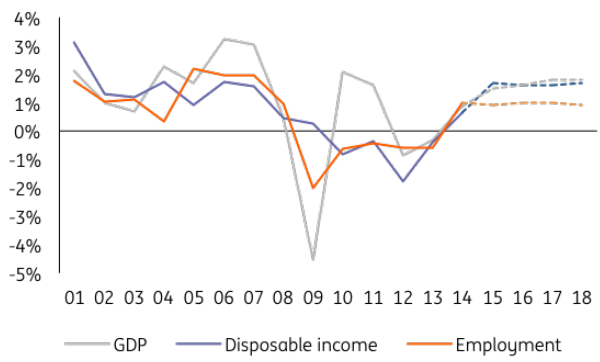
- In the past seven years, the Eurozone has weathered a severe economic tempest, which has dramatically affected the income, consumption and saving of households. But after seven 'lean' crisis years, aggregate household disposable income in the Eurozone has still not recovered. After peaking at the end of 2009, disposable income was dragged down by the 'double whammy' of falling market incomes (gross incomes from labour and capital) and income tax hikes from 2010 to 2013. Although disposable income has been growing for two years, in spring 2015 it was still 1.7% below its end-2009 peak. In that respect, the Eurozone has fared much worse than the US and the UK, where aggregate disposable income has increased by 12.5% and 2.0% respectively over the same period.

Disposable income per capita (1Q2008=100)



Source: Eurostat, ING.

ING Forecast, Eurozone (annual growth rates)



Source: Eurostat, ING.

- The financial crisis has also triggered a stark divergence across the Eurozone, with households in core countries maintaining their disposable incomes at pre-crisis levels while those in key peripheral countries have seen theirs plunge dramatically. As a result, income inequality between Eurozone countries has increased sharply. While disposable income per capita has risen by 5.4% in Germany since the start of 2008, it has fallen by 15.4% in Italy and by a dramatic 29% in Greece.

- Remarkably, even the seven 'fat' years preceding the crisis were not that 'fat' in all Eurozone countries. In fact, there was hardly any cross-country convergence of household disposable income, despite the gradual economic and financial integration of Eurozone member states. Households in the largest peripheral member states did not meaningfully catch up with those in the core. In Italy (3.8%) and Portugal (4.2%), per capita disposable income growth in the seven years before the crisis was even markedly lower than in Germany (4.8%), which was characterised by strong wage moderation in the period.
- When the financial crisis started, governments immediately launched strong counter-cyclical policies to support household incomes. Thanks to a big surge in social benefits, disposable income growth remained positive (0.3%) in 2009, despite the fall in the number of employees, in income of self-employed and in capital income. However, these policies were quickly reversed because high public debt levels in many countries, loss of investor confidence and European budget rules forced many governments to switch to fiscal consolidation.
- Fortunately, the seven lean years are running to an end. Disposable income in the Eurozone has probably grown by a decent 1.7% in 2015 and we expect it to expand at a similar pace in coming years: 1.6% in 2016, 1.6% in 2017 and 1.7% in 2018. This means that it should have reached the end-2009 peak by mid-2016, and exceed it by 4.3% by the end of 2018. Labour income should continue to play an important role, and the adverse effect of higher inflation in the coming years is expected to be offset by a stronger contribution of income of self-employed and of dividends.
- The income divergence between the core and the periphery should have stopped in 2015. Moreover, disposable income of the periphery is projected to grow meaningfully faster than that of the core, mostly on the back of faster employment growth. That said, the better expected performance of peripheral households is essentially driven by Spain, while the pace of expansion in other key peripheral countries is likely to remain sluggish. Income in the largest core countries should expand at a more even pace, except in Belgium, where wage moderation is temporarily weighing on employee compensation.
- Household consumption in the Eurozone is forecast to grow at the same pace as disposable income in 2015 and 2016, but a little faster in 2017 (1.7%, vs. 1.6%) and 2018 (1.9%, vs. 1.7%) as household deleveraging fades. As a result, the saving rate is forecast to fall slightly from the current 12.7% to 12.4% in 2018.

ING Economic and Financial Analysis

Anthony Baert

Economist

Brussels +32 2 547 39 95

Anthony.Baert@ing.be

Table of contents

1. Introduction

The Eurozone has traversed a severe economic tempest…

In the past seven years, the Eurozone has weathered a severe economic tempest. The global financial crisis marked the end of the fat years, a period of relative and evenly distributed prosperity which had characterised the Eurozone since its inception, and triggered the start of seven lean years. The Great Recession of 2009 was followed by a sovereign debt crisis which hit especially the Eurozone's southern states and even posed an existential threat to the common currency.

…and today it is licking its wounds

Currently, the Eurozone economy is licking its wounds. The recovery has started, but is still very feeble. What is more, economic performance is still strikingly uneven across countries. In addition, the various crises that have hit the European continent have occurred against the background of the emergence of several long-term challenges, particularly population ageing and slower productivity growth.

Households have not been spared from these dramatic developments

Households all across the Eurozone have not been spared from these dramatic macroeconomic developments, quite the contrary. Their financial situation has been intensely affected by the booms and busts of the past decade and a half. Since 2008, millions have lost their jobs and seen declines in real wages, in the value of their homes or in the returns of their savings, often while having to repay considerable debts. In many countries, austerity policies implemented to restore the health of public finances have put further pressure on household incomes.

Income and consumption have still not recovered

Today, both disposable income, defined as the total sum of all sources of income minus taxes and social contributions, and consumption of Eurozone households have still not recovered from the crisis.

Per capita disposable income is the same as ten years ago

With respect to income, the average Eurozone resident today has the same disposable income as ten years ago, i.e. €1,599 a month[1] (Fig 1). After seven fat years of steady growth before the crisis, by a cumulative 11.4%, in the seven subsequent lean years, disposable income in purchasing power terms first stagnated (2008-2009), then slumped and bottomed out (2010-2013). The subsequent recovery, still ongoing, has still not made up for lost income levels according to the latest available data. In aggregate terms, in the second quarter of 2015 household disposable income was still 1.7% below the peak reached at the end of 2009[2].

Consumption witnessed a double dip during the crisis

Differently from disposable income, consumption witnessed a double dip during the crisis, first in 2008-2009, then in 2011-2013, but the observation that it has barely advanced compared with pre-crisis levels also holds here (Fig 2). Today, the typical Eurozone resident spends about €1,412 a month, around the same as in 2006 in purchasing power terms.

The saving rate rose sharply, then fell back and stabilised

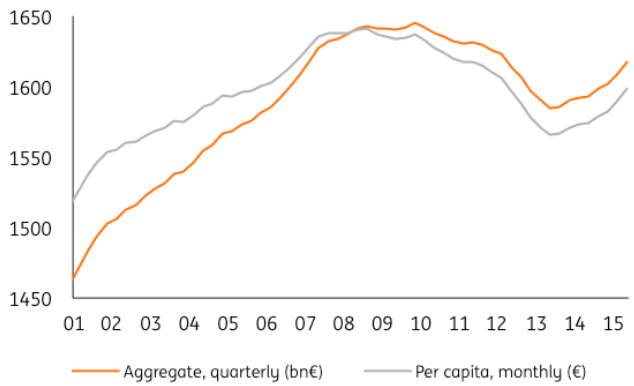
In order to examine changes in consumption and saving that are not explained by changes in income, it is interesting to focus on the evolution of the saving rate, the share of disposable income saved by households. As a result of the distinct income and consumption trends since the start of the crisis, the saving rate first

[1] This is €19,188 in annual terms. This is a *per capita* number, computed by dividing aggregate household disposable income by total population. It represents the income of an average *resident*, not that of an average *household*.

[2] The difference between aggregate and per capita levels is due to population growth.

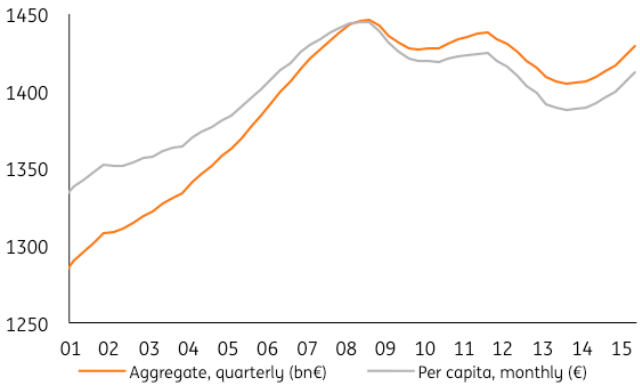
increased sharply as consumption dropped while disposable income stabilised, from a pre-crisis low of 12.8% at the end of 2007 to a record 14.5% at the end of 2009 (Fig 4). As consumption recovered while income started to fall, by 2010 the saving rate had fallen back to pre-crisis levels. Subsequently, the saving rate has remained remarkably stable at a level below but close to 13%, as income and consumption moved at a similar pace.

Fig 1 Disposable income, Eurozone



Source: Eurostat, ING.

Fig 2 Consumption, Eurozone



Source: Eurostat, ING.

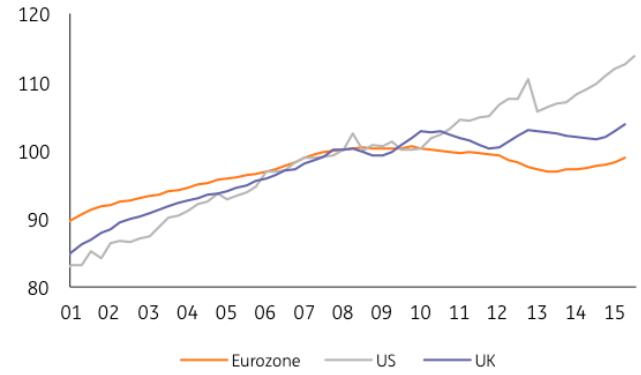
The Eurozone has fared much worse than the US and the UK...

With respect to income developments, the Eurozone has fared much worse than the United States and the United Kingdom (Fig 3). Not only was household income growth much slower in the Eurozone before the crisis than in the US and the UK, but the latter have also fully recovered today. In the US, aggregate disposable income is 13.8% higher than at the start of 2008; in the UK it is exceeds that level by 3.8%.

...while saving rates in the US and the UK are lower and more volatile

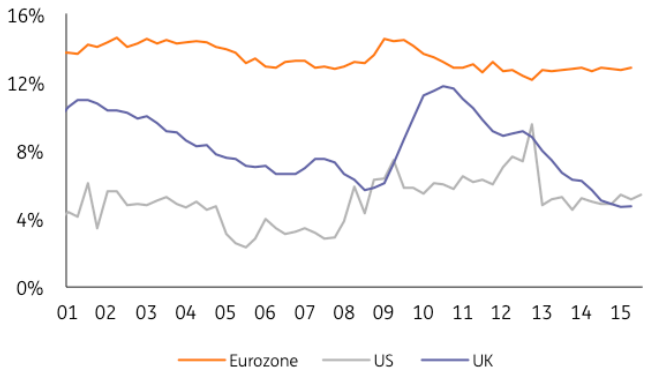
The saving rates in the two Anglo-Saxon countries, while being structurally lower than in the Eurozone, are also much more volatile (Fig 4). In the UK, the saving rate roughly evolved in the same direction as in the Eurozone since the start of the century, but in much more pronounced way. From 2008 to 2010, it shot up by 6 percentage points, higher than the level where it stood at the beginning of the decade (11%), reflecting a big drop in consumption. Since then, however, the saving rate has fallen back to a much lower level, one that is similar to the US. The American saving rate fluctuated between 2% and 6% before the crisis, before peaking at 7.4% at the depth of the recession in 2009 and once more at 9.5% at the end of 2012. Interestingly, today it stands at a somewhat higher level than in the years before the crisis, contrary to the Eurozone and the UK, where saving rates are flirting with all-time lows, probably thanks to the stronger increase in disposable income.

Fig 3 Aggregate disposable income (1Q2008=100)



Source: Eurostat, BEA, ING.

Fig 4 Saving rate



Source: Eurostat, BEA, ING.

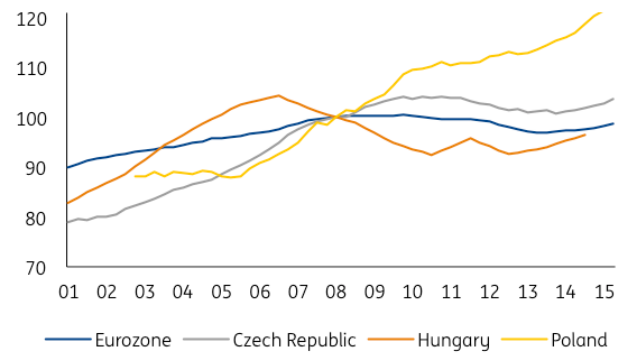
Disposable income growth was more dynamic in new EU member states...

We also compare the Eurozone with the four major new member states of the EU: Poland, Romania, Czech Republic and Hungary. Disposable income growth was much more dynamic than in the Eurozone in the run-up to the crisis (Fig 5). The Czech Republic, and Hungary witnessed an evolution similar to the Eurozone: a decline followed by a (very) modest recovery. In Hungary, the fall in disposable income already started in 2007, while disposable income peaked in the Czech Republic only in 2010. Poland is the odd one out: the crisis has not affected household purchasing power, and today it stands 20% higher than in 2008. In this respect, it closely follows the evolution of Germany (cf. infra).

...and saving rates tend to be lower

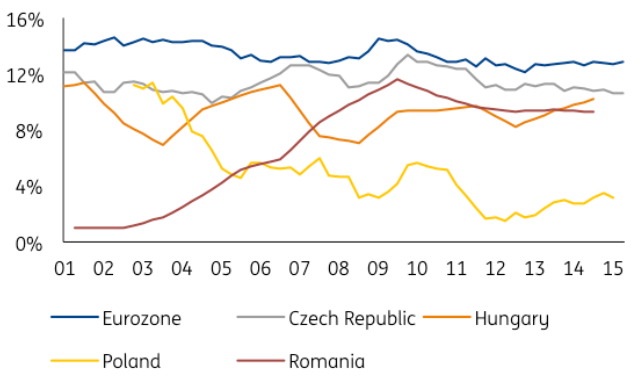
All four new member states have lower saving rates than the Eurozone (Fig 6). In the Czech Republic, the saving rate developments are closest to those of the Eurozone. In Hungary, it fluctuated between 8% and 12% over the period. In Poland, the saving rate has systematically fallen, from over 10% in the first years of the 2000s to a level even lower than the Anglo-Saxon countries. The Romanian saving rate rose steadily before the crisis, but has tended to fall afterwards. Similarly to the Eurozone, all four countries have recorded increases in the saving rate in 2009, right after the eruption of the global financial crisis.

Fig 5 Aggregate disposable income (1Q2008=100)



Source: Eurostat, ING. 2Q2015 prices for the Eurozone, the Czech Republic, Poland and Romania. Since only annual disposable income data was available for Hungary, linear interpolation was applied and 2014 prices were used. No data was available for Romania.

Fig 6 Saving rate



Source: Eurostat, ING. Since only annual disposable income data was available for Hungary and Romania, linear interpolation was applied.

In a nutshell, household disposable income in the Eurozone, which grew relatively slowly in the years before 2008, especially compared with other countries, has ground to a halt since the outbreak of the financial crisis. Today, its recovery has barely gained ground. Furthermore, we note that the saving rate tends to be both (much) higher and more stable in the Eurozone than in other economies. What has driven these developments, and what can Eurozone households expect in the coming years?

This report takes stock of and sketches an outlook for Eurozone household finances

This report analyses in detail how disposable income, consumption and saving of Eurozone households have evolved before and during the crisis. Based on this, it sketches an outlook for household finances.

- The report is the result of an **explorative study**, combining data analysis with recent economic history in order to point out striking developments and relationships and highlight avenues for further research.
- It focuses on **non-financial flows** of Eurozone households, i.e. their income, consumption and saving, which constitute the core of their financial situation. Financial flows are marginally discussed, while household wealth is treated in a separate publication. The decomposition of income is treated in this report, but the decomposition of consumption is the subject of a forthcoming report entitled *The income-consumption-price triangle*.
- Its focus is **macroeconomic**, i.e. centred on aggregate data at the level of the Eurozone and its member states. Where necessary to compare income levels across countries, per capita data are shown. Disaggregation (such as between income groups), while certainly as important to build an understanding of household finances in the Eurozone, is conducted in a separate piece, *The unequal crisis*.
- Finally, the report both **takes stock and looks forward**. As the title indicates, the seven fat years before the crisis are compared with the past seven lean years. The insights distilled from the analysis feed into the medium-term scenario and forecasts of Eurozone household finances.

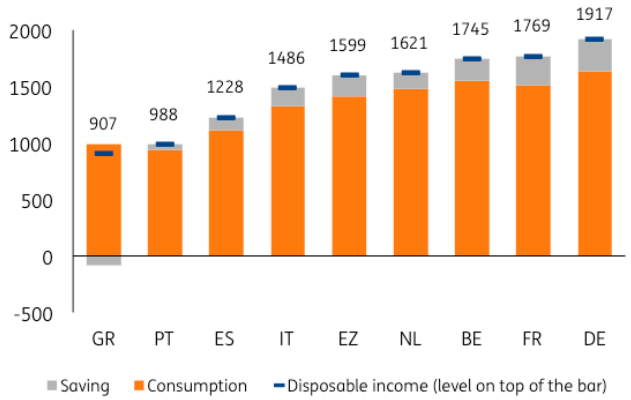
The report is structured as follows. The second chapter discusses the evolution of income, consumption and saving in the eight most populous Eurozone countries. As will be seen, the trends observed for the Eurozone as a whole mask vast cross-country differences. The third chapter is devoted to the key components of disposable income, their evolution before and during the crisis and their differences across countries. It will reveal that a double whammy of falling market incomes and fiscal consolidation have hit incomes. The fourth and final chapter describes the macroeconomic outlook for household finances in the Eurozone, summarised in the forecast table. Among others, disposable income is forecast to return to its end-2009 peak level by mid-2016. A methodological appendix summarising the sources and the transformation of the data can be found in Box 4 at the end of the report.

2. The great divergence of the Eurozone

This chapter discusses developments in a panel of the eight major Eurozone countries

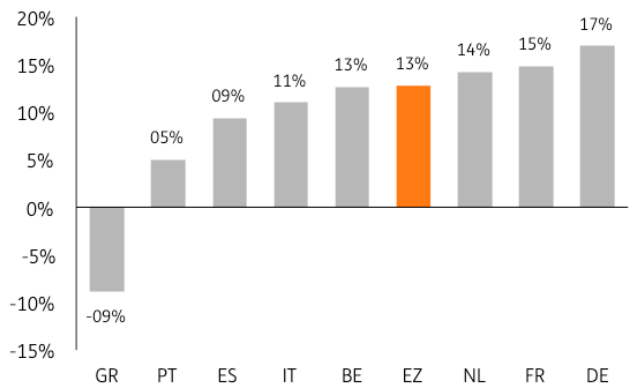
The Eurozone-wide household income, consumption and saving trends shown in the previous chapter constitute a good starting point for international comparison. However, data on the level of the Eurozone as a whole provide little insight, because of the huge differences across member countries, regarding both income levels and developments in the past decade and a half. Therefore, this chapter discusses the evolution of the financial situation of households in a panel of the eight major Eurozone (EZ) countries in terms of population: Germany (DE), France (FR), Italy (IT), Spain (ES), the Netherlands (NL), Belgium (BE), Greece (GR) and Portugal (PT). As they account for more than 90% of the Eurozone population (as well as of Eurozone GDP and disposable income), the analysis below encompasses the vast majority of Eurozone households without overburdening the presentation. Germany, France, the Netherlands and Belgium are part of the high-income core of the Eurozone; while Italy, Spain, Greece and Portugal are considered to be part of the Eurozone's low-income periphery.

Fig 7 Monthly per capita disposable income (€)



Source: Eurostat, ING. 2Q2015. Neither disposable income, nor saving are adjusted for the change in net equity of households in pension funds reserves. The data is not corrected for cross-country differences in price levels.

Fig 8 Saving rate



Source: Eurostat, ING. 2Q2015. The data for Greece was constructed using disposable income and consumption aggregates, but is not reliable.

Average disposable income levels across Eurozone countries are strikingly unequal

To start with, average disposable income levels across Eurozone countries are strikingly unequal. The Eurozone-wide per capita monthly disposable income of €1,599 hides that residents in the core countries earn on average 40%[3] more than in the periphery (Fig 7)[4]. Germany leads with €1,917, followed by France and Belgium, while Dutch average income is only slightly above the Eurozone

[3] In order to compute this percentage, the core and periphery averages were weighted by population.

[4] Note however that the data has not been corrected for cross-country differences in price levels. Given that prices are lower in the periphery, the purchasing power of a given amount of euros is probably higher there than in the core. The amounts stated here might therefore somewhat overstate the cross-country inequality in purchasing power. Furthermore, since the average size of households is somewhat bigger in the peripheral countries (2.4 in Greece, 2.6 in Portugal, vs. 2.0 in Germany), the cross-country inequality of the disposable income of an *average household* (which is not treated in this report) will tend to be smaller than the inequality in *per capita* disposable income.

average[5]. Within the periphery, Italy scores best with €1,486, followed by the Iberian nations of Spain and Portugal. Greece's average income is the lowest in our panel: €907, equivalent to only 47% of the German level. Cross-country differences in consumption are somewhat smaller. Household consumption per capita ranges from €1,634 in Germany to €988 in Greece (Fig 7).

The core saves more, the periphery saves less

As in the first chapter, the relationship between income and consumption can be represented by the saving rate[6]. On average, Eurozone residents save 12.8% of their disposable income (Fig 8). The four core countries all have a high saving rate, led by Germany (17.0%); the four peripheral nations save relatively less than the Eurozone average. This reflects the fact that richer populations have more financial space to save. Greece, of course, is a singular case. Due to doubtful statistical quality, neither ELSTAT nor Eurostat publishes saving rates for Greek households. Therefore, we constructed a figure from available disposable income and consumption aggregates, but this should be interpreted with utmost caution. Rather than massive dissaving, it might be the result of underreporting. We will come back to this surprising fact in section 2.2.

The first section discusses the evolution of aggregate disposable income developments. The second section focuses on consumption and saving, the two possible 'uses' of disposable income. The chapter concludes with a box on the evolution of per capita income levels.

2.1 From no convergence to stark divergence

The Eurozone boom and bust is well known today

The story of the Eurozone boom and bust is well known today. After the euro was introduced in 1999, a process of swift financial integration started which raised hopes of a rapid catch-up of the periphery with the core. As we know today, however, for the periphery the euro accession has led instead to an accumulation of private and/or public debt, fuelled by the drastic fall of interest rates. Because of investor euphoria and institutional weaknesses, expanding credit was often allocated to consumption or to non-tradables, instead of productive investment. In Spain and Ireland, this manifested itself in large housing bubbles; in Greece through a public spending spree. Combined with high inflation and the impossibility of devaluation, this misallocation caused a steady erosion of competitiveness. As domestic demand boomed and capital poured in from the core countries, peripheral current accounts deteriorated. In contrast, Germany, the core's biggest economy, implemented strong wage moderation during this period, which stimulated its exports but kept consumption down. The music stopped with the outbreak of the financial crisis. Capital inflows to peripheral member states abruptly halted. Deep recessions, housing market crashes and huge unemployment followed. Greece, Ireland and Portugal, and later Cyprus, received financial assistance from other European countries and the IMF to avoid

[5] The surprisingly low level for the Netherlands is due to the fact that the data does not account for the "change in net equity of households in pension funds reserves", i.e. compulsory pension savings through employers. See footnote 17.

[6] The decomposition of disposable income between consumption and saving shown in Fig 7 just gives an approximation of the saving rate, since for the latter disposable income is adjusted for the change in net equity of households in pension funds reserves. This explains why the Dutch saving rate overtakes the Belgian one despite its apparent small amount of saving. The adjustment is much larger in the Netherlands (equivalent to 7% of disposable income, compared to just 1% in Belgium). See also footnote 17 in Box 4.

sovereign bankruptcy, at the price of tough adjustment programmes. But also in most other Eurozone countries, austerity policies were put in place to restore public finances. As a result, the recovery only started in 2013, five years after the start of the crisis, and is still ongoing today. How have these macroeconomic developments affected household disposable income?

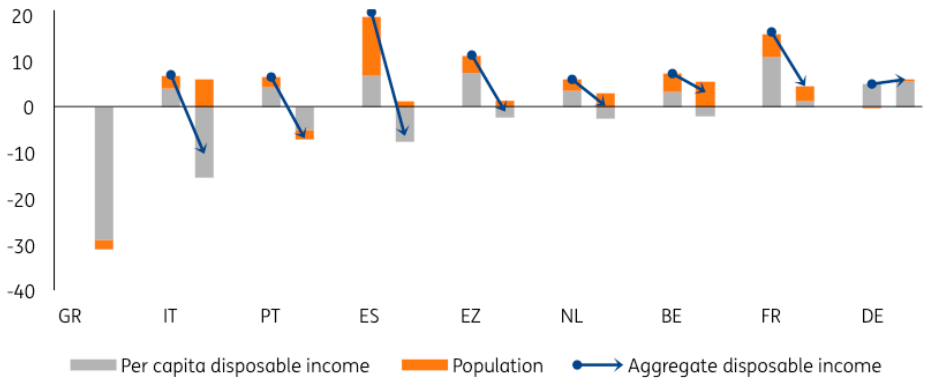
Before the crisis, household income across countries did not meaningfully converge

Before the crisis, household disposable income across countries did not meaningfully converge, despite the economic and financial integration of Eurozone member states**.** In the seven years before the crisis, the headline 11.4% *aggregate* disposable income growth of the Eurozone as a whole was mostly driven by Spain and France, which grew by over 20% and 15% respectively (Fig 9). In Belgium, Italy, the Netherlands and Portugal, disposable income grew by around 7% over that period, and in Germany, which implemented its labour market reforms, only by 5%.

Despite the pre-crisis booms, there was no peripheral catch-up

If we only focus on per capita developments by taking population growth out of aggregate income growth, the picture is even starker: despite the pre-crisis booms, there was no peripheral catch-up, as per capita income in Italy, Spain and Portugal grew slower than the Eurozone average (see Box 1 for more detail).

Fig 9 Disposable income growth (1Q2001-1Q2008 and 1Q2008-2Q2015, pp)



Source: Eurostat, ING. The graph shows aggregate disposable income growth and its breakdown in per capita disposable income growth and population growth. For each country of our panel, the first bar represents growth from 1Q2001 to 1Q2008 and the second bar represents growth from 1Q2008 to 2Q2015. The countries are ranked by aggregate disposable income growth from 1Q2008 to 2Q2015. No data was available for Greece for 1Q2001-1Q2008.

The crisis triggered a strong divergence between the core and the periphery

The crisis triggered a strong divergence between the core and the periphery. Since the start of the financial crisis, disposable income has plummeted in the four peripheral member states, while it has stabilised, or even expanded in the core countries (Fig 9). Comparing the seven pre-crisis years with the past seven years, Germany is the only Eurozone country where aggregate disposable income growth has accelerated. Fig 10 represents this divergence in another way. While before the crisis, disposable income growth in the core and the periphery were not markedly different, the crisis provoked a clear schism between the two: peripheral disposable income started a near six-year long decline, while income in the core recorded positive growth most of the time.

In the periphery, household income has fared worse than GDP

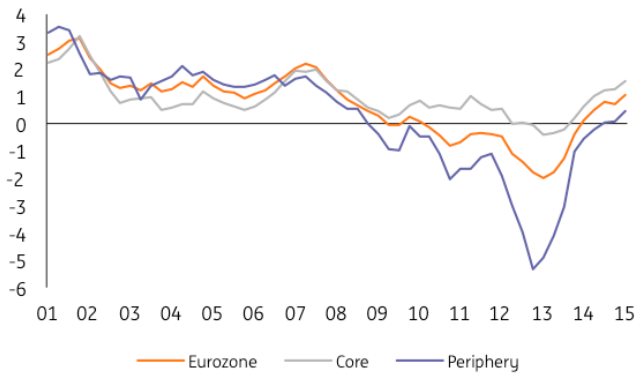
Moreover, in all peripheral countries, but also in the Netherlands and Belgium, household disposable income has fared worse than national output in the past seven lean years. This is especially the case in Greece: while its gross domestic product (GDP) dropped by 26% over this period, its disposable income fell by 31%

(Fig 11). In the core countries Belgium, France and Germany, disposable income has grown faster than output.

The recovery is broadening, but the divergence is ongoing

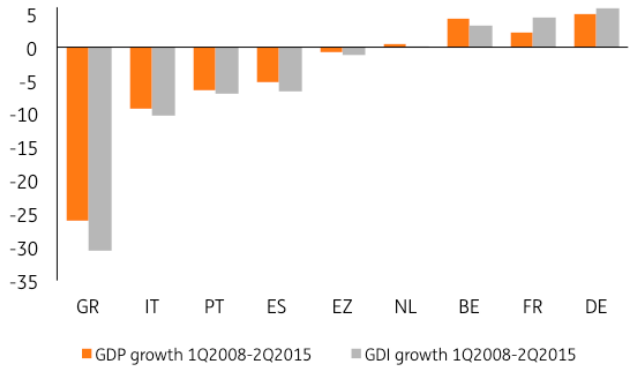
Fortunately, the recovery is broadening across the Eurozone. All eight countries of our panel showed positive year-on-year aggregate disposable income growth in 2Q2015. However, the divergence still goes on, as peripheral disposable income is still growing more slowly than core disposable income (Fig 10). Nonetheless, we expect the recovery to continue in the coming years (see the final chapter).

Fig 10 Disposable income growth (year-on-year %)



Source: Eurostat, ING. Core = BE, DE, FR, NL. Periphery = ES, IT, PT (GR not included because no data was available before 4Q2007).

Fig 11 Comparing GDP growth with disposable income growth (%)



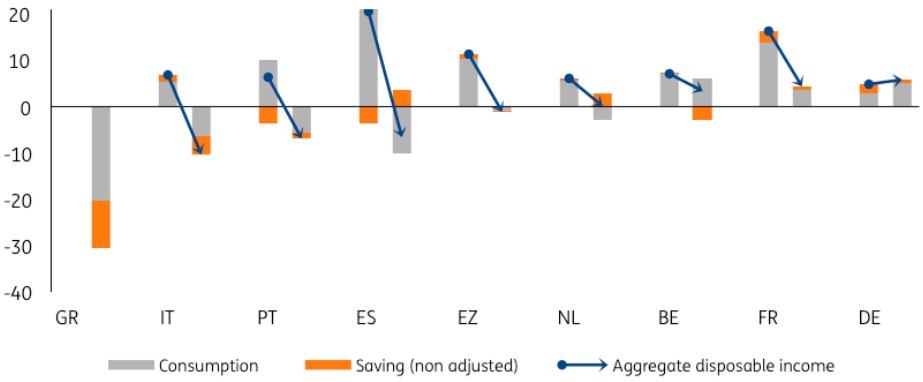
Source: Eurostat, ING.

2.2 The consumption and saving rollercoaster

These dramatic income trends have strongly impacted consumption and saving

Unsurprisingly, these dramatic income developments have strongly impacted its two uses, consumption and saving. The decomposition of income growth between the two is shown below (Fig 12).

Fig 12 Disposable income, consumption and saving growth (1Q2001-1Q2008 and 1Q2008-2Q2015, pp)



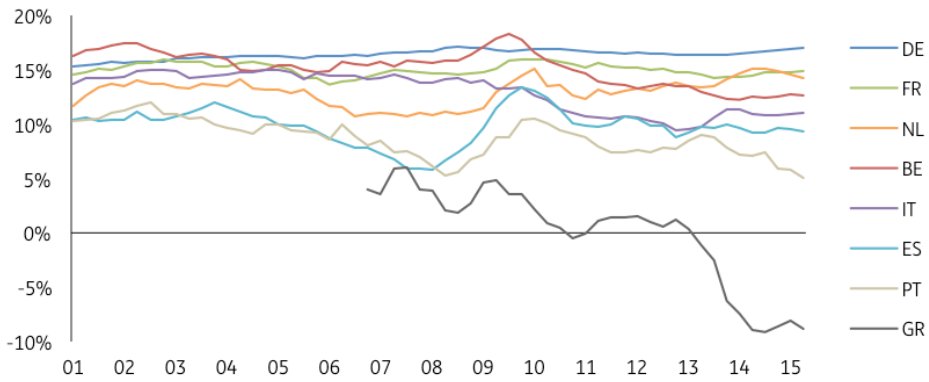
Source: Eurostat, ING. The graph shows aggregate disposable income growth and its breakdown in consumption growth and saving growth. As in Fig 7, neither disposable income, nor saving are adjusted for the change in net equity of households in pension funds reserves. For each country of our panel, the first bar represents growth from 1Q2001 to 1Q2008 and the second bar represents growth from 1Q2008 to 2Q2015. The countries are ranked by aggregate disposable income growth from 1Q2008 to 2Q2015. No data was available for Greece for 1Q2001-1Q2008.

The saving rate is analysed in order to discuss non-income-related developments

Disposable income growth explains the lion's share of the growth in consumption and saving. In order to discuss non-income-related developments for an eight-

country panel, the most appropriate way is to analyse the evolution of the national saving rates, the ratio between saving and income (Fig 13).

Fig 13 Saving rates



Source: Eurostat, ING. The final data points correspond with those of Fig 8. The data for Greece was constructed using disposable income and consumption aggregates, but is not reliable.

Saving rates have been consistently higher in core

First of all, saving rates have been consistently higher in core countries (around 15%) than in the periphery (around 10%) throughout the period of analysis. A notable exception is Italy, whose saving rate was high before the crisis, but moved closer to the periphery's during the crisis.

In most countries, saving rates went up in 2008, due to precautionary behaviour...

In all countries of our panel, except for Italy, saving rates started to go up at the end of 2008, in some countries very strongly (Spain and Portugal), in others hardly noticeable (Germany). Consumption already started to fall although household disposable income had not yet been meaningfully affected. This reflects precautionary behaviour given the huge uncertainty at the start of the financial crisis, particularly regarding employment prospects, encouraging households to consume less. One indicator gauging these fears of Eurozone households are their expectations of unemployment, which is indeed associated with the evolution of the Eurozone-wide saving rate (Fig 14).

...but some large swings signal that housing booms and busts played a role...

The large swings in some countries, however, signal that there were also other factors at play which intensified this behaviour. Most notably, saving rates might have been partly driven by the housing and credit booms and busts that countries like Spain and Netherlands have weathered (Fig 15). There are many channels through which this worked through income, consumption and saving rates. In the boom years, rising house prices propped up the construction sector, which boosted employment and therefore disposable income, translating mechanically into higher consumption.

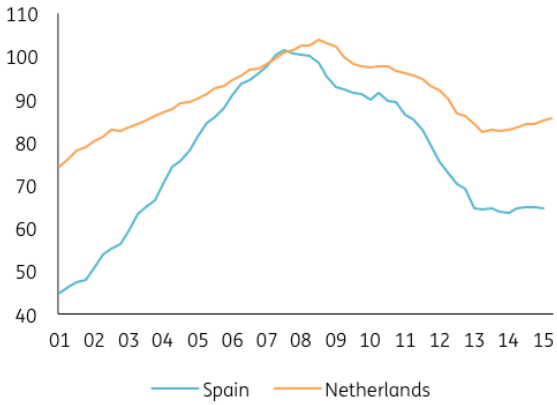
...through wealth effects which boosted consumption before the crisis

More importantly for the saving rate, the increase in housing wealth during the boom triggers a phenomenon known as the wealth effect. Households who feel richer, spend more, because of higher confidence in the future and because an increase in asset prices reduces the required amount of saving to reach a given level of wealth. Before the crisis, these housing wealth effects seem to have played an important role in Spain and the Netherlands, as booming house prices were indeed matched by falling saving rates in the years ahead of the crisis, something not witnessed in most other countries in the panel.

Fig 14 Saving rate vs. unemployment fears, Eurozone

Source: Eurostat, DG ECFIN, ING.

Fig 15 House price index

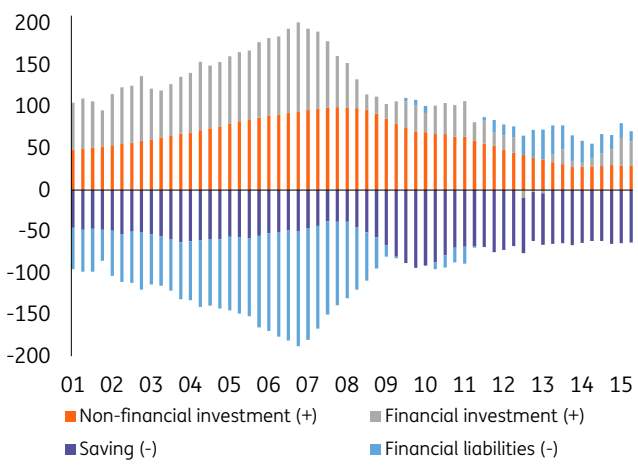


Source: ECB, ING.

While the direct impact of mortgage borrowing on saving is unclear...

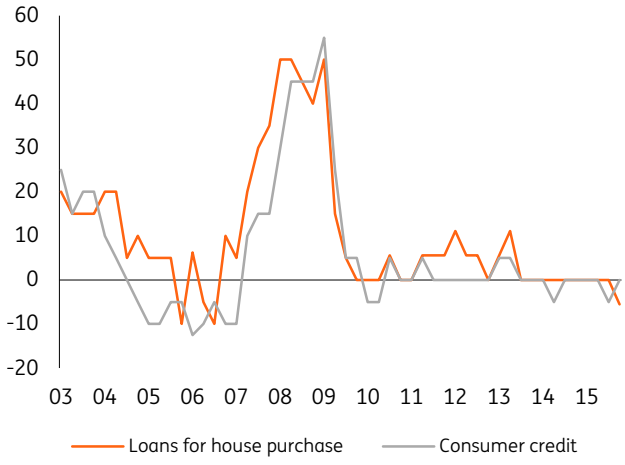
The housing boom in some countries in the Eurozone also left many households heavily indebted. Yet there is no automatic link between mortgage borrowing and the saving rate, because borrowed funds are largely used to buy property, not to consume[7]. Mortgage borrowing might lead to higher aggregate saving if mortgage repayments eat up a bigger share of disposable income, but it might also reduce flows to financial assets, leaving total saving unchanged or even lower than before[8].

Fig 16 Household investment, Spain (billion euro, four-quarter moving sum)



Source: Eurostat, ING. Financial (resp. non-financial) investment is defined as acquisitions minus disposal of financial (resp. non-financial) assets. Financial liabilities is the difference between newly incurred liabilities and repayments. Capital transfers and the statistical discrepancy were omitted because they were negligible.

Fig 17 Indicator of bank credit standards for loans to households, Spain



Source: Eurostat, ECB, ING. The indicator represents the difference in percentage points between the share of banks that tightened credit standards and the share that eased them. A positive (resp. negative) value indicates net tightening (resp. easing).

[7] This can be somewhat nuanced in countries where it is possible for households to borrow more than the value of their house, i.e. where loan-to-value ratio is higher than 1, such as the Netherlands. Part of the excess amount is not invested in renovation, but consumed.

[8] This is because saving, the difference between disposable income and consumption, is one of the two major sources (the other being financial liabilities) of financing for non-financial and financial investment, i.e. the flows to gross household wealth.

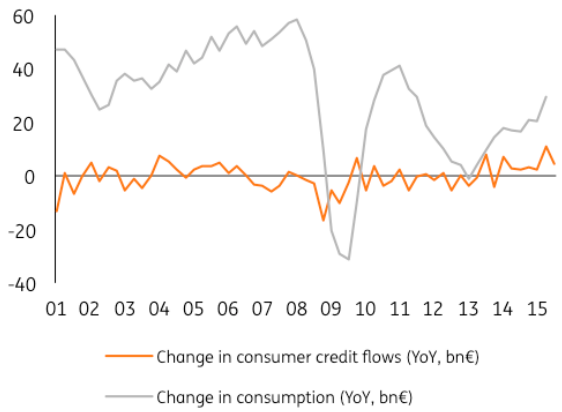
...in Spain, sharp saving swings were associated with stark shifts in borrowing

In the case of Spain before the crisis, borrowing (predominantly mortgages) increasingly replaced saving as a source of financing for non-financial investment (predominantly housing) and financial investment, such as cash on bank accounts or investment funds (Fig 16)[9]. Apart from the wealth-effect-driven confidence boom, this was also the result of credit supply factors. Banks eased credit standards for mortgages in the pre-crisis years, facilitating access to credit (Fig 17).

When property prices started falling in 2007, and the financial crisis erupted a year later, the Spanish saving rate jumped much more than in many other countries. Yet this does not mean that Spanish households added much more to their savings. On the contrary, the data suggests that the sharp rise in saving was driven by a collapse in borrowing, which was much stronger than the fall in non-financial and financial investment (Fig 16). What drove this stop in borrowing? Again, this can be explained by credit demand and supply factors. On the demand side, the loss of residential wealth seems, through plummeting confidence, to have provoked much more precaution than in countries that have not suffered a housing bust. On the supply side, credit standards were tightened sharply from 2007 to 2008, encouraging households to rely more on their own savings to finance investments (Fig 17).

Today, Spanish households are still in deleveraging mode: in the past years, savings have been increasingly used to repay past debts, rather than invest in housing or in financial assets. That might explain why consumption has fallen much more than income.

Fig 18 Consumption vs. consumer credit, Eurozone



Source: Eurostat, ING.

Consumer credit played a negligible role

Apart from mortgage credit, there is another type of borrowing that feeds directly into consumption: consumer credit. An expansion of consumer credit constitutes a drag on the saving rate as it pushes up consumption, while reimbursements of such loans reduce consumption and push up the saving rate, all else being equal. Its impact in the Eurozone is rather small, as changes in consumer credit flows are fairly limited compared with changes in consumption (Fig 18). Still, the fact that

[9] Fig 16 does not suggest that individual households were massively financing their financial investment through borrowing. The households borrowing and those accumulating financial assets tend not to be the same.

consumer credit flows turned negative in 2008 highlights another channel through which households reduced their spending and increased their saving: by taking on less new consumer loans and paying back past loans.

Saving rates peaked and fell back by end-2009…

As the situation calmed by end-2009, saving rates peaked and fell back in most countries. Reassured households massively compensated for previously foregone consumption, maybe thinking that the worst was over, as their aggregate income had still not fallen (see also Fig 1 and Fig 2). This regained confidence can be illustrated by the sharp decline of unemployment expectations in 2009 and 2010 (Fig 14).

…remaining mostly stable from 2010 onwards, with precaution possibly offsetting consumption smoothing

But when disposable income did get a hit from mid-2010 onwards, saving rates have remained broadly stable in most countries, indicating that on average, households adapted their consumption to the change in their income. Therefore, the second consumption dip seems to have been much more income driven than panic driven. However, this apparent stability of the saving rate could also mask large offsetting effects. On the one hand, another round of precautionary saving might have started as confidence faltered again. This time, deleveraging might have played a bigger role: when incomes are falling, the share of loan reimbursements in disposable income automatically increases, putting upward pressure on the saving rate. This denominator effect was absent in 2008 and 2009 because income was not yet affected. On the other hand, households might have also wished to retain living standards, even when confronted with falling disposable income – a phenomenon called consumption smoothing.

Germany's saving rate was the most stable

Among all countries whose saving rates increased in 2008 and fall back afterwards, Germany's saving rate was the most stable, principally because the crisis had a muted impact on the labour market. Despite a 5% drop in GDP, employment was barely hit, thanks to, among others, short-term work subsidies.

The fall of the Italian saving rate throughout the crisis is an exception

Contrary to the countries above, the Italian saving rate continued to move down after the start of the financial crisis, indicating that in the light of sharply falling incomes, households preferred smoothing their consumption to saving more. This might be due to the fact that there was no room for counter-cyclical policies because government debt was already very high. This might have encouraged households to attenuate the shock on consumption themselves.

Greek data is unreliable, possibly because of informalisation

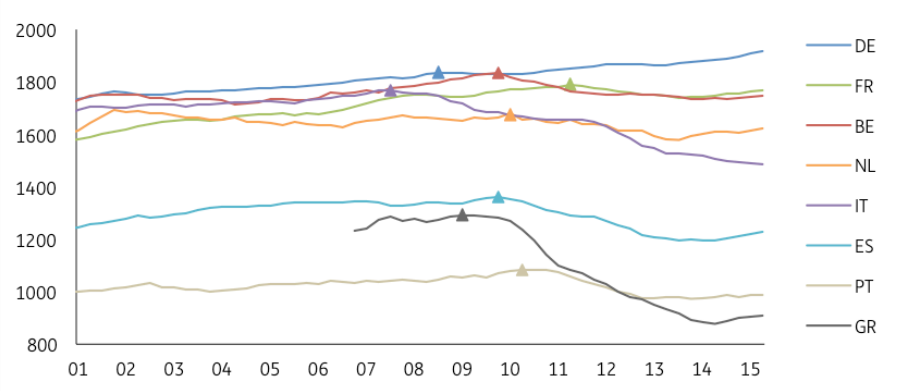
Finally, as mentioned at the start of the chapter, the Greek saving rate which we constructed is based on unreliable data. Taken at face value, the series suggest that Greek households have been consuming much more than they earn since 2013. Although this is economically possible as long as households dispose of savings, it is not very plausible. Instead, in our view the evolution of the series might rather illustrate the informalisation of the Greek economy, itself also a consequence of the economic depression. As deposits have been withdrawn massively in the past few years, the use of cash has become widespread, which greatly facilitates the underreporting of income, hence pushing down the saving rate.

Box 1 Evolution of per capita disposable income

The evolution of aggregate disposable income blurs how average citizens in Eurozone countries have fared, since it also reflects population growth (see Fig 9). Furthermore, the analysis in terms of growth rates over two seven-year periods omits both absolute levels and intra-period dynamics. Therefore, the evolution of monthly per capita disposable income is analysed more closely in Fig 19[10].

The figure vividly shows that there was hardly any convergence of incomes before the crisis and that cross-country differences in income levels have increased dramatically since the crisis, as the countries which had the lowest income before the crisis have suffered the most[11]. It also illustrates the stark divergence *within* the core and the periphery.

Fig 19 Monthly per capita disposable income (€)



Source: Eurostat, ING. No data was available for Greece before 4Q2006. The triangles show the pre-crisis peak level for every country. The data is not corrected for cross-country differences in price levels. The final data points correspond with those of Fig 7.

Germany, which was already the richest country in terms of household disposable income before the crisis, is the only country where average monthly income is higher than the pre-crisis peak, from €1,836 in the third quarter of 2008 to €1,917 in the second quarter of 2015. However, Belgium and France, which have already recovered in aggregate terms, are still below their pre-crisis level in per capita terms, as population growth outstripped aggregate disposable income growth. In the Netherlands, we note that the important role of pension funds distorts absolute disposable income levels (see footnote 17). But even taking into account the adjustment for the change in pension fund equity, which would bring it closer to the core countries, the Netherlands has clearly fallen behind.

The average monthly income of Italian households, which was higher than in the Netherlands and France and just slightly below Germany and Belgium, peaked in 2007, before any other country, and has since then fallen back to €1,486: a 16% fall.

[10] The final data points of Fig 19 correspond with those of Fig 7.

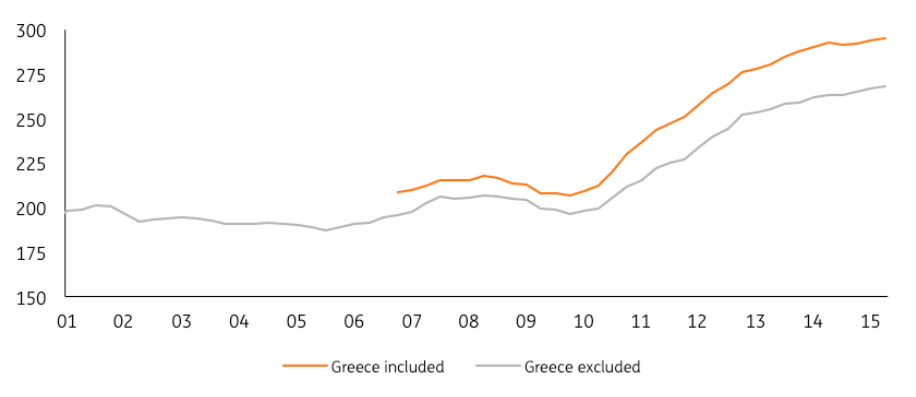
[11] This matches a recent finding of the ECB in the article *Real convergence in the euro area: evidence, theory and policy implications*: "(...) there has been no process of real convergence among the 12 countries that adopted the euro in 1999 and 2001." Available online on: http://www.ecb.europa.eu/pub/pdf/other/eb201505_article01.en.pdf

The three poorest countries before the crisis have witnessed some of the largest declines in purchasing power. In Spain, average household income was €1,362 at the end of 2009, but it stands at €1,228 today. Greece's average income peaked at €1,293 at the start of 2009 and has spectacularly plunged to a mere €878 by the spring of 2014, recovering somewhat afterwards. In the process, it became poorer than Portugal, where per capita monthly income has declined by 10% from its peak in spring 2010 to its €973 low in autumn 2013, and is barely higher today.

Today, in Italy and Portugal disposable income per person is still lower than in 2001, and in Spain and the Netherlands, it has just returned to the same level as 14 years ago. In Germany, on the other hand, per capita disposable income has never been higher than today. As a result, **income inequalities between households in Eurozone countries have increased sharply throughout the crisis**.

An indicator summarising this is the standard deviation of monthly real disposable income per capita in our panel (Fig 20). Before the crisis, the average income difference remained broadly unchanged, implying that income inequality between countries remained stable. The average difference in monthly household incomes from their Eurozone average was nearly €200. This again illustrates the lack of convergence before the crisis. In the first years of the crisis, the standard deviation even fell somewhat, as the average income of the richer countries stabilised while that of poorer countries was still rising. But since 2010, it started a rapid rise, until today's all-time high of €295 (€268 excluding Greece).

Fig 20 Standard deviation of per capita real disposable income (€)



Source: Eurostat, ING. The data is weighted for the eight countries' population. No data was available for Greece before 4Q2006.

Fortunately, the downward trend of real per capita disposable income has stopped in most countries (Fig 19). Real purchasing power per capita seems to have bottomed out in all countries by 2014, even in Greece. The only exception is Italy, where it stands at its lowest level in at least 14 years.

3. Income drivers

This chapter analyses the evolution of key disposable income components

Disposable income is the aggregation of all sources of income which households can spend or save. This chapter presents the key components of household disposable income in the Eurozone and analyses their evolution throughout the past decade and a half. Shedding light on the different sources of income will allow us to understand better what is driving the disposable income and thus to make better forecasts. First, we briefly present the key components of disposable income. Then we discuss their evolution during the seven fat years and the seven lean years. We conclude with an analysis of household interest income in the context of the recent monetary policy accommodation.

3.1 Overview

Gross disposable income consists of seven core components

Gross disposable income consists of seven core components (Tab 1). They can be distinguished between types of income *received* by households from other institutional sectors (non-financial corporations, financial corporations and the government), which add to disposable income, and types of income *paid* by households to other institutional sectors, which are subtracted from it. Some components of disposable income are exclusively received, some are exclusively paid, and some are both received and paid.

Tab 1 Decomposition of disposable income

1	Compensation of employees	Received
2	Operating surplus and mixed income	Received
3	Property income	Received minus paid
4	Income taxes	Paid
5	Social contributions	Paid
6	Social benefits	Received
7	Other transfers	Received minus paid

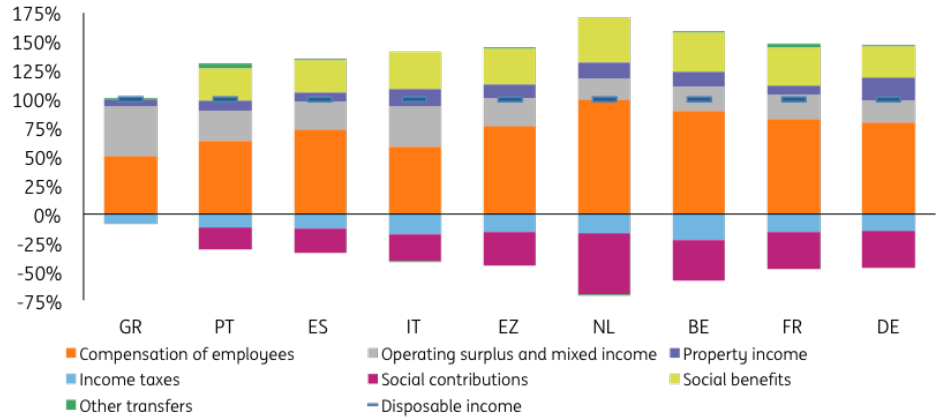
Source: Eurostat.

The composition of disposable income is quite different across countries

Fig 21 shows the decomposition of disposable income for the Eurozone as a whole and the countries in our panel. Received components are represented above the axis, paid components are represented below it, while components with both received and paid flows are shown in net terms. The graph shows that the composition of disposable income is quite different across countries[12].

[12] This has obvious implications for any integration of fiscal policies at the European level. Given such a different income structure, common fiscal policies would have very different incidence across member states.

Fig 21 Decomposition of disposable income (2014)



Source: Eurostat, ING. The seven components sum to 100%. Countries are ranked according to their per capita disposable income as shown on Fig 7. No data on social contributions and benefits was available for Greece.

The various components are introduced briefly below.

'Compensation of employees': gross earnings from wage labour

- *'Compensation of employees'*, or gross earnings from wage labour, constitutes the core of disposable income, representing 76% of it at the Eurozone level. It ranges from 50% of the total in Greece to 100% in the Netherlands. Strikingly, households in core countries depend relatively more on this source of revenue, as the share of employees in total employment is higher there.

'Operating surplus': the gross profit of real estate owners; 'mixed income': the gross income of the self-employed

- *'Operating surplus and mixed income'* consists of two subcomponents. *Operating surplus* consists almost entirely of housing rentals, both actual (received by landlords) and imputed (received by owner-occupiers). Costs made to provide housing services (e.g. for repair and renovation) are subtracted from the rentals. Hence, operating surplus represents the gross profit of real estate owners. *Mixed income* is the gross income of the self-employed and liberal professions. In the Eurozone as a whole, this component represents 24% of disposable income. In most countries, operating surplus constitutes more or less 11%. Outliers are Greece (15%), Germany (6%), where the evolution of rents was much less dynamic, but especially the Netherlands (1%), where private landlords are marginal as the rental market is dominated by housing corporations. The share of mixed income is relatively high in Greece and Italy, indicating the importance of small businesses there, but relatively small in France (9%). Naturally, there is a strong correlation between the share of self-employed in total employment and the share of mixed income in disposable income (Fig 22).

Fig 22 The self-employed versus mixed income

Source: Eurostat, ING. 2014 data.

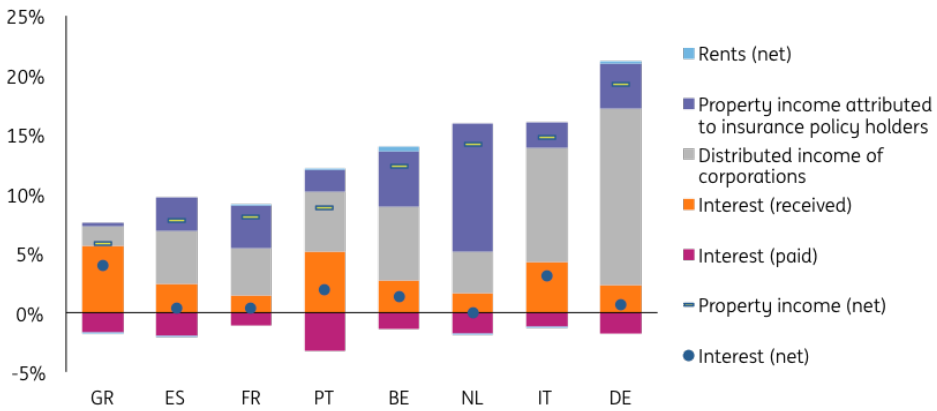
Fig 23 Standard deviation of quarter-on-quarter growth

Source: Eurostat, ING. The standard deviations are computed on QoQ growth rates from 1Q2001 to 2Q2015. For Greece, the standard deviations are computed on growth rate from 1Q2007 to 2Q2015.

'Property income': interest, dividends, income related to insurance and land rents

- *'Property income'*, also called capital income, covers interest, dividends, income related to insurance and rents from land ownership. In the Eurozone, net property income amounts on average to 13% of disposable income. Its decomposition for all countries is represented in Fig 24. Its share is especially big in Germany, nearing 20%, but also in Italy (15%), in both cases due to high distributed income of corporations. The Netherlands comes third, due to the importance of pension fund pay-outs, which are counted as insurance. In the other peripheral countries and in France, its share is below 10%. Interestingly, the share of *received* interest income in Greece, Italy and Portugal is almost twice as large as in other countries. Given this, the European Central Bank's policy of cutting interest rates might have adverse distributional implications across countries. We come back to this point in the next chapter.

Fig 24 Decomposition of property income (as a percentage of disposable income, 2014)



Source: Eurostat, ING. Countries are ranked according to their share of property income in disposable income. The Eurozone is not shown as no full decomposition was available.

Property income is much more volatile than compensation of employees

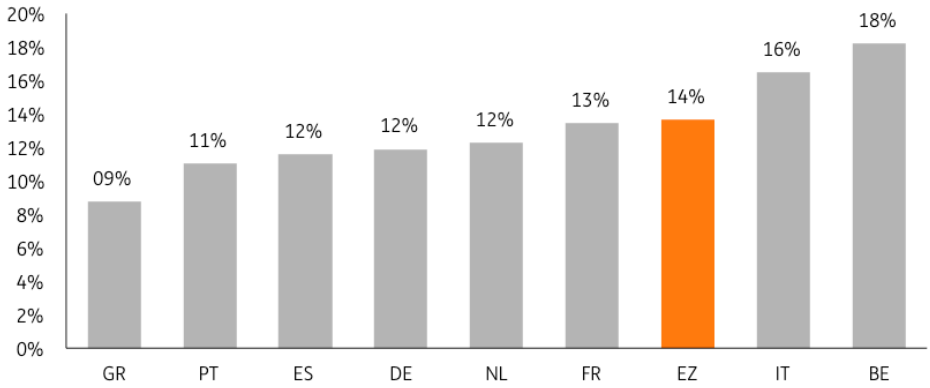
Fig 23 shows that of the three key components above, received property income has been most volatile in the past fifteen years, in all countries. Operating surplus and mixed income usually has been somewhat more volatile than compensation of employees in the core countries, while in the periphery the two have a similar

standard deviation, except in Greece, where compensation of employees has been significantly more erratic. This has obvious implications for the income stability of households depending relatively more on volatile components, especially property income.

'Income taxes': direct taxation on gross incomes

- *'Income taxes'* include direct taxes on the gross income of employees, landlords, the self-employed and property owners, but exclude consumption and wealth taxes. In the Eurozone, they are equivalent to 14% of disposable income, but this does not show the rate of income taxation, since disposable income is already net of taxes. To compute the macroeconomic household income tax rate, we divide total income taxation by the sum of all earnings before taxes, social contributions and social benefits, i.e. compensation of employees, operating surplus, mixed income and received property income (Fig 25). In 2014, it was 13.7% for the Eurozone. Belgium is the income tax champion, with a tax rate of 18.2%, followed by Italy (16.5%). In Greece, the income tax share is the lowest in our panel (8.8%). We stress that this does not represent the total tax rate, as it only considers income taxes.

Fig 25 Macroeconomic household income tax rate (2014)



Source: Eurostat, ING. This rate is computed as the ratio between income taxes and disposable income.

'Social benefits' and 'social contributions': tend to net each other out

- *'Social benefits'* and *'social contributions'* depend on the country-specific welfare state institutions. In the core Eurozone countries, benefits and contributions represent a sizeable share of disposable income, indicating the strength of their redistribution systems. Generally, in each country the share of benefits is roughly equivalent to that of contributions. In countries where benefits are funded relatively more through taxation, and where pensions are paid more through income from pension assets rather than from social contributions, net social benefits will tend to be higher (Italy, even before the crisis). On the other hand, in countries where benefits in kind play an important role, net social benefits will tend to be lower (Netherlands, Germany).

'Other transfers': negligible in all countries

- *'Other transfers'*, which include for instance non-life insurance premiums and claims and lottery tickets and prizes, are negligible in all countries.

3.2 The double whammy that hit the Eurozone

Now the evolution of the components is analysed

At this stage, the evolution of aggregate household disposable income in the Eurozone (shown in Fig 1) can be broken down in its seven components, in order to identify its key drivers. Fig 26 represents the contribution of each of the seven components to quarterly disposable income growth. The following story emerges.

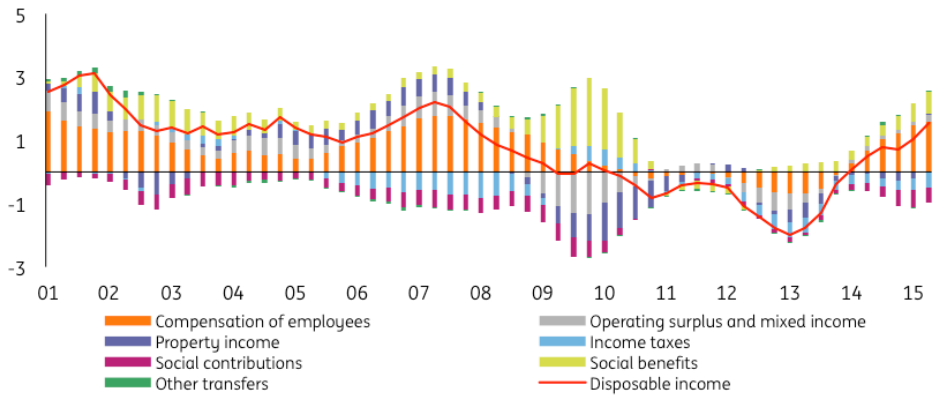
In the seven fat years, income growth was mostly driven by compensation of employees

In the seven fat years, strong disposable income growth was mostly driven by its most important component, compensation of employees. Operating surplus, mixed income and property income were equally important drivers. This led to more income taxes and social contributions being paid, especially in 2005-2008 (yielding a negative contribution of these components to disposable income).

In 2009, an income drop was prevented thanks to countercyclical policies...

When the recession raged in full in 2009, operating surplus, mixed income and property income took a serious hit. A drop in disposable income was prevented that year thanks to countercyclical policies as social benefits were ramped up, and income taxes decreased. Compensation of employees had not fallen yet, but it practically stopped contributing positively to disposable income growth.

Fig 26 Contributions to year-on-year disposable income growth, Eurozone (pp)



Source: Eurostat, ING.

...but then income suffered a 'double whammy': falling income from labour and property combined with fiscal consolidation

From 2010 to 2013, disposable income dropped. Compensation of employees started to fall, while operating surplus and mixed income and property income continued to decline. Social benefits stabilised and income taxes increased as austerity policies kicked in. The 'double whammy' of falling employee, business and property incomes on the one hand and fiscal consolidation on the other is behind the fall of aggregate disposable income.

In 2014, disposable income finally started to recover, mostly thanks to a strong comeback of compensation of employees[13].

Unsurprisingly, in virtually every single quarter, disposable income growth moved in the same direction as compensation of employees, its main component. Yet compensation of employees is itself driven by two subcomponents: the number of

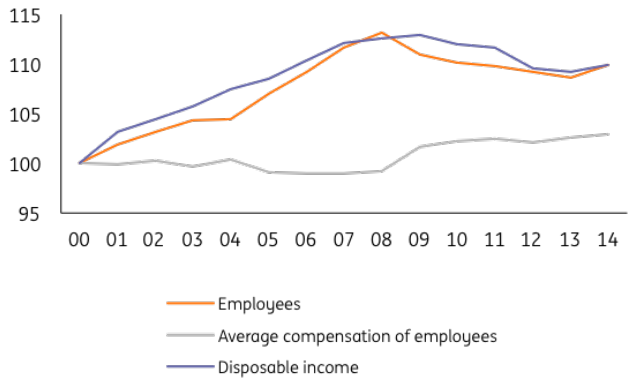
[13] It is no surprise that the sharp movements of the components of disposable income have also altered its composition (Fig 21). From 2008 to 2014, compensation of employees and social benefits have increased their share at the expense of all other components (by 3.3pp and 2.4pp respectively), mostly due to the strong counter-cyclical policies of 2009 and to the fact that the recovery has so far mostly pushed up compensation of employees. In the seven years before the crisis, the composition of disposable income had remained broadly stable.

Employment is the backbone of aggregate household income...

employees and average compensation per employee. Their evolution is shown in Fig 27. Fig 28 decomposes the contribution of compensation of employees to disposable income between these two sub-drivers. Both figures confirm that employment is the backbone of aggregate household income:

- When employment rises, aggregate disposable income rises as well. Over the period 2000-2008, the 13.2% rise in the number of employees was the core driver of disposable income, which increased by 12.6% . Average compensation, on the other hand, fell by 0.8% during that period.
- When employment falls, aggregate disposable income suffers. Over the period 2009-2013, the four-year period when disposable income fell by 3.3%, the number of employees fell by 2.1%. Average compensation of employees, however, bucked the trend: it increased by 0.9%.

Fig 27 Decomposition of compensation of employees: evolution, Eurozone (2000=100)



Source: Eurostat, ING. Annual data was used, as quarterly data for employees was not available before 2006.

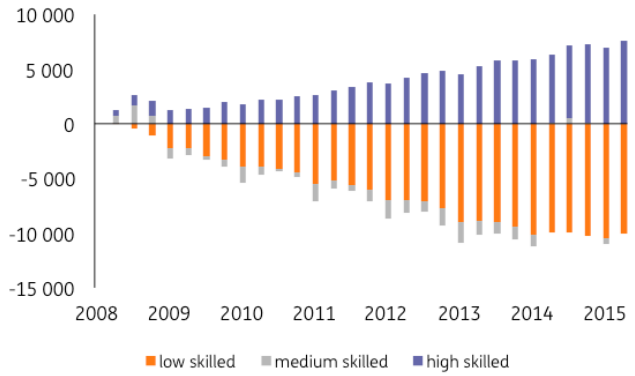
Fig 28 Decomposition of compensation of employees: contributions to disposable income growth, Eurozone (pp)

Source: Eurostat, ING. Annual data was used, as quarterly data for employees was not available before 2006.

...except in 2009, when average compensation more than offset the sharp drop in employment

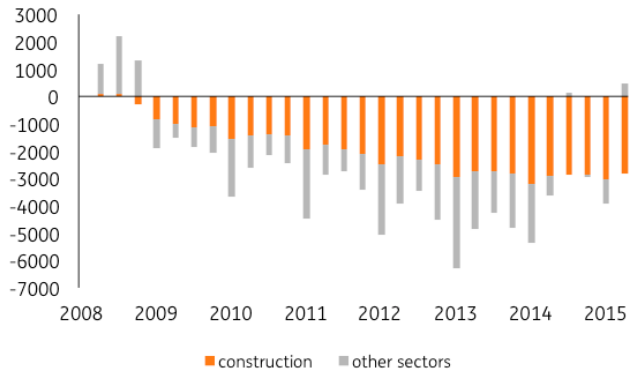
There is only one exception: in 2009, the rise of average compensation of employees more than compensated for the sharp drop in employment, leading to an overall positive contribution of compensation of employees to disposable income (Fig 28). However, this does not mean that the employees who kept their jobs in 2009 have seen their wages grow strongly that year. It rather indicates that the jobs lost were mainly low-wage occupations, as construction bubbles burst across the Eurozone (Fig 29 and Fig 30). Average take-home income of employees was boosted because the share of low-paid jobs in the total fell. This mechanism also explains why average compensation remained flat in the pre-crisis years of economic expansion. The job creation in the construction sector, especially in Spain, combined with the labour market reforms in Germany, increased employment but held down average compensation (see also Box 3).

Fig 29 Evolution of Eurozone employment (cumulative change since 1Q2008, thousands)



Source: Eurostat, ING.

Fig 30 Evolution of Eurozone employment (cumulative change since 1Q2008, thousands)

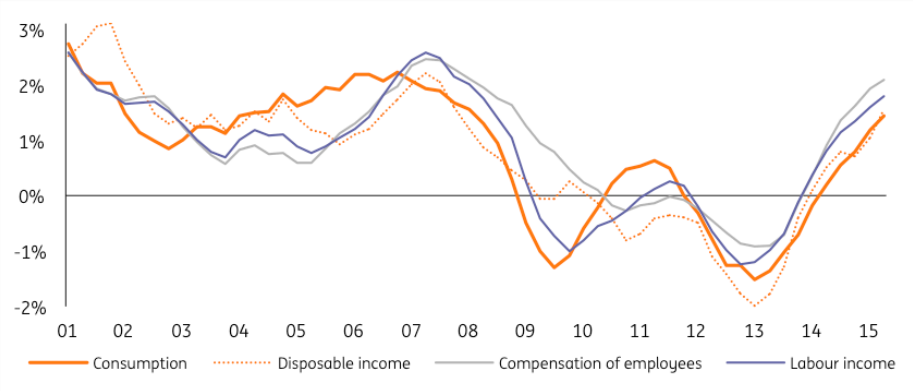


Source: Eurostat, ING.

Box 2 Linking labour income with consumption

As compensation of employees is the key component of disposable income, it also is the major driver of consumption, as can be shown on Fig 31.Two additional factors might even strengthen the link between the two: the distribution of income and a behavioural phenomenon called mental accounting. First, low-wage workers have less financial space to save, and hence consume a bigger share of their income. In this group, the relationship between labour income and spending is likely to be very straightforward. Second, people might mentally classify income from labour as something that 'should' be spent. A recent (2015) ING survey amongst Belgian savers provided some corroboration of this intuition: respondents indicated to consume a higher share of income from labour than of income from savings.

Fig 31 Income and consumption, Eurozone (year-on-year growth)



Source: Eurostat, ING. 'Labour income' is the sum of compensation of employees, operating surplus and mixed income.

However, during the first crisis years from 2009 to 2011, the relationship between the two broke down: compensation of employees stabilised and only started falling in 2012, while consumption dropped and recovered strongly. In the previous chapter, we ascribed this first to precautionary saving, then to catch-up spending. Interestingly, when we add operating surplus and mixed income to compensation of employees in order to consider 'labour income' in a broad sense, the relationship is mostly restored: even the 2009 fall of consumption can be explained by the evolution of labour income. Therefore, to precaution and fear as explanations for the first consumption dip and recovery, one might add the income of landlords and the self-employed.

Finally, we note the strong co-evolution between the variables since the second recession in 2012 and the subsequent recovery.

The decomposition of income growth is also done on the country level

Just like headline disposable income growth varies considerably across countries, also its decomposition on the level of the Eurozone masks certain cross-country differences. The contributions of disposable income components are shown for the seven years before and after the start of the crisis (Fig 32). The arrow indicates the headline disposable income growth for the two seven-year periods, the same as Fig 9.

Fig 32 Contributions to disposable income growth (1Q2001-1Q2008 and 1Q2008-2Q2015, pp)

Source: Eurostat, ING. The figure represents disposable income growth in arrows (the same as in Fig 9) and the contributions of its seven components in bars. For each country of our panel, the first and the second bar represent the contributions to respectively 1Q2001-1Q2008 growth and 1Q2008-2Q2015 growth. The countries are ranked by disposable income growth from 1Q2008 to 2Q2015. For Portugal, the contribution of social benefits net of contributions is shown, as separate quarterly data for social benefits and social contributions was not available. Greece is not included because no data was available for 1Q2001-1Q2008 and because the 1Q2008-2Q2015 bar would severely distort the figure.

In the pre-crisis years, drivers were roughly the same and of similar magnitude in most countries

The decomposition shows that in the pre-crisis years, drivers were roughly the same and of similar magnitude in most countries (Belgium, France, Italy and the Netherlands): compensation of employees, and to a lesser extent, operating surplus and mixed income contributed positively to disposable income growth, generating higher income taxes, while property income remained very weak. Although these drivers were the same in Spain, their overall growth was much stronger than in the four aforementioned countries, highlighting the extent of the boom and bust, which was mainly employment-driven (see Box 3). Finally, in Germany and Portugal property income contributed most, as compensation of employees fell in Germany and barely grew in Portugal.

When disposable income grows or falls, employee compensation is generally contributing positively or negatively to it

Compared with the start of the crisis, compensation of employees is higher today in all core countries, while all peripheral countries still have some way to go, mirroring developments in headline disposable income. Therefore, Fig 32 also confirms the Eurozone-wide finding that compensation of employees is the core driver of disposable income across time and countries. When disposable income grows or falls, employee compensation is generally contributing positively or negatively to it. Pre-crisis Germany is a key exception. There, compensation of employees was a drag on disposable income growth before the crisis. Only property income kept aggregate disposable income up in that period (see Box 3).

The contribution of compensation of employees and of income taxes move in opposite directions

Finally, the figure shows that the contribution of compensation of employees and of income taxes move in opposite directions: when employee incomes go up, taxes generally also go up, partly offsetting the income rise. Interestingly, Portugal in the past seven years is the only case where compensation of employees fell while income taxes increased at the same time, highlighting the severity of the fiscal consolidation measures. In the single year 2013, income taxation even drove down household income by nearly 3 percentage points (not shown in the figure).

Box 3 Spain vs. Germany

In Fig 32, the sharp difference between Germany and Spain stands out. In Spain, a huge contribution of compensation of employees before the crisis was followed by a strong drag, the sharpest in our panel. This development even contrasts sharply with the evolution in peripheral peers such as Portugal and Italy, where pre-crisis growth of employee compensation was below the Eurozone average. Germany, on the contrary, witnessed the largest contribution of compensation since the crisis among all countries of our panel, after recording the only pre-crisis drop. In order to understand this better, we decompose employee compensation growth in Spain and Germany for each year of our selected time span (2001-2014), as we did in Fig 28 for the Eurozone aggregate (Fig 33 and Fig 34).

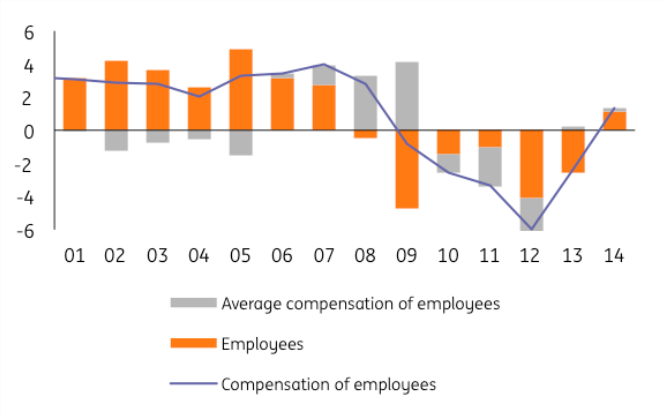
In Germany, a fall in employees in the start of the 2000s was followed by a strong fall in compensation per worker and an increase in the number of employees. This can be attributed to the labour market reforms, which boosted part-time, low-paid jobs ('mini-jobs'). Throughout the crisis, however, it was mostly compensation per worker which drove aggregate compensation, while employee growth was much more moderate. This can be mainly attributed to very low unemployment levels.

Spain followed a near opposite trajectory. Employment surged impressively in the years before the crisis, and plummeted in 2009 in the wake of the financial crisis and the bursting of the real estate bubble. It must be noted, though, that real compensation per employee has not been very dynamic before the crisis. This can be explained by the fact that job creation in those years was concentrated in low-wage sectors, especially construction, tourism and agriculture. Moreover, the migrant workers who arrived in Spain in that period were exerting downward pressure on compensation. As the share of low-wage jobs increased, this held average pay down in the pre-crisis years. Since the first to become unemployed in the crisis were precisely workers in construction and tourism, this pushed up average pay in 2008 and 2009. Contrary to Germany, where both subcomponents positively contributed to disposable income growth, in Spain they both were a drag on it.

Fig 33 Decomposition of compensation of employees: contributions to disposable income growth, Germany (pp)

Source: Eurostat, ING. Annual data was used, as quarterly data for employees was not available before 2006.

Fig 34 Spain: Decomposition of compensation of employees: contributions to disposable income growth, Spain (pp)



Source: Eurostat, ING. Annual data was used, as quarterly data for employees was not available before 2006.

3.3 The interest squeeze

The ECB has substantially loosened its monetary policy...

Since the start of the financial crisis, the European Central Bank (ECB) has substantially loosened its monetary policy to boost sluggish growth and push up feeble inflation. Interest rates have been cut successively and a large-scale bond-buying programme, 'quantitative easing' (QE), has been launched. In the medium term, accommodative monetary policy should on balance be beneficial for households, especially for those who do not have property and depend on labour income, through its favourable effects on asset prices, the exchange rate, credit and confidence and eventually on real activity and employment.

But how has this affected households so far?

But how has this affected households so far? The impact of QE on household *wealth* will be discussed in a forthcoming report. In this section, the impact on household *income* is analysed, more precisely whether looser ECB policy has lowered the interest income of households' savings and the interest bill on their borrowings, and if yes, whether some countries were affected more than others. For this purpose, the development of interest income, one of the subcomponents of property income, is closely examined. Of course, its evolution does not only depend on interest rates, but also on the stock of savings on which rates are applied. As such, received interest income also depends on savings flows, while paid interest income partly depends on households' total outstanding credit.

There is a remarkable relationship between the ECB policy rate and interest income

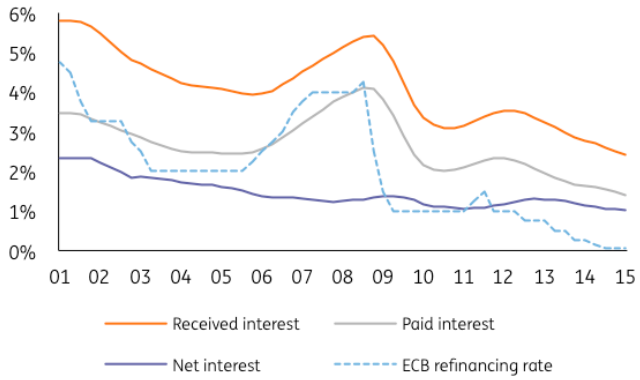
Still, at the level of the Eurozone, we note a remarkable relationship between the key policy rate of the ECB and both received and paid interest income (Fig 35). The share of received interest income as a percentage of disposable income has more than halved since the start of the crisis, from 5.4% at the end of 2008 to a low of 2.3% in spring 2015. Paid interest has shown a strikingly similar evolution. In absolute terms, it has even fallen more strongly (by 69%) than received interest (by 58%) over the period.

This is partly due to a methodological issue

This close relationship could be due to a methodological issue: the definition of interest income in national accounts. The interest that households effectively pay

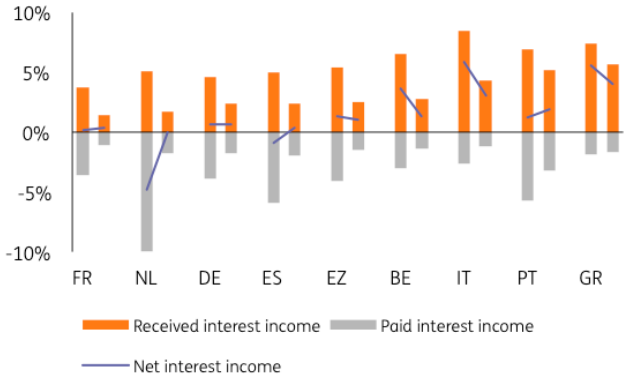
on their loans and receive on their savings, is split into a 'genuine' interest component and an implicit remuneration for the financial services offered by banks (for lending and offering savings accounts). In national accounts, only the first part is considered as interest income. The second part is defined as household consumption. In order to disentangle the two components, the interest component is estimated by using rates on money markets, which explains the correlation between interest income and the ECB refinancing rate.

Fig 35 Evolution of interest income, Eurozone (% of disposable income)



Source: Eurostat, ING.

Fig 36 Evolution of interest income (2008 and 2014, % of disposable income)



Source: Eurostat, ING. For each country of our panel, the first and the second bar represent the share of interest income in 2008 and 2014 respectively. The countries are ranked according to the share of received interest income in 2014.

Lowering interest rates might potentially have a favourable redistributive impact

To what extent the evolution of *effective* interest income was driven by ECB's rate setting policy, is a subject for further research. Yet we do note that as households receiving and paying interest tend not to be the same, the redistributive side-effects of lowering interest rates are potentially non-negligible. Proportionally, richer and older households have more savings, so on balance they should have lost out from the downward pressure on interest income. Poorer and younger households, on the other hand, tend to borrow more, so overall they should have benefited from lower interest payments[14]. We stress however that interest income is only one channel through which the total package of accommodative monetary policy measures impacts household finances[15].

The impact of lower interest rates on the household sector *as a whole* seems to have been limited in the Eurozone though, because the share of net interest income has remained broadly unchanged since the ECB started slashing interest rates in 2008.

Countries have been affected in a very different way

But again, countries have been affected in a very different way. From 2008 to 2014, all countries have seen the share of both received and paid interest in

[14] However, this is not the case for borrowers with fixed interest rates, unless they renegotiate their loan. Furthermore, an interesting avenue for further research might be the evolution of borrowing of poorer groups. Indeed, credit spreads for poorer households may now be structurally higher, while weak income growth may have reduced their borrowing capacity.

[15] For instance, it is also true that richer and older households hold more investments in riskier assets such as stocks, which have benefited from the ECB's quantitative easing. For more detail, see the forthcoming report on Eurozone household wealth.

disposable income fall, but some much more than others (Fig 36). France and Germany mirrored the Eurozone-wide evolution: received and paid interest have dropped equally, leaving net interest unchanged. In Belgium and Italy, received interest has fallen much more than paid interest. The reverse has happened in Spain and the Netherlands: interest paid on loans have received a bigger hit than interest received on savings. But while paid interest income fell by 8 percentage points, the interest *effectively* paid by Dutch households (when including the implicit remuneration for banks) dropped much less, only by 2 percentage points (not shown in the Figure). This illustrates that one has to be careful when drawing conclusions due to methodological discrepancies.

The impact of monetary policy on interest income seems to have been the weakest in Portugal and Greece

The impact of monetary policy on interest income seems to have been the weakest in Portugal and Greece: since 2008 the share of interest income has fallen relatively much less than in other countries, leaving them with the highest shares of received interest income as we noted in Fig 24. This is despite the fact that in Greece and Portugal, where saving rates were much lower than in other countries, saving flows likely compensated much less for the lower rates than in other countries. The relative resilience of interest income implies that the potentially redistributive impact (from higher to lower income groups) of lower interest rates might have been the weakest in the two poorest countries of our panel. To be fair, part of this can be explained by a 'base effect', as the share of interest income to disposable income is also affected by the evolution of the latter. But movements in the other peripheral countries Spain and Italy, which also witnessed sharp income declines, have been stronger.

The recent rate cuts by the ECB could put further downward pressure on household interest income

Looking ahead, the recent rate cuts by the ECB could put further downward pressure on household interest income. In Greece, Italy, Portugal and Belgium, which have the largest share of *net* interest income, this could mean that income received by savers might fall more than income paid by borrowers, so that on balance the household sector as a whole could be worse off in these countries.

4. Outlook

This chapter sketches an outlook for household income in the Eurozone

What can households in the Eurozone expect in coming years? Will their incomes continue to recover? Will the divergence between the core and the periphery halt? Based on the analysis in the previous chapters, we conclude the report with a forward-looking assessment. Our forecasts of GDP, disposable income, employment, consumption and the saving rate can be found in Tab 2.

The starting point of the forecasting exercise is the economic cycle

The starting point of this forecasting exercise is the economic cycle, the key indicator of which is GDP growth. There are two crucial relationships between GDP growth and disposable income growth. First, disposable income is the main component of national income (representing two thirds of it) and therefore of GDP. Nevertheless, the latter is much more volatile because it includes income from non-financial corporations, which is inherently more capricious than household income and is subject to less smoothing through the tax and benefit system. Second, employment, the core driver of disposable income, is usually lagging GDP. Taking the two together, this means that disposable income should broadly track GDP, but with less volatility and with a certain lag.

Disposable income growth has mirrored GDP growth while being much more stable...

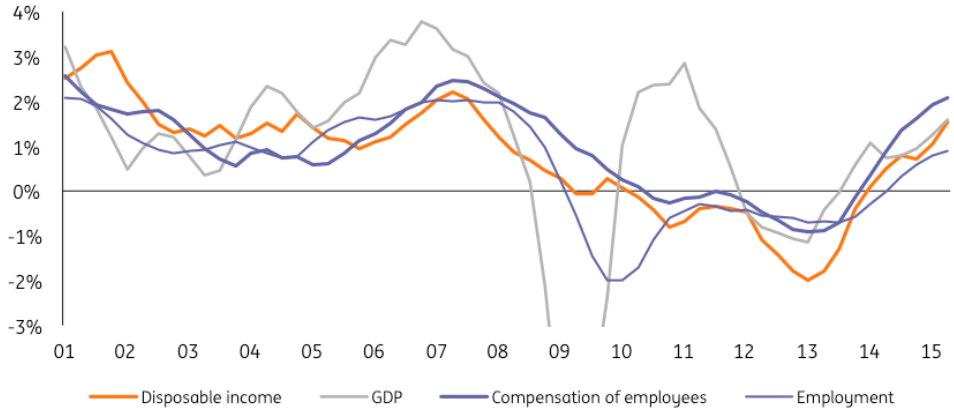
Fig 37 confirms these relationships for the Eurozone in the past fifteen years. Firstly, disposable income growth has indeed mirrored GDP growth while being much more stable. For instance, in the pre-crisis years GDP growth accelerated from below 1% year-on-year to nearly 4%, while disposable income growth rates increased only slightly over the period, from a touch above 1% in 2002-2003 to slightly over 2% in 2007. Furthermore, when GDP growth plunged in 2009 and then recovered swiftly to 3% year-on-year in the first quarter of 2011, disposable income only decreased a little.

A marked exception to this rule of thumb took place during the second recession in 2011-2012, when attenuating counter-cyclical policies were replaced by austerity measures, exacerbating the impact of the business cycle on household incomes. As a result, the fall in disposable income was substantially stronger than that of economic activity.

...and has lagged GDP

Secondly, disposable income has lagged GDP, as expected. Most notably, in the pre-crisis years, disposable income growth tended to peak and bottom out two quarters after GDP.

Fig 37 Income, output and employment, Eurozone (year-on-year growth)



Source: Eurostat, ING. Employment (85% of which is employees, but which also includes the self-employed) was chosen instead of employees because no quarterly data on employees was available before 2005. In the first three quarters of 2009, GDP fell by 5.5%, 5.4% and 4.6% respectively.

Now, GDP and disposable income growth are moving both synchronously and at a similar pace

A key feature of this recovery, however, has been the fact that GDP and disposable income growth have been moving both synchronously and at a similar pace. Particularly, compensation of employees has made a strong comeback, because of the combined support of employment and average compensation of employees (see also Fig 27), which has translated in equally strong consumption. This simultaneous movement can be explained by the fact that domestic demand components of GDP other than household consumption have been severely affected throughout the Eurozone crisis. Investment has been constrained by high uncertainty and the impaired credit channel, especially in the periphery, and government expenditure has remained in check because of austerity, due to either high government debt levels, European budget rules or ideological choice. Normally, these components should have supported GDP more strongly.

4.1 Eurozone aggregate

The recovery remains weak and fragile

The recovery remains weak and fragile. We expect it to continue in 2016, mostly supported by low oil prices, a weak euro and loose monetary policy. Now that monetary policy has become more proactive, bank balance sheets are healthier and many public deficits have been slashed to lower levels, both investment and government expenditure may contribute more to GDP. **GDP** growth should slightly accelerate over the forecasting horizon, from 1.5% in 2015 to 1.8% in 2018 (Tab 2).

Disposable income is expected to expand at the current pace in the coming years...

Disposable income may have grown by a decent 1.7% in 2015 and is expected to expand at the current pace in the coming years. This means that it should have reached the end-2009 peak by mid-2016, and exceed it by 4.3% by end-2018.

...driven by compensation of employees...

Looking at the components, **compensation of employees** should remain the main driver of disposable income in the coming years. Employment growth is forecast to remain broadly stable at around 1% over the forecast horizon, which is still weaker than in the pre-crisis years. In 2015, average compensation received an exceptional boost from the introduction of minimum wages in Germany. But elsewhere considerable slack in the labour market remains, so it is hard to see an acceleration of wage growth.

...as well as other key components....

Operating surplus and mixed income, the disposable income component strongest correlated with GDP, should accelerate further as the recovery gains ground, which should be beneficial especially for the periphery with its many small businesses. The contribution of **property income** is expected to remain limited in 2016. Its growth may be mostly driven by a modest increase in distributed income of corporations. In contrast, net interest income, which, at least in aggregate, has only been modestly affected by monetary policy (see Fig 35), is likely to remain flat in the context of further monetary loosening. Finally, **income taxation** is expected to contribute more negatively to disposable income, in line with the economic cycle, but this could be attenuated somewhat by the first post-austerity tax cuts such as France, Italy, Spain and the Netherlands.

...and by low inflation, although it is temporary

A last factor driving the relatively robust recovery of real household income is low **inflation**. The strong fall in oil prices has reduced households' energy bill substantially and is filtering through other consumer prices. Thanks to downward wage rigidity, which has hampered the adjustment of nominal wages to falling inflation, household purchasing power has been boosted throughout 2015. The favourable effect of falling oil prices is likely to remain important in 2016. However, once the impact of this fall fades away by the end of 2016, the gradual rise of inflation is expected to put some downward pressure on all real aggregates.

All in all, disposable income is likely to be boosted by higher compensation of employees and lower inflation in 2015 and a good part of 2016. Afterwards, the adverse effect of higher inflation is expected to be offset by a stronger contribution of operating surplus, mixed income and distributed income of corporations.

Consumption is expected to expand in line with income

Consumption is expected to expand broadly in line with disposable income. As a result, the **saving rate** is forecast to remain stable in 2015 and 2016, and might tick down somewhat in 2017 and 2018. In the short run, compensating effects are projected to be at play. Some further deleveraging is expected to be compensated by strong confidence. The European Central Bank's asset purchase programme might play a role here. In the forthcoming report on Eurozone household wealth, it is shown that the programme is boosting asset prices, which might support consumption through the wealth effect channel. In the medium term, household deleveraging is expected to fade as debt levels have been slashed to satisfactory levels, resulting in slightly stronger consumption in 2017 and 2018.

4.2 Eurozone countries

The divergence between the core and the periphery should have stopped in 2015

In 2015, the household income divergence between the core and the periphery should have stopped after seven years. Over the forecasting horizon, disposable income of the periphery is projected to grow meaningfully faster than that of the core, mostly on the back of faster employment growth. That said, the better expected performance of peripheral households is essentially driven by Spain, while the pace of expansion in other peripheral countries is likely to remain sluggish. Consumption in the periphery is also expected to grow somewhat faster than in the core. As a result, their respective saving rates are expected to converge somewhat.

Germany's saving rate is expected to remain high

Germany's saving rate is expected to remain at its current high level in the coming years. The increase in disposable income is matched by higher

consumption. Strong private consumption is still the result of pent-up demand of the early 2000s and record low interest rates. However, given concerns about the sustainability of the pension system, consumption is unlikely to boom.

In France, disposable income is likely to underperform GDP

In **France**, disposable income is likely to have increased faster in 2015 as both compensation of employees and social benefits should have grown at a higher pace. The first is due to the fact that the total labour costs have diminished somewhat as a result of the government measures taken since 2012. While French companies still seem reluctant to invest and to create jobs, they seem to be redistributing a part of the labour cost reduction to their employees. Our scenario for the coming years remains that investments and job creation will slowly be preferred to wage increases, leading to higher GDP and employment growth together with a slower pace of wage growth and social benefits increases. The unemployment rate should start to fall from next year onwards until at least 2020, though without reaching the pre-crisis 7%. This would nevertheless allow the saving rate to start increasing in the coming years after reaching a ten-year low in mid-2016.

The Italian saving rate is projected to rise further because of weak consumption

In **Italy**, over the next few years, developments in households' financial conditions should likely follow closely the evolution of employment. The labour market reform, now fully applicable, should be further leveraged upon, facilitating job creation and, in turn, propping up real disposable income. For the time being, property income, which has been a major drag on disposable income over the crisis years, looks set to remain tame. Net interest is likely to remain penalised by the low level of market interest rates and by the relatively low leverage of Italian households. If the improved labour market environment is perceived as sustainable, private consumption should also inch up. The prospective consumption recovery should not require any additional dissaving and looks compatible with a very moderate recovery of the saving rate towards 12% by the end of the forecasting horizon.

The strong recovery of the labour market in Spain is supporting disposable income

Spain is experiencing a positive momentum. Employment gains have been substantial thanks to structural reforms in taxation and the labour market. As a considerable share of the active population should exit unemployment, wages are increasing. As a result, disposable income growth should outperform GDP growth. However, this momentum could fade away in 2016, as the post-electoral political environment is likely to be less business-friendly. Moreover, the labour market duality and the lack of quality jobs threatens to weigh on potential output growth. In the coming years, employment gains should keep the saving rate broadly unchanged but from 2018 onwards, these might no longer be sufficient to sustain consumption, and the saving rate is forecast to decline.

In the Netherlands, changes in mortgage rules are likely to stimulate saving

In the **Netherlands**, the saving rate is expected to increase in the next few years. 2015 saw, however, a small temporary dip due to a decline in mandatory saving because of regulatory and tax changes (pension premiums declined). In 2016, consumption growth is set to accelerate and move more in line with income growth. Although the economy is expected to post healthy growth figures in the next few years, the saving rate is unlikely to fall, as seen in the past. Many households have under water mortgages, while first-time homebuyers increasingly have to pay annuities. In addition, due to the gradual lowering of the maximum loan-to-value ratio to 1 in 2018, homebuyers have to tap into their savings more and more when buying property. These three factors will stimulate saving.

In Belgium, wage moderation weighs on disposable income, yielding a falling saving rate

In **Belgium**, the saving rate is forecast to decrease somewhat in the coming years as the growth rate of consumption is likely to be higher than the growth rate of disposable income. Disposable income is expected to grow only moderately, as employment growth is likely to remain modest while wage moderation is ongoing. The low interest rate environment is also likely to limit the growth of capital income. In this context, only a decreasing saving rate is able to allow consumption growth to stabilise around 1.4% per year.

The bottoming out of Greek household income is likely to be postponed again

In **Greece**, with underlying data far from consolidated (currently Eurostat is not publishing the household saving rate), any projection should be taken with a pinch of salt and is prone to substantial revisions. One again, the bottoming out of household income is likely to have been postponed again as the cumulated impact of the endless political saga and the capital controls should be only slowly digested. A swift implementation of the key deliverables as agreed with lenders should help to crerate the conditions for a tentative recovery of the Greek economy some time in 2016. As employment starts improving again, compensation of employees should follow through, driving the recovery of disposable income.

In Portugal, consumption may grow considerably faster than income

Portugal is projected to see a continuation of its consumption-driven recovery. As a result, the saving rate is forecast to fall to historically low levels, below 5%. Disposable income is forecast to grow much more slowly, in line with GDP. While employment should pursue its gradual comeback, still-high unemployment should continue to weigh on average compensation. Furthermore, fiscal consolidation is still projected to proceed under the new government, albeit much less severely. Mixed income, which has a relatively large share in disposable income, will probably be the most promising component in the coming years, given its sensitivity to GDP growth. Political uncertainty is the key downward risk for the years ahead.

Tab 2 Forecasts

%YoY unless indicated otherwise	2015	2016	2017	2018
Eurozone				
GDP	1.5	1.6	1.8	1.8
Disposable income	1.7	1.6	1.6	1.7
Employment	0.9	1.0	1.0	0.9
Consumption	1.7	1.6	1.7	1.9
Saving rate (%)	12.7	12.7	12.6	12.4
Germany				
GDP	1.6	1.7	1.5	1.5
Disposable income	1.9	1.6	1.5	1.5
Employment	0.8	1.2	0.8	0.5
Consumption	1.7	1.3	1.4	1.5
Saving rate (%)	16.3	16.6	16.7	16.7
France				
GDP	1.2	1.6	1.8	2.1
Disposable income	1.6	1.1	1.2	1.5
Employment	0.3	0.4	0.7	1.0
Consumption	1.5	1.2	1.7	2.1
Saving rate (%)	14.2	13.8	14.9	15.5
Italy				
GDP	0.8	1.2	1.2	1.3
Disposable income	0.8	1.3	1.4	1.5
Employment	0.9	1.0	0.8	0.7
Consumption	0.9	1.2	1.0	1.2
Saving rate (%)	10.7	10.8	11.2	11.4
Spain				
GDP	3.2	2.7	2.3	1.9
Disposable income	3.7	3.4	2.9	1.9
Employment	2.3	2.5	2.3	2.0
Consumption	3.2	3.5	2.9	2.1
Saving rate (%)	10.3	10.4	10.5	10.3
Netherlands				
GDP	2.0	2.5	2.0	1.7
Disposable income	1.7	3.0	1.6	1.5
Employment	0.9	1.2	1.4	1.3
Consumption	1.7	2.0	1.9	1.5
Saving rate (%)	14.3	15.4	15.4	15.6

Belgium				
GDP	1.4	1.5	1.6	1.5
Disposable income	1.2	0.7	1.5	1.4
Employment	0.6	0.6	0.6	0.6
Consumption	1.4	1.4	1.3	1.3
Saving rate (%)	12.1	11.5	11.6	11.5
Greece				
GDP	-0.3	-0.8	1.6	1.8
Disposable income	-0.9	-0.6	1.5	2.2
Employment	0.4	-0.3	1.6	1.6
Consumption	0.3	-1.2	1.5	1.3
Saving rate (%)	NA	NA	NA	NA
Portugal				
GDP	1.4	1.2	1.3	1.2
Disposable income	1.4	1.6	1.2	1.4
Employment	1.2	1.4	1.3	1.3
Consumption	2.7	2.2	1.4	1.3
Saving rate (%)	4.9	4.4	4.2	4.3

Box 4 Methodological note

Disposable income can be defined as the total income that households can use to spend or save. For a given country or region, it aggregates income from all sources (labour, property and social benefits), minus taxes and social contributions. Because of this aggregation, it is officially called *gross disposable income*. Chapter 3 treats the seven core components of disposable income in detail. Disposable income can be adjusted for social transfers in kind (child care, schooling, etc.), but in this report we opted for the non-adjusted type so as to enhance country comparability, because the monetary estimation of transfers in kind can be very different across countries.

Disposable income is either consumed or saved. In the data, **saving**, officially *gross saving*, is the difference between disposable income and **consumption**, officially *final consumption expenditure*. Hence, saving includes loan reimbursements, particularly mortgages. Saving is adjusted for the change in net equity in pension funds, in order to account for differences in pension systems across countries[16]. In order to compute the **saving rate**, defined as the ratio of saving to disposable income, also disposable income itself is adjusted for the change in pension funds reserves[17].

All nominal income, consumption and saving data has been converted into **real** terms by using the deflator of household consumption. The data is not corrected for cross-country differences in price levels. Therefore, when speaking of household '**purchasing power**' in the report, we only refer to the fact that the nominal data has been corrected for price differences across time (not across countries).

Per capita averages were computed by dividing aggregates by total population.

For all **EU countries**, we used quarterly and annual non-financial transactions data for households and non-profit institutions serving households (NPISH) from Eurostat's ESA 2010 sector accounts. Despite the fact that there remain national biases in the data, using the same database allows to maximise cross-country comparability. The nominal data was converted into real terms by using the seasonally and working day adjusted deflator of consumption for households and NPISH in Eurostat's ESA 2010 national accounts, which was rebased to 2Q2015, the last available quarter. Since nearly all quarterly non-financial transactions data is non-seasonally adjusted, a four-quarter moving average was applied on quarterly data after deflating it, where needed. Finally, Eurostat population data was used and complemented by Destatis data in the case of Germany, where Eurostat reported a methodological break.

---

[16] More details in a recent discussion paper of the European Commission, *Household saving rates in the EU: Why do they differ so much?* (p. 10). Available online at: http://ec.europa.eu/economy_finance/publications/eedp/pdf/dp005_en.pdf

[17] This raises the question whether disposable income should have been adjusted for the change in the value in pension funds throughout the report, not only when computing the saving ratio. However, we opted not to for the following reasons. First, the components of disposable income would not add up anymore. Second, we are mostly interested in households' explicit spending and saving decisions, but the change in net equity in pension funds reserves does not mainly results from behavioural changes. Third, among the countries in our panel this adjustment was only significant in the Netherlands, where it is equivalent to 7% of disposable income, compared with an average of 1.3% in the Eurozone.

For the **United States**, we used data from the Bureau of Economic Analysis throughout. Seasonally adjusted quarterly personal income data was converted into purchasing power terms with the seasonally adjusted implicit price deflator of personal consumption expenditures. Through an analysis and slight adjustment of the components of disposable income in the Eurozone and of personal income in the US, we ensured the comparability of the European and American concepts of disposable income.

The final text was completed on 8 January 2016.