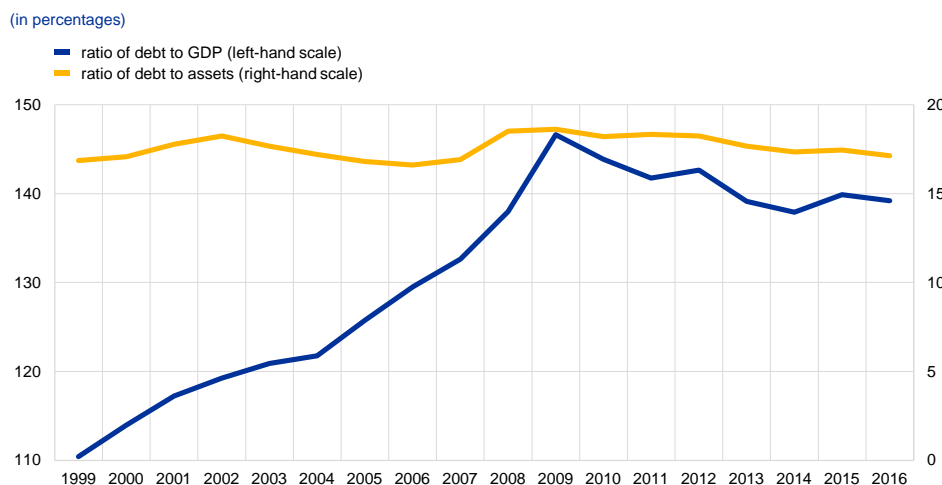


## 5 Private sector indebtedness and deleveraging in the euro area countries

**Rising private sector debt-to-GDP ratios have been a pre-crisis feature of many euro area countries.** In the run-up to the financial crisis, buoyant demand growth and the associated credit boom led to the build-up of large volumes of domestic debt in several euro area countries. Private sector debt (i.e. debt of households and non-financial corporations)<sup>17</sup> in the euro area as a whole rose from 110% of GDP in 1999 to 147% of GDP in 2009 (see Chart A). For most euro area countries the increase from 1999 to the peak has been significantly higher than that observed for the euro area as a whole (see Chart B). Only in Germany has the private sector debt-to-GDP ratio been on a downwards path since 1999. The private sector debt-to-GDP ratio, which can be considered a measure of medium- to long-term affordability of debt, clearly showed an upwards trend prior to 2009. But such a trend is much less evident when looking at debt as a percentage of total assets (the leverage ratio) – which, during the pre-crisis expansionary period, did not signal a possible build-up of over-indebtedness. The leverage ratio is measured on the basis of market prices of assets, and the evolution of these asset prices has partially hidden the vulnerability associated with the increase in indebtedness. This box reviews recent developments in private sector indebtedness and deleveraging, focusing on the debt-to-GDP ratio as a measure.

**Chart A**  
Private debt in the euro area



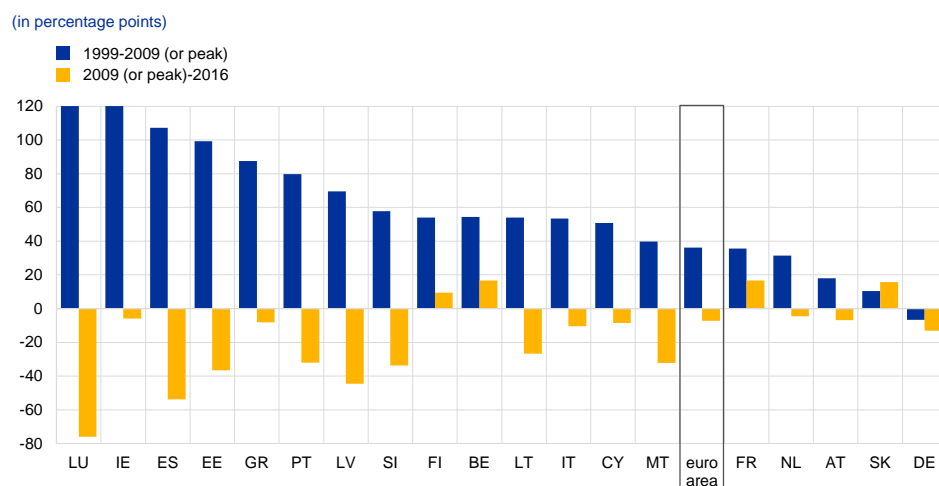
Source: Eurostat.  
Note: Total assets include financial and non-financial assets (housing wealth and fixed assets of non-financial corporations).

<sup>17</sup> In this box, private sector debt is defined as the sum of total loans granted to households and to non-financial corporations, net of intra-sectoral loans and debt securities issued by non-financial corporations. The definition used corresponds to that adopted in the scoreboard of the Macroeconomic Imbalance Procedure. This definition does not include pension entitlements. For the euro area as a whole, private sector debt in 2016, including pension entitlements was 143% of GDP, and 139% of GDP if pension entitlements are excluded.

**Since reaching its peak in 2009, private sector debt as a percentage of GDP has been on a slight downwards trend in the euro area as a whole.** From 147% of GDP in 2009, private sector debt fell to 139% of GDP in 2016. This relatively modest decline hides significant differences across countries. In some highly indebted countries private sector debt-to-GDP ratios have been falling significantly since their peak. The reduction in the ratio has been very marked in Spain (54 percentage points since the peak in 2009), amounting to half of the increase over the previous ten years; the reduction has also been significant in Estonia, Latvia, Lithuania, Luxembourg, Malta, Portugal and Slovenia (see Chart B). By contrast, other highly indebted countries (with a private sector debt-to-GDP ratio above 200%), namely Ireland, Cyprus and the Netherlands, have not shown any major decline in their ratios. Private sector debt-to-GDP ratios have been growing continuously over the past 18 years in Belgium, France, Slovakia and Finland.

### Chart B

#### Change in private sector debt-to-GDP ratios



Source: Eurostat.

Notes: The blue bar is truncated for LU (157 percentage points) and IE (136 percentage points). The peak was in 2009 in EE, ES, LT, MT, NL, AT and PT; in 2007 in LU; in 2010 in LV and SI; in 2012 in IE, GR and IT; and in 2014 in CY.

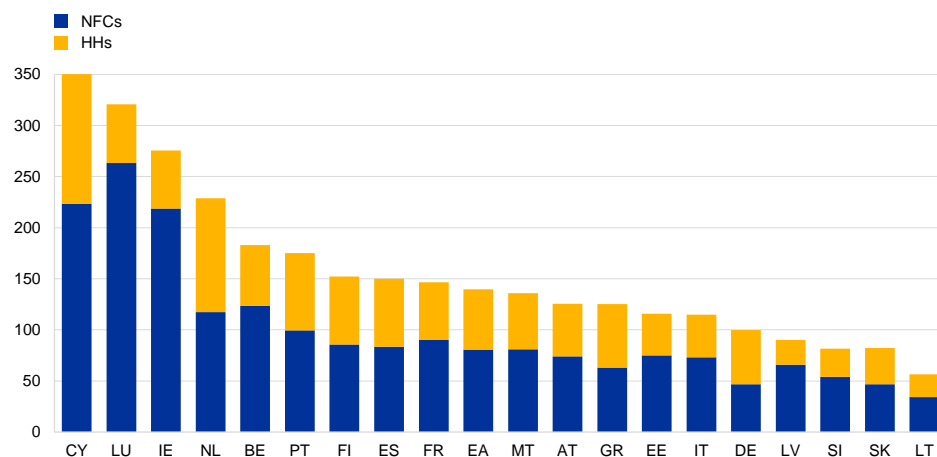
**Even after the post-crisis adjustment, private sector debt-to-GDP ratios have remained very heterogeneous across countries in the euro area.** Chart C shows that private sector debt ratios at the end of 2016 ranged from about 50% of GDP to 350% of GDP. In most countries, private sector debt ratios are above 100% of GDP and the threshold in the scoreboard of the Macroeconomic Imbalance Procedure (133% of GDP) is exceeded by ten euro area countries (see Chart C). While this threshold is a purely statistical indicator<sup>18</sup>, which does not take into account economic fundamentals, it signals that in some countries deleveraging needs might still exist. It should be noted that a conclusive assessment of the extent of deleveraging needs would also require a supplementary analysis of the distribution of debt across households and non-financial corporations, together with their respective underlying characteristics.

<sup>18</sup> The threshold is computed as the cut-off point of the third quartile of the EU-wide distribution of private debt over the period 1995-2007.

## Chart C

### Debt of non-financial corporations (NFCs) and households (HHs) (2016)

(in percentage of GDP)



Source: Eurostat.

Note: The total debt (of non-financial corporations and households) for CY is 350.6%.

**The decomposition between debt held by households (HHs) and by non-financial corporations (NFCs) shows that the proportion of the latter is on average larger.** There are three exceptions: Germany, where the proportion of debt held by HHs is higher than that held by NFCs; and Greece and the Netherlands, where the proportion of debt held by each sector is approximately equal. The NFC debt-to-GDP ratio is very high in Ireland, Cyprus and Luxembourg. In these countries the value of NFC-held debt is, however, particularly affected by large cross-border intra-company loans.

**There is a growing body of empirical literature which shows that high levels of private sector debt can have significant adverse effects on future economic outcomes.** While private indebtedness, at moderate levels, helps to smooth consumption and enhance economic growth, an excessive increase in private sector debt over the medium term can affect capital accumulation and lead to lower economic growth.<sup>19</sup> This occurs because investment is reduced as companies need income to repay their debt and private consumption is also reduced as overleveraged households need to increase savings to cover debt service obligations. Moreover, banks' lending suffers as high private sector indebtedness is often associated with rising non-performing loans, which tend to erode banks' capital buffers.<sup>20</sup> Some empirical analysis shows that these adverse effects occur only above a certain threshold.<sup>21</sup> There is also evidence that delays in dealing with debt overhangs can lead to lower firm exit rates and can significantly affect the degree of capital and labour reallocation across firms and sectors which, in the medium term,

<sup>19</sup> See Myers, S. C., "Determinants of Corporate Borrowing", *Journal of Financial Economics*, Vol. 5, Issue 2, 1977, pp. 145-75.

<sup>20</sup> See Mian, A.R., Sufi, A. and Verner, E., "Household debt and business cycles worldwide", National Bureau of Economic Research Working Papers No 21581, issued September 2015.

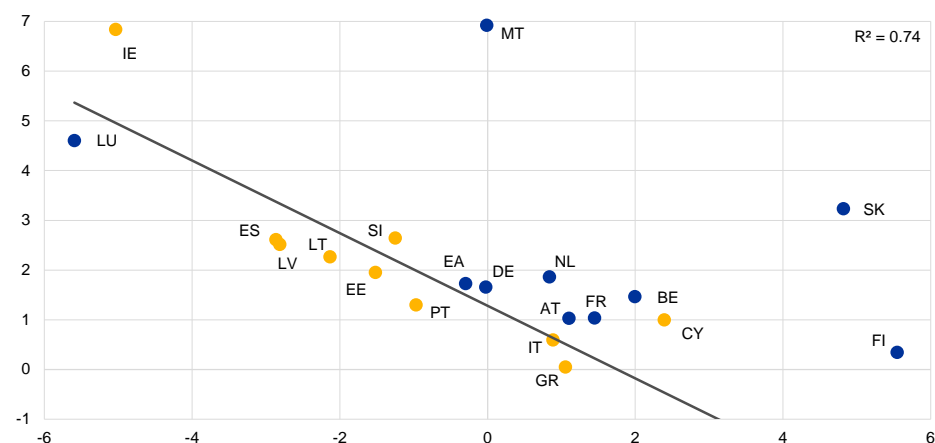
<sup>21</sup> See Cecchetti S., Mohanty M. and Zampolli F., "The real effects of debt", BIS Working Papers No 352, September 2011.

lowers aggregate productivity in the economy.<sup>22</sup> It is therefore important to monitor developments in private sector indebtedness, the risk of debt overhang and any consequence associated with high deleveraging needs.

### Chart D

#### Changes in credit (2008-13) and subsequent changes in per capita real GDP (2013-16)

(x-axis: average private credit growth 2008-13; y-axis: average per capita real GDP growth 2013-16)



Source: Eurostat.

Notes: For IE, per capita real GDP growth is computed as the average in 2013-2014 and 2016, i.e. 2015 is excluded from the average, due to statistical distortions. Yellow dots are used to indicate countries undergoing major adjustment challenges during the period from 2008 to 2010. These include euro area countries with average credit default swaps during the period from 2008 to 2010 above 150bp.

#### The deleveraging process across euro area countries has come about as a result of both nominal GDP growth and a reduction in private debt.

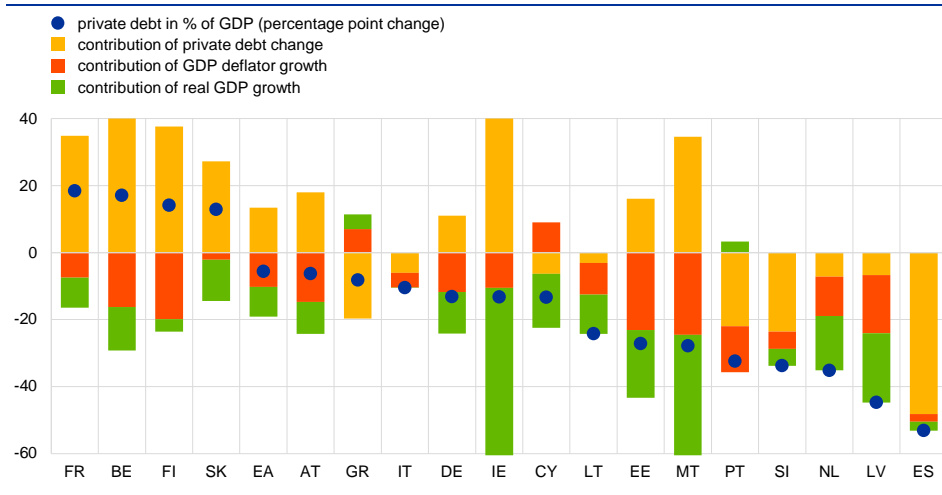
Empirical evidence shows that a rapid and front-loaded deleveraging process tends to be associated with medium-term output gains.<sup>23</sup> This also seems to be the case in the experience of the euro area, where early and swift deleveraging episodes (e.g. in Estonia, Ireland, Spain, Latvia, Lithuania and Slovenia) have been associated with subsequent higher real GDP growth per capita (see Chart D). Chart E shows that in four countries (Greece, Spain, Portugal and Slovenia) the deleveraging process has occurred mainly through a reduction in nominal debt, i.e. via debt repayments or write-offs. In five countries (Italy, Cyprus, Latvia, Lithuania and the Netherlands) it occurred as a result of a combination of a reduction in nominal debt and an increase in nominal GDP. In five countries (Germany, Estonia, Ireland, Malta and Austria) deleveraging was driven exclusively by nominal GDP growth. The chart also shows that unfavourable nominal GDP developments caused headwinds for the debt-reduction process in Greece, Cyprus and Portugal.

<sup>22</sup> See Schivardi, F., Sette, E. and Tabellini, G., "Credit Misallocation During the European Financial Crisis", Centre for Economic Policy Research Discussion Paper, No DP11901, March 2017, and McGowan, M. A., Andrews, D. and Millot, V., "The walking dead? Zombie firms and productivity performance in OECD countries", OECD Working Papers No 1372, January 2017.

<sup>23</sup> See Chen, S., Kim, M., Otte, M., Wiseman K. and Zdzienicka, A., "Private sector deleveraging and growth following busts", IMF Working Papers No 15/35, February 2015.

## Chart E

### Decomposition of the changes in the private sector debt-to-GDP ratio from the peak until Q4 2016



Source: Eurostat.

Notes: The peak in the euro area, EE, ES, LT, MT, NL, AT and PT was in 2009; in LV and SI it was in 2010; in IE, GR and IT it was in 2012; and in CY it was in 2014. The green bar is truncated for IE (-86.4 percentage points) and MT (-37.8 percentage points); the yellow bar is truncated for BE (+46.3 percentage points) and IE (+83.7 percentage points).

### The current deleveraging process has been supported by a significant reduction in interest payments.

The maturity structure and the interest payments measure the short-term debt burden and thus can provide information about short term risks associated with the ability to meet debt repayment schedules. While aggregate data on the average maturity structure of loans and securities across households and firms are not widely available, a short-term indicator of borrower stress can be defined as the ratio of interest payments to income. This indicator is shown in Chart F, where the blue line represents the average interest payment-to-income ratio for the euro area, and the shaded areas represent the interquartile range across the euro area countries. Both HH and NFC interest payment-to-income ratios demonstrate a common downwards trend, in particular since 2009. For the euro area as a whole, the average of household interest payments has decreased from 4.1% (in 2008) to 0.9% (in 2016) of gross disposable income, while the average of NFC interest payments fell from 19.4% (in 2008) to 6.5% (in 2016) of gross operating surplus. However, heterogeneity across countries differs between the two sectors. While the cross-country variation of the household interest burden seems to have fallen since the crisis, heterogeneity in interest payment-to-income ratios for NFCs remains relatively significant. The higher heterogeneity found for NFCs indicates that across countries the risk premium associated with NFC debt is currently higher than that associated with HH debt.

### Looking forward, and given the high debt levels in some countries, deleveraging needs might continue to exist.

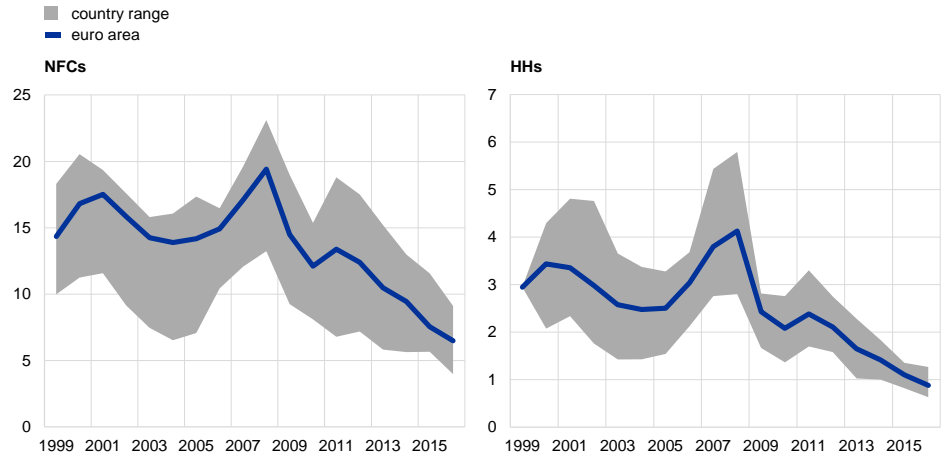
This box has shown that the recovery in GDP and the low interest rate environment have helped the deleveraging process. Further deleveraging could take place via the expansion of nominal GDP. From a policy perspective, better debt workout mechanisms would facilitate balance sheet adjustments. In particular, policies to further improve insolvency frameworks, including enhanced efficiency of judicial processes and out-of-court mechanisms,

could make a significant contribution to a swift and sustainable reduction of non-performing debt, lead to more efficient rescues of viable firms and increase debt recovery for lenders.

**Chart F**

**Interest payment-to-income ratios for non-financial corporations (NFCs) and households (HHs)**

(in percentages)



Source: Eurostat.

Notes: Income is measured as gross disposable income for households and gross operating surplus for non-financial corporations. The country range is the interquartile range across euro area countries. Household data for Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta and Slovakia are not available. Non-financial corporation data for Luxembourg and Malta are not available.