

Growth and the Importance of Sequencing Debt Reductions across Sectors

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DEBT IN THE EURO AREA

High debt in the euro area is weighing on growth. Countries that experienced a rapid increase in private sector debt in the run-up to the global financial crisis of 2008–09 have had worse unemployment and growth outcomes, and some are still in the middle of deep recessions. Their medium-term growth outlooks are also weak in many cases.

Balance sheet adjustment in the euro area may prove more challenging than in other regions or in other past episodes. Private sector deleveraging is occurring while sovereigns are working to repair their balance sheets, making the overall task daunting in some countries, and a fragmented financial sector with its own balance sheet problems amplifies the effect of private sector balance sheet stress on economic outcomes. Countries in need of adjustment are constrained by a common monetary and exchange rate policy, leaving them little space for maneuver. Finally, simultaneous deleveraging in several euro area members can lead to negative spillovers, further amplifying the harmful impact of country-specific deleveraging on economic activity.

This chapter evaluates indebtedness in the euro area and its implications for growth. The analysis suggests that although the negative growth impact of debt in one sector depends in part on the level of indebtedness in the other sectors, private sector debt may be more detrimental to growth than public sector debt. Policies that directly support the workout of bad debt in the financial and private sectors could therefore yield important benefits. At the same time, the negative impact of private sector deleveraging could be reduced through a more supportive policy mix. The chapter is organized as follows: The next section discusses the links between private sector indebtedness and growth, including the way in which balance sheet stress can arise from high indebtedness, and identifies the feedback loops across sectors. It is followed by a section that takes stock of indebtedness across the euro area, identifying vulnerabilities across sectors and countries. The subsequent section looks at historical episodes to gauge the extent of deleveraging that can be expected, and at the macroeconomic environment that supported previous deleveraging episodes. It also presents econometric evidence linking high

debt in the private and public sectors to growth outcomes. The penultimate section offers policy considerations for the euro area, including the lessons that can be drawn from past experience, and the last section offers some conclusions. Chapters 3 and 4 in this book provide a more in-depth look at the reasons for and consequences of high corporate and public debt beyond the euro area.

WHY DEBT MATTERS

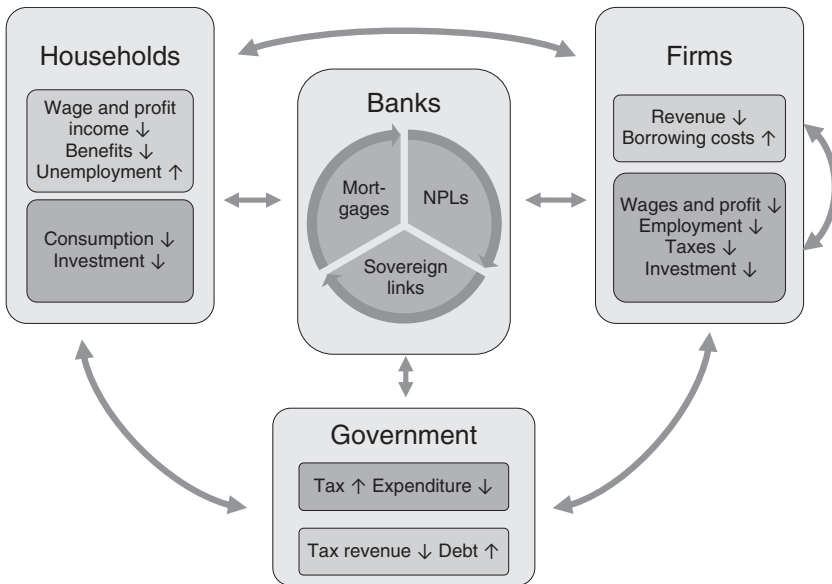
Balance Sheet Stress

Indebted private sector agents are more vulnerable to sudden asset price or interest rate shocks or increased volatility. In the context of high debt, adverse economic developments can cause balance sheet stress through both lower asset valuations (e.g., house or equity price declines) and increases in liabilities (e.g., rising interest rates). Deteriorating macroeconomic conditions (higher interest rates or lower growth) can lead to tighter financing conditions and increased rollover risk. Households and firms then often focus on repaying debt and strengthening their balance sheets by improving equity ratios or building liquidity buffers, and life-cycle consumption smoothing or investment return considerations become secondary. This shift in behavior can depress demand and create self-reinforcing feedback loops across sectors.

Declines in asset prices have economy-wide consequences. Falling asset prices go beyond one sector of the economy because they affect both borrowers and creditors. For example, falling house prices reduce household wealth, decrease the value of collateral held by banks, increase nonperforming loans (NPLs), and when weak banks require public support, affect the public sector's balance sheet. Public finances are also affected by lower tax revenue derived from transactions in this asset (e.g., stamp duties). Falling equity prices also reduce a firm's valuation, thus raising the cost of capital and increasing its financial vulnerabilities, reflected in rising debt-to-equity ratios.

Feedback loops exacerbate downturns, particularly in cases of simultaneous deleveraging of the private, financial, and public sectors (Figure 2.1; IMF, 2012b). Managing deleveraging becomes particularly challenging if all sectors of the economy, including the public and the financial sectors, deleverage simultaneously. These actions can depress activity further because no sector can expand its balance sheet. The following feedback loops can be at play in a balance sheet recession with a weak financial sector:

- Indebted households that need to repair their balance sheets consume and invest less, reducing firms' profitability and the public sector's tax revenue.
- Firms faced with a slump in household demand begin to reduce their debt burdens by increasing profit margins, reducing wage costs, and scaling back investment (also see Chapter 3). These maneuvers, in turn, feed into lower household income through lower wages and higher unemployment, and also lead to lower tax revenues for the sovereign.

Figure 2.1 Adverse Feedback Loops from Balance Sheet Effects

- The government's own consolidation effort requires higher taxes and lower spending, which reduces households' disposable income, thereby worsening households' debt-servicing capacity and firm profitability. In turn, public balance sheet weaknesses limit the scope for further assistance to the financial sector (e.g., bank recapitalizations).
- Banks, faced with increasing NPLs from households and firms and high exposure to a potentially weak sovereign, need to rebuild their capital positions by tightening lending standards and increasing lending rates, in turn depressing demand for investment and consumption loans.

Diagnosing Balance Sheet Stress

Gross debt matters, but so do other indicators. A sector's indebtedness is a key variable driving balance sheet stress and the ability of the sector to absorb shocks. But focusing exclusively on gross debt is not sufficient. The level of sustainable debt in a sector varies across countries depending on initial conditions, including the characteristics of the housing market and the degree of intermediation provided by the banking sector. Debt-to-income ratios can help gauge a sector's capacity to service debt, and leverage ratios, which link debt to assets, are relevant for assessing debt in relation to a sector's own balance sheet. Liquid assets, including financial, and to a lesser extent housing wealth, can be important buffers because they allow agents to draw down savings, and they are relevant for assessing

debt sustainability. And because debt stocks tend to change slowly over time, financial flows can be useful for detecting changes in behavior that signal balance sheet stress, for example, when agents increase their financial surpluses. Other considerations that may alter the implications of the debt overhang include the characteristics of the debt profile, such as the composition, redemption profile, and structure of the investor base.

Analysis of aggregate balance sheet data has its limitations. It cannot identify pockets of vulnerability that may exist within sectors, and it abstracts from distributional aspects. For example, assets and liabilities could be concentrated in different subsets of the population, and conclusions from an aggregate perspective can be misleading. This chapter provides an overview of indebtedness in the euro area, but it also takes into account more detailed country and sector-specific analyses made available in other studies.

INDEBTEDNESS AND DELEVERAGING IN THE EURO AREA: STYLIZED FACTS

The Euro Area Debt Level

Debt levels for the euro area as a whole are at par with those in the United States or the United Kingdom, but the deleveraging process has yet to translate into debt reduction (Figure 2.2). In aggregate, household debt is lower than in the United States or the United Kingdom. Corporate debt appears to be higher in the euro area and the United Kingdom than in the United States, though important differences in the size of intercompany loans and trade credit complicate comparisons in levels.¹ Government debt in the euro area is at comparable levels, but increased less since 2003 than in the United States or the United Kingdom. The euro area also enjoys a comfortable net international investment position. Yet, since 2009 the United States and the United Kingdom have seen a reduction in household debt, and the United Kingdom has also experienced a reduction in corporate debt, whereas the deleveraging process in the euro area has not yet translated into an area-wide reduction in debt. Looking at flows in the euro area shows the private sector's deleveraging effort, with firms and households in a contractionary net lending position in comparison with other sectors (Figure 2.3; ECB, 2013b).

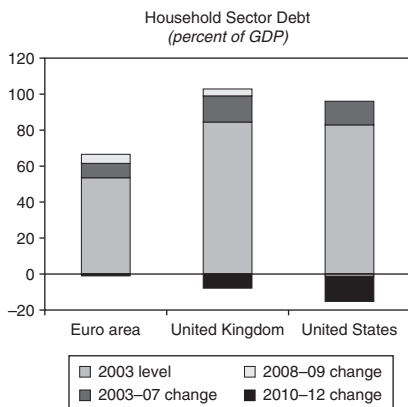
Variation across Countries

Indebtedness varies across countries and sectors (Figure 2.4). Since early in the first decade of the 2000s, private and public debt increased most sharply in countries now under stress, and both are particularly high in Ireland, Portugal, and

¹See Cussen and O'Leary (2013) for a discussion of consolidated and nonconsolidated corporate debt in the euro area, in particular for Ireland.

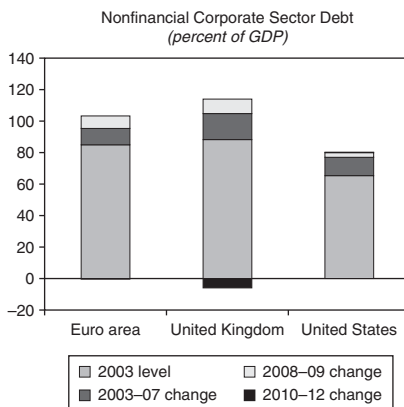
Figure 2.2 Indebtedness in the Euro Area, U.S. and the UK

Households in the euro area are not highly indebted, and overall debt has decreased only little.



Source: European Central Bank; and Haver Analytics.

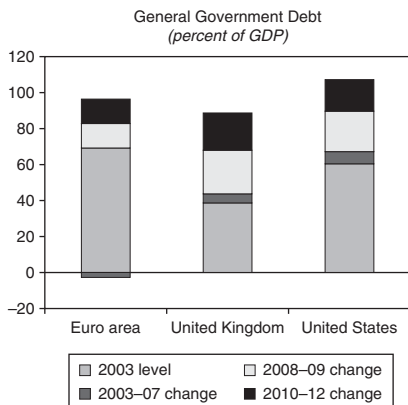
Nonfinancial corporate debt in the euro area is somewhat higher than in the United States.



Source: European Central Bank.

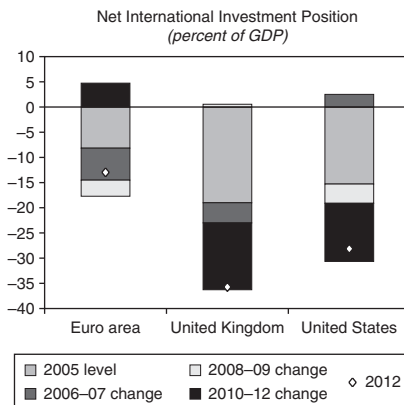
Note: Includes intercompany loans and trade credit, which can differ significantly across countries.

General government debt in the euro area is at par with other advanced economies.



Source: IMF, World Economic Outlook.

The euro area enjoys a comfortable net international investment position.

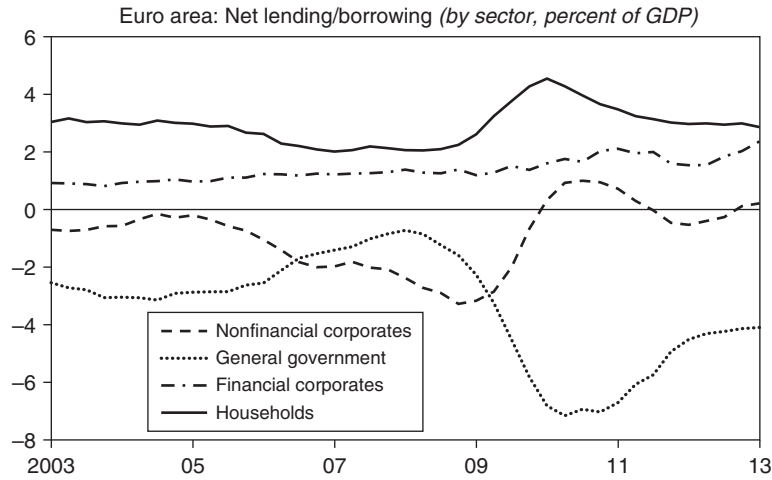


Sources: IMF, International Financial Statistics and World Economic Outlook.

Spain, where households, the nonfinancial corporate sector, and the government are all highly indebted compared with their euro area peers. In addition, a number of other countries have high debt in one or two sectors.² And when all sectors are highly indebted, sizable net external liabilities have accumulated.

²See Cuerpo and others (2013) for an identification of countries currently facing private sector deleveraging pressures based on various indebtedness indicators. For an overview, see Buiter and Rahbari (2012) and McKinsey (2012).

Figure 2.3 Financial Surplus in the Euro Area

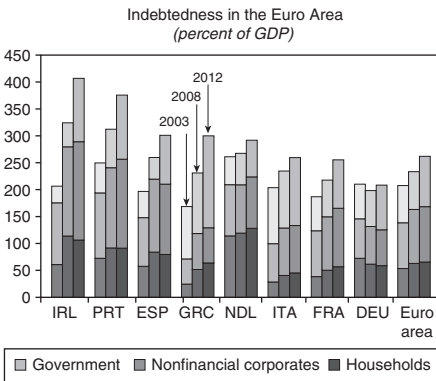


Source: European Central Bank.

Figure 2.4 Indebtedness Across the Euro Area

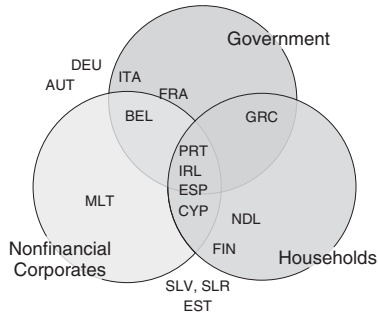
Private and public indebtedness has increased sharply in periphery economies.

And many economies have high debt in more than one sector of the economy.



Sources: European Central Bank; IMF staff estimates. Note: For the Netherlands, first observation is 2005. Corporate debt includes intercompany loans, which can differ significantly across countries.

Indebtedness in the Euro Area (by country and sector, in sphere if debt higher than 60th percentile)



Sources: European Central Bank; Haver Analytics; and IMF staff estimates.

Nonfinancial Firms

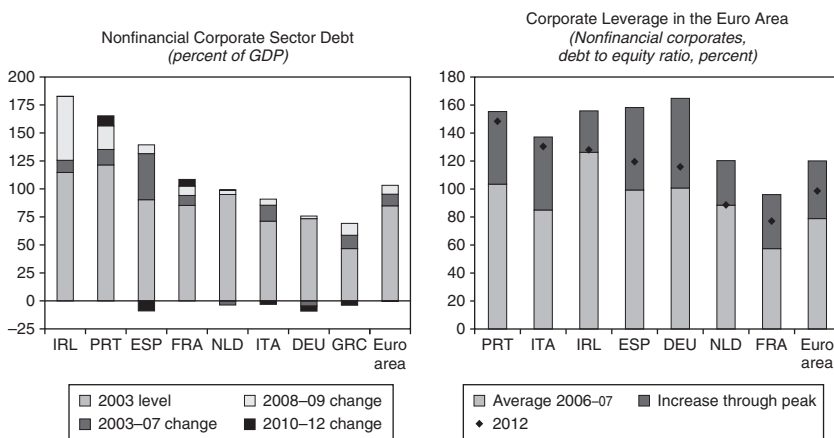
Corporate debt and leverage

Indebtedness of euro area firms increased substantially in the first decade of Economic and Monetary Union as the result of low real interest rates and prospects of high growth. Higher bank debt, combined with falling equity valuations,

boosted corporate leverage during the crisis, threatening debt sustainability. Although firms' leverage ratios have since fallen, they remain elevated in a number of countries (Figure 2.5). Firm-level data suggest that in some euro area economies up to 20 percent of corporate debt may not be sustainable (IMF, 2013g).

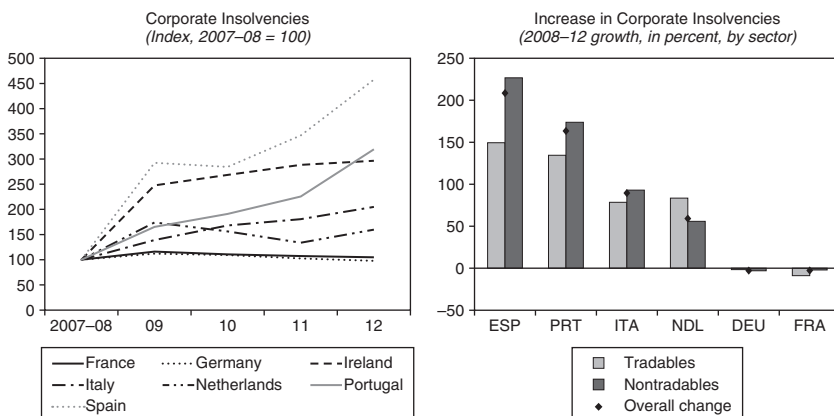
Procyclical financial conditions are weighing on corporate balance sheets. Despite very low monetary policy rates, bank lending rates in many crisis economies remain high because of fragmented financial markets and the impaired transmission of monetary policy (IMF, 2013c). Higher bank lending rates are felt strongly by the bank-dependent small and medium-sized enterprises (SMEs), which constitute a large share in value added. Lending conditions are tight, further reducing available financing for solvent firms.

Figure 2.5 Corporate Debt



Sources: European Central Bank.
 Note: Includes intercompany loans, see Cussen and O'Leary (2013). First observation for the Netherlands is 2005.

Sources: Haver Analytics; IMF staff calculations.



Sources: Creditreform (2012).

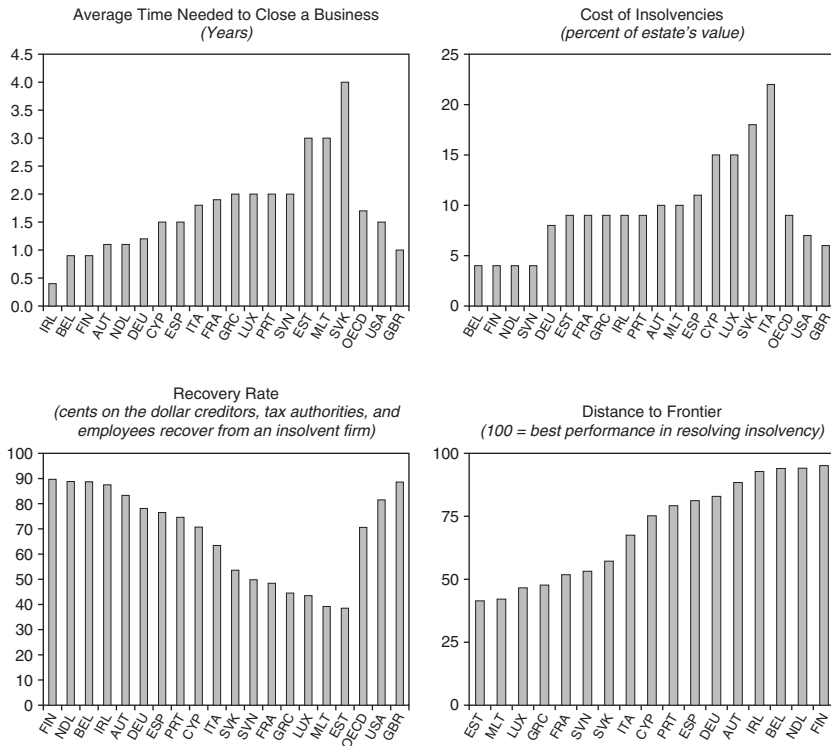
Sources: Creditreform (2012); IMF staff estimates.

Corporate insolvencies and vulnerabilities

Insolvencies have increased markedly where corporate debt is high (see Figure 2.5). In most crisis economies, the increase in insolvencies in the nontradables sector is somewhat higher than in the tradables sector, indicative of initial stages of economic rebalancing. This increase is noteworthy in view of the fact that, despite recent reforms, insolvency procedures in many euro area countries are generally lengthy and costly, and the recovery rate of claims is very low (Figure 2.6; World Bank, 2013).

Pockets of vulnerabilities exist in the corporate sector. In Spain, firms in most sectors are highly leveraged. In particular, corporate indebtedness is high in the real estate and construction sectors, where firms are highly reliant on bank financing, making them vulnerable to interest rate and earnings shocks. In 2010, about a quarter of a sample of 7,000 firms was financially distressed (IMF, 2012c). In Portugal, firm profitability is low, particularly for small and medium-sized enterprises and micro firms, which account for nearly two-thirds of corporate value added. As a result, the share of debt at risk is increasing, with 20 percent of firms in financial distress, and concentrated in the nontradables sector (IMF, 2013h). In Italy,

Figure 2.6 Insolvency Regimes



Source: World Bank (2013).

corporate leverage is particularly high, with firms, especially small and medium-sized enterprises, heavily reliant on short-term bank financing (IMF, 2013f).

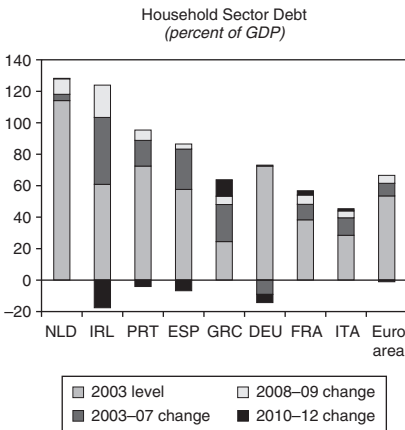
Households

Household debt and the housing boom

The turn of the housing cycle triggered sector-wide deleveraging in countries in which real estate bubbles had driven up debt (Figure 2.7), especially in those in which real interest rates had declined and incomes had risen rapidly. Mortgages represent the largest share of household debt in euro area countries (Cussen, O’Leary, and Smith, 2012), and they have been the most significant driver in the

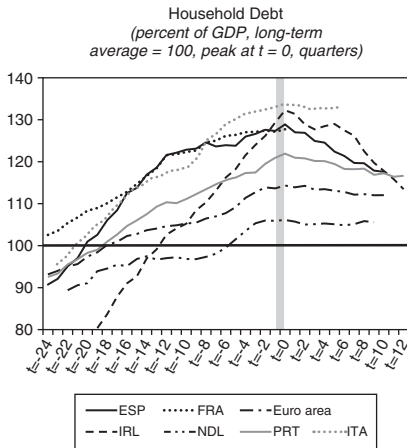
Figure 2.7 Household Debt

Household debt increased rapidly until 2009.

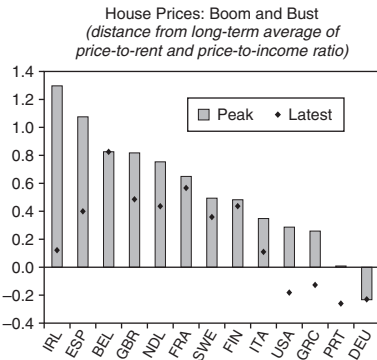


Source: European Central Bank.
Note: First observation for the Netherlands is 2005.

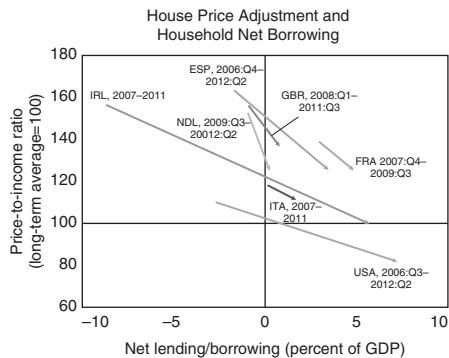
And adjustment in euro area countries has just begun.



Sources: European Central Bank; IMF staff estimates.
Note: Long-term average since 2000 but varies with data availability.



Sources: OECD; IMF staff estimates.



increase of household debt since the start of the euro. When the housing boom burst in 2007–08, households were left with high debt and overvalued assets, particularly in Ireland and Spain. As house prices started to adjust, households moved from a financial deficit to a financial surplus position. In Ireland and Spain, for example, households have now begun to dispose of financial assets and repay debt, and have slashed the acquisition of nonfinancial assets (Box 2.1). Despite these efforts to repair balance sheets, household debt continued to increase until 2009. It has since started to decline in Ireland, and to a lesser extent, in Portugal and Spain. Although the adjustment in house prices has gone far in some countries (e.g., Ireland), prices remain high in others (Spain, France, Netherlands).³

Buffers and vulnerabilities

Household assets are important buffers, but are also often illiquid. In Spain, for example, high levels of assets and low wealth dispersion—a result of high ownership rates—have been important mitigating factors, because households can dispose of assets to smooth consumption. But in a depressed housing market with high owner occupancy rates, disposing of housing wealth is often difficult. Indebted households have less-liquid financial assets in periphery economies (Figure 2.8; ECB, 2013a), although the sector as a whole has, in many countries, moved toward safe and liquid financial assets since the crisis (Cussen, O’Leary, and Smith, 2012).

BOX 2.1

The Saving Rate and Household Balance Sheets

The rise in the household saving rate during 2008–10 in many advanced economies can be explained by the sharp decline in asset prices and increase in fiscal deficits.¹ The decrease in wealth associated with the decline in housing and asset prices prompted households to lower consumption and increase saving. In turn, the deterioration in the fiscal position had a strong positive impact on savings—partly reflecting Ricardian equivalence in which the expectation of a future tax increase drives households’ saving relative to their income today.

Since 2010, the deteriorating macroeconomic environment, lower disposable incomes, and higher unemployment have caused a decline in the household saving rate (Figure 2.1.1). Cyclical factors such as higher unemployment lowered the household saving rate as households ran down accumulated assets to smooth consumption.

Indeed, since the crisis the financial transactions that determine household saving have changed considerably, a sign of household balance sheet stress.² Precrisis, households were acquiring financial and nonfinancial assets, and at the same time incurring debt. Postcrisis, households have slashed their acquisition of nonfinancial assets, depressing aggregate demand, and are repaying debt by disposing of financial assets (Figure 2.1.2). Although households may still be saving a similar fraction of their incomes, they are doing so by reducing their financial wealth and investing less, with negative consequences for the broader economy.

³A full assessment of house prices would have to go beyond affordability ratios (price-to-income and price-to-rent ratios) and include other fundamentals, including supply constraints (IMF, 2013d, 2013g).

Figure 2.1.1 Household Savings Rate

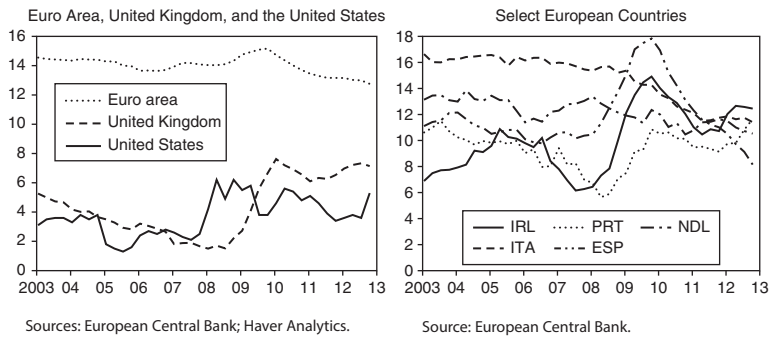
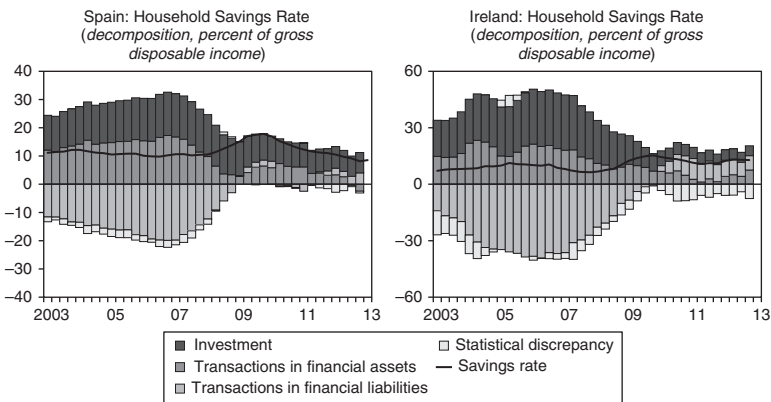


Figure 2.1.2 Financial Account Decomposition of the Household Savings Rate



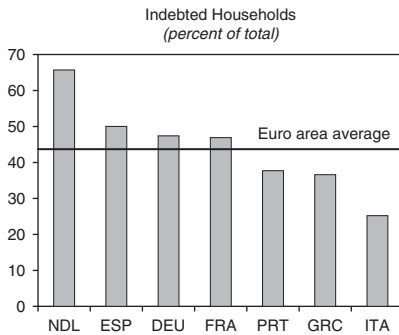
¹Econometric results are based on a sample comprising Canada, France, Germany, Ireland, Italy, Japan, Spain, the United Kingdom, and the United States for the period 1980–2012. The correlates to explain household saving behavior include wealth, fiscal policy, interest rates, cyclical factors, and demographic factors (see IMF, 2013e).

²Aggregate savings have a real and financial representation. In real terms, savings are defined as $S = (Y^D - C)$, in which Y^D is disposable income and C is consumption. The concept of savings can also be derived as a result of financial transactions: the savings and investment balance for each sector is equal to its net lending $S - I = NL$; savings are thus also equal to the difference between transactions in assets and liabilities plus investment (Cussen, O’Leary, and Smith, 2012).

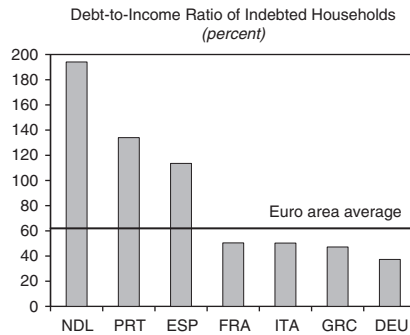
Household balance sheets are vulnerable to income declines, further asset price corrections, and, down the road, interest rate increases. In most countries with high household debt, sustainability indicators such as debt-to-income or debt-service-to-income ratios have deteriorated (see Figure 2.8) owing to falling incomes, with young and low-income households particularly vulnerable. For

Figure 2.8 Household Balance Sheets—Survey Results

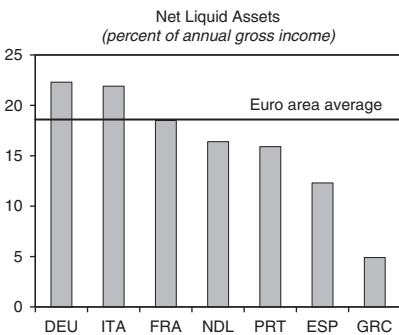
The share of indebted households is high in the Netherlands but low in Italy.



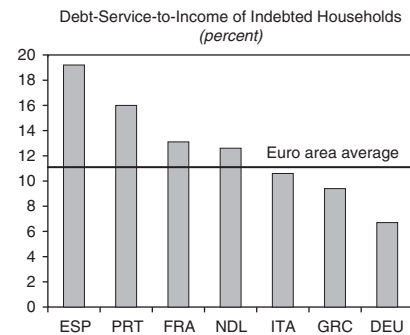
In the Netherlands, Portugal, and Spain debt is high compared to income.



Buffers are low in some periphery countries.



And debt service is high.



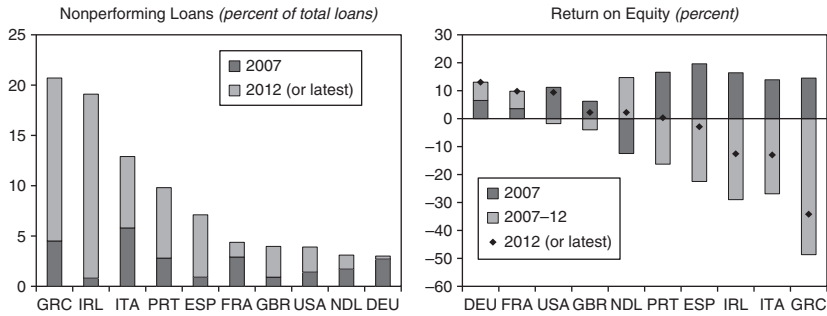
Source: European Central Bank.

example, in Spain, 22 percent of households in 2011 were estimated to be vulnerable to stress, but the shares were much higher among poor and young households, where debt-service-to-income ratios can reach 80 percent. The main risk for Spain arises from a further adjustment of housing prices and an increase in interest rates because most mortgages are indexed to the Euribor (IMF, 2012c). In the Netherlands, house prices are still overvalued based on a range of metrics, and young cohorts would be especially vulnerable to a further drop in prices (IMF, 2013g).

Financial Sector

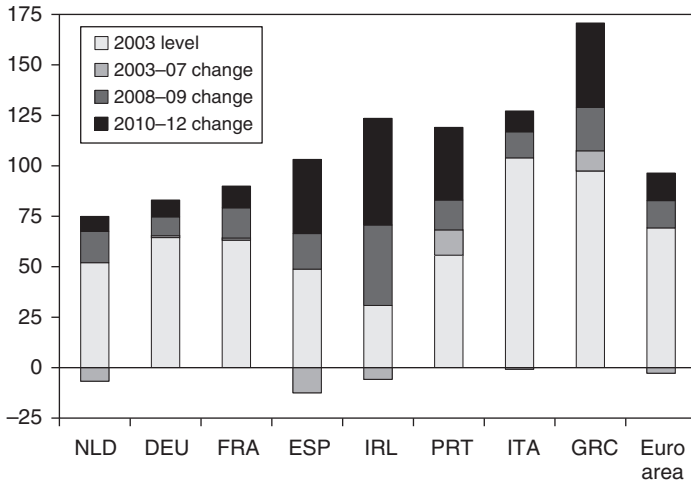
In many euro area countries, a highly leveraged financial sector impairs intermediation and burdens the sovereign. Many banks in periphery economies had traditionally relied on wholesale funding, and had built large exposures to sovereigns and the real estate market (IMF, 2013a). The share of NPLs—both from households and firms—has risen rapidly, increasing uncertainty surrounding the banks' asset quality, and in turn, increasing funding costs and driving down share prices (Figure 2.9). In a fragmented European financial market, such banks face an uphill battle to strengthen their capital positions so they can provision for NPLs, buffer their sovereign exposure, and meet new regulatory requirements.

Figure 2.9 A Weak Financial Sector



Source: IMF, Financial Soundness Indicators.

Figure 2.10 Sovereign Debt

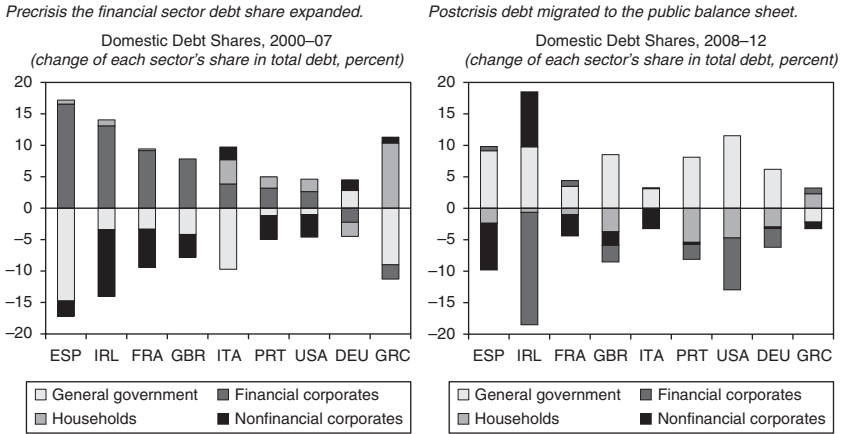


Source: IMF, *World Economic Outlook*.

Public Debt and the Migration of Debt

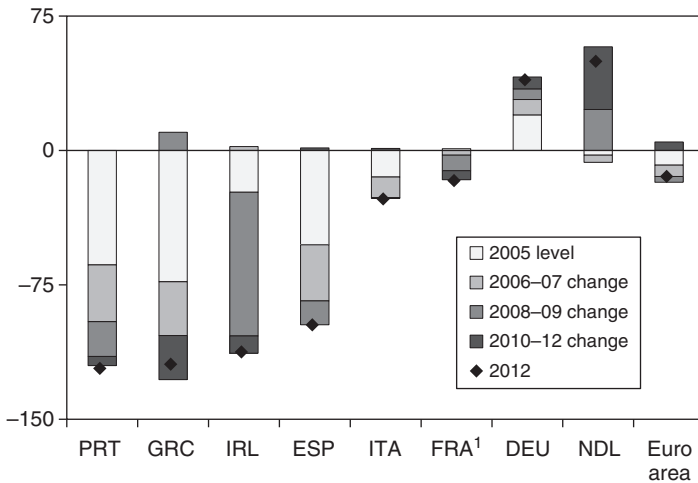
Debt migration from the private to the public sector has played an important role as a buffer in the euro area. In the boom phase, the private sector, in particular financial firms, increased their indebtedness while governments were able to reduce debt. As the private sector entered the deleveraging cycle, debt “migrated” to the public sector—through bank recapitalization, automatic stabilizers, or debt-financed fiscal demand support—and other sectors moved to reduce their debt burdens (Figures 2.10 and 2.11). But with saving lower than investment across all sectors for a number of years, many periphery economies accumulated sizable external debt (Figure 2.12).

Figure 2.11 Debt Migration



Source: Haver Analytics.

Figure 2.12 External Indebtedness



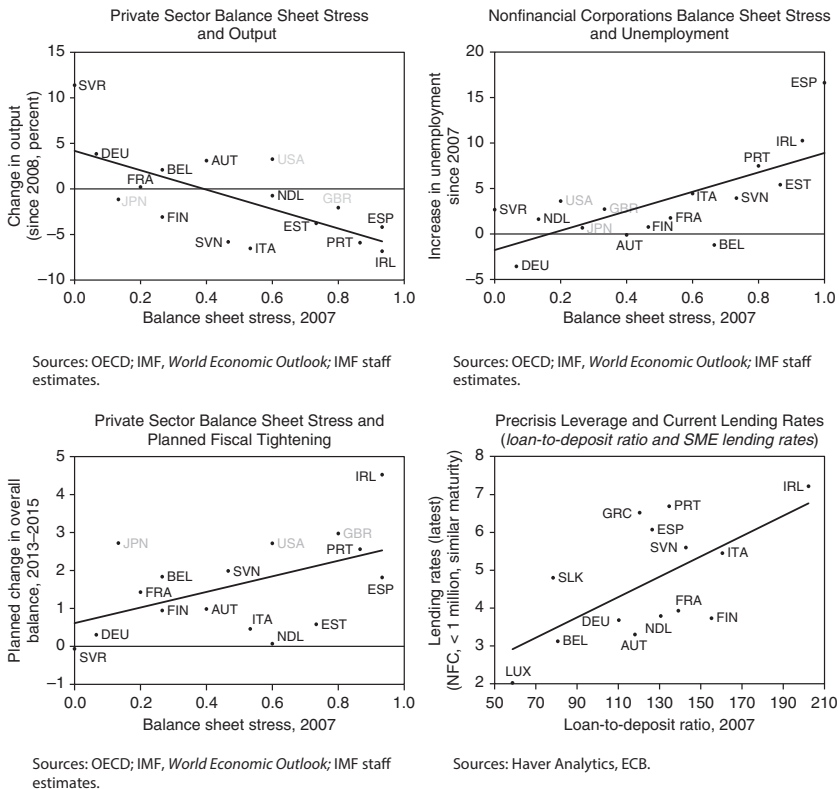
Source: IMF, International Financial Statistics.

¹ Data for France is 2011.

High Debt and Economic Outcomes

Balance sheet stress has been associated with weaker economic outcomes (Figure 2.13). In countries in which private sector debt rapidly increased through 2007, growth outcomes have since been weaker. This association also holds for household debt and consumption, as well as for corporate debt and investment. Moreover, in countries in which the corporate sector was highly leveraged in 2007, the increase in unemployment

Figure 2.13 Balance Sheet Stress and Economic Activity



since the crisis has been higher.⁴ Finally, a highly leveraged financial sector before the crisis has also been associated with higher lending rates after the crisis, creating procyclical financial conditions. Looking ahead, fiscal policy is tightening most in countries in which private sector balance sheet stress was the highest, creating procyclical fiscal conditions.

EXPERIENCE WITH PREVIOUS PRIVATE SECTOR DELEVERAGING EPISODES⁵

Household Deleveraging

The magnitude of the post-2000 credit boom was unprecedented. A look at historical episodes can illustrate the scale of the present challenge. In the run-up to the crisis, the increase in household indebtedness in many advanced economies was, on average, 20 percentage points of GDP higher than in past credit

⁴In the euro area, high corporate debt is also associated with lower per capita GDP growth during the period 1999–2011 (ECB, 2012). Chapter 3 picks up on this finding and analyzes some of the possible reasons for it.
⁵Chapter 4 also studies previous deleveraging episodes, but with a focus on public debt and the possible policy measures needed to facilitate debt reductions during episodes of low growth.

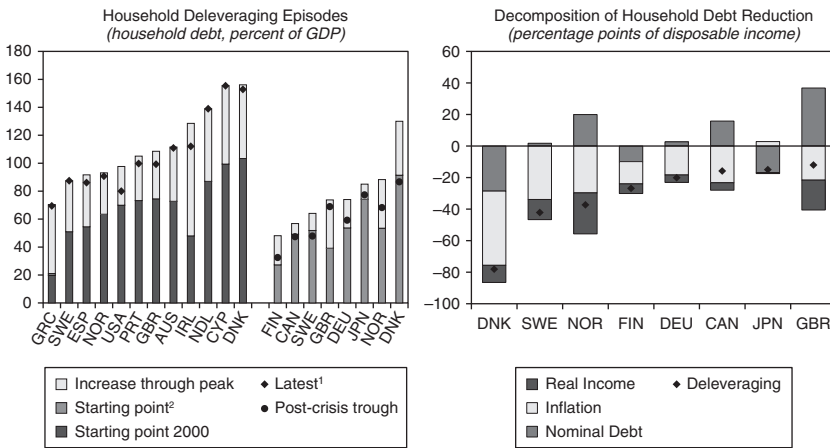
cycles.⁶ As a result, the level of household debt in 2013, and thus the need to deleverage, is exceptionally large compared with historical episodes.⁷

Household debt reduction has barely started. Most banking crises preceded by rapid credit expansions are followed by a protracted period of debt reduction (Tang and Upper, 2010). Historical episodes suggest that the extent of deleveraging after the bust matches the size of the debt built up during the boom period almost one-to-one. That is, in most cases, household debt returned to the pre-credit boom level after a protracted period of deleveraging (lasting between 5 and 10 years). With household debt barely off its peak level, the deleveraging process in euro area countries can be expected to take many more years if debt is to return to the 2000 level. By contrast, in the United States, households are two-thirds of the way back to the preboom debt level (Figure 2.14).

In many historical episodes, household deleveraging was facilitated by higher inflation and expansionary fiscal policy:

- Most deleveraging during these episodes was passive—households did not actively pay down debt, instead the debt ratio was eroded by nominal income growth. Indeed, the reduction in the stock of debt was small, except in Japan. In episodes without a banking crisis, the stock of debt even increased during the deleveraging period (see Figure 2.14).

Figure 2.14 Household Deleveraging Episodes



Sources: Eurostat; Haver Analytics; National statistical agencies; and IMF staff calculations.

Sources: IMF, World Economic Outlook; Haver Analytics; OECD.

¹September 2012, except for Denmark, Ireland, and the Netherlands: June 2012; and Cyprus and Norway: end-2011.
²Canada: 1970; Germany and Japan: 1990; others: 1980.

⁶Historical episodes include Canada (1979–84), Denmark (1987–94), Germany (2000–11), the United Kingdom (1990–96), Finland (1989–97), Japan (2001–11), Norway (1988–95), and Sweden (1989–95). In the last four, household deleveraging was associated with a banking crisis. These episodes were selected from advanced economies that experienced a reduction in the household-debt-to-disposable-income ratio of more than 10 percentage points.

⁷Historical experience offers one possible benchmark. Model-based approaches can also be employed to derive optimal levels of leverage or indebtedness to gauge deleveraging needs (see, e.g., Cuerpo and others, 2013).

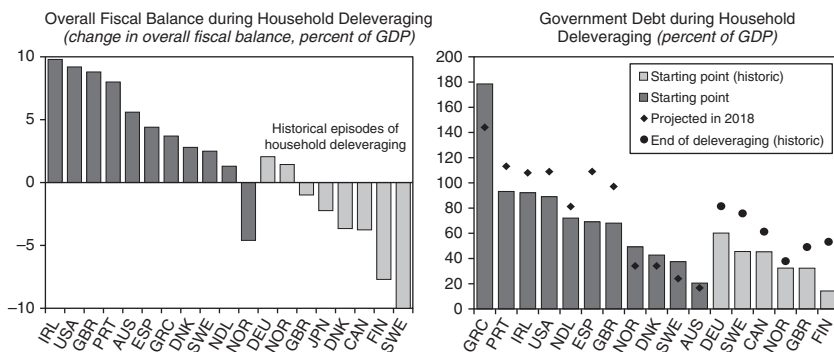
- Fiscal deficits often increased during deleveraging periods. The magnitude of the fiscal impulse varied across countries, but the cumulative impact was greater than 10 percentage points in Sweden and almost 8 percentage points in Finland (Figure 2.15).⁸ Public support was generally larger if deleveraging was the result of a banking crisis because it was complemented by support to the financial sector.

Projections suggest that the macroeconomic environment this time around will be more challenging. Euro area inflation is expected to undershoot the price stability objective and economic activity will remain subdued. Therefore, the role of nominal income growth in assisting the deleveraging process will be much more limited than in the past.⁹ Deleveraging this time will have to rely more on paying down debt and is likely to put additional stress on households. Likewise, fiscal policy will be less supportive of private sector deleveraging than in past episodes, because public debt levels are now significantly higher in most countries than in most previous episodes. At the current juncture, market pressures and institutional factors constrain fiscal policy; fiscal consolidation will continue with a turn to primary surpluses in many countries in 2014.

Corporate Deleveraging

Corporate deleveraging has yet to begin in full, as of late 2013. Although the levels of debt are comparable to previous episodes, the increase in corporate debt in the boom cycle was particularly large in Ireland and Spain, compared with historic episodes (Figure 2.16).¹⁰ Episodes of significant corporate deleveraging

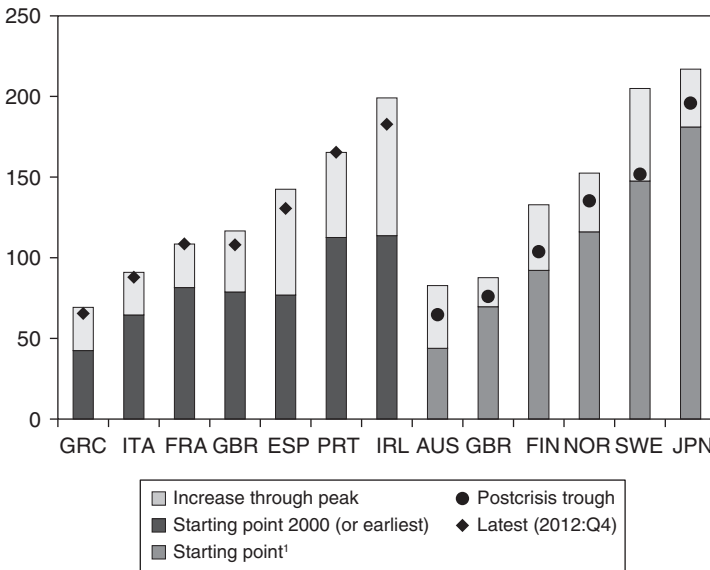
Figure 2.15 Fiscal Policy During Deleveraging Episodes



Sources: Eurostat; Haver analytics; National statistical agencies; and IMF staff calculations.
 Note: For current episodes, measured as the difference between projected overall balance in 2018 and the start of the household deleveraging phase.

⁸The data on fiscal balances in Figure 2.15 exclude bank recapitalization costs.
⁹For a discussion of the role of inflation in assisting the deleveraging process, including its costs, see IMF (2013b).
¹⁰Identification of historic corporate deleveraging episodes is based on Ruscher and Wolff (2012), who use the sector's net lending and borrowing data as a marker, combined with indebtedness data from Cecchetti, Mohanty, and Zampolli (2011). It comprises episodes with significant debt reductions (10 percent of GDP or more), which, on average, lasted six years. A number of shorter episodes of corporate deleveraging identified by Ruscher and Wolff (2012) did not result in significant debt reductions.

Figure 2.16 Corporate Deleveraging Episodes (*Corporate debt, percent of GDP*)



Sources: BIS, ECB, Bruegel, and IMF staff estimates.
¹Historic episodes: AUS: 1988–96; FIN: 1993–96; GBR: 1990–96; JPN: 1989–97; NOR: 2000–05; SWE: 2001–04.

suggest that after large booms, an average of two-thirds of the increase in debt is subsequently paid off. In the euro area, corporate leverage has receded from its crisis peak in some countries, but debt-to-income ratios remain high.

The Debt and Growth Nexus

The debate about the relationship between high public debt and growth remains open. A large body of research concludes that high public debt leads to higher interest rates and slower growth (among others, Kumar and Woo, 2010; Reinhart and Rogoff, 2010; Cecchetti, Mohanty, and Zampolli, 2011; Reinhart, Reinhart, and Rogoff; Baum, Checherita-Westphal, and Rother, 2013), although estimates of the debt level considered to be “high” are inconclusive.¹¹ High debt also makes public finances more vulnerable because it constrains the government’s ability to engage in countercyclical policies.

Fewer studies have attempted to quantify the impact of private sector debt on growth. A notable exception is Cecchetti, Mohanty, and Zampolli (2011), who find that corporate debt of more than 90 percent of GDP and household debt of more than 85 percent of GDP become a drag on growth. IMF (2012a) concludes that recessions that are preceded by a run-up in household debt tend to be more

¹¹See, for example, Herdon, Ash, and Pollin (2013) who challenge the findings by Reinhart and Rogoff (2010) and Reinhart, Reinhart, and Rogoff (2012) of a 90 percent of GDP threshold, above which dramatically worse growth outcomes are observed. Another school of thought argues that weak growth causes high debt and not the other way around (e.g., Panizza and Presbitero, 2012).

severe and protracted. This section looks at growth performance in previous household deleveraging episodes and presents econometric evidence of the way in which high private sector debt hampers growth.

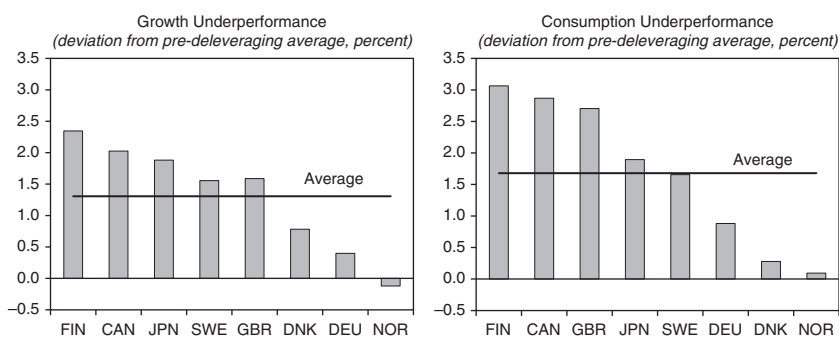
Historical experience suggests that household deleveraging in the euro area will continue to weigh on growth. Average annual real GDP and consumption growth were about 1.5 percentage points lower during the deleveraging period than in the preceding period. The growth underperformance is not found to be higher in those countries in which household deleveraging was also associated with a banking crisis (Figure 2.17). Although history is not destiny, and the number of historical episodes from which to draw lessons is limited, the analysis above suggests that headwinds from high debt and deleveraging are likely to persist.

Econometric Analysis

An econometric analysis suggests that the negative growth impact of debt in one sector depends, in part, on the level of indebtedness in the other sectors (Figure 2.18).¹² When the three sectors—government, households, and corporate—have above-average debt levels, the negative growth impact of each category of debt is highest. Results support the hypothesis that the confluence of debt in multiple sectors exacerbates the negative feedback loops that arise in times of crisis. Therefore, headwinds are likely to be particularly strong in those periphery countries in which all sectors are highly indebted.

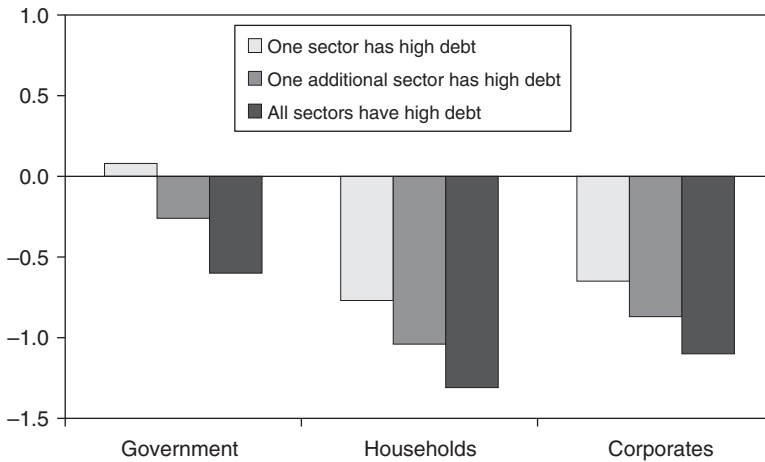
The analysis also suggests that private sector debt may be more detrimental to growth than public sector debt. Regressions identify a stronger and more

Figure 2.17 Historical Growth and Consumption Underperformance



Sources: Haver Analytics; IMF staff estimates.

¹²See Appendix 2A for details on the econometric analysis. Growth is measured by the average five-year forward annual real GDP per capita growth rate. Debt is considered to be “high” if it is greater than the mean value in the sample. The mean values, which are technical in nature and specific to the country-years in the sample, are 73 percent of GDP for government debt, 48 percent of GDP for household debt, and 98 percent of GDP for corporate debt. The thresholds identified in Cechetti, Mohanty, and Zampolli (2011) are also used as a robustness test. The main results hold, but the higher thresholds relative to the mean, particularly for household debt, imply that there are very few observations for which debt is high in all sectors at the same time.

Figure 2.18 The Impact of High Debt on Growth

Source: IMF staff estimates; see footnote 11 and Appendix 2A for details.

statistically significant association between private sector debt and growth than between government debt and growth.

- High corporate debt and high household debt are associated with negative growth even if each is the only sector indebted in the economy. The negative impact becomes larger the higher the number of sectors with high debt. In particular, an increase in the corporate-debt-to-GDP ratio of 10 percentage points more than the sample average is associated with a subsequent reduction in average annual growth of 7–11 basis points, depending on whether the other sectors are highly indebted. Similarly, an increase in the household-debt-to-GDP ratio of 10 percentage points more than the sample average is associated with a subsequent reduction in average annual growth of 8–13 basis points.
- High public debt is negatively associated with growth only when both the household and corporate sectors are also indebted. In this case, an increase in the government-debt-to-GDP ratio of 10 percentage points more than its sample average is associated with a 6 basis point reduction in subsequent average annual growth. In contrast, when only the government is indebted or only one additional sector has high debt, the relationship becomes statistically insignificant.

POLICY OPTIONS

Dealing with High Debt in the Euro Area

Experience suggests that decisive and properly sequenced policy actions can support deleveraging while mitigating the impact on growth. Where private sector deleveraging is more advanced (e.g., the United States), measures were taken early

on to strengthen financial institutions' balance sheets. Bank and private debt restructuring mechanisms have been used more widely, facilitating the workout of NPLs and dispelling doubts about asset quality. These processes were supported by appropriate legislation and institutions. Historical debt-restructuring episodes also show that policies can help facilitate the deleveraging process, including through government-sponsored programs, direct government purchases of distressed assets, and the use of asset management companies to resolve distressed assets. In all such cases, the sequencing and country-specific circumstances are important (Laryea, 2010). Two successful cases of household debt restructuring are the U.S. Home Owners Loan Corporation in 1933 and the experience in Iceland in the recent crisis.

Targeted policies

Progress on improving insolvency frameworks in the euro area has so far been uneven. Reforms to insolvency frameworks take time, and effective implementation is key to success but often difficult to achieve. A number of countries have moved to strengthen their insolvency frameworks and institutions (Liu and Rosenberg, 2013), including Austria, Germany, Greece, Ireland, Italy, Portugal, and Spain. Despite this progress, insolvency procedures are not widely used and the insolvency regimes remain inefficient and costly in many countries (see Figure 2.6). National insolvency regimes may need to be made more effective, for example, by facilitating out-of-court settlements, reducing time for insolvency proceedings, and providing more flexibility to deal with personal or corporate bankruptcy. Stronger institutions—experienced judges and insolvency administrators—would also help support insolvency processes. In many cases, the stigma associated with bankruptcy also needs to be overcome.

Debt reprofiling, restructuring, or default in the corporate and financial sectors can reduce private sector indebtedness, often with overall macroeconomic benefits. When creditor seniority is respected and common principles are applied, the workout of bad debt can help catalyze new economic activity. But debt restructuring also damages creditor-debtor relationships, imposes losses on other agents, and creates moral hazard.

Policies can help guide this restructuring process, thereby mitigating its costs. Repairing the financial sector is, however, essential to addressing the balance sheet problems in the corporate and household sectors.

- Strengthening bank balance sheets and working out NPLs is a precondition. The workout of private debt requires adequate provisioning and capital buffers in the banking system to absorb losses. Only then will banks have incentives to restructure their exposures to distressed borrowers. This acceptance of restructuring could be helped further by the provision of tax incentives (or the removal of tax disincentives) for debt write-offs. Policies to encourage debt write-offs and help facilitate the transfer of nonperforming assets to new owners would also support the repair of bank balance sheets. A pan-European backstop for solvent banks would help break the negative feedback loop between banks and sovereigns and reduce financial market

fragmentation. Debt restructuring in the corporate sector could be supported further by making more use of debt-equity swaps and out-of-court procedures to support the early rescue of viable firms. Asset management companies, private or with some government participation, could in some cases help accelerate the restructuring of corporate debt while taking weak assets off the banks' balance sheets (Laryea, 2010).

- In the household sector, direct debt-service support (e.g., through guarantees or deferred interest) can help vulnerable households avoid bankruptcy while minimizing moral hazard. Government-sponsored programs can also encourage banks to reschedule household debt (Laeven and Laryea, 2009). Wealth encumbrance could be modified where needed, for example, by easing mortgage payments for highly indebted, low-income households whose property has been foreclosed upon. Personal insolvency frameworks should be geared toward facilitating a fresh start for financially responsible individuals.

Policy mix and structural policies

A measured pace of fiscal adjustment, and monetary policy actions to reduce financial fragmentation, would further facilitate balance sheet adjustment. Countercyclical fiscal policy is effective in balance sheet recessions, but debt sustainability and market access considerations constrain its use. Within these constraints, getting the pace of consolidation right is essential. Monetary policy should aim to address impairments to the normal transmission of the monetary policy stance, thereby reducing financial market fragmentation, and helping to help reduce corporate and household borrowing costs, especially in the euro area periphery.

Structural policies can also help support private sector deleveraging or mitigate its impact. For example, the development of capital markets could help reduce firms' reliance on bank financing. And labor market reforms could increase firms' flexibility to absorb demand shocks through adjustments in working hours and pay or, when needed, by freeing up labor to facilitate sectoral reallocation. More generally, structural reforms can help the process of private sector deleveraging through their longer-term impact on growth. Chapters 7 and 8 in this book discuss many of the challenges associated with designing and implementing the right structural reform mix.

CONCLUSION

Balance sheet adjustment in the euro area is an uphill battle at the current juncture. In other deleveraging episodes, high nominal and real growth, exchange rate depreciation, and monetary easing supported balance sheet adjustments. For many euro area economies, however, the policy space is much more constrained: exchange rate devaluations can only happen internally, and if successful, put downward pressure on prices. The real growth outlook is weak throughout the region and beyond. And, because monetary transmission is impaired, monetary

easing is not, at present, effective in lowering interest rates, especially with a fragmented financial sector amplifying the negative effects of protracted private sector deleveraging.

The results of this chapter support the hypothesis that the presence of debt in more than one sector exacerbates the negative feedback loops that arise in times of crisis. When all sectors (government, households, and firms) are highly indebted, the negative growth impact of each category of debt is highest. The analysis also suggests that private sector debt may be more detrimental to growth than public sector debt, which indicates that headwinds are likely to be particularly strong in the periphery, where all sectors are highly indebted.

An accelerated cleanup of private and financial sector balance sheets can help prevent a protracted period of stagnation. Delays and resistance to working out NPLs in the banking system, and lengthy procedures for personal and corporate bankruptcies, increase uncertainty about the extent of the problem and put further downward pressure on asset prices and firm performance. At the aggregate level, these feedback loops can trigger debt deflation dynamics. Therefore, in addition to providing a supportive macroeconomic environment, targeted policies to support debt workouts should be considered.

APPENDIX 2A. ECONOMETRIC ANALYSIS

The econometric analysis builds on Cechetti, Mohanty, and Zampolli (2011) and their data on debt levels for a panel of 18 Organization for Economic Cooperation and Development countries for 1980–2009.

The empirical specification is derived from the neoclassical Solow growth model in which per capita income growth depends on the initial level of physical and human capital, the saving rate, population growth rate, and technology. Measures of public and private sector debt are also added to the specification. Panel data regressions are estimated using country-specific and time-specific fixed effects. More specifically, the equation is

$$g_{i,t+1,t+k} + \Phi y_{i,t} + \beta' X_{i,t} + \alpha' D_{i,t} + \mu_i + \gamma_t + \varepsilon_{i,t,t+k},$$

where

- $g_{i,t+1,t+k}$ is the k -year forward average of annual real GDP per capita growth between years $t+1$ and $t+k$ (the analysis uses $k = 5$);
- $y_{i,t}$ is the log of real per capita GDP at time t ;
- $X_{i,t}$ includes gross saving as a share of GDP; population growth; number of years spent in secondary education as a proxy for the level of human capital; the dependency ratio; openness to trade measured by the sum of the ratio of exports and imports to GDP; consumer price index inflation as a measure of macroeconomic stability; the ratio of liquid liabilities to GDP as a measure of financial development; and a dummy to control for banking crises;
- $D_{i,t}$ includes, depending on the specification, the ratio of debt to GDP of the public or private sectors (household and corporate sectors) as well as interactions with dummy variables indicating whether the debt ratios are above a threshold level;
- μ_i and γ_t are country-specific and time-specific dummies.

Least squares dummy variable (LSDV) estimation is used. The presence of a lagged dependent variable in the right-hand side (dynamic panel) implies that the estimates may be biased, but given the small panel size ($N = 18$), neither generalized method of moments nor instrumental variables have been shown to outperform LSDV.

The analysis tries to assess whether the growth impact of high debt in one sector depends on the level of indebtedness in other sectors. Debt is considered “high” if it is above the sample mean. The thresholds are 73 percent of GDP for public debt, 98 percent of GDP for corporate debt, and 48 percent of GDP for household debt. For instance, in the specification for estimating the impact of public debt on growth and its differential impact depending on the level of indebtedness in the private sector, the regressor $\alpha' D_{i,t}$ becomes

$$\alpha_1 D_{i,t}^p + \alpha_2 D_{i,t}^p H^p + \alpha_3 D_{i,t}^p H^H + \alpha_4 D_{i,t}^p H^C,$$

in which $D_{i,t}^p$ is the ratio of public debt to GDP, H^j is a dummy variable taking the value of one if public ($j = P$), household ($j = H$), or corporate ($j = C$) debt is above the sample mean, respectively. Given the above specification, $\alpha_1 + \alpha_2$ is the estimated impact of high public debt on growth when the household and corporate sectors are not highly indebted. Similarly, $\alpha_1 + \alpha_2 + \alpha_3$ is the estimated impact when the household sector, in addition to the public sector, is highly indebted. When all sectors are highly indebted, the estimated impact of government debt on growth is given by $\alpha_1 + \alpha_2 + \alpha_3 + \alpha_4$.

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