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THE DEBT CHALLENGE IN EUROPE

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Highlights

- The euro area faces a double challenge: debt overhang and the need for price adjustment. This paper reviews the debt challenges in the household and corporate sectors and maps out some policy options. In particular, we document the increase in private debt prior to the crisis and consider how the corporate and household sectors have adjusted their balance sheets during the crisis. We examine previous experiences with corporate and household deleveraging and draw lessons for policymakers. We show how the macroeconomic effects of balance-sheet adjustments have been in part offset by the use of fiscal deficits, and we discuss the resulting challenges. A key lesson is the importance of maintaining economic growth and avoiding a prolonged double-dip recession in the euro area while facilitating necessary deleveraging in some over-indebted sectors and countries. We also emphasise the need for a growth strategy tailored to southern Europe.

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1 Introduction

At the heart of the ongoing crisis in the euro area are market concerns about the sustainability of sovereign debt in some EMU countries. Standard equations of public debt dynamics show that if the interest rate on the debt exceeds the nominal growth rate of GDP, then stabilisation of the debt-to-GDP ratio requires that the country must run a sufficiently large primary (that is, non-interest) budget surplus. Based on this analysis, fiscal consolidation to reduce primary budget deficits is an important part of the prescription for EMU countries with sovereign debt difficulties. Fiscal consolidation is expected to increase investor confidence in the sustainability of public debt, thereby lowering interest rates on sovereign debt. Lower interest rates further improve the debt dynamics.

An issue that has not received the attention that it deserves in the debate over sovereign debt sustainability is the interaction between public debt and private debt. Rising fiscal deficits can support aggregate demand and thereby facilitate private sector deleveraging in cases where businesses and households find themselves over-indebted. It follows that as governments implement needed fiscal consolidation programmes, the accompanying increases in taxes and cuts in spending may frustrate the efforts of the private sector to reduce the debt overhang (Eggertsson and Krugman, 2010). This suggests a potential policy dilemma between public and private sector debt reduction. For that reason, it is important to understand how over-indebted businesses and households might respond to planned fiscal policy actions in the current crisis.

A second potential policy dilemma relating to private sector debt results from the fact that the EMU countries with sovereign debt problems also often have overvalued real exchange rates. To pay down external debt, these countries require real exchange rate depreciation through cuts in prices and wages to boost net exports. However, it usually takes time for improvements in competitiveness to translate into faster export and income growth. In particular, empirical evidence suggests that declines in export price relative to import prices may in the short-run reduce net exports[1]. In heavily indebted countries, therefore, required depreciation of the real exchange rate may push up debt relative to net exports and income in the short term, thereby temporarily exacerbating the over-indebtedness problem.

Against this background, this paper discusses corporate and household debt and the related adjustment process. Our discussion relies particularly on flow-of-funds (or financial account) data that have recently become popular (Be Duc and Le Breton, 2009; Castren and Kavonius, 2009; Bezemer, 2009). The remainder of the paper is structured as follows. The next section provides a horizontal overview and discusses the interaction between the processes of debt reduction and real exchange rate adjustment. Section 3 discusses corporate debt while section 4 provides an analysis of household debt. Section 5 develops policy recommendations.

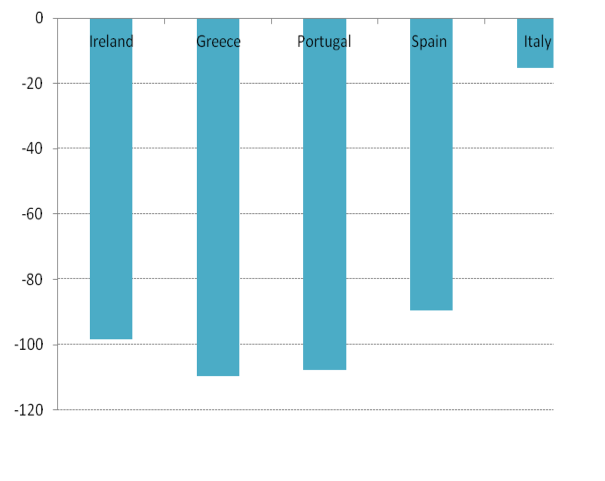
[1] Backus, Kehoe and Kydland (1994) note that the negative effect of such a terms of trade deterioration usually reverses itself after 2-8 quarters, giving rise to a J-shaped pattern.

2 Debt and competitiveness: an overview

Figure 1 documents the net external financial assets (as a percentage of GDP) of Greece, Portugal, Ireland, Spain and Italy. As can be seen, net external liabilities currently exceed 100 percent of GDP in Greece and Portugal. Ireland's net external liabilities are close to 100 percent, though some caution is required in interpreting the data for Ireland[2]. In Spain, the figure is around 90 percent. Only in Italy are the net external liabilities relatively low, at less than 20 percent of GDP. Net external liabilities, of course, find their counterpart in net external assets in surplus countries, which have increased over the past decade in particular in Germany.

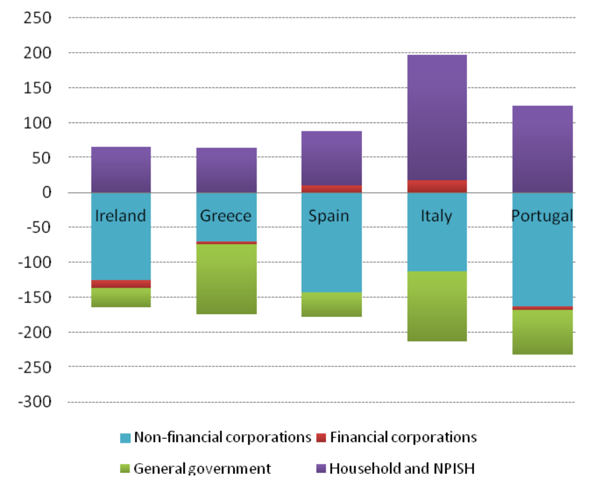
Large external liabilities reflect past increases in domestic net liabilities, which have increased differently in different sectors of the economies. Figure 2 provides data on net assets of the different sectors of the economy. Households are typically holders of net assets, while corporations and governments have a net debt position. The figure also reveals that in Greece the main driver of the large liability position is the government sector, while in Spain, Portugal and Ireland the large accumulation of liabilities results from the corporate and household sectors. In Italy, large government debt is offset by large asset holdings of the household sector so that the net position of the economy is more balanced.

Figure 1: Net external financial assets as % of GDP (2009)



Source: EUROSTAT

Figure 2: Net assets in the different domestic sectors as % of GDP (2009)



Source: EUROSTAT

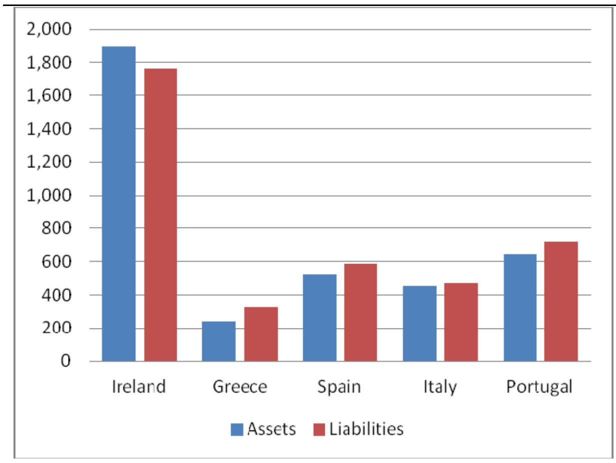
[2] Gros (2011) estimates that based on accumulated current account balances over the past 25 years, Ireland's external liabilities are about 20 percent GDP, compared with the figure of nearly 100 percent reported by Eurostat. The differences in estimates may in part reflect distortions in the data associated with the presence of the large International Financial Services Centre (IFSC) in Dublin. In addition, Lane (2011) argues that a substantial component of the increase in net external liabilities since 2008 reflects the internationally-leveraged structure of the financial portfolios of domestic Irish residents.

These net positions conceal very large gross financial asset and liability positions. Ireland stands out with financial assets and financial liabilities of around 18 times GDP, though these figures are distorted by the inclusion of activities in the International Financial Services Centre[3]. But the gross positions for the other countries are also large, easily constituting stocks of assets and liabilities exceeding several years' worth of income.

Such large stocks can render countries' net external positions vulnerable to changes in the prices of assets and liabilities. Suppose that asset values react differently to changes in economic circumstances than liabilities. In that case, an economic or financial shock has the potential to change markedly the net asset position of a country[4].

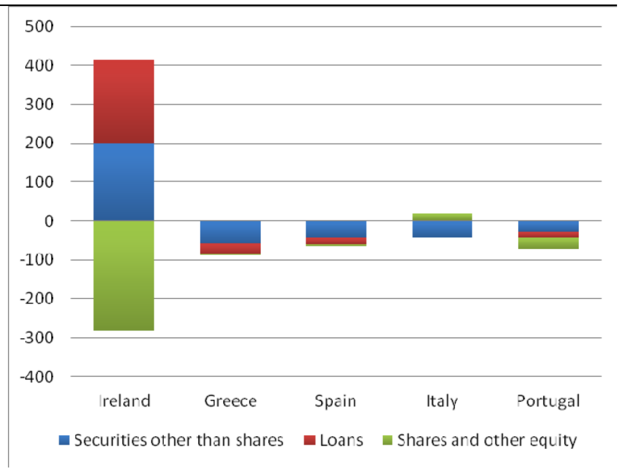
A large part of the increase in net liabilities is in the form of debt; that is, securities other than shares (bonds) and loans (Figure 4)[5]. This may put a heavy burden on the economies concerned in a recession as the value of the debt remains unchanged while income and the values of non-financial assets can fall markedly.

Figure 3: Gross assets and liabilities as % of GDP (2009)



Source: EUROSTAT
Note: Assets and liabilities are obtained as the sum of the three categories: securities other than shares, loans, and shares and other equity.

Figure 4: Net assets/liabilities across categories as % of GDP (2009)



Source: EUROSTAT

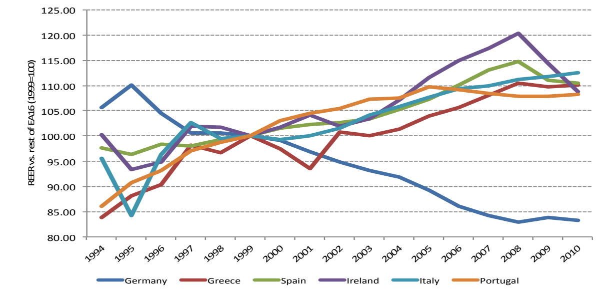
These high external and internal debt burdens must be seen in the light of the significant competitiveness adjustments that are required in these economies. Figure 5 summarises the divergence in competitiveness based on unit labour costs for these economies. It shows that there has been a continuous divergence in relative unit labour costs since 1999. This divergence in

[3] According to the IMF, Ireland's reported gross external liabilities are around 1,100 percent of GDP (end-2010), but most of these liabilities are related to IFSC activities and are largely offset by external assets. Excluding the IFSC, gross external liabilities are estimated to be about 330 percent of GDP. www.imf.org/external/pubs/ft/scr/2011/cr11276.pdf
[4] An extensive discussion of valuation effects can be found in European Commission (2010).
[5] Again, the data for Ireland are distorted by Ireland's role as an international financial centre. In particular, the breakdown between equity, loans and bonds in large part reflects Ireland's relatively large mutual funds industry.

competitiveness has not been corrected to any great extent during the crisis, except for the case of Ireland and to a lesser degree Spain.

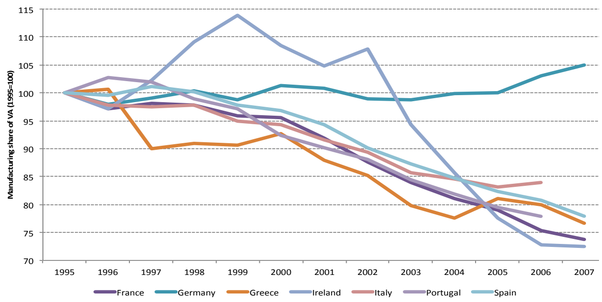
The loss in price competitiveness has gone hand in hand with a significant decline in the share of the manufacturing sector in total value added (see Figure 6). The value added share has fallen by as much as 25 percent, highlighting a tendency of de-industrialisation of the euro area 'periphery'. To pay back external debt, these economies will have to grow their exports. This probably means that the peripheral economies will have to strengthen their manufacturing export base, although in the case of Ireland strong export growth over recent years has been driven by exports of services.

Figure 5: Divergence in competitiveness ULC-adjusted REER (1995=100)



Source: DG ECFIN Price/Competitiveness Database

Figure 6: Manufacturing Share of Value Added (1995=100)



Source: OECD

The ability of these economies to adjust through growth in exports also depends on the size of the export base in each country. In this regard Ireland is in a potentially strong position, since gross exports exceed GDP (Table 1) and net exports account for more than 20 percent of GDP. In contrast, the export sectors are considerably smaller in the other peripheral countries relative to GDP, so a given increase in exports has less effect on overall economic activity.

Table 1: Size of the export sector

(Gross exports as a % of GDP)

	2007	2011
Ireland	80.5	110
Portugal	32.2	34.6
Italy	29.0	29.1
Spain	26.9	28.4
Greece	22.7	24.0

Source: AMECO database.

The discussion above suggests that most of the economies that are the focus of this paper face a double challenge. On the one hand, they have to deal with large debt burdens. These debt burdens can be difficult to cope with when interest rates on public and private debt are rising and when incomes are falling because of the recession. Needed fiscal consolidation further depresses incomes, both directly through budgetary measures such as tax hikes and indirectly by aggravating the recession.

On the other hand, the economies in question need to increase their competitiveness in order to grow and to be able to service their foreign debt. This is particularly relevant for those economies that hold large external debt positions. Repaying external debt means that a country needs to run current account surpluses. The combination of the two factors, the need for a competitiveness adjustment and the debt overhang makes the current situation delicate. While downward wage adjustments help on the competitiveness and export side in the long term, in the short term an effect similar to the J-curve effect may worsen the trade balance. In addition, the wage cuts may also reduce the overall income in the near term (depending on the time profile of job creation), making debt repayment more difficult.

The evidence for Italy (and possibly for Ireland) reveals a somewhat better picture. Italy's export performance and price competitiveness indicators are poor. However, this is less of an issue in Italy as the external debt problem is more limited and the large public sector debt is matched by large household assets. In principle, the Italian public debt problem could therefore be solved by taxing Italian households and corporations that hold large financial assets. In fact, many of those assets are government bonds issued by the Italian government. Overall, a large part of the solution to Italy's problems thus appears to be in the control of the Italian government.

3 Corporate debt

In this section, we focus more specifically on the issue of corporate debt. As was shown earlier, corporate debt has been an important contributor to the overall increase in debt in a number of countries. At some stage, corporations will wish to correct their debt levels. In this section, we document this process of balance sheet adjustment and its economic causes and consequences. We start by showing a simple measure of balance sheet adjustment for the five peripheral euro area economies. We then reference previous research by Ruscher and Wolff (2010, 2012) that has analyzed the typical economic consequences of such adjustment.

A simple measure of balance sheet adjustment is the net lending of the non-financial corporate sector[6]. Corporate net lending measures corporations' net financial investments (if positive) or, alternatively, their net needs in terms of external finance (if negative).

[6] An important literature investigates the determinants of corporate balance sheet adjustment. The finance literature offers two competing models of financing decisions and balance sheet structure. In the trade-off model, firms identify

When corporate net lending increases, savings increase relative to investment in the corporate sector, leading to a reduction in domestic demand. Indeed, corporate net lending is negatively associated with the business cycle and positively associated with the current account balance, showing that large increases in corporate net lending are not fully offset by other domestic sectors' net lending.

Table 2 shows the percentage adjustment in corporate net lending for the euro area as a whole and for the five peripheral euro area economies since the beginning of the recent adjustment processes. Spain has seen by far the largest adjustment of corporate net lending with an adjustment of close to 9 percent of GDP, but adjustments in Portugal, Greece, Ireland and even Italy have also been sizeable. This strong balance sheet adjustment will be accompanied by a significant recession unless the shortfall in domestic demand is offset by an increase in demand in other sectors of the economy, typically the public or external sector.

Table 2: Recent change in non-financial corporations and government net lending (% of GDP)

	Corporate sector	Government Sector	Start year
EA 17	2.7	-3.9	2008
Ireland	3	-11.9*	2007
Greece	4	-3.7	2007
Spain	8.9	-11.2	2007
Italy	1.9	-3	2007
Portugal	5.4	-5.6	2008

Note: Adjustment in net lending since the year at which corporate borrowing was largest. *Excludes banking sector support.
Source: EUROSTAT

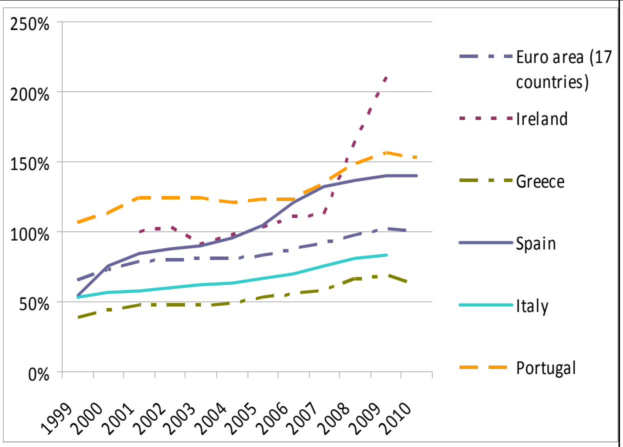
To address these large drops in corporate net borrowing and make up for the fall in aggregate demand, several governments have significantly increased their public deficits. Obviously, the increase in public borrowing has been most pronounced in Spain as is shown in the same table. The

their optimal leverage ratio by weighing the costs and benefits of additional debt. The benefits of debt include, for example, the tax deductibility of interest and the disciplining effect of debt in case of agency problems between managers and shareholders (Jensen 1986). The cost of debt includes potential bankruptcy costs and others. In the pecking order model (Myers and Majluf, 1984), equity issuance and, to a lesser degree, debt issuance comes with a cost due to asymmetric information between managers and investors. In this model, companies prioritise their sources of financing, using internal funds first before resorting to debt and ultimately equity. The pecking order model predicts that a firm's debt issuance is an inverted function of its net cash flows (cash earnings minus investment layouts). Fama and French (2002) test both models with firm-level data and find supporting and contradicting evidence for both models suggesting that both models partially hold.

adjustment in corporate borrowing has thus come at the expense of an increase in government borrowing.

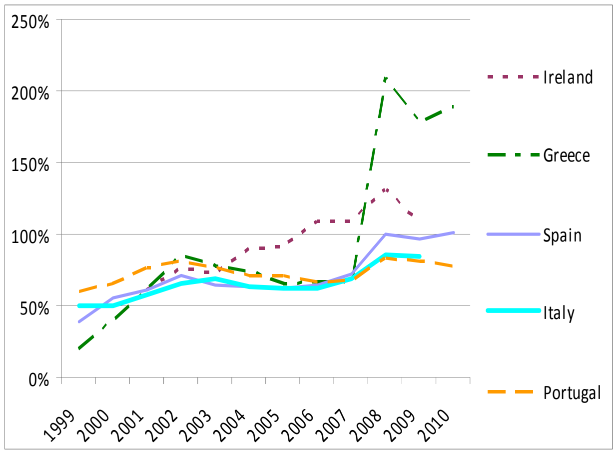
How much has corporate debt and leverage adjusted? Figure 7 plots the debt to GDP ratio and reveals that corporate debt levels have barely started to decline[7]. Similarly, corporate leverage ratios continue to remain high and have not adjusted much (Figure 8).

Figure 7: Debt to GDP ratio, non-financial corporate sector (1999-2010)



Source: EUROSTAT

Figure 8: Leverage*, non-financial corporate sector (1999-2010)



Source: EUROSTAT
* Leverage is measured by the ratio of debt to equity

How long will the corporate deleveraging process last? This is one of the central questions for policymakers today as the deleveraging process goes hand in hand with depressed domestic demand and weak economic activity. This becomes particularly relevant when the international growth prospects are weak and export opportunities are subdued.

Previous research by Ruscher and Wolff (2010) shows that past balance sheet adjustment episodes may last between five and ten years. The recent corporate balance sheet adjustment in Germany has lasted seven years. In a larger sample of OECD countries analyzed by Ruscher and Wolff (2010), the average balance sheet adjustment period lasted for 8.3 years.

This long balance sheet adjustment is typically accompanied by large changes in macroeconomic variables. Table 3 is taken from Ruscher and Wolff (2010) and provides the statistics related to the adjustment of corporate balance sheets. The authors show that the development in time of a number

[7] The jump in Ireland's corporate debt in 2007 may reflect the move of one or more multinational companies' corporate headquarters to Ireland.

of central variables, starting from the year prior to the balance sheet adjustment episode (*t=0*) up to the year *t=4.*[8]

Table 3: Consequences of corporate balance sheet adjustment (1)						
	t=0	t=4	Actual change (2)	Average change in entire sample	Effect of balance sheet adjustment	Number of episodes
	(A)	(B)	(C)=(B)-(A)	(D)	(E)=(C)-(D)	(F)
Debt / GDP	60.3	58.4	-1.9	5.2	-7.1	12
Leverage (3)	101.2	85.3	-15.9	-1.2	-14.7	12
Liquidity / VA (4)	30.0	33.4	3.4	0.9	2.5	10
Investment / VA	26.1	23.2	-2.9	-0.2	-2.8	16
Savings / VA	17.2	22.3	5.0	0.4	4.6	16
Compensation of employees / VA	60.2	55.6	-4.6	-0.9	-3.7	20
Real growth			6.6	9.9	-3.3	24

(1) To ensure a constant size of the sample for every year, the table covers only those events which lasted more than 4 years and for which the respective data are available. The number of observations per variable differs for due to data availability reasons. Period. t=0 is the year prior to the balance sheet adjustment. "VA" is value added.
(2) In the case of 'real growth' the actual change is the difference between the cumulated growth during the 4-year adjustment period and the cumulated growth in the broader sample during an average 4 year period.
(3) Leverage is measured by the ratio of debt to equity (data from the balance sheet section of national accounts).
(4) Liquidity is measured by corporations" holdings of "currency and deposits" (data from the balance sheet section of national accounts).
Source: Ruscher and Wolff (2012).

[8] The set of countries is kept constant during this period so that changes in the values are not driving by changing samples. For different variables, the data availability is different and this explains the different number of observations per variable considered.

A number of key features of corporate balance sheet adjustment can be discerned from Table 3 and are highlighted in Ruscher and Wolff (20 12).

(1) Debt to GDP ratios are significantly reduced, in particular when compared to the overall sample in which debt increases on average. Similarly, corporate leverage (i.e. the ratio of debt to equity) is reduced significantly by almost 16 percentage points.

(2) Corporate balance sheet adjustments are associated with significant increases in the holdings of liquid funds. The increase in the sample averages 3.4 percent of corporate value added.

(3) Compensation of employees as a share of corporate value added falls by almost 5 percentage points and is therefore much more significant than the fall in the overall sample.

(4) At the same time, corporate savings in percent of corporate value added increases substantially by 5 percentage points. The increase in savings thus corresponds very much to the decrease in labour compensation.

(5) Investment in percent of corporate value added falls substantially by around 3 percentage points.

The descriptive evidence from a large sample of corporate balance sheet adjustment episodes thus confirms that corporate balance sheet adjustments have very large and significant effects on wages, investment, savings and corporate balance sheets themselves. Indeed, the descriptive evidence supports the notion that corporate balance sheet adjustments have strong income effects as they are associated with persistent periods of wage moderation. Increased corporate gross savings are therefore partly achieved by weakening labour remunerations. Moreover, the results highlight that investment is subdued during episodes of corporate balance sheet adjustment. Corporate balance sheets are thus adjusted by reducing investment and increasing savings on the back of falling labour cost. The corporate balance sheet adjustment is found to be associated with significant decreases in leverage and debt as well as sizeable increase in liquidity held by the corporations.

Ruscher and Wolff (2012) also analyze the drivers of this corporate balance sheet adjustment. They find that large debt levels, a weak liquidity situation as well as negative stock market shocks can trigger adjustment. Sorensen et al (2009) estimate that by end-2006, the debt overhang in the euro-area corporate sector was as much as 15 percent (that is, corporate debt was as much as 15 percent above its estimated equilibrium level). Judging by intra-euro-area differences in the pace of debt accumulation over the past decade, the overhang could have been considerably larger in some Member States. This large overhang may explain the rapid increase in corporate net lending.

4 Household debt

Large-scale fiscal consolidation in crisis countries requires measures to raise taxation revenues and cut spending. Other things being equal, such policies reduce household disposable income and could result in financial distress when households are highly indebted. Widespread financial distress would not only weigh on consumer spending in crisis countries, thereby hurting prospects for growth, but could also threaten the stability of the banking system. In turn, banking problems could dampen confidence and restrict the supply of credit to viable businesses, further depressing economic growth and exacerbating the crisis (Fisher, 1933).

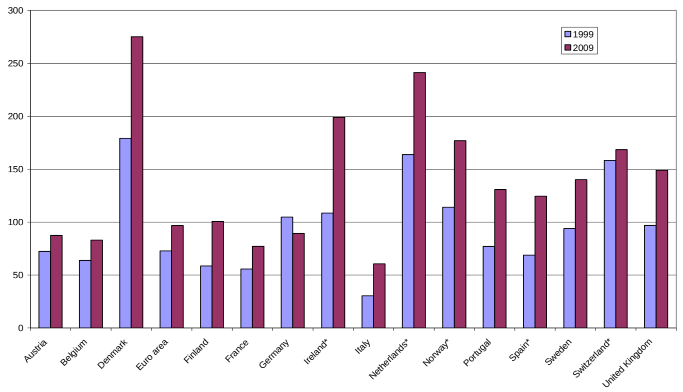
As discussed earlier, there is also an interaction between needed improvements in competitiveness and high levels of indebtedness. Depreciation of the real exchange rate through cuts in nominal wage rate should eventually boost net exports and employment as the country gains global market share. As such, falling wage rates do not necessarily mean lower aggregate disposable incomes, and in time should boost disposable incomes as employment rises in export sectors. However, there may be a timing issue here. Economic theory suggests that this so-called 'competitiveness channel' of adjustment in a currency union operates gradually and with a lag (European Commission, 2008). Therefore, in the near term, the capacity of households to absorb large wage cuts may be limited by high levels of indebtedness. Moreover, as discussed in the previous section, the empirical evidence shows that corporate balance sheet adjustment also puts downward pressure on wages.

For these reasons, it is important to look at the facts on household debt in EMU countries, especially in the crisis countries where many households may find themselves over-indebted and where large-scale budgetary and competitiveness adjustments are required. As in our study of corporate deleveraging earlier, we examine the process of household deleveraging in crisis countries. In particular, we explore previous episodes of household deleveraging and what lessons we might learn from these past experiences about what EMU membership may imply for the process of deleveraging.

How much debt did households take on during EMU?

In most European economies, household indebtedness has risen sharply since the late 1990s. As shown in Figure 9, the ratio of household debt to disposable income in the euro area on average increased from 73 percent in 1999 to 97 percent in 2009. The rise in household indebtedness during EMU marks the continuation of a broader trend across advanced countries in which average household debt as a percentage of GDP in the OECD as a whole has doubled from about 40 percent to 80 percent over the period 1985-2005.

Figure 9: Household debt, 1999 and 2009* (% of disposable income)



Source: EUROSTAT,*Ireland and Netherlands, 2002 & 2009; Norway and Switzerland, 1999 & 2008; Spain, 2000 & 2009.

The largest gains in household indebtedness in the euro area were recorded in Ireland (where household debt jumped roughly 90 percentage points of disposable income during 2002-2009), the Netherland, Spain and Portugal. The most muted increases were registered in Austria, Belgium and France. Household indebtedness fell in only one country, Germany, bringing German household debt to nearly 10 percentage points of disposable income below the euro area average in 2009 from more than 30 percentage points above average in 1999.

Outside of the euro area, the increases in household debt in Sweden and the United Kingdom matched those in Spain and Portugal, while indebtedness of the household sector in Denmark even managed to outpace Ireland.

Why has household indebtedness risen?

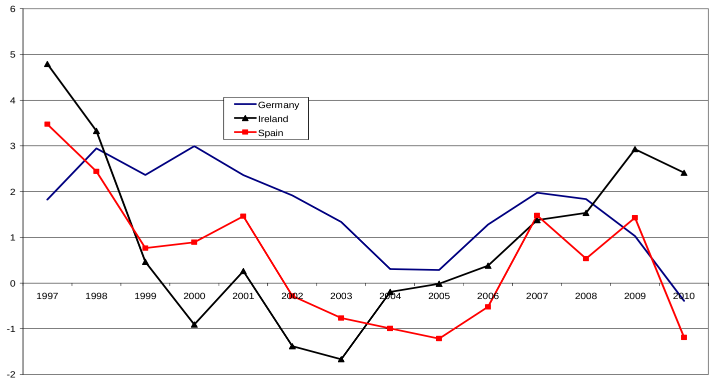
Economic theory provides a useful starting point for understanding the rise in indebtedness over the past couple of decades. The well-known permanent income (or life-cycle) model of consumption and saving relates decisions on savings and borrowings to life-cycle factors[9]. Savings are typically low or negative during an individual's early working years and during retirement when income is low. Households save at a higher rate during late working years when income is highest. Standard economic theory suggests several factors that might account for the rise in household indebtedness across countries during EMU and differences in indebtedness across countries.

- **Real interest rates.** For many EMU countries, real interest rates fell after 1999. This is especially true for Ireland and Spain (Figure 10) which recorded some of the largest increases in indebtedness after the creation of the single currency. Negative real interest

[9] The life-cycle model was developed in the 1950s and is closely associated with Franco Modigliani, Albert Ando and Milton Friedman. Modigliani (1986) provides a useful summary.

rates in Ireland and Spain contributed to housing bubbles and rapid increases in household indebtedness.

Figure 10: Real short-term interest rates* (%)



Source: EUROSTAT,*Nominal 3-month interbank interest rates deflated by HICP inflation.

- **Future income expectations.** Prolonged periods of relatively fast economic growth like those experienced by several EMU economies during the so-called 'Great Moderation' can lead households to believe that disposable incomes are likely to continue to rise at a strong pace well into the future. Permanent income considerations would then encourage households to borrow against these expected future income gains.

- **Demographics.** Ireland and Spain have a relatively large proportion of the population in their early working years, which could explain some of these countries' high indebtedness. Moreover, the young workforce in Ireland is highly educated and well qualified, so expectations of future real income growth were high during the boom[10]. In addition, the young workforce in Ireland and Spain was boosted by large inward migration during the boom years.

A major driver of the rise in indebtedness has been the growth in mortgage debt. The marked expansion of mortgage credit reflects that rapid increases in house prices in many countries since the mid-1990s, increased household formation and home ownership rates in some countries, and deregulation in the mortgage markets which boosted borrowing by previously credit-constrained households. Indeed, rising house prices themselves help to ease credit-constraints, since these constraints are related to collateral values and housing acts as collateral for mortgage debt. Mortgage debt now accounts for over 70 percent of household indebtedness across the OECD on average, up more than 5 percentage points over the past decade.

[10] According to Eurostat data, more than 80 percent of the population aged between 20-24 years are educated to at least upper secondary level, marking the highest proportion in the EU15. On the other end of the scale are Portugal (55 percent) and Spain (60 percent).

Housing is typically the largest asset owned by a household. So although rapid rising house prices have been accompanied by large increases in gross household indebtedness, the net wealth of households has generally increased. However, in countries that experienced house price booms and busts over the past decade or so (Ireland and Spain), net wealth is now deteriorating because of the ongoing declines in housing values.

Though debt-to-income ratios have increased sharply, the household debt service burden -- that is, households debt service payments relative to their disposable income -- has been relatively stable. This suggests that the rise in indebtedness has been roughly offset by the decline in interest rates on household loans. Of course, lower interest rates were a factor in boosting assets prices during the last decade, including the price of housing. Higher house prices, in turn, required households to take on increased mortgage debt.

Other things equal, declines in disposable incomes push up households' debt burdens. In countries with large public debt levels, necessary fiscal consolidation will reduce disposable incomes through higher taxation burdens and lower social transfer payments. Therefore EMU countries with higher levels of both public and household debt would appear to be most vulnerable. Figure 11 presents gross household and general government debt for euro area economies in 2011[11]. Both Ireland and Portugal have above euro-area average levels of both household and public debt, strikingly so in the case of Ireland. Spain has above average levels of household debt, but below average public debt; while in the Italy, the opposite is true

Figure 11: Government and household gross debt (% of GDP)

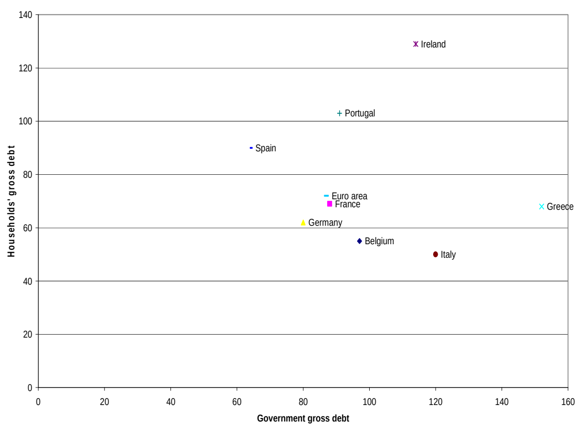
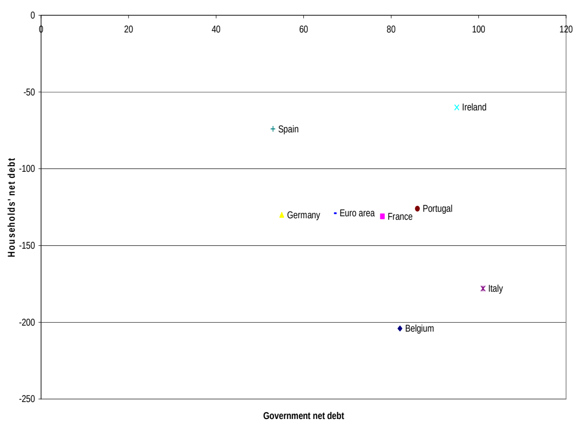


Figure 12: Government and household net debt (% of GDP)



Source: IMF.

Another perspective on the interaction of public debt and household debt is offered by Cecchetti et al (2011). They find that beyond a certain level, debt is bad for economic growth. They estimate the threshold is in the range of 80 to 100 percent of GDP for public debt and around 85 percent of GDP for

[11] Latest IMF WEO projections for public debt and most recent data for household debt.

household debt, though they caution that their estimate of the effect on growth of household debt is very imprecise. Relating these estimates to the data presented in Figure 11, it can be seen that Ireland and Portugal exceed both thresholds; Spain exceeds the threshold for housing indebtedness but not for public debt; while Italy and Greece exceed the threshold for public debt but not for housing indebtedness. This approach might suggest a need for household deleveraging in Ireland, Portugal and Spain to better position these countries for sustained economic recovery.

So far we have considered only gross measures of indebtedness. Of course households and governments also hold stocks of financial assets, so net indebtedness can be considerably lower than gross measures. In fact, as shown in Figure 12, gross financial assets for the household sector exceed gross liabilities in all countries, so that net financial assets are positive (or net debt is negative). Moreover, our measure of assets excludes the value of housing, meaning that the true net worth of the household sector is even greater still. The ranking of countries when the net debt measure is used is similar to the pattern for gross debt, though one striking change is that Portugal's household sector has markedly higher gross indebtedness than the euro area average, but close to euro area average net indebtedness.

It should be noted that in the discussion of a country's household debt, households are treated as an aggregate. Although, on average, net household financial assets for a country might be positive, there may be a large cohort of households with substantial net indebtedness that may find it difficult to meet debt obligations. In other words, the distribution of financial assets and liabilities across households in a country is important for the degree of financial distress that household may experience. Unfortunately, reliable data on financial conditions at the individual household level are not yet available for the euro area crisis countries[12].

Recognising the heterogeneous features of household indebtedness is also important in examining what constitutes a sustainable level of indebtedness. Many older workers have little or no debt, so indebtedness tends to be concentrated in younger workers, consistent with the life-cycle model. Moreover, younger workers tend to have lower disposable incomes than older workers. So although aggregate indebtedness may look manageable, ongoing declines in disposable income may cause significant financial distress for many younger highly indebted workers.

Household deleveraging during the current crisis

Table 4 shows the evolution of household indebtedness during the current economic and financial crisis. In most countries, indebtedness continued to move up, possibly reflecting consumption-smoothing motives during the recession. In Spain and the United Kingdom, household indebtedness was lower in 2009 than at the start of the crisis in 2007, as rising disposable income outpaced household debt. The trend of declining indebtedness continued in Germany.

[12] The Eurosystem of Central Banks recently launched an initiative to produce and publish surveys of consumer finances across euro area countries, similar to the Survey of Consumer Finances in the United States sponsored by the Federal Reserve Board.

Table 4: Household debt, 2007-2009 (% of disposable income)

	2007	2008	2009
Austria	86	87	87
Belgium	77	79	83
Denmark	255	262	275
Euro area	94	95	97
Finland	97	98	101
France	73	76	77
Germany	93	89	89
Ireland	194	198	199
Italy	57	57	61
Netherlands	222	230	241
Norway	177	177	n.a.
Portugal	128	129	131
Spain	130	127	125
Sweden	131	133	140
Switzerland	170	168	n.a.
UK	152	153	149

Source: Eurostat

Our data end in 2009, but other sources of data can help to update the picture. In Ireland, banking data show that loans outstanding to households were down 3.3 percent in 2011:Q1 compared with the same period a year earlier. Indeed, annual credit growth to the household sector in Ireland has been negative since late 2009. Irish households are now paying down debt. However, although data for 2010 are not yet available, it is expected that household disposable income in Ireland dropped sharply in both 2009 and 2010. As a result, it is not clear that the paying down of nominal debt has actually reduced indebtedness (that is, the level of debt-to-disposable income.) But it does appear that households are trying to reduce indebtedness or at least attempting to stem its rise, but these efforts are being frustrated by continuing declines in disposable income.

In Spain, data from the National Financial Accounts data show that total loans outstanding to households peaked in 2008 at €913 billion, up from €450 billion in 2003. Loans outstanding to households subsequently edged down to €907 billion in 2009 and €902 billion last year. In Portugal, the National Financial Accounts show that loans to households rose from €161 billion in 2009 to €164 billion in 2010. In both countries, it will turn out that household indebtedness will have risen in 2010 if disposable income fell, even though households are paying down loans.

Other countries' experiences with household deleveraging

Unlike non-financial corporate debt, episodes in which household indebtedness records annual declines have been rare in Europe over the past few decades. This means that we do not have a broad sample of episodes of household deleveraging to study.

The remainder of the section focuses on the three cases we can identify from our data in which household debt (as a percentage of disposable income) recorded negative annual growth in one or more years. These episodes are: Finland (1990-1997), the United Kingdom (1991-1997) and Sweden (1993-1995)[13]. Each of these episodes was associated with the bursting of a large housing and credit bubbles, recessions, currency crises, and in the case of Finland and Sweden, severe banking crises.

Table 5: Real GDP Growth

	1989	1990	1991	1992	1993	1994
Finland	5.4	0.1	-6.0	-3.6	-0.9	3.7
Sweden	2.8	1.0	-1.1	-1.2	-2.1	3.9
UK	2.3	0.8	-1.4	0.1	2.2	4.3
	2007	2008	2009	2010	2011f	2012f
Greece	4.3	1.0	-2.3	-4.4	-5.0	-2.0
Ireland	5.2	-3.0	-7.0	-0.4	0.4	1.5
Italy	1.5	-1.3	-5.2	1.3	0.6	0.3
Portugal	2.4	0.0	-2.5	1.3	-2.2	-1.8
Spain	3.6	0.9	-3.7	-0.1	0.8	1.1

Source: OECD for Finland, Sweden and UK. IMF WEO September 2011 for others.

[13] Data for household indebtedness in Sweden are available only from 1993. It is likely that household deleveraging began a few years earlier, along the lines of what happened in Finland.

As shown in Table 5, Finland, Sweden and the United Kingdom suffered recessions in the early 1990s. The recession was especially deep in Finland, where real GDP dropped more than 10 percent over the period 1991-1993.

For comparison with the current crisis, the recent economic performance of the five most stressed countries are also presented in Table 5. The data are arranged so that the table is centred on the most acute year of the recession, which is 1991 in the previous crisis and 2009 in the current one. The cumulative loss in real GDP in Ireland is expected to be similar to Finland's experience in the early 1990s. Spain and Italy look much closer to Sweden's experience on this score. The striking difference between the current and previous episodes is that Finland, Sweden and the UK rebounded strongly in 1994 -- three years after the worst year of growth – while projected growth rates for the troubled EMU countries for 2012 are very weak. These projections underscore how much more difficult it is to adjust balance-sheets in the current crisis compared with the Nordic-UK crisis in the 1990s.

As in Spain and Ireland today, the large rise in household indebtedness in the episode countries in the previous crises was associated with booms in house prices (Figure 14). In the Nordic-UK crisis, real house stabilised after about 4-5 years after their peak and began to rise again about 3-4 years later.

Figure 14: Real house prices (1995 = 100)

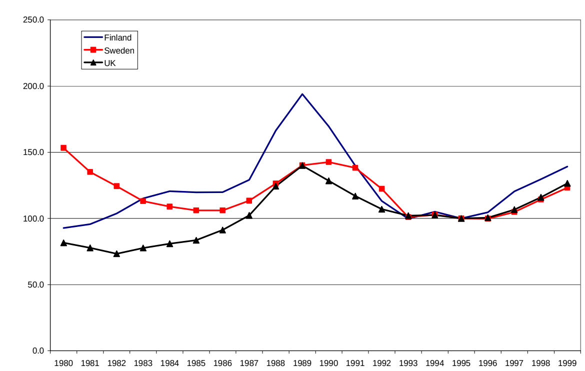
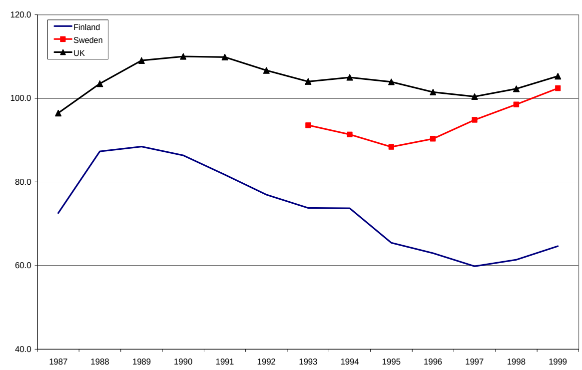


Figure 15: Household debt (% of disposable income)



Source: Data on house prices are from the BIS. Household debt data are from Statistics Finland, Statistics Sweden and the UK Office for National Statistics.

During the housing market booms in the late 1980, household indebtedness rose sharply in Finland, Sweden and the United Kingdom (Figure 15). Following the bursting of the bubbles, the household sector in each of these countries began to deleverage. The reduction in indebtedness was most pronounced in Finland, which had suffered the most severe crisis, where debt-to-disposable income dropped from a peak of 88.5 percent in 1989 to a low of 60 percent in 1997. Indebtedness peaked in the United Kingdom at 110 percent in 1990 and drifted down to 100 percent by 1997, before edging back up. Data for Sweden are incomplete, but deleveraging ended two years earlier than in Finland and the UK.

How did households in these countries deleverage? Table 6 decomposes the drop in indebtedness in the three episodes into changes in nominal household debt and nominal disposable income. Table 6 shows the change in the indebtedness ratio, measured as the change in the natural log of the ratio over the indicated period. This change in then decomposed into the change in the (natural log of the) stock of debt and the change in the (natural log of) disposable income. For example, the Finnish indebtedness ratio fell by approximately 39 percent between 1989 and 1997, of which about one-third resulted from a fall in debt and two-thirds from a rise in disposable income. Table 7-9 in Appendix 1 provide detailed data on debt, disposable income, and the indebtedness ratio.

Table 6: Decomposition of changes in indebtedness ratio

Country	Time period	Change in indebtedness ratio (c = d-e)	Change in debt (d)	Change in disposable income (e)
Finland	1989-1997	-0.39	-0.13	0.26
Sweden	1993-1997	-0.01	0.07	0.08
UK	1991-1997	-0.10	0.27	0.36

Several aspects of the Finnish experience are worthy of comment. First, household debt continued to rise through 1991, even though real economic activity slumped that year. This suggests that it may take a while for households to realise that the boom is over. Second, households managed to pay down about 7½ billion mk of debt between 1992-1996, equivalent to about 20 percent of the stock of debt in 1991. Third, disposable incomes rose in most years of the adjustment, with the exception of 1993 and 1994. By 1995, disposable income was markedly higher than at the height of the boom in the late 1980s.

What is most striking about the UK experience is that in no year did UK households pay down nominal debt. In fact, debt levels were markedly higher in 1997 than in 1991 when the indebtedness ratio peaked. The reduction is indebtedness after 1991 was achieved by continuous increases in disposable incomes. The role of rising disposable income in helping over-indebted households to deleverage in all three countries is an important feature of the earlier experiences.

5 Policy options and conclusions

The indebtedness of the corporate and household sectors in the peripheral euro area economies rose markedly over the first decade of EMU. Recent data suggest that these sectors have responded to the financial crisis, deterioration in access to finance and weakening growth prospects by beginning a process of balance sheet adjustment. These efforts to deleverage have contributed to a large drop in domestic demand in these economies. Large fiscal deficits and low or negative GDP growth rates have led to a sharp increase in the ratios of public debt to GDP. Financial markets in turn have grown increasingly worried about the underlying solvency of governments and risk premia have risen. These high risk premia are now forcing governments into fiscal adjustments that are further depressing economic growth.

These efforts to reduce indebtedness are likely to continue, but progress will be slow because weak GDP growth will hinder the deleveraging process. Of course, GDP growth is weak in part because the private sector is attempting to deleverage. That is the Catch-22 situation facing the euro area. Peripheral euro area economies are encumbered with high private and public sector debt, intense market pressure and a need for significant adjustments in competitiveness. We have argued that the situation in Italy appears to be less problematic as external debt is small and structural problems can in principle be solved. However, determined policy action is required in Italy to reverse the weak growth prospects and the structural difficulties in the economy.

The EU policy response to this dilemma has so far focused on supporting the public sector by alleviating market pressure and providing rescue programmes at concessionary interest rates to Greece, Portugal and Ireland. Markets, however, remain unconvinced. A number of further policy options therefore need to be discussed, some of which relate to domestic policies and others which relate to policy at a euro-area-wide level

<u>Domestic policies</u>

1) Ongoing fiscal consolidation is necessary in countries with large fiscal deficits, especially in countries with sizeable structural deficits[14]. However, fiscal adjustments should be done in a way that minimises the negative effects on growth. Darvas and Pisani-Ferry (2011) have shown that this has often not been the case over recent years. A policy rethink on the composition of fiscal adjustment is necessary. In addition, in making budgetary adjustments policymakers should be cognisant of the unequal distribution of assets and liabilities across households. To facilitate private sector deleveraging, the burden of fiscal consolidation in countries with over-indebted household sectors should, where possible, weigh more heavily on households with little or no debt than on the highly indebted cohorts.

2) Reducing external debt burdens requires improvements in external balances in the peripheral economies. These economies therefore must improve competitiveness to

[14] According to IMF estimates, the general government structural deficit (as a percentage of potential GDP) in 2011 stood at 6.9 percent in Greece, 6.8 percent in Ireland, 4.4 percent in Spain, 4 percent in Portugal and 2.6 percent in Italy. (IMF WEO, September 2011)

increase market share. Indeed, given the expected slowing of growth in Europe in 2012, increasing market share is increasingly important. However, internal devaluation to restore competitiveness takes time. Importantly, there are policy measures that can accelerate this process without increasing the indebtedness of the private sector. Marzinotto, Pisani-Ferry, and Wolff (2010) argue that unused structural funds could be spent on targeted wage subsidies in the tradable sector to promote the creation of jobs in the export sector. Increased competition in goods and services markets to boost productivity and bring down prices in the non-traded sector would also contribute to improved competitiveness. More generally, policymakers could usefully focus on structural reforms that facilitate the re-allocation of the work force to the tradable sector. Similarly, in surplus countries, policymakers should not resist freely-set wage increases resulting from tight labour market conditions.

3) Structural factors that impede domestic investment and consumption should be removed in countries with large current account surpluses. The tax and regulatory system should avoid discouraging investment in the corporate sector.

<u>Euro area policies</u>

The past experiences of corporate and household deleveraging studied in this paper highlight the key role of overall economic growth in facilitating private sector deleveraging. But there is a policy dilemma because domestic fiscal adjustments, although necessary to reduce structural deficits, drag on economic growth in the short term and therefore hinder the deleveraging. Necessary real exchange rate depreciation may in the short term even lead to a deterioration of the current account balance due to the usual delayed pick-up of export volumes. As a result, the deleveraging process will likely be prolonged and this in turn will delay economic recovery. The key point is this: Along with fiscal consolidation and competitiveness improvements at home, the countries concerned need favourable external conditions. Strong growth in the euro area as a whole will help the peripheral countries to increase their exports in a more robust manner. An important lesson we draw from the analysis in this paper is that policymakers must ensure that the euro area as a whole does not enter a deep or prolonged recession and the overall euro area macroeconomic stance is appropriate.

Room for fiscal expansion by other members of the euro area is limited because budget deficits are sizeable and market pressures could increase rapidly. Germany has more room than most to support growth using fiscal policy, but large scale fiscal expansion by Germany is not a realistic proposition, not least because of concerns about unfavourable demographics. The ECB has reduced policy interest rates over recent months and could cut rates further given recent declines in inflation expectations. Additional monetary policy support to the euro area economy, would probably need to rely on more unconventional monetary policy tools, which have so far have been ruled out.

Given the current constraints on traditional fiscal and monetary policy in the euro area, what can policymakers in the euro area do the address the dilemma facing the over-indebted countries?

1) A targeted euro-area-wide strategy centered around European investment should be envisaged. A natural area for common public expenditure is where clear European spillovers and externalities exist. The ongoing energy transition is such an area where an ambitious European strategy would be beneficial. Raising tax revenues at the European level -- for example by taxing the financial services industry -- to help leverage borrowing for a European energy network could be an efficient way of supporting the euro area economy. While it takes time to define such a programme and begin actual spending, it should be recognised that debt adjustment will take many years. Moreover, simply announcing such a strategy may give a boost to the euro area economy even in the short term via positive expectation effects.

2) Over-indebtedness in the (non-financial) corporate sector and in the household sector puts severe strains on the banking system. Bad assets in the banking system should be recognised and dealt with promptly so that credit provision to growing sectors of the economy is not curtailed. Banks should be rigorously stress tested to detect such bank balance sheet problems and re-capitalised if necessary. The current arrangement allows European funds (via the EFSF) to be loaned to countries for bank recapitalisation. Governments should request European funds where necessary rather than delay bank restructuring. EFSF loans for bank recapitalisation should be given at no-extra charge, that is, at EFSF borrowing costs, so that the banking-sovereign feed-back loop that is contributing to financial fragility does not get aggravated. Better still, the rules of the EFSF could be changed to allow the EFSF to inject capital directly (not via loan to governments) into European banks in exchange for ordinary equity in the banks and increased supervisory powers at the euro area level.

3) Debt relief may be required in some cases. If public and/or private debt levels cannot be managed by the debtors, creditors will have to accept losses. This is not the place to review the way such debt reduction can be achieved in a way that results in the lowest damage to the euro area as a whole and the individual country. What is clear, however, is that if the euro area suffers a deep and prolonged recession in 2012 and 2013, debt relief for private and public creditors may be needed in some countries of the euro area.

Bibliography

Backus, David, Patrick J. Kehoe and Finn E. Kydland (1994) 'Dynamics of the Trade Balance and the Terms of Trade: The J-Curve?', American Economic Review, Vol. 84, No. 1. (Mar., 1994), pp. 84-103.

Be Duc, Louis and Gwendael Le Breton (2009), 'Flow-of-Funds analysis at the ECB: framework and applications', *ECB Occasional Paper* 105.

Bezemer, Dirk (2009), 'No one saw this coming – or did they?', VoxEU.org, 30 September 2009.

Caballero, Hoshi and Kashyap, 2008, 'Zombie lending and depressed restructuring in Japan', *American Economic Review*, 98:5.

Castren, Olli and Ilja K. Kavonius (2009), 'Balance sheet interlinkages and macro-financial risk analysis in the euro area', *ECB working paper* 1124.

Cecchetti, Stephen, M S Mohanty and Fabrizio Zampolli (2011) 'The real effects of debt', Paper presented at a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, 25–27 August 2011.

Darvas, Zsolt and Jean Pisani-Ferry (2011), 'Europe's growth emergency', Bruegel policy contribution.

Eggertsson, Gauti and Paul Krugman (2010), 'Debt, Deleveraging, and the Liquidity Trap', mimeo.

European Commission (2008) 'EMU@10 Successes and challenges after ten years of Economic and Monetary Union', European Economy 2.

Fama, E. and K. French (2002), 'Testing Trade-Off and Pecking order Predictions about Dividends and Debt', *The Review of Financial Studies*, 15(1), p.1-33.

Fisher, Irving (1933), 'The debt-deflation theory of the great depressions', Econometrica, vol. 1, issue 4.

Gros, Daniel (2011), 'How to make Ireland solvent' CEPS Commentary, May.

Koo, R. C. (2003), 'Balance Sheet Recession; Japan's struggle with unchartered economics and its global implications', John Wiley and Son, Hoboken, USA.

Koo, R. C. (2008), 'The age of balance sheet recessions: What post-2008 U.S., Europe and China can learn from Japan 1990-2005', presentation, Nomura Research Institute, October 2008.

Lane, Philip (2011), 'The Dynamics of Ireland's Net External Position' IIIS Discussion Paper No. 388.

Marzinotto, Pisani-Ferry, Wolff (2011), 'An action plan for Europe's leaders', Bruegel Policy Contribution, July.

Modigliani, F and Miller, M (1958), 'The cost of capital, corporation finance and the theory of investment', *American Economic Review*, Vol. 48, pages 261-97.

Modigliani, Franco (1986): 'Life Cycle, Individual Thrift, and the Wealth of Nations,' American Economic Review, 3(76), 297–313,

Myers, S. C. and N.S. Majluf (1984), 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, Vol. 13, pp. 187–221.

Ruscher and Wolff (2010), 'Balance sheet adjustment in the corporate sector', in: Quarterly Report on the Euro Area, European Commission, DG ECFIN, Brussels, Vol. 9(3).

Ruscher, E. and G.B. Wolff (2012), 'Corporate Balance sheet adjustment: stylized facts, causes and consequences', *Working Paper* 2012/03, Bruegel

Sorensen C.K., D. Marques Ibanez and C. Rossi (2009), 'Modelling loans to non-financial corporations in the euro area', *ECB working paper,* No. 989 (January).

Wolff, G. B. (2010), 'Anatomy of current account surpluses in the euro area', Quarterly Report on the Euro Area, European Commission, DG ECFIN, Brussels, Vol 9(1).

Appendix 1

Table 7: Finnish household indebtedness
(Billions of Finnish mk)

	Debt	Disposable income	Indebtedness ratio
1989	36.6	41.4	88.5
1990	38.5	44.6	86.4
1991	39.2	47.9	81.7
1992	37.7	49.0	77.0
1993	35.5	48.0	73.8
1994	34.0	46.2	73.7
1995	32.7	50.0	65.4
1996	31.6	50.2	63.0
1997	32.1	53.6	59.8

Source: Statistics Finland,

Table 8: UK household indebtedness (Billions of pounds)

	Debt	Disposable income	Indebtedness ratio
1989	353	324	109
1990	402	365	110
1991	439	400	110
1992	459	431	107
1993	478	460	104
1994	499	475	105
1995	523	503	104
1996	545	537	101
1997	575	573	100

Source: Office for National Statistics

Table 9: Sweden household indebtedness (SEK Billions)

	Debt	Disposable income	Indebtedness ratio
1993	889	*832*	93.6
1994	910	*831*	91.4
1995	939	830	88.4
1996	942	851	90.3
1997	950	901	94.9

Source: Statistics Sweden