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Global Economics View

The Debt of Nations

- There are no absolutely safe sovereigns — ‘rates analysis’ has to be done simultaneously with ‘credit analysis’ for all sovereigns, including the G3.
- There are likely to be several sovereign debt restructurings in the euro area (EA) in the next few years. Liquidity support should not stop this; only permanent bail-outs would.
- The sovereign debt crises of the euro area periphery interact with banking sector weaknesses throughout the EU. Both need to be addressed for a lasting solution.
- Ireland’s financial support package will buy time, but does not address the fundamental insolvency issues of the consolidated sovereign and banking system. The Irish case also highlights the need for an EU-wide bank special resolution regime (SRR).
- Portugal is likely to access the EFSF soon.
- The current size of the liquidity facilities looks insufficient to prevent speculative attacks or even to fund Spain completely for three years.
- EA break-up remains extremely unlikely and would be an economic disaster. EA exit looks irrational for fiscally weak euro area members, such as Greece.
- A viable and dynamic EA requires i) a much larger liquidity support facility, ii) restructuring of the unsecured debt of EU zombie banks and recapitalisation of the systemically important ones among them, iii) restructuring of the debt of insolvent EA sovereigns.

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The Debt of Nations

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Sovereign credit risk has become an enduring concern for all advanced economies (AEs). Ireland has just become the second euro area (EA) member state to apply for external financial support from the other EU countries and from the IMF.

1. Introduction

Sovereign debt sustainability in advanced economies (AEs) has held center stage for most of 2010. The unprecedented peacetime deterioration in the public finances of most advanced economies has just claimed its second euro area (EA) sovereign victim. After Greece, which was forced by lack of market access into a €110bn EA/IMF financial support facility with strict budgetary and structural reform conditionality, Ireland has recently requested and been granted €67.5bn of external financial support. This will be funded from a range of sources, the EU's supranational European Financial Stabilisation Mechanism (EFSM, €22.5bn), the EA's intergovernmental European Financial Stability Facility (EFSF, €17.5bn), the IMF (€22.5bn) and bilateral aid from the UK (€3.8bn), Denmark (€0.4bn) and Sweden (€0.6bn). Ireland in addition contributes €17.5bn from its own resources.

Despite the recent drama, we believe we have only seen the opening and second act, with the rest of the plot still evolving. Although we have experienced, since the West-German sovereign default in 1948, a 62-year interval without sovereign default in the AEs, the risk of sovereign default is manifest today in Western Europe, especially in the periphery of the EA.¹ We expect these concerns to extend before long beyond the EA to encompass Japan and the US — especially if we extend the concept of sovereign default to include not only violations of the legal terms of the sovereign debt contract, but also the infliction of severe capital losses on owners of domestic-currency-denominated sovereign debt by deliberately engineered unanticipated inflation and currency depreciation.

Ireland provides a microcosm of the challenges facing the EA. Accessing the official external sources of funds that have been made available will likely not mark the end of Ireland's troubles. The reason is that, in our view, the consolidated Irish sovereign and Irish domestic financial system is insolvent — the Irish banks are 'too big to save' for the Irish sovereign. The Irish sovereign cannot 'bail out' the banks from its own resources and make its own creditors — the owners of Irish sovereign debt — whole. In addition, a bail-out (permanent fiscal transfer) from EA/EU partners or the ECB on a scale sufficient to fill the solvency gap is most unlikely. Therefore, either the unsecured and non-sovereign-guaranteed creditors of the banks, or the creditors of the sovereign (including holders of sovereign-guaranteed bank debt), or both, will likely eventually have to accept sovereign debt restructuring with a net present discounted value (NPV) of debt service haircut, even if this is not a condition for accessing the EFSM or EFSF at present.

Concerns about banking systems and political concerns have led EA policy markets to put off sovereign debt restructurings and may continue to do so in the future

It has long been clear, in our view, that the sustainability of the debt of an EA sovereign — however difficult it is to establish in the first place — is not the only, and maybe not even the most important, factor determining the likelihood and timing of sovereign debt restructuring, including haircuts. Political concerns about the survival of the EA play a role. Although there are no technical, purely economic reasons why even multiple sovereign defaults would undermine a currency union, the Economic and Monetary Union (EMU) of the European

¹ The Periphery contains at least Greece, Ireland, Portugal and Spain. Some authors include Italy, Belgium, which geographically cannot be viewed as part of the Periphery is sometimes included because of its high public debt stock. Core euro area countries include Germany, the Netherlands, Finland, Austria, and possibly France, although France has a weaker fiscal position and deeper structural problems than most of the rest of the Core. Some of the strongest opponents to bail-outs of member states come from countries outside the Core, including Slovakia and Slovenia.

Union is first and foremost the expression of a desire for closer political integration in Europe. Should the EA sovereign debt restructurings we anticipate be mismanaged, the political cement holding the EA and the EU together could crumble. Insufficient EA-wide or EU-wide support could result in disorderly, unnecessarily disruptive and damaging sovereign restructurings that would produce mutual recrimination and lasting distrust among the member states. In the worst-case scenario, EA sovereign restructuring could reach even fundamentally solvent sovereigns, which could be forced into default through self-fulfilling speculative attacks and precautionary withdrawals of private funding because of insufficient liquidity support.

In addition, concerns about the liquidity of fragile EA banking systems (the risk of deposit runs or a freeze in wholesale funding) and about the impact of sovereign default on the solvency of banks (through the losses suffered by banks on their highly concentrated holdings of peripheral EA sovereign debt should haircuts be imposed on sovereign creditors) have led EA policymakers to delay the day of reckoning for the sovereigns in the hope of muddling through without another round of bank bail-outs. Less visibly, potential losses from sovereign restructuring by pension funds and insurance companies may also have featured. In fact, in some EA member countries, the majority of EA sovereign debt is owned by non-bank creditors.

Consequently, if sufficient liquidity support can be put in place by the EU, the ECB, the IMF and possibly other non-EU sources to fund all sovereigns at risk of losing access to market funding, if the liquidity and capital fragilities in the EA banking sector (and possibly in the insurance sector and pension funds as well) can be resolved, if an EU-wide special resolution regime for banks were put in place, and if a mechanism for the orderly resolution of sovereign default can be created by the expiry date of the EFSF and the Greek facility in mid-2013, then sovereign debt restructurings, including haircuts, would become very likely around the time a new, permanent financial support facility, the European Stability Mechanism (ESM), is introduced. If banking sectors remain vulnerable in 2013, we would see a high likelihood that EA policymakers would wish to delay the day of reckoning yet again (by extending EFSF/EFSM-type support through the new ESM). As the number of EA sovereigns requiring official financial support rises, and the scale of the financial resources that needs to be committed to provide a viable safety net increases, the involvement of the ECB is likely to rise, despite its statements (and probably wishes) to the contrary.²

Portugal may be the next in line to access the EFSF...

Now that the Irish government has reached an agreement with the EU/IMF on a financial support package and associated conditionality, the market's attention will turn to Portugal, whose sovereign, at current levels of interest rates and growth rates, we judge to be less dramatically, but quietly insolvent. We consider it likely that Portugal, too, will need to access the EFSF/EFSM soon.

...while the Greek sovereign is insolvent, in our view

Greece's sovereign is manifestly insolvent, in our view, all the more so after the recent public debt and deficit revisions. As long as Greece remains sufficiently compliant with the conditionality of its EA/IMF support programme, sovereign debt restructuring is likely to be postponed until mid-2013, when its EA/IMF programme expires.³ At that point, it is likely to be transferred to the EFSF or its successor, the ESM, and its debt may be restructured, including NPV haircuts.

² See Euro Weekly: ECB Prevented Panic, but Does Not Take Lead Funding Role, Euro Weekly, Citi, Dec 3, 2010

³ Following agreement on the terms of the Irish support programme, the duration of Greece's loans from its facility was increased from around three years to around seven years, similar to the terms of the Irish programme. The average cost of the loans also goes up to the Irish level of around 5.2%.

Should Spain need external assistance, the current size of the EFSF/EFSM/IMF support facilities may be too small for its needs...

For much of 2010 and before the rise in Spanish yields in the final months of the year, markets had put Spain in Italy's sovereign risk class when, in our view, it should be closer to Portugal and Ireland once three sets of obstacles standing in the way of fiscal sustainability are recognised. These are first, the inadequate recognition of bad loans in its banking sector, especially among the *cajas*; second, the obstacles to radical fiscal tightening created by the delicate relations between the central government and the autonomous regions and municipalities; and third, its limited growth prospects without radical labour and product market reforms. Should it need assistance, it will likely turn out to be too large for the EFSF, the EFSM and the IMF to carry it completely until mid-2013.

The EFSF can hardly move at the speed of the crises. With the funding for the Irish package agreed on November 2010, the first debt issue of the EFSF, aimed at raising around €5bn, will not be until the second half of January 2011, according to Klaus Regling, the head of the EFSF. He asserted earlier that, should the need arise, the EFSF would be able to raise funds in 5 to 8 days, but it is not clear what this assertion is based on.

...in which case these facilities could be increased in size and/or the ECB could increase its involvement

In the short run, should Spain lose access to market funding on acceptable terms, this would either prompt an increase in the size of the existing support facilities by the EU/EA member countries or it would result in a bail-out of the sovereign by the ECB, the only EA entity with sufficiently deep pockets to do so.⁴ The ECB already has provided, since the crisis started, quasi-fiscal support to insolvent euro area banks under the guise of liquidity support, by accepting loans from insolvent banks offering as collateral securities of dubious creditworthiness, including, in the case of Ireland, instruments guaranteed by a sovereign that may well turn out to be insolvent itself.

The ECB could extend financial support to the Spanish sovereign by purchasing Spanish sovereign debt outright in the secondary markets through its Securities Markets Program (SMP), by continuing to fund insolvent Spanish banks using Spanish sovereign debt or sovereign-guaranteed financial instruments as collateral, or by making loans to or purchasing the debt of the EFSF. The EFSF is legally a Limited Liability company that could even be made an eligible counterparty of the Eurosystem — a bank — for this purpose. In support of the banks, the ECB could even purchase outright bank debt or any other securities issued by banks. The SMP is not limited to outright purchases of government debt but can also be used for outright purchases of any private debt, including bank debt. The ECB has not yet made use of this policy tool as part of the SMP. But it did purchase outright just over €60bn worth of covered bonds in a special programme in support of the EA banking sector prior to the creation of the SMP.

In the longer term, there will probably be a need for large-scale restructuring of the debt of the *cajas* and other highly vulnerable Spanish banks, and, in the absence of the fiscal and structural reforms required to restore the sovereign to solvency, possibly of the sovereign also. At somewhat longer horizons, high debt levels and the risk of political instability in Italy and Belgium may yet give rise to fundamentally warranted sovereign debt crises, while self-justifying crises are possible even in the near-term, and despite primary surpluses, because of the dependence of the interest rate on debt on subjective, but possibly self-fulfilling, beliefs concerning default risk. Here too, only the deep pockets of the ECB can guarantee continued access to funding and prevent not fundamentally warranted sovereign defaults.

⁴ Following the Irish bail-out, the EFSM, which can provide immediate financing, only has €37.5bn left in it.

Sovereign debt issues are not confined to the euro area and will soon encompass the ‘fiscal sustainability deniers’ Japan and the US

Outside the euro area, the US and Japan likely cannot continue to ignore issues of fiscal sustainability. In the US, serious discussion on measures to rein in the federal deficit may have begun at last with the proposals contained in the Final Report of the bi-partisan National Commission on Fiscal Responsibility, which add up to just under \$4trn worth of Federal fiscal tightening over the next decade. However, although 11 of the 18 members of the Commission supported the proposals in the Final Report, this fell short of the 14 yes votes required to have the Congress vote on the recommendations.

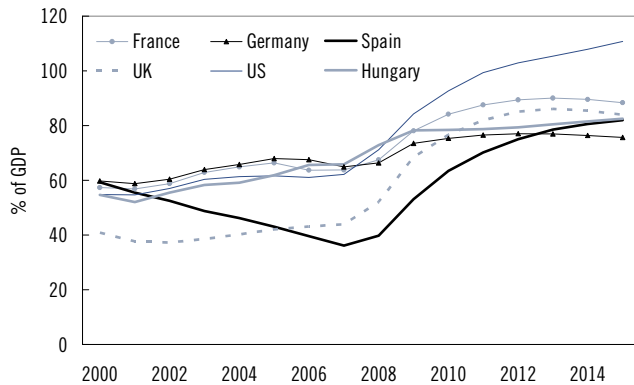
Instead, the Congress and the White House agreed to pass a short-term fiscal stimulus without any associated credible commitment to reverse, through medium-term fiscal tightening, the impact of the stimulus on the federal budget deficit over the next two years (compared to what would have happened had the Bush tax cuts been allowed to expire and without the new stimulus measures, especially the 2 percent cut in the Employee Social Security Tax). Even if the bond market vigilantes tolerate this further deterioration of an already unsustainable fiscal-financial programme in the short run, it is in our view only a matter of time before the US sovereign will only be able to fund itself through debt issuance at significantly higher interest rates, reflecting either inflation risk from eventual monetisation of public debt and deficits, or sovereign default risk, or both.

In Japan, no serious discussion of fiscal consolidation is taking place as yet, and there is no evidence of actual consolidation. It too, is piling Pelion on Ossa by recently passing another small fiscal stimulus.⁵ Relatively high debt levels and funding requirements — by emerging economy standards — in Hungary imply that the Fidesz government needs to shift its attention from confrontational rhetoric and one-off populist revenue measures towards effective measures to rein in public spending. Argentina-style raids by the state on private pension funds are unlikely to provide a stable source of sovereign funding.

⁵ Japan enacted a supplementary budget for fiscal 2010 to finance a 5 trillion yen (€60bn) stimulus package on 26 November 2010.

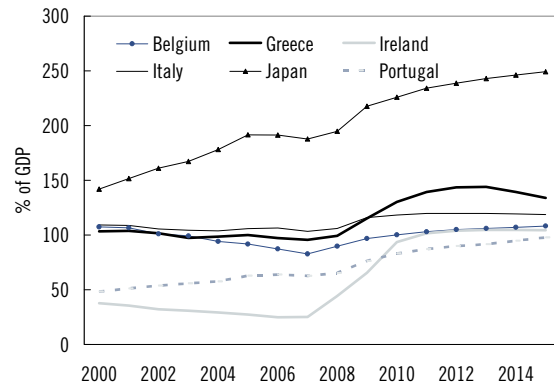
2. Some background data

Figure 1. Selected Countries – General Government Gross Debt 2000 to 2015F



Source: IMF World Economic Outlook October 2010 and Citi Investment Research and Analysis

Figure 2. Selected Countries – General Government Gross Debt 2000 to 2015F



Source: IMF World Economic Outlook October 2010 and Citi Investment Research and Analysis

Gross debt-to-GDP ratios are rising fast across the industrialised world

Figure 1 and Figure 2 show the evolution of general gross government debt to GDP for selected economies. Two implications are worth highlighting, in our view. First, general government gross debt-to-GDP ratios are rising substantially in most countries over the period of 2010 to 2015 and should only have started to come down again, at best, by the end of this period. Second, countries that entered the financial crisis with relatively low debt levels, such as Spain (with a general government gross debt-to-GDP ratio of 36% in 2007), the UK (44%) or Ireland (25%), will see some of the biggest increases, with the implication that the indebtedness of all three of these countries' sovereigns will no longer be low by 2015, with expected general government gross debt-to-GDP ratios rising to 82% (Spain), 105% (Ireland, even before announcement of the recent bail-out plan) and 84% (UK).

Figure 3 presents a snapshot of debt and deficit levels for the same universe of countries for 2010 and highlights the diversity between countries. Apart from the clear outlier of Ireland, the two countries with the highest (general government) deficits are the UK and the US, leading to large rises in (general government gross) debt-to-GDP ratios in the next few years. By contrast, Belgium and Italy, two countries that have shouldered a relatively high debt burden for many years, have relatively modest — by the standards of AEs after the 2007/8 financial crisis — budget deficits. In fact, the IMF estimates that the general government primary balances of these two countries are in surplus once their cyclical situation is taken into account.

Figure 3. General Government Debts and Deficits, 2010

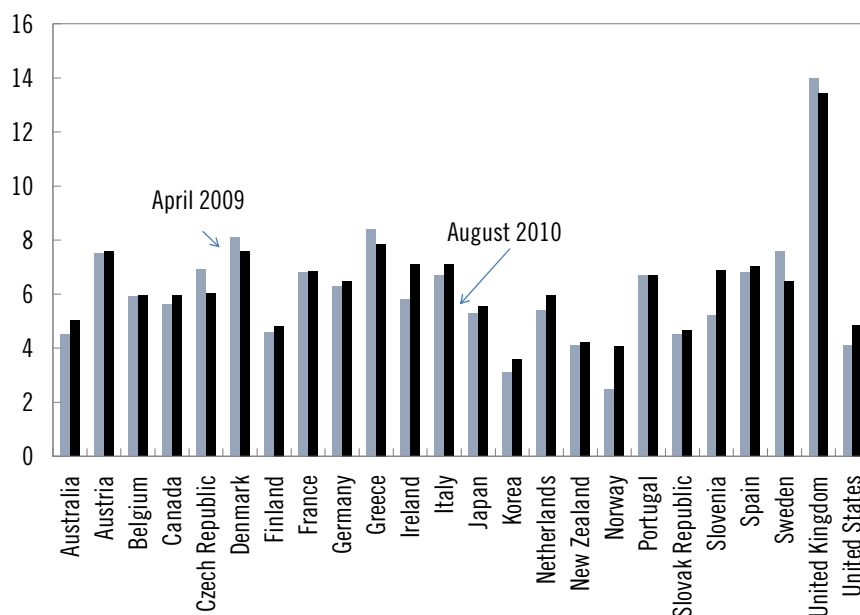
	% of 2010 GDP				
	Gross Debt	Net Debt	Budget Balance	Structural Balance*	Cyclically Adjusted Primary Balance*
Belgium	100	91	-4.8	-3.4	0.2
France	84	74	-8.0	-5.0	-4.1
Germany	75	59	-4.5	-3.1	-1.0
Greece	130	110	-7.9	-7.4	-1.5
Ireland	94	55	-17.7	-8.6	-6.1
Italy	118	99	-5.1	-3.6	0.7
Japan	226	121	-9.6	-7.6	-6.2
Portugal	83	79	-7.3	-6.1	-3.0
Spain	63	54	-9.3	-7.5	-5.7
United Kingdom	77	69	-10.2	-7.9	-5.4
United States	93	66	-11.1	-8.0	-6.5
Hungary	78	71	-4.2	-1.1	2.4

* % of Potential GDP. All numbers refer to the general government. Budget Balance = General government net lending/borrowing. Sources: IMF Fiscal Monitor November 2010 for Cyclically Adjusted Primary Balance for all countries and Structural Balance for Hungary, IMF WEO October 2010 for all other data.

Average maturities of government debt are between five and eight years in most countries

Figure 4 presents the average maturity of government debt for selected countries. It shows that average maturities are by no means uniform across the country sample. At one end of the spectrum are countries, such as Korea, Norway and the US, with average maturities of around or below four years. Notably, all three of these countries have lengthened the average maturities of the outstanding debt between April 2009 and August 2010. The bulk of countries have average maturities of between five and eight years, with the UK being a clear outlier with an average maturity of over 13 years.

Figure 4. Selected Countries – Average Maturity of General Government Debt (in Years)



Source: IMF Fiscal Monitor November 2010 and Citi Investment Research and Analysis

High debt EA periphery is also largely united (except Italy) in running current account deficits and having large negative net international asset positions

Figure 5 takes a look only at the external side of transactions for the nations as a whole. The first and second columns present the current account balance and the primary external balance, i.e. the current account balance excluding net investment income from abroad. Greece and Portugal stand out with very large current account deficits, exceeding 10% of GDP in 2009, and there is clear daylight between Greece and Portugal and the country with the next highest current account deficit within this sample (Spain, with 5.5% of GDP). Germany's current account surplus is by far the largest, at just under 5% of GDP, with Japan second at 2.8% of GDP.

The second column highlights that net international investment income — positive or negative — can be substantial. In Ireland, net investment income was minus 17.5% of GDP in 2009, taking the external accounts from a primary surplus of 14.5% of GDP to an overall current account deficit of 3% of GDP, reflecting the large stock of foreign direct investment and other external liabilities in Ireland. In relative terms, net investment income is much smaller in the other economies, but is often still substantial. Japan's current account excluding net investment income is nearly in balance, while net investment income paid abroad exceeds 6% of GDP in Hungary and 4% of GDP in Greece.

Figure 5. Selected Countries – External Transactions and Stocks 2009

	Current Account Balance	Primary Current Account Balance	Gross International Liabilities	Net International Investment Position	Gross External Debt
	% of GDP	% of GDP	% of GDP	% of GDP	% of GDP
Belgium	0.3	-0.7	452	45	304
France	-1.9	-3.2	268	-12	196
Germany	4.9	3.5	181	38	154
Greece	-11.2	-7.1	198	-87	178
Ireland	-3.0	14.5	1594	-102	1072
Italy	-3.2	-1.3	155	-20	120
Japan	2.8	0.2	62	57	41
Portugal	-10.0	-5.6	305	-113	235
Spain	-5.5	-2.6	228	-96	173
UK	-1.1	-3.8	667	-22	429
US	-2.7	-3.5	150	-19	98
Hungary	0.2	6.4	334	-128	183

Notes: Primary Current Account Balance is computed as the sum of net exports of goods and services and net transfers divided by nominal GDP. Sources: IMF WEO October 2010 (GDP), IMF IFS (Gross International Liabilities and Net International Investment Position), Joint External Debt Hub (Gross External Debt), IMF BOPS (Net Exports of Goods and Services and Transfers) and Citi Investment Research and Analysis

The last three columns of Figure 5 reflect outstanding balances of these countries (that is, their consolidated private and public sectors) with the rest of the world. Gross international liabilities in all countries bar Japan exceed the size of 2009 GDP, reflecting decades of financial globalisation. Again, Ireland stands out, with international liabilities equivalent to almost 16 times 2009 GDP, but at 667% of GDP and 452% of GDP, gross international liabilities in the UK and Belgium are also very large. By comparison, Japan's level of gross international indebtedness (at 62% of GDP) and those of the US (150%), Italy (155%), Germany (181%) and, surprisingly, Greece (198%) are relatively modest.

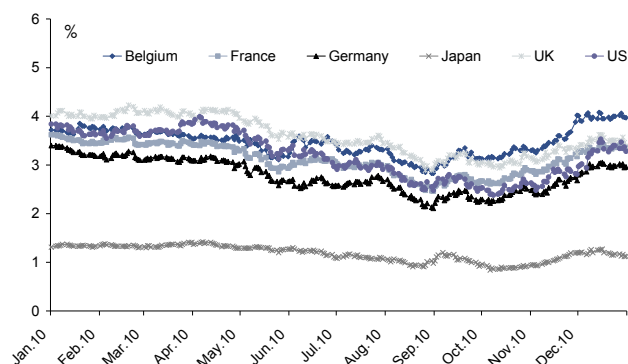
The final column indicates that a large share of these liabilities is in the form of debt securities rather than foreign direct investment or portfolio equity. Gross external debt accounts for more than half of gross international liabilities in all countries, more than 60% in all countries bar Hungary, and more than 70% in France, Germany, Greece, Italy, Portugal and Spain.

The fourth column of Figure 5 presents the net international investment positions, which is arrived at by deducting gross international liabilities from gross international assets (not shown). Japan, Germany and Belgium are the only net international creditors in our sample, holding net external assets equivalent to 57% of GDP, 38% and 45% of GDP, respectively. On the other side of the spectrum, net international indebtedness exceeds 100% of GDP in Hungary, Ireland and Portugal and is close to it in Greece and Spain. Notably, with the exception of Hungary, the correlation between the current account balance and the net international asset position is perfect, i.e. countries that were net international debtors continued to add to their debt in 2009 (ignoring valuation effects). Clearly, the financial crisis that saw trade and capital flows collapse has not put an end to global imbalances.

Figure 6 and Figure 7 picture the evolution of 10-year yields on sovereign debt. Figure 6 shows that sovereign yields in countries that were largely shielded from the sovereign debt turmoil remained low and evolved largely in a uniform way, with gradual falls in yields from the beginning of the year until September 2010 and a relatively pronounced reversal thereafter. Nevertheless, sovereign yields continue to remain low in historical terms in Germany (2.96% on December 31, 2010), France (3.35%), the UK (3.39%) and the US (3.28%). Even in Belgium, 10-year yields on sovereign debt remain below 4% (3.97%), while yields on Japanese sovereign debt continue to be extremely low (1.12%).

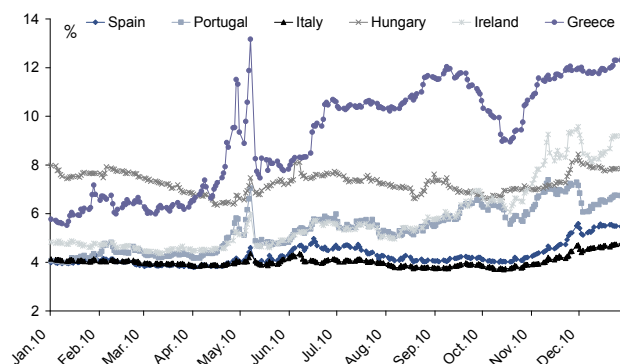
The picture for countries that were more or less implicated in the turmoil in EA sovereign debt markets is starkly different. Yields generally increased by much more over the year, and the picture is a lot less uniform. Greece suffered a steep rise in sovereign debt yields until the announcement of the IMF/EU rescue package, and then an even more spectacular fall. Yields more or less continuously climbed again thereafter, however, and are now close to the May 2010 highs. At 12.54%, Greek's sovereign debt yields are still in a class of its own, but the yields on the debt of other high-debt EA sovereigns have climbed substantially, particularly in the second half of 2010. As the size of the troubles of the Irish banking sector and the commitment of the sovereign became more evident, Irish yields rose most steeply, and the IMF/EU/EA package only provided very brief respite. Yields on Portuguese, Italian and Spanish sovereign debt also rose and ended the year 2010 near year highs at 4.88% (Italy), 5.46% (Spain), 6.68% (Portugal) and 9.23% (Ireland).

Figure 6. Selected Countries – Yields on 10-Year Sovereign Debt in 2010



Source: Financial Times and Citi Investment Research and Analysis

Figure 7. Selected Countries – Yields on 10-Year Sovereign Debt in 2010



Source: IMF World Economic Outlook October 2010 and Citi Investment Research and Analysis

3. Key pitfalls for successful consolidation

A reduction in the debt-to-GDP ratio can be achieved by:

- i) generating primary surpluses,
- ii) achieving an excess of the growth rate of real GDP over the effective real interest rate paid on public debt,
- iii) a reduction of the value of the debt outstanding (through bailouts or (partial) default).

Let σ be the consolidated general government (general government and central bank) primary (non-interest) surplus as a share of GDP, γ the growth rate of real GDP, d the ratio of net consolidated general government debt to GDP at the beginning of a period, and r the effective real interest rate on the net consolidated general government debt. The change in the net general government debt to GDP ratio between the end and the beginning of a period, Δd , is then given by:

$$\Delta d = -\sigma + \left(\frac{r - \gamma}{1 + \gamma} \right) d \quad (1)$$

A reduction in the debt to GDP ratio can thus be achieved by: i) generating primary surpluses⁶, ii) achieving an excess of the growth rate of real GDP over the effective real interest rate paid on public debt, iii) a reduction of the value of the debt outstanding (through bailouts or (partial) default).

Increased seigniorage revenues and unanticipated inflation can be part of the fiscal consolidation. Central bank seigniorage revenues sooner or later enter the general government primary balance through transfers of profits from the central bank to the general government. These have indeed increased in recent years as a result of large increases in base money issuance and net interest income of central banks. However, there is considerable discretion in the timing of the transfer of central bank profits to the Exchequer. Also, should the central bank take losses on its balance sheet (say through defaults on loans to counterparty banks that have offered impaired collateral, or through defaults on securities held outright), the operating profits of the central bank may be required to recapitalise the central bank.

Unanticipated inflation reduces the real interest rate paid on the outstanding public debt, whereas anticipated inflation will result in a higher nominal interest rate and leave real interest rates unchanged. In the EA, inflation and central bank profits are outside the control of individual member states. With the exception of the UK, where CPI inflation has been above at or above 2% since December 2009 and we expect 3.50% to 3.75% in H1 2011, inflation is in any case fairly low both within the EA and in the rest of the industrialised world, and expected to remain so for at least the next few years. The high-public debt countries, in particular within the EA periphery, are pinning their hopes for a return to fiscal sustainability on generating primary surpluses and growth, rather than the 'monetary' routes to fiscal sustainability.⁷

⁶ The primary surplus of the consolidated general government is the difference between the non-interest revenues and the non-interest expenditures of the consolidated general government, plus seigniorage revenues (here the change in the monetary base as a share of GDP).

⁷ Privatisation of state-owned companies and other asset sales would also lower (general government) gross debt figures. Should these assets be sold at the values previously recorded for in national accounts, the effect on net debt would be zero, however, as one asset (e.g. the stakes in state-owned companies) would be exchanged for another (cash).

The growth outlook in the high-debt EA periphery is poor

3.1. Growth outlook

All countries that implement substantial fiscal consolidation can be expected to suffer from some degree of negative feedback from fiscal tightening on aggregate demand, and thus on GDP and the government's revenue base. Estimates of the size of the fiscal multipliers are subject to large degrees of uncertainty, but the multipliers are likely to be positive and between 0.5 and 1 (see e.g. IMF (2010a)). When looking at the current experience of countries that have implemented fiscal austerity packages, the least that can be said is that there is no sign of the multiplier being negative, i.e. there is no evidence of "expansionary contractions" (Giavazzi and Pagano (1990)).

Countries that have already implemented large fiscal adjustments, such as Ireland and the Baltic countries, have seen drastic falls in GDP, although the attribution of these GDP contractions to fiscal actions rather than to other causes ultimately rests on informed judgment rather than on science and controlled experiments. Greece is going through a deep recession as it attempts to meet the fiscal austerity conditions imposed in the EU/IMF package and there has been little evidence that the fiscal adjustment has helped to restore the credibility of the sovereign in the markets as some have argued (see e.g. Rother et al (2010)). This could, of course, be due to the fact that, in the case of Greece, there continues to be considerable scepticism in the markets about the ability of the Greek authorities to maintain the required degree of fiscal austerity over the next 4 to 5 years. In many other countries, the measures have only been implemented recently or have yet to take full effect, but there is already some evidence that they are starting to bite, for example in Spain.

Figure 8 – Selected Countries: Real GDP Growth Forecasts 2011 to 2015

	2011F	2012F	2013F	2014F	2015F
United States	2.5	3.3	3.0	4.5	4.0
Japan	1.4	1.9	1.7	1.6	1.5
Germany	2.6	1.7	1.9	1.7	1.6
France	1.2	1.1	1.3	1.3	1.3
Italy	1.0	0.9	1.0	1.0	1.0
Spain	-0.1	0.2	0.9	1.0	1.0
Greece	-2.7	-1.0	0.5	1.0	1.5
Portugal	-0.9	0.3	1.1	1.2	1.2
Belgium	1.7	1.7	1.8	1.8	1.9
Ireland	2.3	2.4	2.9	3.2	3.5
United Kingdom	2.5	2.3	2.4	3.1	3.8
Hungary	2.4	2.7	2.9	3.0	3.0

Forecasts for Belgium and Ireland from 2011 to 2015 and for Portugal for 2013 to 2015 are from the IMF WEO November 2010. All others are Citi Forecasts from the November 2010. In particular, the forecasts for the US do not reflect the recently announced fiscal package, including the extension of all Bush tax cuts for two years, a temporary payroll tax holiday and an extension of the duration of unemployment benefits.

Overall, the growth outlook, for the euro area as a whole and the high debt countries in particular, is quite poor (see Figure 8). We expect 1.4% growth in euro area real GDP in 2011 and 1.2% in 2012. Growth prospects in the periphery are worse. We expect Greece's recession to continue in 2011 and 2012, and Portugal to re-enter recession in 2011 and to only start growing again, slowly, in 2012. Spain's growth is likely to be close to zero between 2010 and 2012, with Italy's growth rate stable and positive, but low. It is important to note that fiscal consolidation is not the only factor hurting growth in these economies. Other factors include private sector deleveraging due to excessive levels of debt (Spain, Ireland, Portugal), long-standing weak growth potential due to structural supply-side and competitiveness issues (Italy, Portugal, Greece) and banking sector fragility (Spain, Ireland).⁸

Countries that have not been subject to turmoil in sovereign debt markets are expected to fare somewhat better. Germany continues to outperform in the near term, while France is very close to the euro area average. Outside the euro area, growth prospects of high-debt economies are slightly more positive, but UK, US, and Japanese growth rates are likely to be too slow to stop public debt-to-GDP ratios from rising over the next two years.

What is more, even if growth rates turned out to be higher than we currently anticipate, it is easy to overestimate the positive effect of growth on the public finances. The reason is that higher GDP growth and the associated higher tax revenues have a tendency to lead to demands for increased public spending (or reductions in taxes). Such demands may arise because increases in GDP growth and corresponding increases in tax receipts are often (mis)interpreted as structural or at least sustainable. Such interpretations are, of course, very convenient for the parties proposing that spending should be increased or taxes cut to benefit their constituencies. But the examples of Spain, Ireland, and to some extent the UK, serve as reminders that too often improvements in public finances that are interpreted as structural and lasting are in fact often of a cyclical or unsustainable nature. Neither Spain nor Ireland had ever been subject to the European Union's Excessive Deficit Procedure (EDP) until the crisis hit in 2008. This is in contrast to Germany, the only one among the large economies in the euro Area that is now seen as a bastion of fiscal virtue, despite having used its blocking vote, together with France, to prevent it from being subjected to the excessive deficit procedure (EDP) in 2004. In addition, Germany's debt levels are close to the euro area average and have risen substantially over the past few years. Germany would not have met the debt and deficit criteria for euro area membership in 2009 and 2010.

Since most high-debt euro area economies are clearly in crisis-mode currently and are granted little freedom of action by the markets, the ECB and the other member countries of the euro area, the risk of public spending increases and tax cuts, should growth exceed expectations, is probably smaller than usual in the short run. But it is worth keeping in mind that improvements in public finances, even when growth is robust, are not automatic, and require continued resolve by the political authorities, a point we revisit further below.

⁸ See, for example, "Sovereign Crisis Hitting the Private Sector", *Euro Weekly*, Citi, 23 July 2010 and "Spain: L-Shaped "Recovery"", *Euro Weekly*, Citi, 12 November 2010 and "Is Portugal Really Not Ireland?", *Euro Weekly*, Citi, 26 November 2010.

Fiscal consolidation requires increases in revenues as well as cuts in spending in most countries

3.2. Revenue potential

The success of a consolidation programme depends on a mix of appropriate revenue and spending measures. There is some evidence that, on average, spending cuts have less adverse effects on growth than revenue increases (IMF (2010a)), but the average surely masks large differences.

Figure 9. Public Finances (% of GDP), 2009

	General Government Revenue	General Government Expenditure	General Government Balance	General Government Gross Debt
Euro Area	44.5	50.8	-6.3	79.2
Austria	48.8	52.3	-3.5	67.5
Belgium	48.1	54.2	-6.1	96.3
Cyprus	39.8	45.8	-6.0	58.0
Finland	53.3	56.0	-2.7	43.8
France	48.4	56.0	-7.6	78.1
Germany	44.5	47.5	-3.0	73.4
Greece	37.8	53.2	-15.4	126.8
Ireland	34.5	48.9	-14.4	65.5
Italy	46.6	51.9	-5.2	116.0
Luxembourg	41.5	42.2	-0.7	14.5
Malta	40.1	43.9	-3.8	68.6
Netherlands	46.0	51.4	-5.4	60.8
Portugal	38.8	48.2	-9.4	76.1
Slovakia	33.6	41.5	-7.9	35.4
Slovenia	43.2	49.0	-5.8	35.4
Spain	34.7	45.8	-11.1	53.2
Japan	34.4	41.6	-7.2	189.3
UK	40.4	51.6	-11.2	68.2
US	30.5	41.5	-11.1	83.9

General Government Balance = General Government Net Lending/Borrowing, General Government Gross Debt = General Government Gross Financial Liabilities. Sources: Eurostat (euro area countries), OECD (Japan, UK, US) and Citi Investment Research and Analysis

Tax rates vary substantially between countries potentially implying differentials in the distortions that tax increases would create

Tax rates and levels of government expenditure and revenue vary widely across countries (Figure 9 and Figure 11). It would seem plausible that further average (and therefore likely also marginal) tax rate increases in high-tax, high-spending countries such as France and Finland are more harmful than increases in low-tax, low-spending countries, such as the US and Japan. This is because the deadweight costs of (distortionary) taxation are generally thought to increase more than linearly with the marginal rate of taxation, and because tax administration and compliance costs are also likely to increase with the average tax rate. However, low tax rates may be the result of greater aversion towards high tax rates (possibly based on greater responsiveness of labour supply, effort and investment to changes in marginal tax rates) or of weaker preferences for high public spending. In that case, raising taxes in Japan and the US could have relatively large adverse effects on potential output and on tax compliance. The difficulty of imposing tax increases in these two countries, or at least the unwillingness of policymakers to do so, provides some support for the latter hypothesis.

Figure 10. Average Size of the Shadow Economy in 25 High Income OECD Countries in 2006 (% of GDP), 1996-2006

Rank	Country	Country Average
1	United States	7
2	Japan	7.9
3	Switzerland	8.1
4	Austria	8.3
5	Luxembourg	8.6
6	United Kingdom	9.9
7	New Zealand	10.4
8	Netherlands	10.6
9	Australia	12.1
10	France	12.4
11	Canada	13.1
12	Iceland	13.3
13	Ireland	13.4
14	Germany	14.6
15	Finland	15.1
16	Sweden	15.6
17	Denmark	15.8
18	Norway	16.0
19	Belgium	18.8
20	Spain	19.7
21	Portugal	19.7
22	Italy	22.4
23	Greece	25.3
24	Korea, Rep.	26.6
25	Mexico	31.5

Source: Schneider (2009)

Figure 11. Personal (2009) and Corporate (2010) Tax Rates (%)

	All-in Rate		All-in less Cash Transfers	Combined Corporate Income Tax Rate
	Single - No Child	One-Earner Married Couple - Two Children	One-Earner Married Couple - Two Children	
Australia	22.0	20.9	8.6	30.0
Austria	32.7	30.6	18.1	25.0
Belgium	41.5	29.3	20.2	34.0
Canada	22.8	16.2	8.8	29.5
Czech Republic	22.2	5.6	-6.5	19.0
Denmark	39.4	35.0	28.8	25.0
Finland	29.2	29.2	22.6	26.0
France	27.7	21.6	17.1	34.4
Germany	41.3	20.8	20.8	30.2
Greece	25.1	25.4	25.4	24.0
Hungary	38.2	38.2	25.3	19.0
Iceland	17.9	17.9	-1.0	15.0
Ireland	20.9	12.3	2.2	12.5
Italy	29.3	21.9	15.1	27.5
Japan	20.1	16.3	13.8	39.5
Korea	11.8	9.1	9.1	24.2
Luxembourg	26.4	16.5	0.9	28.6
Mexico	5.3	5.3	5.3	30.0
Netherlands	31.8	27.6	22.6	25.5
New Zealand	18.4	18.5	0.6	30.0
Norway	29.3	26.8	21.8	28.0
Poland	24.3	17.8	17.8	19.0
Portugal	22.3	14.4	8.7	26.5
Slovak Republic	21.3	8.1	2.4	19.0
Spain	19.7	12.0	12.0	30.0
Sweden	25.3	25.3	17.9	26.3
Switzerland	21.5	16.0	8.1	21.2
Turkey	27.2	25.7	25.7	20.0
United Kingdom	25.3	23.7	18.5	28.0
United States	22.4	5.2	5.2	39.2

Sources: OECD Tax Database and Citi Investment Research and Analysis

Nevertheless, it is becoming abundantly clear that fiscal consolidation in most countries will likely have to include some measures on the revenue side. This is because deficits are large and the recent crisis has reduced tax revenue from a number of sources that accounted for substantial parts of total tax revenue before, in particular the financial sector (UK, Ireland) or real estate (UK, Spain). These revenues are unlikely to recover fully, as the changes are likely to be at least partially of a structural nature — falls in revenues have not only been cyclical.

Increasing government revenues can be difficult, due to...

- i) **adverse effects of fiscal consolidation on GDP growth**
- ii) **need for capable tax bureaucracy to implement revenue measures**
- iii) **negative effects of increases in tax rates on tax compliance**

But replacing lost revenue is easier said than done. Revenue estimates from new tax measures adopted by the fiscally unsustainable EA member states have a tendency to rely on optimistic growth assumptions and actual revenue often disappoints as a result. Thus, the IMF notes that, on average, its growth projections for the advanced economies are slightly less favourable than the ones put forward by the countries' authorities (IMF (2010b)). Our growth forecasts for most of the high-debt euro area periphery are below both the governments' and consensus forecasts.

A second hurdle is the need for a capable, efficient and honest tax bureaucracy to implement the tax measures, locate the necessary information and tackle the problems of tax avoidance and tax evasion. Such problems are traditionally more associated with emerging market economies. Building up and maintaining such a capable bureaucratic apparatus is costly and takes time.

But the unpopularity of the taxman has meant that even affluent societies, such as the UK, have been unwilling to hire more tax inspectors even though just their direct effects (through the additional revenues they generate during their audits, but neglecting the more general deterrent effects on tax compliance) is estimated to more than pay for the additional expenses.⁹

A third issue is the effect of tax measures on tax compliance. Many of the countries in the euro area periphery — the exception being Ireland — were thought to suffer from low tax compliance even before the imposition of austerity measures (see Figure 10 for estimates of the size of the shadow economy). Higher taxes will most likely imply even higher efforts to avoid or evade them. And measures such as the recent tax amnesty passed in Greece against the strong advice of the 'Troika' are likely to lower tax compliance even further in the future. Currently compliant tax-payers will start asking themselves why they should be paying when others get away with evading taxes. Current tax-evaders and avoiders may continue not to pay taxes in the expectation of future amnesties.

As a result of a combination of many of these factors, tax revenues in Greece have so far failed to improve in any significant manner, despite several increases in indirect tax rates since the beginning of 2010 (including a 4pp hike in the standard VAT rate).

3.3. Spending control

Spending cuts constitute the bulk of the announced fiscal consolidation measures in most countries

The recent announcements of austerity plans are relying more on spending cuts and less on revenue increases than similar efforts in the past. Thus, the IMF estimates that of the 22 countries surveyed, 16 are planning a largely expenditure-based adjustment, and only one (China) is expected to pursue revenue-based consolidation, with four countries pursuing a mix of both strategies (IMF(2010b)).¹⁰ The focus on spending cuts presumably reflects high increases in spending levels in many countries over the past decades, the unpopularity of tax increases, and some research that portrays spending cuts as less harmful for growth than tax increases (IMF(2010a)).

⁹ <http://www.guardian.co.uk/commentisfree/2010/mar/13/unthinkable-hiring-more-tax-inspectors>

¹⁰ 'Largely expenditure (revenue)-based' implies that adjustments rely on expenditure (revenue) measures for more than 60 percent of the total fiscal adjustment.

Control over total government spending can be limited due to:

- i) **relative autonomy of sub-national levels of government**
- ii) **explicit or implicit commitments to support the domestic financial sector**
- iii) **commitments from workings of 'automatic fiscal stabilisers'**
- iv) **movements in interest payments on government debt**

However, trying to control and bring down public spending can be difficult, not so much for technical or administrative, but for political economy reasons.

First, some countries, such as Spain, have announced as part of their consolidation programme that transfers to regional and local government would be reduced. But since regions often enjoy significant autonomy over spending decisions, such cuts in transfers from the central to the regional and local authorities may not induce an equal cut in public spending by the lower-tier governments. Rather than reducing the total deficits and debt burden of the consolidated general government, such cuts in central government transfers therefore risk simply shifting the allocation of total government borrowing and debt from the central to the regional and local authorities. Thus, the Spanish central government budget deficit is set to decline by 3.4% of GDP in 2010, but the deficit of the autonomous regions is estimated to rise by 1% of GDP at the same time. For 2011, a further decrease in the central government deficit and a rise in the regional deficit are projected, if on a smaller scale.

There is some evidence that the autonomous regions and municipalities in Spain have responded to the tighter cash spending targets at least in part by delaying paying their bills and thus going into arrears (see below). It is also possible that regional governments respond partly by raising regional taxes and thus changing the composition between spending cuts and tax increases in the ongoing fiscal consolidation, as happened in Italy in recent years.

Spain is unusual in that its autonomous regions and municipalities account for large shares of public expenditure (in 2007, 49.6% of general government expenditure occurred at local and regional level, 21.7% at the central government level and the remainder came from social security funds (OECD (2009)). Control over spending at sub-national levels of government is often less strict and cuts in spending correspondingly more difficult to achieve.

Second, a fast, but unsustainable way to reduce spending in cash terms (the way EU/IMF programmes are formulated) is to stop or delay paying bills, which seems to have happened to some extent at the local government level and at the social funds in Greece, and in some autonomous regions and municipalities in Spain. During the first review of the EU/IMF programme for Greece (in late August, early September 2010), the IMF made reference to the problem of public spending arrears. Unless the arrears turn into permanent non-payment of outstanding bills, such public spending 'cuts' are not sustainable and will have to be reversed in NPV terms. Eventually, non-cosmetic public spending cuts have to be implemented. To monitor total public spending more effectively, it would be useful to provide spending data on a cash and on an accrual basis; more timely spending data at sub-national levels of government would also be helpful.

Third, spending plans for the government can be affected by increased outlays that are the result of contingent support to its financial sector. The IMF notes that the direct financial costs of supporting the financial sector have in fact been below expectations and below levels seen in previous crises (IMF (2010b)) in most countries. The clear exception is, of course, Ireland, where estimates of the cost of the banking sector bail-out range between €50-80bn (31-50% of GDP). Spain, another country with a large construction boom and real estate asset bubble, has thus far only committed €14.4bn (1% of GDP) for bank recapitalisations, and there is a clear risk, in our view, that this amount will be insufficient to adequately recapitalise the banking system.¹¹

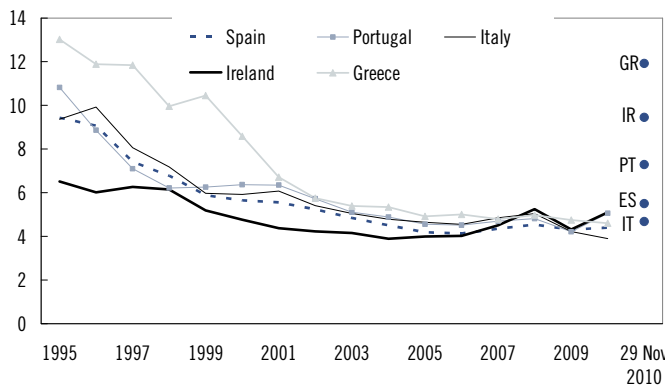
¹¹ In its Global Financial Stability Report in April 2010, the IMF estimated the 'drain of capital' for Spanish banks – capital required to bring the respective Tier 1 capital ratios back to levels at end- 2009 – to be

Of course, unlike Ireland, most other countries have not extended or have by now stopped extending explicit 'blanket' guarantees to unsecured domestic bank liabilities, including deposits and traded debt instruments. But in practice, the crisis has once again shown that governments, in Europe and elsewhere, are very reluctant to let their large banks fail, or to adopt legislation and regulations that would make it possible to restructure at the speed of crises, that is, overnight or at most over a weekend, the assets and liabilities of banks, including haircuts for unsecured creditors (senior as well as subordinated) and the mandatory conversion of unsecured creditors into shareholders.

Fourth, outlays for unemployment benefits depend on the extent and duration of unemployment and are largely automatic — they are part of what is usually referred to as the 'automatic fiscal stabilisers'. Persistently high levels of unemployment thus imply increased expenditures for these benefits that governments, understandably, are very reluctant to reduce. In some cases, notably the US, the larger-than-usual increase in the level and duration of unemployment has induced policymakers to repeatedly increase the scope and duration of benefits extended.

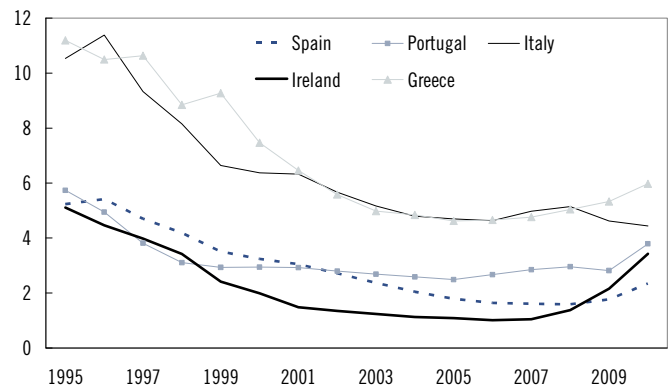
Fifth, interest payments are another area of (total, not primary) government spending that the general government has rather little control over, as they are set by the markets. Average nominal interest rates paid on public debt in the euro area periphery are still low in historical perspective in absolute terms (Figure 12). Relative to GDP, the interest burden has already started to increase, notably in countries that have seen a fall in the denominator, such as Ireland and Greece (see Figure 13). Nominal interest rates have fallen globally over the last decade as a result of falling world real interest rates and low inflation in many countries. For the EA periphery countries, entry into the Economic and Monetary Union (EMU) quickly led to the disappearance of risk premia for sovereign debt and convergence of yields of government debt at the levels of the low-risk countries.

Figure 12. Selected Countries – Average Cost of Debt (%)



Source: Average cost of debt (%) is computed as the ratio of interest payments over gross general government debt. Sources: Eurostat and Citi Investment Research and Analysis

Figure 13. Selected Countries – Average Cost of Debt (% of GDP)



Source: Average cost of debt (% of GDP) is computed as the ratio of interest payments over GDP. Sources: Eurostat and Citi Investment Research and Analysis

around €22bn. Moody's estimated a shortfall of capital of €17bn and UBS estimates Spain's banking sector would need between 70 and 120 billion euros to strengthen capital and provisions if it wants to offset sovereign risk concerns. Source: <http://uk.reuters.com/article/idUKTRE6BK3XV20101221?pageNumber=1>

In 2009, the average cost of debt in the euro area periphery ranged between 4.2% p.a. for Portugal and Italy and 4.8% p.a. for Greece. By comparison, 10-year yields on sovereign debt at year-end in 2010 were 4.9% for Italy, 5.5% for Spain, 6.7% for Portugal, 9.2% for Ireland and 12.5% for Greece.¹² While it will take time for yields on newly issued debt to feed through, the average cost of debt should rise over the next few years. Together with rising debt levels, the higher cost of debt should lead to a substantial increase in the burden of interest payments (even after adjusting for the effect of inflation on the real value of nominally denominated public debt). For example, in Spain, we expect interest payments to rise from 1.8% of GDP in 2009 to 4.5% in 2016 and in Ireland we expect the interest burden to rise from 2.2% to 5.4% of GDP over the same period.

The average interest rate charged the Irish sovereign on the EU/IMF financial support package is about 5.2 percent for loans with an average 7.5 years maturity. Greece, should the maturity of its loans be extended to that of the Irish loans, will face the same interest rate. These rates are undoubtedly below the rates at which these sovereigns can access private capital markets. They may also be below the (unobservable) rate that would compensate the sovereign lenders for the default risk associated with this lending. They are, however, above the average interest rate the Greek and Irish sovereigns currently pay on their outstanding debt.

The inevitable increase in the average interest cost of servicing the public debt will make achieving fiscal sustainability harder. It is therefore important to keep in mind that the chains of causation between interest rates and default probabilities run both ways. Higher probabilities of default will imply larger default risk premia and therefore higher interest rates to compensate investors for the additional risk. But higher interest rates also increase the debt burden and thereby increase the probability of default. A country with a high level of debt (of relatively short average maturity) could therefore be solvent as long as interest rates or risk premia are low (when expectations of default are low), while it is insolvent when interest rates rise. An exogenous revision of subjective default probabilities from low to high could then create a sovereign debt crisis in a self-justifying way. Japan appears to be a prime example for a country that currently finds itself in the benign scenario (low subjective default probability implies low interest rates implies confirms (for now) low default probability), while Portugal may be closer to the adverse scenario.¹³

¹² The average maturity of government debt in all of these countries is between 7 and 8 years. As a result the 10-year yields are slightly biased upwards as an expectation of the future average cost of debt, but differences between 7 and 10-year yields are small in all cases.

¹³ See also "Sovereign Debt Problems in Advanced Industrial Countries", Citi Global Economics View, 26 April 2010 and "The Great Deflation: Lessons from Japan for the World", Citi Global Economics View, 11 November 2010.

Figure 14. Selected Countries – GDP Per Capita 2010F (in USD)

Country	GDP per capita
United States	47,132
Ireland	45,642
Belgium	42,597
Japan	42,325
France	40,591
Germany	40,512
United Kingdom	36,298
Italy	33,829
Spain	29,875
Greece	27,265
Portugal	21,031
Hungary	13,210

Source: IMF WEO November 2010

Policymakers and the electorate are likely to suffer from ‘consolidation fatigue’ at some stage, which could ultimately derail consolidation efforts

3.4. Consolidation fatigue and other political risks

The question of sovereign debt sustainability contains a significant political dimension. Most of the countries that are currently at the center of the debt crisis are advanced economies — economies that are rich enough to shoulder the burden of repaying the liabilities of their sovereign in full without imposing costs on their citizens that would endanger local/national minimum standards of material and physical wellbeing (Figure 14). This is why we call sovereign debt problems in AEs ‘won’t pay, not can’t pay’ issues. But when debt levels and the associated interest payments rise, satisfying the obligations as they come due requires a degree of political and societal consensus on how to share the burden. The adjustments needed to restore fiscal sustainability usually require unpopular measures, such as cuts to public sector wages and state employees’ pensions or to social security/ retirement and/or health benefits, increases in taxes or reductions in subsidies or other transfer payments. The announcement of such measures has already resulted in a number of large protests in all of the high-debt EA periphery countries, as well as in France. In addition, structural measures that are aimed at raising the short or long-term growth potential of the economy, such as the deregulation of certain professions prescribed in the Greek adjustment programme by the EU/IMF, often prove very unpopular with the particular constituency that is subject to the deregulation. The recent violent protests against rises in student tuition fees in London and the strength of the ‘Tea Party’ movement in the US have shown that such popular eruptions are not confined to the Mediterranean, or even Continental Europe.

For the time being, politicians in most affected countries are continuing to show a relatively strong resolve in following through with fiscal consolidation and structural reforms. But the political will to impose large costs on the country’s citizens is bound to be constrained by the breadth and depth of public support. As public support is eroded by years of fiscal austerity, consolidation fatigue will surely affect policymakers as well. The first cracks are already emerging. In Portugal, the minority government only managed to pass the most recent budget with a significant delay, after lengthy negotiations with the opposition, and under strong pressure from financial markets. In the run-up to the regional elections in Greece in November 2010 (which the government proclaimed to be a referendum on the austerity plans), the ruling PASOK government promised no further public sector wage cuts and in addition implemented a one-off payment to low-income pensioners, despite the fact that it was already known at the time that the deficit for this year would have to be revised upwards. And while the Greek government escaped the ‘shellacking’ suffered by the Democrats in the US mid-term elections, its performance against a weak and disorganised opposition was hardly impressive. In Ireland, one of the few countries that started imposing drastic measures on its citizenry as long as two years ago with little public resistance, the current Fianna Fáil-led government, is highly unpopular. Even though the budget for 2011 has now been passed in parliament, the general election anticipated for the early months of 2011 may well shift the political equilibrium to a more confrontational stance towards the creditors of both the Irish sovereign and the Irish banks.

Only a few countries have already implemented major consolidation measures – for the rest, the bulk is still to come

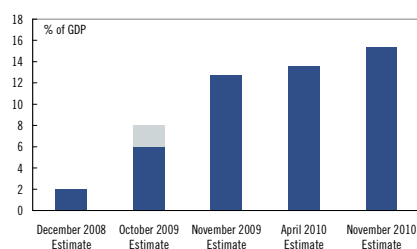
The willingness of contributing EA countries to provide further bail-outs cannot be taken for granted, as these bail-outs are already very unpopular domestically

There are only a few countries that have already implemented major painful adjustment measures, including Ireland, the Baltic countries, and, to some extent, Greece. For the rest of the high-deficit countries, we are still in the honeymoon phase of consolidation. In most countries, including Spain and the UK, cuts have only just begun to be implemented and, at least in Spain (and among the student population in the UK), there are already some signs that they are starting to bite. Successful budget tightening will take many years. Social unrest may yet derail consolidation efforts or citizens may insist that holders of sovereign and/or bank debt share a substantial part of the burden, in particular if the bond holders are foreign. Consolidation fatigue will be a substantial and increasing risk to a default-free resolution of the sovereign and bank crises.

Another risk is that political opposition to further ‘bail-outs’ rises among the citizens of the contributing countries and puts at risk the funding of the Greek facility, the EFSM, the EFSF, and their successors, the ESM, through EA and EU member state Treasuries. If future IMF contributions to the EA member states beyond the €250 currently envisaged turn out to be necessary, the willingness of the US Congress to contribute to such an enhancement of the financial support packages cannot be taken for granted. The Greek and EU programmes are highly unpopular in Germany and have been under attack in the media and by a number of academics, including challenges in front of the German Constitutional Court. So political risks will not only originate in the distressed countries.

3.5. How large are public debts and deficits really?

Figure 15. Estimates of the Greek General Government Deficit of 2009 (in % of 2009 GDP)



Note: Grey bar reflects forecast range. Source: Citi Investment Research and Analysis

Public debt and deficit numbers are not written in stone. The saga on the Greek budget deficit is an extreme example (Figure 15). When the budget for 2009 was passed in December 2008, the government forecast the general government gross deficit to be two percent of GDP in 2009. The conservative New Democracy government raised its estimate to between 6% and 8% of GDP in 2009. After winning the general election, the incoming PASOK government almost immediately on taking office raised the estimate to 12.7% of GDP in October 2009. In its first estimate, Eurostat reported a general government deficit-to-GDP ratio of 13.6% in April 2010. But even that was not the end of the story. The latest revision, announced by Eurostat on 15 November 2010, put the deficit for 2009 at 15.4% of GDP. At the same time, deficits for 2006 – 2008 were also revised up, and general government gross debt at the end of 2009 was raised from the previously reported 115% to 127% of GDP. In response, the Greek government raised the target for the 2010 general government deficit to 9.4%, from the previous estimate of 7.8% of GDP.

Uncertainty over coverage, accounting treatment and adjustment for cyclical or one-off effects suggest care when trying to interpret debt and deficit numbers

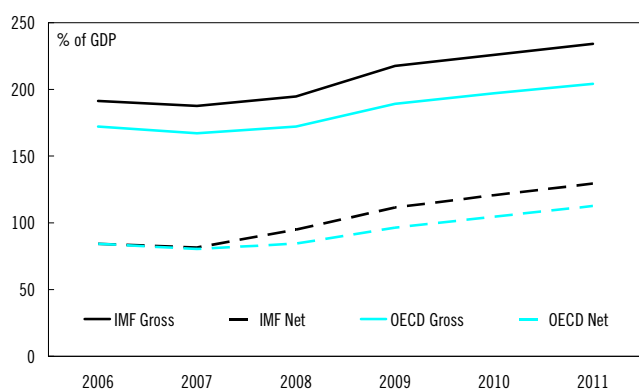
The unreliability of the accounts of the Greek sovereign is hardly news — in 2004, deficit numbers were revised up for every single year between 1997 and 2003. And the unreliability of the Greek accounts is not representative of other countries. But even in countries with better accounts, uncertainty exists around the levels of public debts and deficits. For debt and deficit projections, this is somewhat understandable, as they depend on a range of assumptions on the future evolution of different variables, including economic growth, interest rates and policy measures. Forecasts of these variables are inevitably subject to error and will vary depending on the source of the forecast, so it is only natural that forecasts for deficits and debts also vary.

But uncertainty and confusion also applies to the past. Some of the sources of ambiguity and confusion are:

1. Coverage: Care should be taken as to whether numbers for debts and deficits refer to the central or the general government (central, regional and local government plus assorted social funds, but not state enterprises operating on commercial principles in the market at arm's length from the government and not the central bank). In some countries, such as Spain, much or even most public expenditure occurs at the regional and local level, so data on the expenditure of the central government only are of limited use. As noted, the central bank is also not included in the general government, although it ought to be. A related issue is whether debt numbers accurately reflect the consolidation of intra-governmental debt-holdings.
2. Off-balance sheet treatment: Governments have some degree of discretion about what will be put on their balance sheet. Of particular concern are the treatment of state-owned firms and social security obligations and assets. The treatment of state-owned hospitals lay behind some of the revisions of Greek sovereign debt in the late 1990s and early 2000s. Portugal and Hungary have recently shifted around pension assets between state enterprises and the general government in order to meet their respective deficit targets. In countries with pay-as-you go pension systems, the implicit obligations (the NPV of future entitlements under current laws and regulations) are usually not reflected in the public accounts, because they do not represent contractual commitments but are instead the projected implications of current benefit entitlement rules. Another question is how to treat contingent liabilities, such as guarantees granted to financial institutions. And the fair value of the assets of the government, as well as the value of the liabilities and the assets of non-commercial state enterprises, including socialised mortgage finance providers like the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac in the US, should also be accounted for on the general government balance sheet, but that is not usually done.
3. Consolidation between assets and liabilities: Most commonly used measures of public indebtedness are measures of gross government debt. But the government also holds financial and non-financial (both tangible and intangible) assets. General government net debt subtracts general government holdings of liquid financial assets from gross general government debt. Financial assets include stakes in companies, holdings of cash and liquid securities, including foreign exchange reserves, and holdings of public pension funds. There is usually a dearth of information on non-financial assets, even when these are liquid, so they are mostly ignored for the purpose of calculating government net indebtedness. Deducting government liquid financial assets from gross debt levels gives government net debt, data on which are provided by both the OECD and the IMF. The difference between gross and net debt figures — the size of government financial assets — can be very large. For example, in Japan, gross debt according to the IMF measure is around 226% of GDP in 2010, while net debt is around 121% — a difference of 105% of GDP!

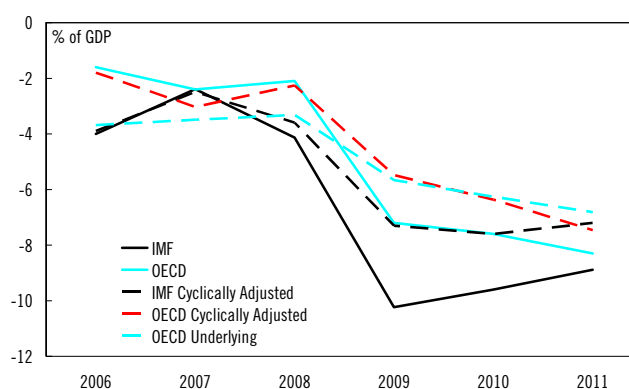
4. **Accounting conventions:** Assets and liabilities can be valued at historical cost, at market value, at fair value, or according to other conventions. Another choice is between measuring deficits on a cash or an accrual basis. The inclusion or exclusion of one-off large items, such as the auction of 3G mobile phone licenses or the Irish government's recapitalisation of the banking sector in 2010 is another issue.
5. **Cyclical adjustment:** Cyclically adjusted measures are supposed to correct 'raw' deficit numbers from their 'contamination' by the cycle, but depending on the adjustment procedure used, deficit estimates can vary widely (Figure 17).

Figure 16. Japan – Gross and Net Debt 2006 – 2011F



Source: IMF WEO November 2010, OECD Economic Outlook and Citi Investment Research and Analysis

Figure 17. Japan – General Government Budget Deficit 2006 – 2011F



Source: IMF WEO November 2010, OECD Economic Outlook and Citi Investment Research and Analysis

3.6. What happened to the theory of 'rational default'?

Theory of rational default suggests that sovereigns with high debt levels and low primary deficits would be most likely to default, but that is not how the market is pricing default risk currently

There is an interesting disconnect between the theory of 'rational' (narrowly self-interested) default and the reality of the current sovereign debt crisis in the euro area.¹⁴ With temporary exclusion from the international capital markets the only external sanction for sovereign default, the most likely candidate for sovereign default (for a given growth rate and interest rate path) from the cost side of the default cost-benefit analysis, would be the sovereign for whom the likelihood of any need for future access to the global markets is lowest. If the recovery rate following a sovereign default were zero, the structural (or cyclically adjusted) primary general government deficit would provide a useful measure of the government's need for market access following default. On the benefit side, a higher stock of debt makes default more attractive, other things equal. Thus a country with the combination of (1) a small structural general government primary deficit or *a-fortiori* a primary surplus and (2) a high public debt burden (as measured by the gross or net general government debt-to-GDP ratio) would be a likely candidate for rational default. If the recovery rate is positive, the market funding requirement would be the sum of the (structural) primary deficit plus the interest on the remaining debt (post-default) plus any re-financing required for that remaining stock of debt. A large (structural) primary deficit would make default unattractive, as the loss of access to the capital markets following default would force the government into an immediate balancing of the primary budget (in the case of zero recovery rate).

¹⁴ See also "Sovereign Debt Problems in Advanced Industrial Countries", Citi Global Economics View, 26 April 2010

Clearly, this is not the way things are working out in the EA sovereign debt crisis, nor the way things have worked out in most past emerging market debt crises. If the markets believed the theory of rational sovereign default, Italy and Belgium, with high public debt burdens and (small) structural primary surpluses, would be perceived as representing the highest risks. But clearly the markets do not see sovereign default as a policy choice in a situation where other alternatives remain available. Instead, markets view default as the result of ‘force-majeure’, often triggered by a ‘sudden stop’ — a refusal by the markets to fund the deficit and the maturing outstanding debt.

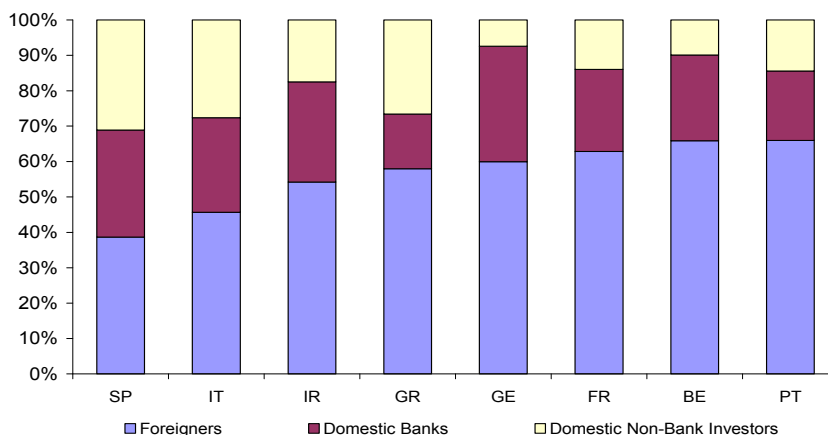
So it is countries with large (primary) general government deficits and significant sovereign re-financing needs because of short and/or bunched maturities that have found themselves at the mercy of the markets. If this ‘involuntary’ default theory is correct, a higher sovereign debt burden *will* raise the likelihood of default, but not because it renders default more attractive to the borrower but rather because, for a given maturity distribution of the debt, it increases the funding requirements of the sovereign in every period.

4. Ownership of EA Sovereign Debt

External holdings of EA periphery sovereign debt remains high, despite falling since 2008

The share of the government debt of euro area countries held abroad varies quite widely, ranging from 39% in Spain to 66% in Portugal (Figure 18).

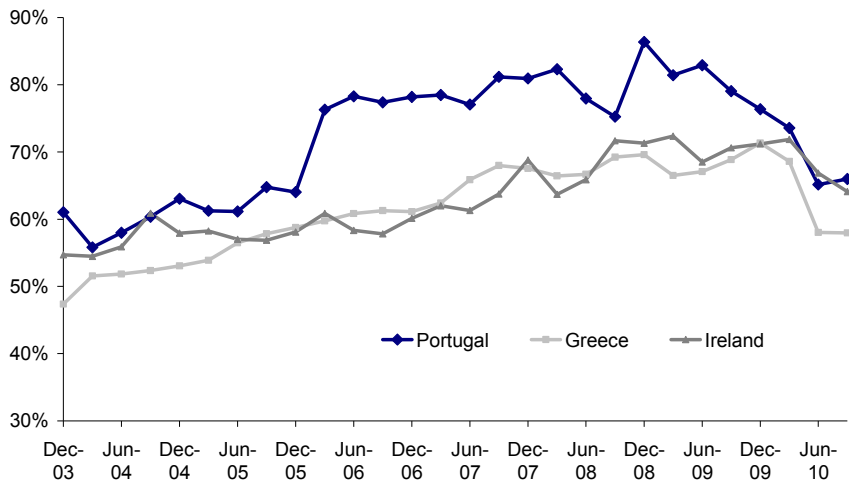
Figure 18. Selected EA Countries – Composition of Ownership of Government Debt, June 2010



Note: Domestic bank holdings of government debt include bank loans to the general government. Source: World Bank, Eurostat, ECB, National Central Banks and Citi Investment Research and Analysis

The evolution of the composition of government debt holdings is also interesting. External holdings of Portuguese, Greek and Irish sovereign debt increased continuously and substantially in the years prior to the crisis, reaching peak levels of 70% in Greece, 72% in Ireland, and 86% in Portugal at the end of 2008. Since then, however, the trend has reversed substantially, as the share of external holdings declined by 12 percentage points in Greece and 18 percentage points in Ireland and 20 percentage points in Portugal by Q3 2010. The decline in external holdings was particularly sharp in the second quarter of 2010. Since overall debt levels in these countries were rising fast during this period, total external holdings of Greek and Portuguese sovereign debt fell less, although they, too, did fall, while in Ireland the total amount of sovereign debt held abroad actually increased.

Figure 19. Selected Countries – Share of Sovereign Debt Held Abroad 2003 – June 2010

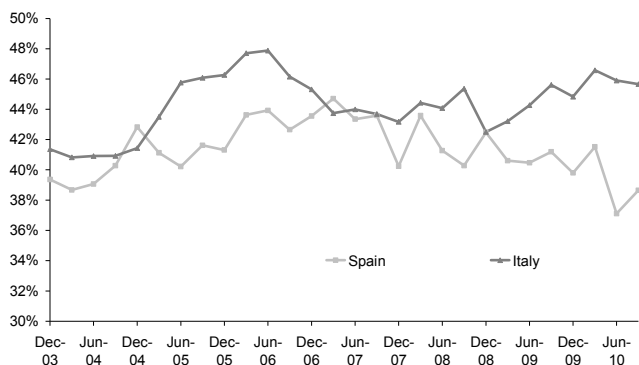


Source: World Bank, Eurostat, ECB and Citi Investment Research and Analysis

To us, the reasons for this large increase in ‘home bias’ are not entirely clear, but they are part of a wider trend around the world that saw cross-border capital flows collapse, or even reverse, during the crisis. Candidate explanations are increased patriotism, increased pressure by governments on their domestic banks and other institutional investors to absorb additional domestic public debt, repatriation of capital due to fear of default or expropriation by foreign governments, and an increase in actual or perceived information asymmetries.

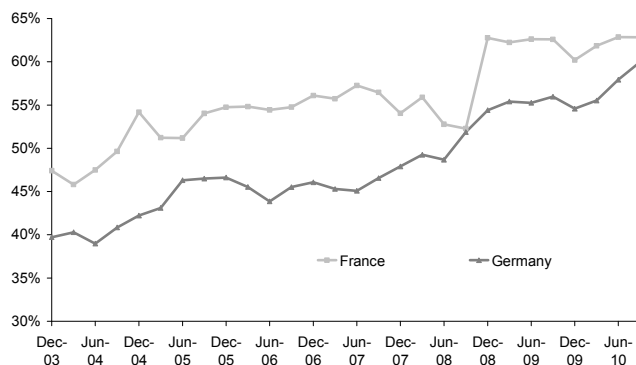
Spain and Italy are slightly different from the other, smaller, EA periphery countries in this regard (Figure 20). The share of sovereign debt held domestically is larger and had not fallen substantially in the run-up to the crisis. The share of external holdings of Spanish sovereign debt fell less, but still noticeably, than in Greece, Ireland and Portugal, while it increased in Italy. In Germany and France, the secular increase in the share of sovereign debt held abroad continued, and possibly strengthened, during the crisis. External holdings for these countries are now similar in magnitude to those of the smaller peripheral countries, and substantially larger than in Spain and Italy.

Figure 20. Selected Countries – Share of Sovereign Debt Held Abroad 2003 - 2010



Source: World Bank, Eurostat, ECB and Citi Investment Research and Analysis

Figure 21. Selected Countries – Share of Sovereign Debt Held Abroad 2003 - 2010

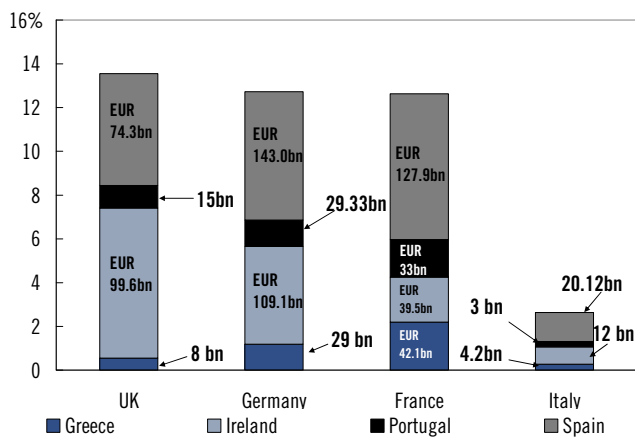


Source: World Bank, Eurostat, ECB and Citi Investment Research and Analysis

Exposure of UK, German and French banks to EA periphery is large, but composition varies

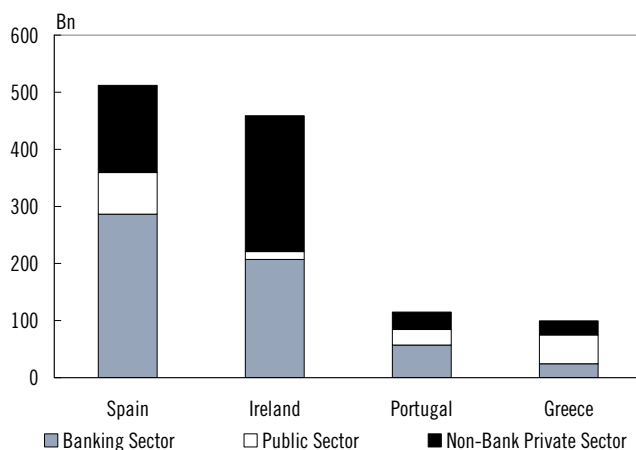
Figure 22 and Figure 23 present data on the cross-country exposure of banks from the large EU countries to Greece, Ireland, Portugal and Spain. Relative to GDP, the total exposure of the UK, France and Germany is remarkably similar. The composition, however, is different, with Ireland accounting for the largest share of UK exposure, while Spain represents the largest individual country exposure for Germany and France.¹⁵ Italy's exposure, relative to GDP, is much smaller, but once again, Spain accounts for the largest share of it.

Figure 22. Selected Countries — Large Bank Cross-Border Exposure to Euro Area Periphery Countries Total Debt (% of Holder Country GDP), June 2010



Source: BIS and Citi Investment Research and Analysis

Figure 23. Large Bank Cross-Border Exposure to Euro Area Periphery Countries' Sectors (EUR), June 2010



Source: BIS and Citi Investment Research and Analysis

¹⁵ Total exposure to Ireland is overstated in this data, as all banks which are incorporated in Ireland, not only the domestic credit institutions (representing 58% of total bank assets) are covered.

Large amounts of EA sovereign debt are held outside the banking system, but little data is available on the topic

To our knowledge, the availability of data on the ownership of EA sovereign debt by sector is limited. Figure 18 indicates that between 15% (Greece) and 33% (Germany) of sovereign debt is held by domestic banks. We do not have data on the fraction held by foreign banks, but if we assume that the ratio of bank to non-bank holders is the same for owners of sovereign debt abroad as domestically, the above data would suggest that between 19% (Germany) and 63% (Greece) of sovereign debt is held outside the banking sector (domestic and foreign), with Italy and Spain, at 51% each, in between. Non-bank holders of sovereign debt will mainly be insurance companies, pension and other investment funds and households. It is perhaps plausible that the share of such non-bank owners of sovereign debt is higher domestically than abroad. In that case, the above estimates of EA sovereign debt owned outside the banking sector are biased upwards, but it remains true that the share of non-bank owners is large in some EA countries, and with it their potential losses should there be a sovereign debt restructuring with haircuts.

In the cases of Greece and Ireland, substantial amounts of sovereign debt will be held by official creditors in the next few years. For Greece, the Second Review of the Economic Adjustment Programme expects Greek gross general government debt to be €375bn in 2013, of which €110bn or 29% will be owned by EU member countries and the IMF.¹⁶ For Ireland, the IMF expects total general government debt to reach €125bn in 2013, €67.5bn or 54% of which will be held by official creditors, provided the programme facilities are taken up in full by Ireland.¹⁷ In addition to this, the ECB owns just €73.5bn of periphery sovereign debt outright through the SMP and is exposed to an as yet unknown amount of periphery sovereign risk through loans to banks that offered periphery sovereign debt as collateral (see also section 7).

5. Developments in the euro area in 2010

5.1. The IMF/EU/EC Greek package

Greece agreed to €110bn rescue package from the EU/IMF in May 2010

Amid widespread concerns over the solvency and liquidity of the Greek sovereign and ballooning spreads on Greek sovereign debt, the EU and the IMF cobbled together a €110bn rescue package for Greece in May 2010. Under the terms of the agreement, Greece would implement large spending cuts and tax rises, structural measures to improve its competitiveness, and measures to improve data collection and provision for public sector, in particular fiscal, data. In return, Greece receives loans (at rates of 300bps over the corresponding Euribor or swap rate from the EU, at 200bp less from the IMF) in various tranches, implying that it would not need to access markets until 2013 as long as it complied with the agreed adjustment programme. €10bn of the €110bn package was explicitly set aside for financial sector support. But once the idea that sovereign default was possible had taken hold, concerns spread to other high-debt and high-deficit countries in the EA periphery. In response to the ensuing market turmoil, in early May 2010 a number of additional measures were taken to address sovereign illiquidity and financial instability in the EA.

¹⁶ http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp72_en.pdf

¹⁷ <http://www.imf.org/external/pubs/ft/scr/2010/cr10366.pdf>

In addition, the EU and the IMF created the EFSF and EFSM to address sovereign debt turmoil in other EA periphery economies

5.2. The EFSF and EFSM

First, the EFSF was created, backed by intergovernmental guarantees of €440bn from the EU member states, pro-rata according to their share in the capital of the ECB. The total amount of the guarantees is €428bn without Greece, which had been allowed to 'step out' from providing guarantees from the start, and €421bn without Greece and Ireland). In order to get a AAA-rating, the EA member states guarantee 120% of their allocation for each bond issued to cover the fact that some of the countries will need to access the facility and therefore cannot be contributors. But in order to secure the coveted AAA-rating for EFSF-issued bonds, the rating agencies indicated that they would require additional cash reserves to be held for each bond issued. As a result, the rating agencies signaled that the total amounts loaned out by the EFSF could not exceed the amount of 100% of guarantees provided by AAA-rated EA member countries, which amount to around €255bn. Hence, any funds raised beyond that level would need to be held as a cash reserve. This would indicate that the total amount of loans available would be much lower than the headline size of the guarantees of €440bn.¹⁸ What is more, its creation is based on article 122 TFEU (Treaty on the Functioning of the EU) that allows financial assistance to a member country under "*exceptional occurrences beyond its control*".¹⁹ If this is applicable at all to financial crises caused by fiscal unsustainability, it is only designed as a temporary backstop. The EFSF consequently can only set up new programs until June 30, 2013.

In addition to the EFSF, another €60bn is available from the European Commission (EC)'s €60bn European Financial Stability Mechanism (EFSM). This contribution would be immediately available, as it can be drawn from the EU budget. The IMF has declared that it will provide loans equivalent to up to 50% of the contribution of the EU — the Ireland package showed that the IMF contribution will probably be scaled to the actual loans disbursed rather than the headline amount. While only the then 16, now 17 after Estonia's entry, euro area countries contribute to the EFSF and only these countries can apply for assistance from it, the EFSM is supported by, and could in turn support, any EU member country. As the Irish package has shown, the procedure and terms for accessing the EFSF/EFSM and the terms of the loans are likely to be similar to the Greek package — a programme has to be agreed with the EC, the ECB and IMF, and continuation of the programme would be contingent on compliance with the terms of the agreement. To access the programme, a member state has to apply formally to the Ecofin (for the EFSM) and the Eurogroup (EFSF), which have to agree by qualified majority vote (QMV) and unanimously, respectively. Only governments can apply to the EFSF, but they may apply to use the funds to support their domestic banking sectors. The loans to the Irish sovereign have a maturity of up to 7.5 years and carry an average interest rate (including the IMF loans) of around 5.2 percent. It is expected that the loans under the Greek programme will have their maturity extended to 7.5 years and their interest rate raised to the Irish level also.

¹⁸ See [Euro Weekly: Little EU Response, Spanish Problems Still Brewing, December 10, 2010, Citi](#)

¹⁹ The first sentence of Article 122, TFEU reads: "Where a Member State is in difficulties or is seriously threatened with severe difficulties caused by natural disasters or exceptional occurrences beyond its control, the Council, on a proposal from the Commission, may grant, under certain conditions, Union financial assistance to the Member State concerned."

ECB created SMP allowing it to purchase debt, including EA sovereign debt, outright in secondary markets in order to safeguard financial stability

5.3. The Securities Markets Program

In addition, the ECB created the Securities Markets Programme (SMP), under which it can buy public and private debt outright in order to “*address the malfunctioning of securities markets and to restore an appropriate monetary policy transmission mechanism*” and waived the minimum rating requirement for sovereign debt for the Greek sovereign to be eligible collateral in its funding facilities. After very active intervention by the ECB in May and June 2010 (before the approval of the EFSF), the ECB has slowed down its EA periphery bond purchases and only mildly raised them during the most recent period of periphery turmoil. Even after the more active intervention since the 3 December 2010 press conference by ECB President Trichet, purchases under the SMP remain modest.

Purchases under the SMP are formally ‘neutralised’ or ‘sterilised’ as regards their impact on the monetary base by one-week term deposits, though we have noted before that in the absence of a counterfactual for the evolution of the monetary base, it is not possible to verify the claim of the ECB that it sterilises these purchases. In addition, commercial bank one-week term deposits with the Eurosystem (which are not part of the conventional definition of the monetary base) are very close substitutes for overnight deposits of commercial banks with the Eurosystem (or commercial bank reserves with the central bank), which are conventionally included in the definition of the monetary base. So the ‘sterilisation’ of the outright purchases of sovereign debt under the SMP is cosmetic or semantic, rather than substantive or effective. As regards their economic impact, these outright purchases of government securities under the SMP are therefore virtually indistinguishable from quantitative easing (QE) or monetisation of the public debt.

5.4. Strengthening the Stability and Growth Pact

Stability and Growth Pact was tightened to include consideration of debt levels and expedite sanctions though they remain subject to political control

But even after the creation of the Greek facility, the EFSF, the EFSM and the SMP, the institutional set-up of the EA for fighting financial crises involving the sovereigns remains a work-in-progress. One particular lesson from the sovereign debt turmoil was the inadequacy of the Stability and Growth Pact (SGP) and the Excessive Deficit Procedure (EDP) to prevent large macroeconomic imbalances that could ultimately threaten the survival of the EA. In late October 2010, the EU leaders thus decided to strengthen the SGP. Details still need to be fully worked out, but in the future countries will be at risk of being put under the EDP when general government gross debt levels are above 60% of GDP and not on a “*satisfactory*” path down. Sanctions can now also be imposed before deficit thresholds are breached if the structural deficit “*deviates significantly from the adjustment path foreseen in the SGP and (the member state) does not correct the deviation*”. Under the reformed SGP, fines can also be imposed more quickly. However, against the recommendations of the ECB, the EC and a number of member states, the sanctions are not automatic. Instead, a qualified majority of member states can prevent the sanctions from being imposed. This does represent a change from the old SGP, where a qualified majority of member states had to approve the imposition of sanctions. Other sanctions considered, such as the suspension of voting rights in the Council or losing some structural or cohesion funds, are also off the table.

'Excessive Imbalance Procedure' allows EU level surveillance of broader macroeconomic, not just fiscal, imbalances

Another lesson of the ongoing sovereign debt crisis is that the focus on public debts and deficits can be misplaced and misleading. After all, Spain and Ireland were never subject to the EDP until the crisis hit. The member states therefore also agreed that the EC should monitor a broader range of indicators, including measures of competitiveness (e.g. real effective exchange rates) and private debt levels. In the case of persistent and substantial imbalances, member countries could be put in an "Excessive Imbalance Procedure" and potentially subjected to (yet to be specified) sanctions.

German agreement for extending EFSF beyond 2013 contingent on measures to limit future fiscal transfers

These tools, which aim to prevent future unsustainable imbalances, are for the most part welcome, though they are probably too weak to be effective. In any case, they are preventive and of little relevance during a crisis period. Because the Greek facility and the EFSF will expire by May/June 2013 and because it was always clear that sovereign debt troubles within the EA would not magically disappear by then, there remains a need for a longer-lived — ideally permanent — mechanism for crisis mitigation and resolution. However, as the EFSF and the Greek facility are deeply unpopular in Germany and many other contributing countries, a key condition for the agreement of the German government to any extension of the EFSF has been the inclusion of a mechanism, or arrangements, that limit future (permanent) transfers to countries with unsustainable public finances. Any permanent mechanism should provide only loans, not grants — liquidity support, not solvency repair. The position of the German government gained even greater weight once it became clear that the German Constitutional Court would most likely require such provisions to be incorporated into the EU Treaty, through a formal EU Treaty amendment as a condition for German participation in an extension of the EFSF. Consequently, EU member countries began intense and very public discussions on a sovereign debt restructuring mechanism or sovereign default resolution mechanism (SDRM), or a Permanent Crisis Resolution Mechanism (PCRM).

5.5. The PCRM – Permanent Crisis or Permanent Mechanism?

EU heads of state announced intention to create Permanent Crisis Resolution Mechanism (PCRM)

On 28 November 2010, the Eurogroup agreed in principle on a proposal for a PCRM: the European Stability Mechanism (ESM), which shall be the successor to the EFSF when it expires in 2013.

Private bond-holders are expected to share the burden

The ESM will provide conditional financial assistance to ailing member countries, just as the EFSF has done. Many details remain to be specified, but it is already clear that there will be at least three key differences to the EFSF.

European Stability Mechanism (ESM) will:

First, the ESM will be permanent, unlike the EFSF.

i) **be permanent**

Second, the ESM will receive 'preferred creditor status'. This implies that debt to the ESM will be repaid once the IMF is made whole, but before any other creditor is paid in the event of default. This seniority of ESM loans to all other sovereign obligations other than those to the IMF is intended to 'protect taxpayers' money'.

ii) **will have 'preferred creditor status'**

iii) **will imply collective action clauses in EA sovereign debt issues from 2013 onwards**

Third, from 2013 onwards, all EA government bonds will be issued with collective action clauses (CACs) that will allow a qualified majority of bondholders to agree on legally binding changes to the terms of payment (standstill, extension of maturity, haircut of interest-rate and/or principal value) in the event that the debtor is unable to pay. It is likely that the CACs will allow all debt instruments issued from 2013 to be aggregated into a single creditor vote, rather than requiring individual votes for each issue. Such clauses make it highly likely that private bond-holders will share the burden of any restructuring of sovereign debt issued from 2013 onwards. Markets will surely take this into account if any fiscally weak sovereign attempts to access private credit markets thereafter.

However, it is important to clarify what this clause does not mean. The option to impose restructuring by QMV of the creditors does not imply that such restructuring needs to be imposed, either as a condition for initial access to the ESM, or ever. All it does is establish the option (which was of course always there, as it is for any debt instrument). Also, the fact that such clauses will only be inserted after 2013 does not imply that currently outstanding debt is safe from default risk. Since it will take a long time until debt issued after 2013 constitutes a substantial portion of total government debt outstanding, it is likely, in our view, that currently outstanding sovereign debt would also be involved should a EA periphery country need to restructure its sovereign debt. The difference is that for the existing debt, the process of restructuring may be more complex, because of 'hold-out problems', as CACs do not exist, even though precedents of sovereign debt restructurings in emerging markets certainly exist where creditor participation was at least satisfactory despite the absence of CACs (see e.g. Sturzenegger and Zettelmeyer (2009)).

Since most sovereign debt in the euro area is issued under domestic law (that is, under the law of the borrowing sovereign), the ultimate threat point for the EA sovereign would be to impose its terms of the restructuring under emergency legislation. Although changes in the terms of the 'domestic-law' sovereign debt contract introduced by the legislature of the borrowing country could well constitute credit events or acts of default, and thus could trigger credit default swap (CDS) claims and other claims under sovereign default insurance contracts, the creditors could not have recourse to foreign (or domestic) courts. Because of this, we consider it likely, that issuance of sovereign debt after 2013, with the CACs, will not be under domestic law but under a legal arrangement not under the control of the borrowing sovereign.

These elements of the currently envisaged solution therefore reflect a 'contractual' or 'market-based' approach and do not go as far as prior German proposals that suggested a 'statutory' approach, under which a third-party would be involved in assessing sovereign debt sustainability, and the process and substance of sovereign debt restructuring. Several key elements of the proposed sovereign debt restructuring arrangements, however, remain unclear at this stage, and will probably not be finalised by the EA finance ministers and the EC before March 2011.

5.5.1 Remaining questions about the ESM

Who decides whether sovereign debt is unsustainable?

One key question is who will decide whether a sovereign is unable to pay: who pulls the trigger to invoke the activation of the CAC? The value of the assets and liabilities of a sovereign is subject to much uncertainty, especially the value of the non-financial tangible and intangible assets — notably the net present discounted value (NPV) of the ability to tax the subjects within its jurisdiction and the NPV of future cuts in non-interest public spending. Such a decision will therefore be highly political and it is likely that a sovereign that would like to restructure her debt would need to consult the Eurogroup or other EA authorities. The pure market-based sovereign debt restructuring arrangement would leave this decision to the borrowing government.

A related question is who determines the terms of the 'offer' that the sovereign creditors vote on under the CAC. The pure market-based mechanism leaves this to be negotiated by the sovereign debtor and the creditors (or some representative body of the creditors). A statutory approach would assign to some third party or independent body both the decision to restructure the sovereign debt and the specific debt restructuring proposal to be voted on. Under both the statutory and contractual approaches, there have to be clear guidelines as to what happens in case of a negative vote on a restructuring proposal or in case of a deadlock preventing agreement on what proposal to put to a vote.

Mechanism may imply intergovernmental or joint and several guarantees for restructured debt

Another question is whether any guarantees, such as Brady-type guarantees of the remaining post-haircut principal, will be provided under the ESM. Such guarantees would, in general, provide an incentive for bond-holders to participate in the restructuring, in particular when combined with CACs. Such guarantees could be provided inter-governmentally, as in the case of the EFSF, or on a joint and several basis. In the former case, similar problems as with the EFSF would arise. Should the guarantees be provided on a joint and several basis, this would be a step towards issuing EU bonds, as proposed by Eurogroup chairman Juncker and the Italian Finance Minister Tremonti.²⁰ In the case of a sovereign debt restructuring with a Brady-type guarantee of the post-restructuring principal, the EU bond issuance would be strictly limited in quantity — it would be equal in value to the value of the guaranteed, restructured principal outstanding. This is quite different from the potentially open-ended and uncapped EU bond issuance under the Juncker-Tremonti proposal.

Unclear what would happened to old debt in the event of a restructuring

The question remains as to how existing bond-holders would fare in the event of a restructuring. As newly issued sovereign debt instrument issued to the private markets cannot in general (and specifically without the consent of the existing holders of sovereign debt) be made senior to old sovereign debt, and haircuts will presumably not be higher on the existing debt, but beyond that there is considerable uncertainty at the current stage. As a result, a second purpose of the mechanism — to promote order in financial markets — is unlikely to be achieved, as changes in the market's perception of the likelihood and severity of future sovereign debt restructuring cause the secondary market in sovereign debt to continue to suffer wild swings in valuations, with negative repercussions on the principal holders of this debt, in particular EA banks, insurance companies and pension funds.

²⁰ http://www.ft.com/cms/s/0/540d41c2-009f-11e0-aa29-00144feab49a,dwp_uuid=bd2f85d2-8e90-11db-a7b2-0000779e2340.html

The issue of 'preferred creditor status' is also not without ambiguity. First, it is worth noting that 'preferred creditor status' is not a status conferred by law, Treaty or international agreement, not even for the IMF, which has traditionally enjoyed preferred creditor status, nor presumably for the ESM. To our knowledge, the preferred creditor status of the IMF, which is based solely on convention and historical precedent, has never been challenged in court.

Second, it is not clear why the original rationale that apparently prevented EU policymakers from requesting preferred or senior creditor status for the EFSF — that having multiple preferred official creditors would make it less likely that private creditors will lend to the sovereigns in the future — would no longer apply. Certainly, in our view, a combination of shielding any debt issued prior to 2013 from debt restructuring (as the five finance ministers of Germany, France, Italy, Spain and the UK appeared to do on 12 November 2010) and claiming preferred creditor status for the ESM would make it very difficult for high-debt euro area sovereigns to access private capital markets once the ESM is in place. It is therefore just as well, from the point of view of future access by EA sovereigns to the private markets, that there really is no practical mechanism for keeping existing sovereign debt (that is, debt issued before the ESM becomes effective) safe. The fact that most of this debt was issued under domestic law ensures that it is bound to be at risk whenever the sovereign encounters debt servicing problems.

New mechanism will likely require a Treaty change

Another key question is the scope of any Treaty change required, and consequently the nature of the required national ratification or approval processes. The German Constitutional Court is likely to require a Treaty change to approve German participation in the ESM. The EU heads of state have agreed on an extension of Article 136 of the TFEU. Such an amendment would not imply a transfer of powers away from member states to the EU, and it is intended to be implemented under the 'Simplified Revision Procedure', which requires unanimity in the EU Council and national approvals, but no referenda. But at this stage it cannot be ruled out that a full-fledged Treaty change including referenda in a number of countries may yet be required. Even ratification through the Simplified Revision Procedure will take time and, given that the new mechanisms need to be in place before the EFSF expires in June 2013, this is probably the main reason why the discussions are proceeding already. Given that some countries, such as Spain, have strong reservations about the potential adverse impact of the ESM on their country's ability to access private capital market on reasonable terms, the unanimity in the EU Council required also under the 'Simplified Revision Procedure' is by no means assured, at the current stage.

The relative merits of statutory and contractual approaches to sovereign debt restructuring remain an open issue. It has been argued that prior cases of sovereign debt restructuring, exclusively in emerging markets, have proceeded in a largely orderly fashion without a statutory mechanism, and in fact mostly without collective action clauses (see e.g. Sturzenegger and Zettelmeyer (2009) and Panizza et al (2009)). However, it is worth noting that in these emerging market cases, the primary concern was the ability to generate sufficient creditor participation in restructuring and the avoidance of 'hold-outs'. In the case of the EA, however, the primary concern seems to revolve around the risk and consequences of contagion to other EA or EU sovereigns, and to financial markets in the EA or EU as a whole. In our view, it is by no means obvious that a statutory mechanism would necessarily lower the risk and severity of contagion. At the same time, the ability of market-based approaches

Ireland and EU/IMF agreed to a bail-out package on November 21

to achieve satisfactory levels of creditor participation should not be the final word on the relative merits of statutory vs. market-based approaches.

5.6. The Irish package

On 28 November 2010, the Irish government and the EU/IMF announced that they had agreed in principle on a €85bn support programme, of which €67.5bn will come from the EU and the IMF, with €17.5bn coming from Ireland itself out of the reserve balances of the Irish Treasury and from the Irish National Pension Reserve Fund. Of the €85bn total, €50bn is supposed to provide budgetary support for the government, while €35bn will be used to recapitalise and restructure the banking sector.

The repayments to the IMF will start after four and a half years and end after 10 years. The IMF also said that the average lending interest rate at the peak level of access under the arrangement would be 3.12 percent during the first three years, and just under 4 percent after three years. The interest rate for the average 7½ year long funding from the EFSM will be 5.7% and the funding from the EFSF will be provided at a rate of 6.05%. As in the case of the Greek package, the interest rates for the loans from the European facilities include a penalty premium and therefore do not lower the average effective interest burden of the countries receiving the loans.

The Irish deal includes a €10bn immediate recapitalisation of the banking system to reach 12% Core Tier 1 capital ratios. According to the Finance Minister Brian Lenihan, the Irish state will end up owning the "vast majority" of the country's banking sector. Note that there is no change in the access to ECB funding for Irish banks. Hence, for the time being, they have the same access to the ECB's unlimited available operations as banks from other EMU member states.

According to a statement by the Irish Prime Minister Brian Cowen, the bank support package is conditional on a substantial downsizing of the Irish banking sector. According to statements of the IMF and the Irish Government, holders of subordinated debt will have to accept severe haircuts. Senior bank debt will not be involved at the current stage, although we consider it likely that this will change in the future.

The Irish Government passed the Credit Institutions Stabilisation Bill on 15 December 2010, which *"provides the legislative basis for the reorganisation and restructuring of the banking system agreed in the joint EU - IMF Programme"*. In particular the bill gives broad powers to the government in (i) transferring relevant institutions' assets and liabilities to facilitate the restructuring of the banking sector and (ii) achieving appropriate burden sharing by subordinated creditors in relevant institutions that have received State support, on a case-by-case basis and under particular conditions. As the press release in the Ministry of Finance states, *"the bill is the first step in putting in place an extensive Special Resolution Regime (SRR) that will provide for a comprehensive framework to facilitate the orderly management and resolution of distressed credit institutions."* Hence, there is considerable uncertainty whether holders of existing and future Irish senior bank bonds will eventually have to share the burden of bank restructuring and recapitalisation.

The agreements were approved by the Eurogroup and the Ecofin (on 6 and 7 December) and the IMF (on 16 December).

EU countries are pushing for increases in corporate tax rates – the Irish government is rightly resisting

On the Irish side, the government approved the package and by passing the 2011 budget (including €6bn of austerity measures) and the four-year fiscal plan (with total austerity measures of €15bn), Ireland met the initial programme conditions. Conditions of the programme include the banking sector restructuring noted above as well as full implementation of the four-year budget adjustment plan that had previously been promised. Increases in corporate taxes would not be included in the program. Low corporate tax rates in Ireland — at 12.5% one of the lowest in Europe — are a thorn in the side of higher-tax rate countries, such as France and Germany, and there was clear evidence that the high corporate tax rate countries had put pressure on Ireland to raise corporate tax rates as a condition for a bail-out. In our view, Ireland is right to resist such an increase, as it would materially hinder an FDI-led recovery, the most likely prospective source of growth for the Irish economy during the next few years.

6. Is the EFSF large enough for Spain?

The Irish financial support package for the first time includes funds from the EFSF (€17.7bn). We have previously argued that the size of the EFSF should be much larger — we suggested a scale of €2trn at the time. We continue to believe that the EFSF is too small to serve its two main purposes. The first purpose was to act as a lender of last resort to illiquid but (most likely) solvent sovereigns that find themselves at risk of being locked out of the private financial markets and thus of being tripped into fundamentally unwarranted sovereign default by self-justifying precautionary withdrawal of funds or speculative attacks. To deter such ‘runs on the sovereign’ or self-validating maturing debt roll-over refusals, a financial safety net large enough to satisfy any conceivable sovereign liquidity need is required. The purpose is to *prevent a liquidity crunch*, that is, to act as a deterrent against a market funding strike born out of risk-aversion, loss-avoidance, fear, panic or active speculative attacks. Effective deterrence requires what Colin Powell called ‘overwhelming force’ or what Hank Paulson referred to as ‘a big bazooka’. The financial resources available to the facility have to be ample, with a significant margin over any conceivable demands actually likely to be placed on it.

It is notable that around the time of the creation of the EFSF and in the months thereafter, several European officials noted that the EFSF would be unlikely to be used.²¹ It has failed to serve this purpose. The size of the financial envelope of the EFSF represents underwhelming force and far too small a bazooka to deter denial of market access to even the smallest sovereign borrowers.

But in our view, the EFSF may also fail to serve its other main purpose, should deterrence fail, which is to actually provide liquidity for all EA member countries that are cut off from private capital markets.

Figure 24. ECB Capital Shares and EFSF Contributions

National Central Bank	Share in ECB Capital (%)	Nominal Contribution to EFSF (€bn)	only AAA-rated countries
Nationale Bank van België / Banque Nationale de Belgique	3.5	15.3	
Deutsche Bundesbank	27.1	119.4	119.4
Central Bank of Ireland / Banc Ceannais na hÉireann	1.6	0.0	
Bank of Greece	2.8	0.0	
Banco de España	11.9	52.4	
Banque de France	20.4	89.7	89.7
Banca d'Italia	17.9	78.8	
Central Bank of Cyprus	0.2	0.9	
Banque centrale du Luxembourg	0.3	1.1	1.1
Central Bank of Malta	0.1	0.4	
De Nederlandsche Bank	5.7	25.1	25.1
Oesterreichische Nationalbank	2.8	12.2	12.2
Banco de Portugal	2.5	11.0	
Banka Slovenije	0.5	2.1	
Národná banka Slovenska	1.0	4.4	
Suomen Pankki - Finlands Bank	1.8	7.9	7.9
Total	100	420.6	255.4

Source: ECB and Citigroup Investment Research and Analysis

EFSF can most likely loan out €250-300bn to EA sovereigns. €17.7bn have been used in the Irish programme

²¹ “My central scenario is there is no need for the EFSF to become operational,” Klaus Regling, chief executive officer of the EFSF in a telephone interview with Bloomberg News on September 20, 2010 (<http://www.bloomberg.com/news/2010-09-20/eu-s-regling-says-central-scenario-is-that-no-nation-needs-to-seeks-aid.html>)

The headline size of the EFSF, of the guarantees provided by the member states, is €440bn. Without Greece and Ireland, which have already been allowed to 'step out' of providing any guarantees, the size is €421bn. But various credit enhancements needed to obtain a AAA credit rating imply that only a much smaller sum could actually be loaned out — it appears that the rating agencies are only willing to accept total loans up to 100% of the guarantees of the currently AAA-rated EA sovereign guarantors (Austria, Finland, France, Germany, Luxembourg, the Netherlands). That would mean around €255bn in the benchmark case and up to €307bn, if these countries increase their guarantees by 20% compared to their original contribution (Figure 24).

After a likely programme for Portugal, the combined EFSM/EFSF/IMF facility will likely be around €345 – 420bn

What are the possible funding needs? €17.7bn has already been committed to the Irish programme. An estimate of Portugal's financing requirements based on the sum of its maturing debt and budget deficits suggests that the size of its programme would be around €70bn. Assuming that around half of this amount would come from the EFSF (with the rest coming from the IMF and the EFSM) would leave between €204bn (100% guarantees) and €254bn (120% guarantees) for a potential Spain package.²² The EFSM will add another €26bn or so (what is left from the €60bn total size of the facility after its contributions to the Irish and Portuguese programme) and the IMF may add 50% of the joint EFSF/EFSM contribution, implying total resources of around €345bn and €420bn. Is that enough?

An estimate of Spanish gross financing requirements until end-2013 are €470bn, implying that current support facilities are insufficient to fund the Spanish sovereign for three years

Calculations similar to those for Portugal suggest that the financing needs of the Spanish general (central, regional and local) government until the end of 2011 will be around €205bn, €338bn until the end of 2012, and €467bn until the end of 2013. That means that the current version of the EFSF/EFSM/IMF arrangement may be able to fund the Spanish sovereign (plus Ireland and Portugal) into the year 2013, but that it could not fund Spain, Portugal and Ireland for a full three years in which they do not have market access.

Now, in our view, there are a number of scenarios in which the calculations can be more adverse. Spain's financing needs may be larger, if, for example, it needs to engage in a major recapitalisation of its banking sector, or if its economy takes a turn for the worse and tax revenues falter. Or the second-largest AAA-rated EA member state, France, could lose its AAA-rating, which could reduce the effective size of the EFSF if the EA member countries decide to protect the AAA-rating of the EFSF by reducing the total amount of loans available rather than to protect the size of the fund by accepting a lower credit rating for the EFSF. Furthermore, in addition to Portugal and Spain, it is conceivable that Belgium (gross financing need of €192bn until end-2013) or even Italy (€818bn!) may need external support.

²² In the case of the Irish package only around 21% (€17.7bn out of a total of €85bn) of the support is provided by the EFSF. For future programs, we assume that the share increases, for two reasons. First, the contribution of the applicant country can be expected to be lower (Ireland provided €17.7bn itself from cash reserves and the National Pension Reserve Fund). Second, €22.5bn was provided by the EFSM, leaving only €37.5bn for future commitments.

Figure 25. Selected Countries – Gross Financing Needs 2010 – 2015

Country	2011	2012	2013	2014	2015	2011-2013
Belgium	89	53	50	48	51	192
Greece	56	46	39	38	25	141
Ireland	29	20	19	23	10	68
Italy	372	257	190	148	183	818
Spain	205	133	129	103	93	467
Portugal	37	19	17	24	23	72

Gross Financing Needs are calculated as the sum of maturing debt and budget deficits. Debt redemptions are maturing debt from national and regional governments provided by Bloomberg. Budget Deficits are IMF estimates. Sources: Bloomberg, IMF WEO November 2010 and Citi Investment Research and Analysis

In a nutshell, the current EFSF is unlikely to have sufficient financial resources to be able to meet likely future demands on it during the next three years. *A fortiori*, it fails to be an effective deterrent or umbrella to shield EA sovereigns at risk of being pushed into fundamentally unwarranted default by self-justifying liquidity and debt-rollover crises. In our view, it remains unlikely that an EA sovereign will be forced into a disorderly, let alone a disorderly and fundamentally unwarranted, default, even if the resources of the EFSF prove to be insufficient to satisfy the funding needs of all the fiscally fragile EA countries. Should such a contingency threaten, the EA member states — in practice the remaining AAA-rated sovereign guarantors — may decide to raise the limit of the EFSF. Another possibility is that the IMF raises its contribution. Deep-pocketed sovereigns or sovereign wealth funds from outside the EU could be another source of funding — the PRC has expressed its support for several fiscally challenged euro area sovereigns, although this could be politically controversial. Ultimately, the only institution in the euro area with deep enough pockets to resolve or even deter any type of liquidity crisis is the ECB.

The ECB could provide financial support to sovereigns that are denied market access by aggressively increasing its purchases of EA sovereign debt outright in the secondary markets through its Securities Markets Program (SMP), by continuing to fund EA banks using EA sovereign debt or sovereign-guaranteed financial instruments as collateral (even if some of the banks are likely to be insolvent and offer as collateral securities either issued or guaranteed by sovereigns that may themselves be at risk of insolvency), or by making loans to or purchasing the debt of the EFSF. The EFSF is legally a Limited Liability company that could be made an eligible counterparty of the Eurosystem for this purpose (thus transforming it into a bank), as the European Investment Bank (EIB) already is.

7. The Role of the ECB

ECB plays key role through the SMP and through funding EA periphery banks

The ECB is clearly key to any effective response to the sovereign debt and banking sector turmoil in Europe. It continues to fund large shares of the EA periphery banking system (often accepting peripheral sovereign debt as collateral) and advises EU institutions and the member states on all EMU-related economic policies. Since the EA sovereign crisis started in late 2009, its role has been further enhanced.

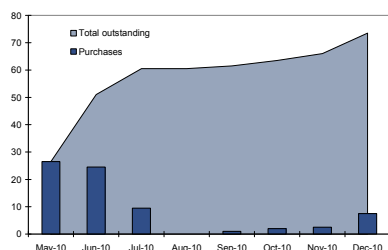
In early May, it was all that stood between the EA member states and a sovereign debt crisis that would have triggered a banking crisis not just in the periphery of the EA, but also in the core EA and in some EU member states not in the EA. Through the SMP, it continues to limit the extent of disorder in sovereign debt markets, possibly — some might say probably — by making quasi-fiscal transfers to the sellers of illiquid, EA periphery sovereign debt - by paying prices above fair value.

It would be helpful in understanding the scale and scope of the quasi-fiscal actions of the ECB/Eurosystem, and to enhance its public accountability for the use of what are, after all, public resources — tax payers' money — to have information in the public domain on exactly what securities the Eurosystem purchases under the SMP, and the prices it pays. For the same reasons, it would be helpful to know exactly what the ECB accepts as collateral in its repos and other collateralised lending operations and how it values the collateral when this is illiquid.²³ To prevent market-sensitive information from being revealed too soon, a decent interval, say six months, should be allowed to elapse between an ECB/Eurosystem financial transaction and the publication of relevant information on price, valuation, quantity etc.

ECB carries holdings of EA periphery sovereign debt on its balance sheet through SMP and monetary policy operations

With €73.5bn worth of EA periphery sovereign debt on its balance sheet as a result of the SMP as of December 31, 2010, and with an unknown amount of EA periphery sovereign debt held as collateral against loans to EA periphery banks whose insolvency risk is likely to be strongly correlated with that of their sovereigns, the ECB/Eurosystem has taken material sovereign default risk onto its balance sheet. Under its 'enhanced credit support' strategy for dealing with the financial crisis, the ECB continues to provide collateralised liquidity with a full allotment procedure. Although the ECB does not reveal the type and amount of collateral it holds, in its Annual Report for 2009, it disclosed that it held €305bn of central and regional government securities as collateral (15% of the total) at the end of 2009. If we assume that the share of the sovereign debt of a particular country used as collateral in the ECB liquidity operations is equal to the share of total bank assets in EA total bank assets in August 2010 — a conservative assumption, in our view — Irish, Greek and Portuguese sovereign debt holdings would be an additional €26bn. Adding Spain would result in additional holdings of €33bn, bringing the total to €59bn. Including Italy (€37bn) and Belgium (another €11bn) would bring the total to €108bn. So an estimate of the current total exposure of the ECB to EA periphery debt would be just over €180bn, though the standard error around this estimate is large. For example, since the end of 2009 the total amount of the ECB's open market operations dropped by 30%, but at the same time the share of government securities in the collateral pool might have increased.

Figure 26. ECB – SMP Purchases and Total Outstanding (€bn)



Source: ECB and Citi Investment Research and Analysis

We noted above that it is possible — perhaps plausible — that debt securities from the EA periphery were bought at above fair value prices and/or valued as collateral at above-fair-value valuations. This is because, with illiquid markets for these securities, the ECB has considerable discretion in determining the terms on which securities are bought or accepted as collateral. A restructuring of the debt of Greece, Ireland or Portugal that includes a haircut would thus potentially expose the ECB to losses. Based on our estimates above, assuming a uniform haircut of one third on the exposure under the SMP and the collateral holdings of Greek, Irish, Spanish and Portuguese sovereign bonds, we can establish an upper bound on the estimated loss — if the securities had been bought at face value (in the case of the SMP) or, in the case of the collateral exposure, valued at par and not subjected to haircuts on that valuation. In the case of the collateral exposure, it also assumes that as the sovereign that issued the securities offered as collateral defaults, and the bank offering these securities as collateral also defaults, with a zero recovery rate. That upper bound on the expected loss would be around €43bn. Adding the collateral exposure to Belgium and Italy would imply an upper bound for losses of around €60bn.

²³ The ECB does disclose the haircuts imposed on particular types of securities but without knowing what valuations these haircuts are applied to, these are of little use.

Note that the ECB is likely to have bought the securities acquired under the SMP at discounts to their par value that reflected their fundamental default risk. Also, the Eurosystem values risky debt it accepts as collateral, using market valuations where available and theoretical or model-based valuations where no market valuations can be found. Haircuts (according to a known menu) are applied to these valuations. Note finally that the joint default of all six sovereigns is a tail event, and that the joint default of all six sovereigns *and* of the banks offering their debt as collateral is at the very tip of that tail. Until the ECB provides more information on what it buys and how it values what it buys or accepts as collateral, this is the best we can do.

True loss-absorption capacity of the ECB is orders of magnitude larger than current exposure to risky EA periphery debt

€60bn is no small number, particularly when set alongside the subscribed capital of the ECB of around €10.8bn. The capital subscription of the ECB was increased from €5.8bn on 29 December following a decision by the ECB Governing Council. The ECB argued that the move “*was deemed appropriate in view of increased volatility in foreign exchange rates, interest rates and gold prices as well as credit risk*”. The paid-up capital of the ECB was €5.2bn and the capital and reserves of the Eurosystem were around €78bn on 24 December 2010.²⁴ But there is no doubt that the Eurosystem can easily absorb such losses without being forced into a capital call to its ultimate beneficial owners (the national Treasuries, through the NCBs) or into inflationary monetisation of a ‘solvency gap’. Previous conservative calculations suggested that the non-inflationary loss absorption capacity of the Eurosystem is at least €2trn — the NPV of its future stream of seigniorage at a 2 percent inflation rate, derived from its monopoly of currency issuance in the euro area. The non-inflationary loss absorption capacity of the ECB/Eurosystem could under quite plausible assumptions be much larger than that, say €4trn or more.^{25 26}

In this context, it is worth noting that the ECB distributes its profits to the NCBs in proportion to their paid-up shares in the ECB capital.²⁷ In the event of losses, Article 33 of Protocol 4 of the Statute of the ECB and the ESCB states:

“33.2. In the event of a loss incurred by the ECB, the shortfall may be offset against the general reserve fund of the ECB and, if necessary, following a decision by the Governing Council, against the monetary income of the relevant financial year in proportion and up to the amounts allocated to the national central banks in accordance with Article 32.5.”

²⁴ The Eurosystem also has another €332bn in its revaluation accounts. Source: Consolidated financial statement of the Eurosystem as at 31 December 2010 (<http://www.ecb.int/press/pr/wfs/2011/html/fs110105.en.html>)

²⁵ “Games of ‘Chicken’ Between Monetary and Fiscal Authority: Who Will Control the Deep Pockets of the Central Bank?” Citi Global Economics View, 21 July 2010

²⁶ Of course, the ECB does not only accept sovereign debt as collateral. Its exposure to other types of securities, in particular covered and uncovered bank bonds is in fact larger (they constitute 43% of total collateral versus 15% for government debt). Should a sovereign restructuring result in or be coincident with a major banking crisis, total losses could rise substantially.

²⁷ Article 32.5 of the Statutes of the ECB and the ESCB states: “*The sum of the national central banks’ monetary income shall be allocated to the national central banks in proportion to their paid up shares in the capital of the ECB, subject to any decision taken by the Governing Council pursuant to Article 33.2.*”

The article thus implies that losses are meant to be offset, first, against the general reserves of the ECB, and then by seigniorage income generated in the same year. In addition, Article 28 of the Statute notes that the Governing Council can decide to increase the paid-up capital of the ECB and the extent and form the capital increase should take.²⁸ The Statute appears to suggest that such a capital increase would come from the national central banks (NCBs). It does not explicitly recognise an obligation of the National Treasuries to increase the capital of the NCBs in a manner that prevents NCB capital levels from falling due to the injection of capital into the ECB. But other ECB publications and opinions suggest that member states are supposed to ensure that NCBs remain adequately capitalised in the face of capital injections to the ECB or distributed losses from monetary policy operations.²⁹ These publications and opinions do not, however, have the force of the Treaty and its Protocols — they are ECB opinions. It is not surprising that there is some ambiguity about how, should the resources of the NCBs be insufficient to recapitalise the ECB, the Governing Council of the ECB can induce the national sovereigns to replenish the resources of their NCBs to the point that the ECB and its Governing Council are satisfied.

²⁸ 28.1. The capital of the ECB shall be euro 5 000 million. The capital may be increased by such amounts as may be decided by the Governing Council acting by the qualified majority provided for in Article 10.3, within the limits and under the conditions set by the Council under the procedure laid down in Article 41...

28.3. The Governing Council, acting by the qualified majority provided for in Article 10.3, shall determine the extent to which and the form in which the capital shall be paid up...

²⁹ See, for example, the ECB Convergence Report on Estonia May 2010 which states:

“Member States may not put their NCBs in a position where they have insufficient financial resources to carry out their ESCB or Eurosystem related tasks, as applicable. It should be noted that Articles 28.1 and 30.4 of the Statute provide for the possibility of the ECB making further calls on the NCBs to contribute to the ECB’s capital and to make further transfers of foreign reserves. Moreover, Article 33.2 of the Statute provides that, in the event of a loss incurred by the ECB which cannot be fully offset against the general reserve fund, the ECB’s Governing Council may decide to offset the remaining loss against the monetary income of the relevant financial year in proportion to and up to the amounts allocated to the NCBs. The principle of financial independence means that compliance with these provisions requires an NCB to be able to perform its functions unimpaired.” and

“For all the reasons mentioned above, financial independence also implies that an NCB should always be sufficiently capitalised. In particular, any situation should be avoided whereby for a prolonged period of time an NCB’s net equity is below the level of its statutory capital or is even negative, including where losses beyond the level of capital and the reserves are carried over. Any such situation may negatively impact on the NCB’s ability to perform its ESCB-related tasks but also its national tasks. Moreover, such a situation may affect the credibility of the Eurosystem’s monetary policy. Therefore, the event of an NCB’s net equity becoming less than its statutory capital or even negative would require that the respective Member State provides the NCB with an appropriate amount of capital at least up to the level of the statutory capital within a reasonable period of time so as to comply with the principle of financial independence. As concerns the ECB, the relevance of this issue has already been recognised by the Council by adopting Council Regulation (EC) No 1009/2000 of 8 May 2000 concerning capital increases of the European Central Bank. It enables the Governing Council of the ECB to decide on an actual increase at some point in time in the future to sustain the adequacy of the capital base to support the operations of the ECB; NCBs should be financially able to respond to such ECB decision.” and

“Profits may be distributed to the State budget only after any accumulated losses from previous years have been covered and financial provisions deemed necessary to safeguard the real value of the NCB’s capital and assets have been created. Temporary or ad hoc legislative measures amounting to instructions to the NCBs in relation to the distribution of their profits are not admissible. Similarly, a tax on an NCB’s unrealised capital gains would also impair the principle of financial independence. A Member State may not impose reductions of capital on an NCB without the ex ante agreement of the NCB’s decision-making bodies, which must aim to ensure that it retains sufficient financial means to fulfil its mandate under Article 127(2) of the Treaty and the Statute as a member of the ESCB. For the same reason, any amendment to the profit distribution rules of an NCB should only be initiated and decided in cooperation with the NCB, which is best placed to assess its required level of reserve capital. As regards financial provisions or buffers, NCBs must be free to independently create financial provisions to safeguard the real value of their capital and assets. Member States may also not hamper NCBs from building up their reserve capital to a level which is necessary for a member of the Eurosystem to fulfil its tasks.”

Multiple roles of ECB imply conflicts of interest, for example, when assessing relative merits of sovereign debt restructuring in the EA

In addition to the generic need for public accountability for the management of the public resources put at the ECB's disposal, the specific exposure of the ECB/Eurosystem to EA periphery sovereign default risk may affect its attitude towards the occurrence of sovereign default in the EA periphery. The conditions under which such sovereign default might be the best, or least undesirable, available option from the point of view of financial stability and economic growth in the EA and EU as a whole need not be the same as those that are optimal from the perspective of a major creditor to the EA periphery sovereign. In other words, there could be a potential conflict of interest between the ECB as investor/creditor and the ECB's role in supporting financial stability, price stability and the other objectives the Treaty require it to support, without prejudice to its price stability mandate.³⁰

Even if the ECB's concerns about possible capital losses caused by sovereign default are motivated solely by concerns about the risk such capital losses would pose to its operational independence (because of the possible need to go to its shareholders and through them to the EA ministers of finance for additional capital), it makes no sense to let the ECB be the sole arbiter of what constitutes such a threat. The negative reactions of several ECB officials to proposals that may increase the incidence of sovereign default or haircuts in the EA should therefore be taken with a grain of salt.

Through the SMP and the funding of EA periphery banks, the ECB played a dominant role in preserving EA financial stability and probably guaranteeing the very survival of the EA. But there are signs that the ECB is less and less inclined to 'take one for the team', in particular as regards the continued funding of EA banks of questionable solvency. Nevertheless, we regard it as unlikely that the ECB will be able to extricate itself from its current responsibilities. As the sole source of unlimited euro liquidity and as an institution that can take decisions without the need for political or popular approval, it is the only institution that can take actions of sufficient size and with sufficient speed to stave off major financial instability. As a result, we expect the ECB to push member states to take on more of the burden of supporting ailing banks and sovereigns — either through common institutions, such as the EFSF and its successor, or directly — while quietly continuing its recognised job of preventing disorderly financial markets and its de-facto role of keeping alive distressed EA banks and sovereigns through quasi-fiscal transfers and subsidies masquerading as liquidity support.

On 2 December 2010, the ECB announced that it would continue the full allotment for the one-week marginal refinancing operation (MRO) and the Special Term funding operations and an extension of the full allotment of the 3-month long-term refinancing operation (LTRO). Against some market speculation, the ECB did not announce an enhancement of the SMP, but only said that it will continue its sterilised purchases under the SMP. In our view, the announcement does certainly not imply that SMP activity will not increase substantially in the event of major renewed sovereign debt and banking sector

³⁰ Protocol 4 of the statute of the European System of Central Banks and the European Central Bank states in Article 2: "... the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union. ..." Article 3.3. of the TEU states: "The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance."

turmoil. However, as one would expect, it is also clear that the ECB will not be proactive in continuing to provide liquidity to the periphery countries. In this context, it is worth remembering that in the spring of 2010, the ECB had repeatedly denied even discussing the possibility of purchasing sovereign debt outright, shortly before announcing the start of the SMP in early May 2010. In May 2010, the ECB implemented these and other measures to support the Greek and other EA periphery sovereigns after the EA governments promised to reduce their deficits in line with the requirements of the Excessive Deficit Procedure.³¹

ECB will continue to be needed to stave off major financial disorder for the time being, and possibly always

We expect the ECB to continue to play a key role in the institutional set-up to safeguard the financial system and prevent sovereign debt turmoil even once the ESM and the reformed SGP are in place. It will be even more important in the near term while these institutional changes are still in the making.

8. Break-up Scenarios for the euro area

Euro area break-up remains highly unlikely, but the likelihood may rise without the right institutional reforms

Although there are no technical, purely economic reasons why even multiple sovereign defaults and/or a serious banking crisis would cause a monetary union to disintegrate and collapse, the political economy of monetary union suggests that such risks are indeed present. EMU represents first and foremost a political decision to advance to a deeper level of economic and political integration. Monetary union was not a necessary implication of a single market — of the freedom of movement of goods, services, capital and workers — although it no doubt contributes to the deepening and completion of the single market. Disorderly sovereign defaults and associated disorderly bank defaults will most certainly threaten to erode the political cement that holds the EMU and indeed the EU together. Despite the high cost of exiting the monetary union, a cost that would be considered prohibitive in a rational world with cool heads, there is a risk that without sufficient external support one or more of the fiscally weaker and uncompetitive member states could exit the monetary union in a fit of populist and nationalist rage. In doing so, the country exiting from the EMU would also exit the EU, as membership of the common currency is part of the ‘acquis’ for all EU member states bar the UK and Denmark, the only two EU member states that have an opt-out from monetary union (see Athanassiou (2009)). This threat will be all the more acute if sovereign default touches countries whose sovereigns, although fundamentally solvent, are precipitated into default through lack of access to external funding because of self-fulfilling speculative attacks and insufficient external financial support from the other EA sovereigns and the ECB.

There is also the risk that, if there is ‘too much’ external financial support for the weaker EMU members — as judged by the likely net contributors to any financial support/bail-out scheme (Germany and the other ‘core’ EMU members) — then the fiscally stronger and more internationally competitive EMU member states could exit on a wave of domestic populist outrage at open-ended and potentially uncapped fiscal transfers from the fiscally strong to the fiscally weak.

³¹ ECB Prevented Panic, but Does Not Take Lead Funding Role, Euro Weekly, December 3, 2010.

Leaving the EA would be irrational for high-debt EA periphery countries

In our view, a break-up of the euro area remains most unlikely. However, in the absence of a package of measures like the ones we discuss in the following section, there is a non-zero risk that the euro area will cease to exist in its current form or in its entirety. In our view, the two key questions are how euro-denominated contracts would be redenominated in the event of euro area exit and how disorderly the anticipation and the implementation of the euro area break-up would be. Of course, those two questions are interrelated.

Before sketching different break-up scenarios, it is worth to make several points:

1. A country cannot be expelled from the euro area (see Athanassiou (2009)) or from the EU.
2. Any EU member state can leave the EU (and thus the EA), either through a negotiated exit or, if no negotiated exit can be agreed, automatically two years after the member state wishing to leave the EU has notified the European Council of its intention to do so. Withdrawal is covered in Article 50 of the Lisbon Treaty, which states unambiguously that: "1. Any Member State may decide to withdraw from the Union in accordance with its own constitutional requirements."
3. The main alleged benefit from leaving the EA for a highly-indebted, low-growth, internationally uncompetitive economy is often argued to be that the introduction of a new national currency (New Drachma, say) would permit (and indeed would be immediately followed by) a sharp depreciation of the effective nominal exchange rate of the new currency. If this nominal depreciation were to result in a long-lasting real depreciation, the country's international competitive position would be improved and net external demand for its output would be boosted, which would be welcome.

However, the question is how long such a gain in competitiveness would last. We are sceptical about the duration of the gain for countries like Greece, Spain, Portugal and Italy. If these were Keynesian economies, with enduring rigidity of nominal wages and flexible real wages, nominal exchange rate depreciation or devaluation will produce a lasting real depreciation and improvement of competitiveness. But unlike the USA, where this may be a reasonable characterisation, the EA periphery countries, with the possible exception of Ireland, are in our view distorted classical economies with rigid real wages and flexible nominal wages. If the key wage and cost rigidities in the EA periphery member states are real rigidities, not persistent Keynesian nominal rigidities, then even a sharp depreciation of the currency will go through the real wage, cost and competitiveness configuration of the economy like a dose of salts, with the old uncompetitive real exchange rate restored in short order through a sharp increase in nominal wages, other costs and domestic currency prices. Unless the balance of economic and political power is changed fundamentally in the key factor and product markets, the use of national monetary autonomy to pursue a more competitive real exchange rate will be dissipated in higher inflation, with no lasting improvement in the international competitive position.

4. It is not clear that monetary autonomy would permit any of the EA periphery countries, let alone the smaller ones like Greece, Ireland and Portugal, to pursue a substantially more demand-stimulating monetary policy through channels other than the exchange rate, that is, through the level of nominal and real interest rates and through the credit and liquidity channels. First, in small, open economies, the degree of monetary independence is limited

even outside monetary unions. Iceland is an extreme example of this. Second, potentially lower policy rates in these countries may be cancelled out by higher risk premia and therefore may not lead to lower nominal lending rates to private sector borrowers, let alone to lower real lending rates. In any case, EA policy rates are already low, with the refi rate at 1.0% and while they could still fall somewhat further, the scope for lower policy rates once a country exits the EA is clearly limited. Importantly, the EA periphery banking systems are currently enjoying access to funding from the ECB on subsidised terms and the cessation of such access on EA exit would likely imply tighter, not looser credit in the EA periphery.

5. Sovereign default or de-facto sovereign default through a redenomination of the euro-denominated sovereign debt into a new currency, which immediately loses value sharply vis-à-vis the euro, or into a different existing currency at an unfavourable exchange rate, is just as easy in the EA as outside it. Re-denominating the old euro-denominated sovereign debt into the new currency would in any case be an act of default that would trigger CDS and other default insurance claims. If the debt was issued under domestic law, there would be no recourse to foreign courts, however, and domestic courts would be bound by the domestic law redenominating the debt. But it would be no harder for that country to default on its sovereign debt while staying in the EA. It could either default outright or redenominate the debt in Zimbabwean dollars.
6. Sovereign default by a euro area member state does not imply that this country has to exit the euro area.
7. New government borrowing, by issuing debt denominated in the new currency, would be more costly. A majority of the sovereign debt of Greece and Portugal is owned abroad. Foreign investors would require an exchange risk premium to be added to the sovereign risk premium. The likely lack of credibility of the new independent national central bank and the fiscal troubles of the sovereign would suggest that a substantial inflation risk premium and/or sovereign default risk premium would be required by domestic borrowers.
8. It seems unlikely that fiscal-financial support from other euro area or EU member states would be forthcoming, should a country decide to exit the EA (and the EU). The EFSF and the ESM are only available to EA sovereigns. There exist facilities to support non-EA members of the EU, such as the balance-of-payments support offered to Hungary and the EFSM, but this too would not be available to a country that has exited the EU at the same time it exited the EMU.
9. Leaving the EMU will take time. It has to be negotiated. A country (country A, say) planning to leave the EA would not be able to keep this a secret. As soon as the markets, depositors and all those with euro-denominated claims on country A's banks get wind of the impending exit from the EA, there would be a massive bank run and wholesale funding strike as all bank creditors anticipate having their claims on the country A sovereign under country A's law redenominated in country A's new currency, which subsequently and swiftly would lose much of its value. Even if a euro-denominated claim on country A's bank is governed by foreign law, it would still be wise to cash it in and re-invest in a country that is likely to stay in the EA. This is because the precipitous exit of all creditors of country A's banks that are covered by country A's law is likely to suffice to cause Country A's

banking system to collapse. Counterparty risk is as strong a motive for exiting from country A's banks as currency risk.

10. Even after the exit from EMU has taken place, there would remain prolonged massive disruption for banks, other financial institutions and any corporates with large euro-denominated balance sheets or off-balance sheet euro-denominated assets and liabilities. Those assets and liabilities contracted under domestic law would be redenominated in the new national currency and depreciate in value. Those governed by foreign law, would remain euro-denominated, but there would no longer be a euro lender of last resort. There would be widespread defaults and endless litigation.

The points noted above all suggest that it would be irrational for a fiscally weak country, such as Greece or Portugal to leave the EA, in our view. They also suggest that the process leading to exit would likely be highly disorderly, most of all for the leaving country, and involve deposit and asset flight and 'races to the exit'. Whether EA exit is rational for the stronger members such as Germany, in our view, depends on the scale of fiscal or quasi-fiscal support that needs to be extended to the weaker members.

That EA exit would be irrational does not imply that it will not occur. The process of European integration was from the start based on political considerations, and these considerations were also more prominent than purely economic concerns when the Economic and Monetary Union (EMU) was formed. The process of disintegration, should it occur, would likely also be driven by political as much as by economic factors. Without equating 'political' with 'irrational', it is clear that the political often touches raw emotional nerves and can cause self-destructive behaviour. For the moment, political and popular support for the EU and even for the euro remains strong in the country that matters most in this regard: Germany. Although this support is not of the unconditional, Pavlovian kind characteristic of Germany before Merkel, it is strong enough, in our view, to see the euro area and the EU through these troubled times.

There are at least four possible scenarios for EA break-up involving one or more of the weak or of the strong EA members leaving the EA

In our view, there are at least four possible scenarios for an EA break-up.

The first scenario is that Greece leaves the euro area, but that all other members stay. As discussed above, we consider such a decision to be irrational for Greece. Such a decision would therefore most likely be driven by political turmoil, social unrest and resulting outbursts of temporary irrationality. This scenario would most likely involve a replacement of the Greek PM and finance minister (Papandreou and Papaconstantinou) from their positions and their replacement by isolationists, populists or conspiracy theorists. We consider this scenario unlikely, but not impossible. The implications for the EA as whole and the role of the Euro as an international currency from this scenario are probably minor, and possibly mildly positive.

The second scenario would involve the exit of one of the weaker countries, e.g. Greece, quickly followed by the exit of a number of other weaker countries, including Portugal and Ireland, and maybe even Spain. Such a scenario would most likely involve political or financial 'contagion'. Exit of one of the weak currencies could result in not just the sovereigns, but also the banks and perhaps further sectors of other weak EA member states' economies, to being shut off from private capital markets. Should the EU/EA/IMF under such circumstances be unwilling and/or unable to satisfy the much enlarged liquidity needs of these countries, a financial collapse followed by further exits from the

EA might result. Another possibility is that the exit of one EA country, most likely coupled with the rapid depreciation of its new currency, would change the political dynamics in other weak countries to favour 'scapegoat politics', with the EU, the ECB, the euro and possibly the IMF as likely scapegoats, and leading to voluntary exit. This scenario may lead to a significantly stronger euro, as only the stronger 'core' countries would remain within the EA.

The third scenario would involve the exit by Germany and other fiscally strong countries from the EA and maybe even the EU.³² Such a scenario may be precipitated by a fear in Germany of the country becoming the bailer-out of first resort for all would-be fiscally insolvent EA member states. The changing of the generations in Germany from Kohl to Schröder and then to Merkel has weakened the traditional umbilical link of Germany, and especially Germany's political class, to the EU and the EA, but not (yet) to the point that one can reasonably envisage Germany leaving the EA and the EU. At this stage, this scenario is highly unlikely, in our view, but that could change given half a decade or more of funding and subsidising other EA countries with unsustainable fiscal positions and no capacity or willingness to correct these. Poor economic performance in Germany itself — which we currently do not predict — would raise the likelihood of this scenario further. The countries leaving the EA may create a new monetary union without the fiscally weak current EA member states, in which case this 'new euro' would very much look like the euro in the second scenario.

The fourth scenario would be that as a result of a strong desire by one or more (core) member countries to leave the euro area, the other member countries decide to dissolve the EMU altogether. The EU may be dissolved at the same time, but we consider it likely that the Treaty would be changed to reconstitute the EU without a monetary union. At the current stage, this scenario is the least likely, in our view.

9. A proposal for preventing the disintegration of the euro area

Survival and prosperity of the EA needs to satisfy three criteria:

- i) to guarantee funding for fundamentally solvent, but potentially illiquid EA sovereigns
- ii) to restore solvency for EA sovereigns and systemically important banks
- iii) to prevent socialisation of losses from poor investment and lending decisions

In our view, a successful approach to guarantee an end to the current turmoil and promote the survival and prosperity of the euro area would need to satisfy three criteria:

- a) It would need to include a mechanism that would shield fundamentally solvent, but potentially illiquid, sovereigns from being forced into default by lack of market access.
- b) It would need to restore beyond reasonable doubt solvency for all sovereigns and solvency and capital adequacy for all banks that continue to operate.
- c) It would need to make sure that losses from investments in public and private securities are not socialised. Public resources put at risk to support systemic financial stability should always be senior to all existing unsecured creditors of sovereigns and of systemically important financial institutions.

³² As we stressed above, it is not currently possible to exit the EA without also exiting the EU. However, it is certainly possible and maybe plausible that, once EA exit by one or more of the larger member countries becomes a much more realistic scenario, the Treaty would be changed to allow EA exit while remaining part of the EU.

A full-fledged fiscal Europe, with long-term or permanent fiscal bail-outs (transfers) from the fiscally strong to the fiscally weak, either through a supranational EU or EA fiscal authority with independent tax and borrowing powers or through coordinated bilateral cross-border transfers, remains a political non-starter for the foreseeable future. To prevent a 'fiscal transfer Europe' from becoming an uncapped, open-ended mechanism for the subsidisation of the fiscally weak and irresponsible by the fiscally strong and responsible, the cross-border transfer mechanism would have to be complemented with a much more radical surrender of national fiscal sovereignty by the recipient countries than the programmatic conditionality characteristic of the current IMF/EC/ECB adjustment programmes. Most would-be recipients would, in our view, prefer outright default on their sovereign debt to surrendering the minimal quantum of fiscal sovereignty necessary to satisfy the would-be contributors to a 'fiscal transfer Europe'. Likewise, the domestic political constituencies in the fiscally strong EMU member states (and possibly their constitutional courts as well) would not accept the possibility of large-scale permanent fiscal transfers (or the creation of a supranational fiscal authority), except possibly in exchange for a surrender, by the recipients of these transfers, of fiscal sovereignty on a scale unacceptable to the recipients.

Three-pronged proposal for a minimal fiscal Europe:

- i) **a much larger EFSF/ liquidity facility**
- ii) **restructuring of the debt of insolvent sovereigns**
- iii) **debt restructuring and recapitalisation of systemically important banks, using special resolution regimes**

This leaves us with our three-pronged proposal for a minimal fiscal Europe to rescue the euro, and possibly the European Union as a whole, from the threat of collapse in a wave of disorderly sovereign defaults and bank failures: i) A large-scale liquidity or mutual insurance facility without any element of ex-ante transfer or subsidy. Its purpose is to prevent self-justifying liquidity-cum-solvency crises. ii) An effective — fair and efficient — way of restructuring the debt of insolvent sovereigns, and iii) An effective — fair and efficient — insolvency resolution or debt restructuring mechanism for banks. A special resolution regime for banks is desirable both because it reduces the likelihood and severity of future banking crises in the EU, and because the present crisis is a joint sovereign and banking crisis, where the fragility of much of the EA banking sector acts as an obstacle to the fair and efficient resolution of sovereign insolvencies in the EA.

A specific proposal for such a set of arrangements follows. Many others exist that are functionally equivalent to what we propose.

9.1. A much bigger liquidity facility

The liquidity facility should be much bigger — say €2,000bn — with half of the amount pre-funded

First, the size of the liquidity facilities providing temporary financial support to vulnerable nations must be increased to at least €2,000bn, of which at least half should be funded immediately. As discussed above, the current liquidity facilities, including the EFSM, the EFSF, the Greek package and the ECB purchases under the SMP amount to between €737bn and €787bn. That would do nicely to tide over Greece, Ireland and Portugal till mid-2013. However, as shown in section 6, it is not enough to fully fund the potential requirements of a troubled Spanish economy, especially if the sovereign there ends up absorbing significant additional bank losses. The existing facilities also fall well short of what would be needed to fund the countries like Italy, Belgium and France, should they be frozen out of the markets by self-fulfilling speculative attacks or flight of investors — and it certainly is not enough to deter such attacks.

Magnitude of pre-funding would likely require heavy involvement of the ECB, which could purchase EA sovereign debt directly, or provide conditional financing to the EFSF

Members of the EA, and even the EU as a whole, cannot in practice come up with an immediate €1,000bn. The International Monetary Fund also cannot take part in any pre-funding exercise, although it could, say, by further increasing IMF quotas, increase the amount of money available for lending to the EA member states from something below €250bn to €450bn. That leaves just two sources of possible funds. The first is non-EU sovereign wealth funds, or bilateral sovereign support from outside the EU. The second is the ECB. And given the first option is likely to be politically unattractive, that only leaves the ECB. In principle, the ECB could provide €1,000bn (or even the entire €2,000bn) directly to the countries that need them, by expanding the scope of its purchases of their sovereign debt.

This need not involve any increase in the monetary base. The ECB could instead expand its non-monetary liabilities, including term deposits, or by issuing ECB bills or bonds.³³ With the short-term interest rate in the EA at or near the effective lower bound, there is no material economic difference between outright purchases of government securities financed by increases in the monetary base (in practice excess reserves, that is, overnight deposits by eligible banks with the Eurosystem) and outright purchases financed by increasing the stock of one-week term deposits. However, it appears to be important to the self-image of the ECB that it not be technically engaged in quantitative easing (QE), that is, the monetisation of public debt or deficits. That wish can be granted without diminishing the effectiveness of their intervention in any way, through semantic sterilisation rather than substantive sterilisation.³⁴

This direct approach, however, is unlikely to appeal to the ECB. Even if its actions would be called Enhanced Credit Support (ECS) rather than QE, they would surely look quasi-fiscal (especially as the ECB does not reveal what securities it buys and on what terms) and the scale of the required interventions could easily be an order of magnitude larger than what the ECB has initiated thus far through the SMP. Furthermore, these ECB purchases through the SMP do not have any fiscal or structural reform conditionality attached for the beneficiaries. Unconditional ECB support for the sovereigns through the SMP would become as much of an addictive drug to the sovereign as Eurosystem support for impaired banks through the special (collateralised) liquidity schemes has already become to the banks. It was the ECB's disenchantment with funding (near-) insolvent banks, offering as collateral securities guaranteed by (near-) insolvent governments, that ultimately forced Ireland to accept financial support from the EU and the IMF.

³³ The ECB has not, thus far, issued any bills or bonds. Apart from their usefulness of sterilisation instruments, the issuance of ECB bills and bonds at a range of maturities would help establish useful benchmarks for risk-free euro-denominated debt.

³⁴ The distinction between excess reserves and one-week term deposits is further blurred through the acceptability of one-week term deposits as collateral for borrowing from the Eurosystem.

Instead of direct, unconditional support to fiscally impaired sovereigns, the ECB could provide indirect support to a conditional facility, either by lending to the EFSF or by purchasing securities issued by the EFSF directly, or in the secondary markets. The EFSF is a private entity (a limited liability company incorporated in Luxembourg). It could be turned into a bank, making it an eligible counterparty to the ECB's operations. Any debt sold by the EFSF to the ECB, or any loans provided by the ECB to the EFSF, could then be guaranteed by the euro area member states. Granting the EFSF (or its successor, the ESM) seniority over all other sovereign creditors other than the IMF would further limit the exposure of the contributing sovereigns to possible ex-post burden sharing should a sovereign default occur after a member state has borrowed from the facility. The ability of the EFSF or its successor facility to borrow from the markets on acceptable terms, and thus to minimise the demands it would have to make on the ECB, could be further enhanced by making the guarantees of the EA sovereigns for the debt issued by the facility joint and several rather than pro rata (according to their shares in the ECB's paid-in capital). This would effectively turn the debt issued by the facility into E-bonds or its loans into E-loans. The difference from other proposals to issue E-bonds (such as the one launched by Eurogroup Chairman Jean-Claude Juncker and Italian Finance Minister Giulio Tremonti on 5 December 2010) is that the issuance of E-bonds or E-loans by the EFSF or the ESM would be capped, that is subject to a strict upper limit, rather than open-ended, as under the Juncker-Tremonti proposal.³⁵

All this (especially the joint and several guarantees) would likely require a major Treaty revision, with referenda and similar obstacles in a number of member states, rather than the 'simplified revision procedures' outlined in Article 48 of the Treaty. Obviously, the creation of a large liquidity facility risks encouraging moral hazard — after all, many of Europe's current problems originated with private investors taking on excessive debt or making poor judgments about the credit risk associated with sovereign debt and senior unsecured bank debt. Another problem is that if a debtor is saddled with an excessive level of debt, the right solution would rarely be to provide even more debt. Debt overhangs at the banking and sovereign levels create substantial fragilities. In the banking sector, counterparty risks complicate the workings of interbank funding markets. And at the sovereign level, excessive debt levels create adverse investment conditions — not only will the sovereign financing requirements raise domestic lending rates and thereby 'crowd out' domestic investment, but substantial uncertainty about future tax and public spending measures also work as an effective deterrent to investment. Talk of 'expansionary fiscal contractions' has fortunately almost vanished, amidst the complete absence of supportive evidence in the current environment. More surprising has been the complete absence of a discussion of 'expansionary debt restructurings', surely a more likely scenario, as made clear by the long-established literature on 'debt overhang' problems in emerging markets.³⁶

³⁵ See Jean-Claude Juncker and Giulio Tremonti "E-bonds would end the crisis", Financial Times, Comment, Opinion, December 5, 2010; <http://www.ft.com/cms/s/0/540d41c2-009f-11e0-aa29-00144feab49a.html#axzz18I58BAED>

³⁶ A debt overhang problem exists if a company has a new investment project with positive net present discounted value (NPV), but cannot raise the funds required to capture the investment opportunity due to a large existing debt that trades at a discount on its face value. If existing debt holders of a company can be expected to lay claim to (part of) the profits of the new project, it could render the NPV of the project to the shareholders negative (if undertaken by this company) negative (see Myers (1977)). The conundrum has been generalised to deal with heavily indebted nations (see Krugman (1989)).

End to banking sector fragility requires debt restructuring and recapitalisation of fragile systemically important banks, and an EU-wide special resolution regime for banks

Piecemeal restructuring of bank and sovereign debt would likely be highly disorderly

9.2. An EU-wide special resolution regime for endangered banks

Yet simply creating more liquidity will not be enough to save the euro area and the EU. Solvency, both at the sovereign level and in banking sector needs to be addressed. The lines between liquidity and solvency are often blurred — particularly so during periods of market stress. But the approach so far taken by the euro area authorities — to treat most of the problems as pure liquidity issues, particularly at the sovereign level — we think is surely the wrong one.

The second key element in our proposal to save the euro and the EU is an EU-wide regime for resolving bank insolvencies at the speed of crises. The sovereign debt crisis in the euro area periphery is closely tied up with a suppressed banking crisis throughout the euro area — core and periphery. The most intractable crises occur where a fiscally weak sovereign has a significant number of weak, (near-) insolvent banks in its jurisdiction. Ireland, followed by Spain, are the prime examples. But there are weak banks throughout the EA, including in countries where the sovereign is not considered particularly weak from a fiscal perspective. Germany is the most obvious example. The exposure of the euro area banks, and indeed of the EU banks, to each other and to the fiscally weak sovereigns of the EA periphery is such that Europe is at grave risk of experiencing a deepening sovereign debt crisis in the EA periphery and a banking crisis throughout the EU.

Recognising the unsustainability of the public finances in a number of EA periphery countries, and indeed the likelihood of multiple sovereign defaults in the EA periphery would immediately draw attention to the precarious positions of many EU banks that have thus far been allowed to continue to exist in a vegetative, zombie-like state — by not recognising losses, by the extraordinarily low level of official interest rates since late 2008, by the willingness of the ECB/Eurosystem to continue to fund (near-)insolvent banks offering doubtful quality collateral, and by direct financial support from their sovereigns and now also from the EU/IMF facilities.

Unless the resolution of these banks can be coordinated in an orderly manner with the restructuring of the debt of the insolvent EA periphery sovereigns, Europe could be faced with a disorderly, indeed chaotic, period of sequential sovereign and bank default. When the markets recognise that restructuring (with NPV losses inflicted on creditors) of bank and sovereign debt is likely unavoidable, but has not yet occurred, the *crisis overhang problem* (a refusal by the markets to fund the vulnerable banks and sovereigns) compounds the *debt overhang problem* (high debt acting like a tax on investment). Economic activity throughout the euro area would suffer greatly.

Three years after the onset of the crisis, many banks in Europe remain insufficiently capitalised and heavily exposed to non-performing assets. The highly-anticipated second set of EU-wide stress tests turned out, in our view, to be little more than, at best, a mirage and at worst another attempt to gloss over the manifest weaknesses of too many of the euro area banks. There was no Irish bank among the seven banks that failed the tests. The capital shortfall that was identified could be rectified with a mere €3.5 billion of additional capital. Since then, the Irish facility that was put together by the EU and the IMF set aside €35bn for immediate and contingent future capital support. This is on top of the €40bn or so bank losses already absorbed by the Irish sovereign.

**Rigorous stress tests could form basis
for bank recapitalisations**

A new set of stress tests — verifiably more rigorous, more comprehensive and more independent in its implementation than the first two flawed and failed attempts — could make a useful contribution to the restoration of trust in the EA banking system. At the very least, this would require that the new stress tests include realistic ‘stress’ scenarios involving substantial haircuts on the holdings of the sovereign debt of any of the high-debt or high-deficit EA periphery countries. This means testing capital adequacy assuming the actual occurrence of sovereign default in one or more EA periphery member states, not merely testing the markets’ response to an increased perception of the likelihood of one or more sovereign defaults that have not actually occurred. Thus both sovereign debt held in the trading book and sovereign debt held in the banking book would have to be marked down. Those performing the stress tests should use independent risk models rather than the banks’ own. The implementation of the next set of stress tests should not be left to the national regulatory and supervisory authorities, some of which did a rather poor job in the earlier tests, allowing banks in their jurisdictions to hide their true exposures and weaknesses for years. Indeed, in at least one country, Germany, participation in the stress tests and publication of their results were voluntary under local law. Not surprisingly, six of the 14 German banks tested did not publish the detailed information about their sovereign exposure required by the stress tests, although one of these provided additional information later on.

Finally, the new stress tests should use the Basel III capital requirements as defining the minimal capital targets to be achieved by some specific date. Where appropriate, liquidity requirements should also be part of the stress testing regime. Banks that are unlikely to meet the required capital standards without official support (by raising additional capital from the markets, by asset sales, by mergers or by being acquired by capital-rich banks) should as a rule be expected to go out of business. In our view, an EU-wide orderly liquidation regime is overdue. If liquidation were to be systemically disruptive, mandatory conversion of unsecured debt into equity could be resorted to (some or all of the retail deposits would of course be covered by the relevant deposit insurance scheme). We discuss below the kind of insolvency regime for banks that would be required to make this bank recapitalisation method feasible. Only after all unsecured and uninsured bank creditors have been converted into shareholders should consideration be given to the injection of public funds into the capital structure of systemically important banks.

Fairness and avoidance of moral hazard requires that private sector creditors need to be wiped out before public money is injected

Any outcome of the European sovereign and banking crisis that is fair and avoids moral hazard must meet the condition that before a cent of tax payers' money supports systemically important banks, the last unsecured creditor must have given his all, either through haircuts/deeply discounted buy-backs or voluntary exchanges, or through the conversion of debt into equity. At the moment the euro area does not have a special insolvency regime (or special resolution regime — SRR) that permits banks collectively to continue their systemically important financial intermediation functions while at the same time restructuring the banks' balance sheets. The American special resolution regime model for banks, under the aegis of the Federal Deposit Insurance Corporation (FDIC), should be adopted quickly, preferably on an EU-wide basis, or at least according to a common EU template, to cope with euro area and EU-wide cross-border banks. The recent crisis has demonstrated that the FDIC's SRR can resolve even large institutions. In the case of Washington Mutual, a savings bank with assets of more than \$300bn when it collapsed, the FDIC sold the banking subsidiaries (minus unsecured debt or equity claims) to JPMorgan Chase for \$1.9 billion on September 25, 2008.³⁷ The bank's offices re-opened the next day as JPMorgan Chase branches.

The Lehman disaster was partly a consequence of the fact that Lehman was an investment bank, regulated by the SEC, for which there was no dedicated SRR. The complex, cross-border structure of Lehman and of the myriad derivatives it owned and owed also stood in the way of a swift, orderly resolution. However, many of the most vulnerable euro area banks, including the Irish banks, the Spanish cajas and the German Landesbanken, are overwhelmingly national, plain-vanilla banks that made poor investment, lending and funding decisions. Complexity and cross-border burden-sharing issues would not be an obstacle to their orderly resolution.

Unfortunately, the crisis has once again shown that governments, in Europe and elsewhere, are very reluctant to let their large banks fail, or to adopt legislation and regulations that would make it possible to restructure, at the speed of crises, that is, overnight or at most over a weekend, the assets and liabilities of banks, using methods that include haircuts for unsecured creditors (senior as well as subordinated) and the mandatory conversion of unsecured creditors into shareholders. With an FDIC-style special resolution regime for banks, a bank deemed by the regulator to be both systemically important and at risk of insolvency could continue to perform its systemically important financial intermediation services, while the property rights of its creditors could be restructured to render the bank financially viable again.

Without an SRR, insolvent banks have to be restructured the same way as an insolvent ball bearings manufacturing company. In practice, this means that the assets and liabilities of the insolvent company are frozen while the creditors pursue their claims through the courts or some court-approved process. This can take weeks or months, and sometimes years. If there is a Chapter 11-type debtor-in-possession insolvency protection procedure, enough cash may be freed up from among the assets of the insolvent entity to allow it to keep operating. This will not work for a bank, where the financial assets and liabilities *are* the business. A bank put into a 'real economy' insolvency procedure would be out of business as a commercial or economic entity, in addition to undergoing a restructuring of property rights.

³⁷ On September 25, 2008, the United States Office of Thrift Supervision (OTS), which was WaMu's regulator and supervisor, seized Washington Mutual Bank from Washington Mutual, Inc. and placed it into the receivership of the FDIC.

Special resolution regime for banks can keep banks in operation while implementing the restructuring

With an SRR for banks, such as the FDIC's *bridge bank* construction, a regulator-appointed Administrator or Conservator takes full control of the bank, which temporarily is moved into a 'bridge bank' arrangement. The existing shareholders remain claimants to the residual profits of the bank, but cease to have any decision-making powers. The Board of Directors is also deprived of any decision-making role. The senior management of the bank can be replaced by the Administrator/Conservator or be asked to stay on and serve at the pleasure of the Administrator. The bridge bank can be merged with a sound bank or broken up. Some or all of its assets can be sold. Often, retail deposit liabilities are transferred to a sound bank. On the liability side, non-insured deposits and other unsecured liabilities, junior or senior, can be converted into equity or be subject to haircuts (in inverse order of seniority). If the bank is deemed too systemically significant to go out of business, public funds may be injected into its capital structure, although this ought to happen only, in our view, after all unsecured creditors, junior and senior, have either had their claims on the bank haircut to zero or converted into equity. All this can take place at the speed of crises. One goes in as an unsecured senior creditor of the bank on Thursday evening, and one comes out on Friday morning either with a short 'back and side's' or as a shareholder of the bank. Thus, with a well-designed SRR, all unsecured bank debt, subordinate or senior, constitutes contingent capital, or *coco*, once a bank that is deemed at risk of failing by the regulator, is put into a bridge bank arrangement.

In the EA and in the EU, only the UK has a well-designed special resolution regime for banks, and this only since the Banking Act 2009. Germany has passed a law establishing an SRR for banks starting in 2011. Ireland announced the creation of an SRR for banks at the same time as it announced its agreement to the EU/IMF programme, although the Irish authorities emphasised that this was to facilitate the downscaling and restructuring of the banks and did not imply the imposition of haircuts on senior unsecured creditors.

Thus far, throughout the EU, no restructuring or recapitalisation of a large bank has involved the imposition of any burden sharing on the senior unsecured creditors of the banks. Invariably, during the financial crisis and its aftermath, only bank equity and, rarely, subordinated bank debt, have been loss absorbing. Beyond these, the public purse has been the source of capital of first resort for inadequately capitalised banks deemed systemically important that could not attract new equity from the markets.

It is clear that if an isolated EA or EU country, equipped with a well-designed SRR, were to unilaterally haircut the unsecured senior bank debt of its (near-) insolvent banks, or to convert it into equity, this would cause significant financial repercussions elsewhere in the EA/EU, or even beyond. First, there would be contagion to other countries that have not yet introduced an SRR for banks or that have not yet invoked the arrangement, even if it is formally in place. There would be a withdrawal of market funding from any bank that is considered to be at risk of having haircuts or debt-to-equity conversions imposed on its unsecured creditors.

There are but two ways to avoid such potentially disastrous contagion or to minimise the damage it causes. The first is a credible commitment of all countries never to impose burden sharing on the senior creditors of the banks. The evolving politics of the crisis makes this increasingly unlikely. For instance, in Ireland, a general election will take place early in 2011. The two main opposition parties likely to form the next government, Fine Gael and the Labour Party, are both campaigning on a platform that includes burden sharing by senior unsecured creditors of the Irish banks.

The second way to minimise the damage to financial stability caused by contagion driven by fear of burden sharing by senior unsecured creditors is to impose the burden sharing as swiftly as possible, as comprehensively and inclusively as required, and in a coordinated, synchronised manner. Neither the legislative and regulatory framework, nor the political will to pursue this course of action appear to be present at this point, although that may change once the first precedent that puts senior unsecured creditors at risk has been set in the EU. Barring a coordinated EU-wide restructuring of senior unsecured bank debt for all (near-) insolvent banks, the most likely outcome is a rather messy sequence of staggered speculative attacks, investor flights and precautionary denials of market funding, moving from one country with weak banks and a fiscally weak sovereign to the next.

Introduction of SRRs even in all EA or EU members would not be sufficient, EU/EA wide regime would be required to address cross-border transactions.

Even if all 17 EA members or all 27 EU members adopt SRRs for banks, that would not be sufficient to rule out Lehman-style financial kerfuffles because of the existence of complex, large cross-border banks. Although this is not really an issue for the Irish banks, the Spanish cajas or the German Landesbanken, none of which involve complex cross-border branches and subsidiaries, there are large, complex, systemically important cross-border banks and other financial entities domiciled in the EA and the EU that could create chaos if they suffered large losses through their exposure to the EA periphery sovereigns and banks, especially if the recognition and distribution of these losses were to take weeks or months instead of hours or at most days. A common EU-wide, or at least EA-wide, SRR for banks (and possibly insurance companies as well) would help resolve many of these problems. Even this would not resolve the problems of complex cross-border derivative contracts governed by non-EU, e.g. New York law. Part of banking and finance is global. Regulators, supervisors, EU and ECB officials, legislators and governments have been aware of these issues since the collapse of Bear Stearns in March 2008. One would hope that they have used the intervening months and years wisely to draw up blueprints and plans to handle these contingencies. We are likely to find out during the next few years whether they did or not.

The key conclusion from this subsection is that bank balance sheet restructuring involving burden sharing for senior unsecured creditors is likely to involve material economic costs if the country undertaking the restructuring does not have an FDIC-style SRR for its banks. The economic and social costs of disorderly bank defaults are real, but should not be exaggerated either. The world will not grind to a halt. This is clear from the example of Iceland, which witnessed the collapse of its four large cross-border banks between September 2008 and March 2009 and did not have an SRR. The contraction in real economic activity experienced by Iceland since the autumn of 2008 has been large, but barely larger than that in Ireland, which kept its insolvent banks alive with large infusions of public money.³⁸ EA or EU-wide contagion would result unless the restructuring takes place on an EA or EU-wide scale, given the mutual exposure of many banks to other foreign banks and foreign sovereigns, and given the inability of some of these sovereigns, because of fiscal impairment, to support their domestic banking systems.

9.3. Managing orderly sovereign debt defaults in the euro area

To put an end to the crisis and mark a starting point for renewed growth, debt of insolvent EA sovereigns needs to be restructured

Finally, a new mechanism is needed for the orderly resolution of sovereign debt defaults. Burden sharing in the correction of an unsustainable fiscal position should see creditors share the burden, as well as tax payers and the beneficiaries of government spending programmes. Fairness and efficiency both point in the same direction here, although a variety of approaches can be used. These include statutory approaches, for instance a new IMF-style sovereign debt restructuring mechanism or sovereign default resolution mechanism. Contractual approaches involving collective actions clauses (CACs), and other market-based approaches, could also be used — including deeply discounted “voluntary” exchanges of sovereign debt for new instruments. The sovereign debt restructuring mechanism could be part of the liquidity facility, thus forming a kind of European Monetary Fund, along the lines proposed by Gros and Mayer (2010).

The result of these steps would see interest rates rise and access to market funding impaired for euro area banks if bank debt restructuring with private burden sharing is anticipated by the markets, but not yet implemented. The same will soon apply to sovereigns themselves, when sovereign debt restructuring is viewed as increasingly likely but has not yet taken place. This ‘crisis overhang’ problem paralyses market funding, thus threatening the financial survival of any bank or sovereign whose solvency or liquidity is under a cloud. Such a funding crisis would spill over to the real economy — the non-financial corporate sector and households. It would be a certain road to another recession.

³⁸Iceland's peak to trough decline in GDP was 15.1%, Ireland's 14.8%. Ireland's most recent peak GDP is dated 2007Q4 and the most recent trough in 2010Q2. Irish quarterly real GDP remained constant in 2010Q3. Further declines cannot be ruled out, in view of the additional fiscal tightening planned for 2011. Irish data: quarterly real GDP at market prices, SA and working days adjusted, Source: Eurostat. Iceland's most recent peak real GDP was in 200Q3 on the chain-volume measure, and the subsequent trough was in 2010Q1. On the seasonally adjusted measure, the most recent peak was in 2007Q3 and the subsequent trough in 2010Q2, with a peak-to-trough decline of 15.1 percent. Source: Statistics Iceland

This argues for the earliest possible restructuring of both bank debt and sovereign debt, and for the aggressive use of the newly enlarged liquidity facilities, including potentially large-scale financial support to prevent fundamentally solvent banks and sovereigns being tripped into unnecessary and fundamentally unwarranted default by lack of market access. Without policy actions such as these the euro, and possibly even the EU, may not survive much beyond 2011. The political cement holding them together may erode should disorderly and in part disorderly sovereign defaults occur and feed an EU-wide banking crisis. The solutions are technically simple and politically difficult, as is clear from the unedifying spectacle of the ECB and the euro area fiscal authorities engaging in a game of 'chicken' to determine who will pick up the tab for safeguarding illiquid and perhaps insolvent banks and sovereigns. Let's hope our leaders are up to the job.

10. Individual euro area Countries

10.1. Greece

Greece remains the eurozone country most likely to undergo a restructuring of its sovereign debt in the next few years

In our view, Greece is still the eurozone country that is most likely to undergo a restructuring of its sovereign debt in the next few years. The mix of a high fiscal deficit (at 9.6% of GDP for the general government sector in 2010 according to the updated IMF projections and after the recent upward revisions), enormous public debt (gross general government debt stood at 141% of GDP in 2010, according to the IMF), and poor growth prospects make the Greek fiscal situation the least sustainable among the euro peripherals. Greece needs to run a (permanent) general government primary surplus of around 6% of GDP just to stabilise its general government gross debt-to-GDP ratio at the level of around 150% of GDP expected at the end of 2012. The general government cyclically adjusted primary deficit in 2010 is estimated to be around 4% of GDP. This means that additional tightening equal to 10% of GDP is needed over the next few of years to just stop the gross general government debt-to-GDP ratio from rising in Greece.

Admittedly, the adjustment programme has seen some early successes — a reduction of more than 30% YoY in the central government deficit and the passing of a number of significant structural reforms — and these successes may have helped reduce the probability of a credit event in the short term. However, more recent data show that the policy-induced slowdown in the economy is reducing tax revenues and higher costs of borrowing (including the cost of borrowing from the other eurozone countries through the Greek facility) are driving up the average cost of debt. Revenues were up by more than 10% YoY in the first six months of 2010, but the growth rate slowed to 4.8% YoY in November.

As a percentage of GDP, interest payments on central government debt in the 12 months ending in November increased to 5.7%, up from an average 5.1% in the previous 18 months. Both factors are likely to continue to lift the deficit, at least partly cancelling out the cuts on the primary expenditure side. Some of these expenditure cuts are in any case likely to be unsustainable, as there is evidence that they were achieved in part by not paying bills, particularly at the level of regional and local government and at the social funds. We estimate that the cost of interest payments on the overall public debt is likely to rise to about 8% of GDP in 2013.

A meaningful improvement in tax revenues is likely to require substantial increases in tax compliance, which for the time being remains elusive. The decision of the Greek government to grant a tax amnesty, against the strong opposition of the IMF/EU/ECB 'Troika', is very damaging in this context, in our view. The reason is that such an amnesty may reduce future tax compliance from currently compliant citizens and weaken even further the incentives for non-compliant citizens to change their behaviour, in the expectation of future amnesties.

The implementation of the austerity package has already been accompanied by large strikes, demonstrations and other manifestations of social unrest. Consolidation fatigue is likely to be even more prominent in the future and has the potential to derail the adjustment process. Gross refinancing needs of the Greek sovereign will remain high for the foreseeable future, owing to the high and rising level of gross debt, high interest rates and, at least for 2011, continuing primary deficits. The Greek sovereign was always unlikely to be able to re-access private capital markets at the end of its current adjustment programme (in May 2013), without a substantial restructuring of its debt. On 28 November 2010, ECOFIN correspondingly agreed to consider extending the maturities of the loans in the EU/IMF programme to bring them more in line with those of the Irish package. This would imply an increase in maturities from three years to between 4½ and 10 years, with an average maturity of just over seven years.

In any case, in our view, although maturity lengthening will help to smooth out a redemption hump in 2014/15, it is unlikely to resolve the fundamental solvency issues of the Greek sovereign.

The euro area periphery countries all face different combinations of sovereign debt unsustainability, banking sector vulnerability and, for the real economy, persistent man-made distortions and real rigidities in factor and product markets resulting in low profitability and poor growth prospects. In Greece, the problems are primarily those of fiscal unsustainability and poor growth prospects. The main problem of the Greek banking sector is its exposure to the Greek sovereign — quite distinct from the case of Ireland, where a deeply troubled banking sector threatens to drag down a sovereign that would in all likelihood have been solvent had it not guaranteed so much of the banking sector's liabilities and assumed its losses.

10.2. Ireland

Ireland's fiscal troubles are largely the result of support for a banking system that was too large to save

Ireland is the prime example of a country where the sovereign is at material risk of default because of the support extended by the sovereign to the banking sector, through guarantees of unsecured debt and through large injections of capital. Like Iceland, the banking sector in Ireland was too large to save. Unlike Iceland, the Irish sovereign, when faced with the likelihood that it would not be possible to make whole both the banks' unsecured creditors and its own creditors, did not leave the banks to sink or swim on their own but extended bank guarantees for initially up to €440bn worth of bank unsecured liabilities. With the consolidated sovereign and banking sector likely insolvent, in our view, the key remaining question is whether it will be the banks who default, the sovereign or both.

Ireland was the first country in the EA to announce fiscal tightening in 2008: according to the EU Commission, total tightening amounted to 9% of GDP in 2009-2010 — the same amount the government has recently committed to implement over the next four years. However, it has by now become abundantly clear that such early — some said ‘preemptive’ — tightening was not enough to restore sustainability of the public debt or at least the market perception thereof.

GDP continues to contract compared to the previous year, reflecting private sector deleveraging, a collapse of the previously outsized construction and real estate sector, and the impact of the drastic austerity measures. As a result, the underlying government deficit (excluding the capital injections to the banks) will probably still be in double digits in 2010 (12% of GDP) and around 10% of GDP in 2011. The additional government support to the banking sector (€30.7bn in 2010) appears to have propelled the general government deficit-to-GDP ratio to 32% of GDP in 2010 and the gross general government debt-to-GDP ratio to around 99% of GDP, up from 44% in 2008.

€50bn of the €67.5bn IMF/EU bail-out package is aimed at providing budgetary support.³⁹ Without access to any other funding sources, this amount is expected to cover the sovereign’s funding needs for around two years. Of the €35bn dedicated to restructure the banking system, €10bn will be used for an immediate recapitalisation of the banks to increase their capital ratios from 8% in 2010 to 10.5% in 2011. The remaining €25bn is a credit line that, according to the programme’s designers, is not expected to be used.

At this stage, it is by no means clear that the stream of bad news coming out of the Irish banking sector has ended. In November 2010, UC Dublin professor Morgan Kelly raised his estimate of the total bailout cost for Irish banks from €50bn to €70bn because of an expected sharp rise in mortgage delinquencies in 2011. According to him, 4.6% of Irish mortgages were 90+ days delinquent at end-June and around 25% of mortgage borrowers are expected to be in negative equity at end-2010.⁴⁰ The funds provided, including the €25bn additional credit facility, may be just about enough to cover the additional losses, but, in our view, statements to the effect that the contingent funds will not be needed are somewhat empty — as noted above, many European officials also declared that they did not expect that the EFSF would ever have to be used.

The Irish bail-out package has eliminated funding risk for the Irish sovereign and the Irish banking sector for now, but does very little to address the fundamental insolvency problem of the combination of the Irish sovereign and the domestic banking system

The Irish bail-out package has eliminated funding risk for the Irish sovereign and the Irish banking sector for now. But it does little to address the fundamental problem that the combination of the Irish sovereign and the domestic banking system is de facto insolvent. Additional fiscal tightening, private deleveraging, tight credit due to the fragile situation of the banking system, and high unemployment should continue to weigh on growth. In our view, the Irish government was right to resist any increase in the corporate tax rate, as an FDI-led resurgence in growth is one of the few growth prospects the Irish economy currently has.

³⁹ The announced size of the support package was €85bn, but €17.5bn of this came from Ireland’s own sovereign resources.

⁴⁰ Irish Times, 08/11/2010

It is already clear that the holders of sub-senior, unsecured bank debt either already have or will need to accept large losses on their holdings. For now, the senior unsecured debt of the banks has not been restructured. But since the value of the unsecured sub-senior debt is not very large, it remains likely that either the senior, unsecured debt of the banks and/ or the sovereign will ultimately need to be restructured. The nature and timing of such a restructuring remain uncertain. The maturity of the loans in the Irish package is substantially longer than in the Greek case (the average maturity in the Irish case is around 7.5 years), reducing immediate restructuring pressures and suggesting also that European policymakers may yet decide to further delay restructuring. On the other side, the Irish government has announced that it will seek to soon introduce a 'special resolution regime' for banks, such as the US has with the FDIC, making an early restructuring of the Irish banking system easier and therefore more likely. The two opposition parties that, if the opinion polls are correct, are set to form the next government following general elections early in 2011, are campaigning on a platform that supports haircuts for senior unsecured creditors of the banks.

EC/ECB/IMF could lower interest rates of the Irish programme to entice the Irish sovereign not to impose haircuts on senior bank debt, but they can do little to credibly threaten the Irish sovereign should the latter wish to impose such haircuts

It is clear that, should Ireland restructure its senior unsecured bank debt unilaterally (that is, not as part of an EA-wide or EU-wide simultaneous sovereign and bank debt restructuring), severe contagion would likely result to the banks in other countries that would be viewed as now at risk of similar bank debt restructuring. Could the EC/ECB/IMF either bully or entice Ireland into not restructuring its banks' senior unsecured debt?

As regards 'carrots', we see only one: a lower interest rate on the EU/IMF facility. The current 5.8% average rate really is an invitation to sovereign default — it makes no sense as part of a package that is meant to avoid sovereign default. Lowering it to, say, 3 percent, might convince a future Irish government at least to postpone restructuring its unsecured senior bank debt.

As regards pressure or 'sticks', there is only the threat of ejecting Ireland from the EU/IMF facility and the threat that the ECB would either refuse to purchase Irish sovereign debt through the SMP or refuse to fund the Irish banks through its collateralised ECS facilities. Neither threat seems either plausible or effective. No promise not to restructure the senior unsecured bank debt was part of the EU/IMF programme. Provided the haircuts on the unsecured creditors are harsh enough, the restructured Irish banks should be able to fund themselves in the markets. Threatening the Irish government with exclusion from the SMP could well precipitate an early Irish sovereign default, which might well do more damage outside Ireland than inside.

We conclude that, should the next Irish government decide to restructure the unsecured senior debt of its banks, there is little the rest of the EU or the IMF would be able to do about it. In the case of the IMF, there is the further awkward fact that restructuring senior unsecured debt is part of the standard IMF post-crisis package in emerging markets (EMs). Admittedly, the risk of contagion in past EM crises was likely less than it is today in the EA.

Portugal's fiscal problems reflect stubbornly high deficits, low growth and high private sector indebtedness rather than high stocks of public debt or banking and housing sector problems

10.3. Portugal

As noted, each euro area periphery country faces a distinct set of challenges. So Portugal may not be Greece, but the challenges it faces are more similar to those of Greece (if not quite as dramatic) than those of Spain and Ireland. Portugal's gross general government debt-to-GDP ratio is likely to be around 80% this year, not far from the EA average and it largely avoided the housing bubbles and banking sector excesses of Ireland (or Spain). However, the government deficit remains stubbornly high and the private sector is highly indebted, to the point that Portugal has the largest negative net foreign investment position in the EA (at minus 113% of GDP at the end of 2009 — see Figure 5). In times of crisis, the debt of private institutions deemed systemically important or too politically well-connected to fail tends to become public debt. The assets, liabilities and funding needs of the private sector must therefore always be considered carefully before a judgment can be reached as regards the current and likely future health of the public finances.

Despite the fiscal austerity package approved in May 2010, the Portuguese central government budget deficit had not yet shown meaningful signs of improvement at the end of November 2010. The year-end target of 7.3% for the general government deficit-to-GDP ratio may only be reached through an accounting trick.⁴¹ Another round of adjustment measures is planned for 2011, amounting to 3% of GDP on top of a 1% of GDP adjustment for 2011 already included in the May 2010 fiscal package. However, this year's experience shows that implementation risks remain high.

Moreover, Portugal also has one of the EA's highest levels of gross debt in the non-financial private sector, close to 250% of GDP. Net external debt is high and a majority of Portuguese sovereign debt is held abroad (see Figure 18). Unlike in Spain or Ireland, the private deleveraging process does not seem to have started. The current account deficit is still very high at 9½ % of GDP in Q3 2010 — almost unchanged from pre-crisis levels, so there is no evidence either that the country in the aggregate is beginning to live within its means or that it is shifting resources from the non-traded towards the tradable sectors.

Growth in Portugal this year has been less weak than in the other EA periphery countries (Real GDP likely expanded by 1.6% in 2010) and has not fallen short of expectations yet. However, this is at least in part because Portugal has engaged in less fiscal tightening than the other EA periphery nations. The growth outlook is poor. Portugal has suffered from low growth for many years. Additional tightening measures, the need for private sector deleveraging and tight credit as a result of funding difficulties for the Portuguese banks imply that growth is highly likely to plunge again. A recession in 2011 looks likely. The lack of economic growth and the limited impact of past fiscal tightening measures to lead to a meaningful reduction in the general government budget deficit also imply that there is a substantial risk that deficit targets for 2011 and beyond will not be met.

Portugal is likely to access the EFSF sooner rather than later, in our view

Yields of Portuguese sovereign debt have already risen markedly. At such high interest rates and with low growth, we consider Portugal to be quietly insolvent and likely to access the EFSF soon.

⁴¹ Three pension plans of Portugal Telecom (PT) were taken over into the public social security system. These pension funds are for employees that used to be civil servants at the formerly state-owned firm. The agreement between PT and the government was signed in December and in addition to the assets of the pension funds, PT will transfer a total of €2.8 billion to the government. This amount (around 1.6% of GDP) will be counted in this year's general government revenues, while there is no change in the official debt figures.

Until recently, markets had put the Spanish sovereign in the same risk category as Italy's when it should have been closer to the Irish or Portuguese sovereign

10.4. Spain

Until the end-2010 market turmoil, Spain had benefited from some benign developments. After the publication of stress test results in July, investor concerns about the health of its banking system receded, further aided by a reduction in reported ECB funding of Spanish banks (though the reduction in ECB funding was mainly due to the fact that Spanish banks managed to get access to market funding in an anonymous way through their membership in the London Clearing House). Fiscal revenues also picked up following the implementation of some revenue measures in May 2010, and central government expenditures were declining.

However, substantial risks remain. The results of the stress tests have been discredited throughout the EU. In our view, the banking system remains a key source of uncertainty surrounding Spain and its medium-term fiscal sustainability. The restructuring of the banking sector has only just started, with several mergers among savings banks (the 'cajas') agreed in June. The total amount of capital injected into the banking sector by the Spanish government — around €14.4bn (1% of GDP) — appears woefully inadequate in light of the size of the real estate bubble and exposure of the banks to real estate and construction-related assets. By comparison, the Irish government had committed around 30% of GDP even before the most recent recapitalisation measures as part of the bailout package⁴². Reports of 'deposit wars' between Spanish banks suggest continuing funding difficulties and will weigh on profitability.

Household and corporate loans stand at around 226% of GDP in Q2 10, and are still increasing. Very high unemployment (in excess of 20% of the labour force) and the shrinkage of construction and real estate sectors have yet to make a substantial impact on bank balance sheets.

On the fiscal side, uncertainty remains about developments at the local and regional level. The majority of expenditure in Spain occurs at the local and regional level and the central government has limited control over the spending decisions of the autonomous regions and the municipalities. Anecdotal evidence of increasing arrears and higher debt issuance by regional authorities suggest caution. In our view, the gross general government deficit target is likely to be reached in 2010, and may be even surpassed, but deficit targets for 2011 and 2012 will be challenging. Also, the growth forecasts of the Spanish government are too optimistic, in our view, as we expect fiscal tightening, tight credit and high unemployment to reduce private sector demand. Additional tightening measures are likely to be required to meet the deficit targets.

⁴² Spain set up the Fund for Orderly Bank Restructuring (FROB) which could in principle provide up to €90bn of support to ailing Spanish financial institutions. However, the Fund was not pre-funded and so far only €10.6bn have been provided by the FROB to support Spanish banks.

High private sector leverage, banking sector fragility and low growth imply that continued market access for the Spanish sovereign is not assured, but current lending capacity of the EFSF may be insufficient to carry the Spanish sovereign until 2013

Until recently, Italy had been largely shielded from the sovereign debt turmoil, despite entering the crisis with the highest general government debt-to-GDP ratio in the EA and its historically poor performance during past episodes of heightened risk aversion.

High funding requirements to due high levels of public debt suggest that Italy remains vulnerable to speculative attacks and 'sudden stops' despite rather conservative fiscal policy.

With significant additional tightening measures, without large negative surprises in the banking sector and with a stronger growth performance than we currently consider likely, Spain may yet muddle through without external help. But should it need assistance, its funding needs over a three-year horizon would likely be too large for the current lending capacity of the EFSF. In the near term, the size of the EFSF and the ESFM could potentially be extended by the EA and EU member states and/or the ECB could increase its support (e.g. by purchasing Spanish sovereign debt through the SMP and by increased funding of Spanish banks using Spanish sovereign debt as collateral). In the longer term, there may be a need for large-scale restructuring of Spanish bank debt and possibly the sovereign.

10.5. Italy

Until recently, Italy had been largely shielded from the sovereign debt turmoil, despite its adverse starting position — it entered the crisis with the highest general government (gross and net) debt-to-GDP ratio in the EA — and its historically poor performance during past episodes of heightened risk aversion.

In our view, relatively tight fiscal policy through the crisis (Italy hardly engaged in any fiscal stimulus) and relatively favourable private sector gross debt, net debt and financial net worth positions make for a much lower degree of overall (public plus private) gross and net indebtedness than in the rest of the EA periphery. Indeed, private plus public gross debt as a percentage of GDP ratios are similar to the levels in France or Germany. A high private saving rate and small general government deficit supported a smaller current account deficit than in the rest of the EA periphery and Italy has a comparatively sound domestic banking system, despite rather low capital ratios. A fairly large domestic investor base, reflecting large levels of private financial wealth, is also likely to make the total investor base somewhat more stable than in countries with high levels of foreign ownership of sovereign debt, such as Portugal and Greece.

However, like Portugal and Greece, Italy suffers from some longstanding structural weaknesses that depress its potential growth. Poor productivity growth and adverse demographic trends will continue to weigh on its trend growth rate, which we estimate to be just below 1% per annum. Moreover, the gross general government debt-to-GDP ratio should remain the second largest in the eurozone (after Greece) for the next few years, and it will most likely continue to edge up in the near term, likely exceeding 120% of GDP in 2011. Gross refinancing needs should thus stay high and increase the vulnerability of Italy both to funding and liquidity crises and to self-justifying solvency crises should sovereign risk premia rise substantially.

A continuation of the fairly conservative fiscal stance of the Italian government should provide some reassurance to markets about the long-term sustainability of the Italian debt. A major political crisis, however, would constitute a downside risk and could provoke tensions in the market for Italian sovereign debt. In any case, general government debt ratios anywhere near the current Italian level would constitute a source of vulnerability to roll-over crises and 'sudden stops'.

At this stage, we consider it unlikely that Italy will require access to the EU facilities. Should it do so, it is clear that the current size of the EFSF would be insufficient to satisfy Italy's funding needs. It would then once again be the ECB that would need to be called upon to stave off sovereign default.

Despite entering the crisis with a relatively large level of public debt, Belgium was not caught up in the sovereign turmoil until very recently.

The main risk to sovereign debt sustainability in Belgium is political and related to political tensions between the Flemish-speaking North and the French-speaking South.

As one of the few countries with AAA-rated sovereigns, France continues to enjoy relatively low yields and may have benefited from some safe-haven flows

But the high government deficit and absence of a credible plan to reduce it in the medium term, imply that additional fiscal tightening is necessary to safeguard fiscal sustainability

10.6. Belgium

Despite going into the crisis with a relatively large gross general government debt-to-GDP ratio, Belgium was not caught up in the sovereign turmoil until very recently. However, public sector debt remains high. Gross general government debt was 96.2% of GDP in 2009, is likely to increase in 2010 and 2011, and surpass the 100% of GDP mark again during our forecast period. This implies that refinancing needs will remain high, creating the risk that the Belgian sovereign will be caught up in the turmoil should there be renewed market tensions. This is despite the fact that Belgium's recent history has shown that its general government sector can generate primary surpluses for long periods of time — it was able to reduce its ratio of gross general government debt to GDP from 138% in 1993 to 84% in 2007.

In our view, the main risk in Belgium is political. The last general election took place in June 2010, but it is still without a new government. The role of nationalist parties has increased in Belgian politics, in particular in the Flemish (Dutch) speaking north of the country, which favours a large reduction in the fiscal transfers to the poorer (French-speaking) south and to Brussels, and possibly a break-up of the state. Ironically, the fact that the large government debt is mainly on the balance sheet of the central government (rather than the regions) may be one of the factors holding the country together currently. Should the country break up, there would be substantial uncertainty about how the national debt will be divided between the three regions and about the duration and other modalities of the process leading up to the division.

10.7. France

France was largely untouched by the sovereign debt turmoil in 2010. In fact, as one of only three large European countries with a AAA-rating — the others being the UK and Germany — it may have benefited to some extent from safe-haven flows in earlier parts of the year. Recently, however, yields on French sovereign debt have increased substantially, rising from a low of 2.50% at the end of August to 3.37 at the end of December. Such levels are still very low by historical standards, of course, and only bring France back to where yields were in April 2010 before sovereign debt concerns erupted in earnest for the first time. But the recent rise does highlight that markets may have become slightly more discerning in distinguishing between the creditworthiness of different AAA-rated sovereigns, though of course yields on sovereign debt have increased across virtually the entire industrialised world in November and December 2010.

France's budgetary situation had deteriorated even before the recent crisis and the general government deficit reached 7.6% of GDP in 2009. The government is likely to have reduced this deficit ratio slightly in 2010 and will probably reach the targeted reduction in the general government deficit to 6% of GDP in 2011, but the target of 0% to 3% by 2013 appears too optimistic. This is mainly because we consider the growth forecasts of the French government of 2.0% in 2011 and 2.5% per year from 2012 onwards to be too optimistic.

Furthermore, after the implementation of the pension reform, which will help limit pressure on the public finances in coming decades, further meaningful fiscal austerity measures are unlikely to be implemented before the 2012 presidential election. Further action may be forthcoming after the next election, and we consider such additional fiscal tightening to be necessary to safeguard fiscal sustainability. The main differentiating factor, in our view, between the fiscal prospects of Germany and France, are not current levels of public debts and deficits, but the ability to impose austerity measures and the willingness of the electorate to accept these measures. The recent large-scale protests in France following the announcement of the pension reform plans are a reminder of the difficulty of such fiscal tightening actions in France. The willingness and ability of the government to pass the reform legislation without material watering down of the key reform proposals are a positive from the perspective of restoring fiscal sustainability in France.

For France, as for all countries that suffer from unsustainable public finances but have not yet legislated a multi-year programme of public spending cuts and tax increases sufficient to safeguard sovereign solvency, the jury is still out. Over longer horizons, there may be a risk of a fundamentally warranted French sovereign debt crisis, if sufficient additional fiscal tightening actions are not announced and implemented in time to prevent a further deterioration of the fiscal fundamentals. In the near-term, however, a more urgent risk may be that without further early fiscal tightening measures, France could lose its AAA-rating, just as the UK was at risk of losing its AAA-rating early in 2010, before and until it announced and started the implementation of a fiscal tightening package worth more than 8 percentage points of GDP.

It is not currently clear to us what the implications of a loss by France of its AAA-status would be for the workings of the EFSF, other than that there will be implications. The effect would most likely involve increases in the funding costs of the EFSF (and therefore also the applicant countries), but could also include loss of the AAA-rating for EFSF bonds or further reductions in the amount of loans that can actually be disbursed.

11. Outside the euro area

11.1. United Kingdom

Large deficits in 08/09 and 09/10 raised concerns about fiscal sustainability in the UK, but the UK government outlined credible plans to reduce the deficit drastically over the next few years – and has so far delivered on its promises.

News on the fiscal side and for the real economy was mostly positive for the UK in 2010, and it appears to be on track to return to fiscal stability. The UK entered the financial crisis with a relatively low gross general government debt-to-GDP ratio of 44% in 2007, but very high recent deficits — the peak was 11.1% of GDP in 09/10 for the general government deficit and a trend of strongly increasing government expenditure, raised concerns about the sustainability of the public finances in the UK.

The coalition government has outlined and started to implement an ambitious programme, with a focus on reducing public spending and limited tax increases that is supposed to reduce the general government deficit from around 11% in 2009/10 to about 2% in 2014/15. So far, progress has mostly been reassuring. The fiscal deficit is falling slightly, and the deficit in 10/11 is likely to turn out much lower than the consensus expected a year ago. We expect the general government deficit to fall to about 6% of GDP in 2011/12 and to about only 1% in 2014/15, leading the general government debt-to-GDP ratio to level off at around 80% of GDP.

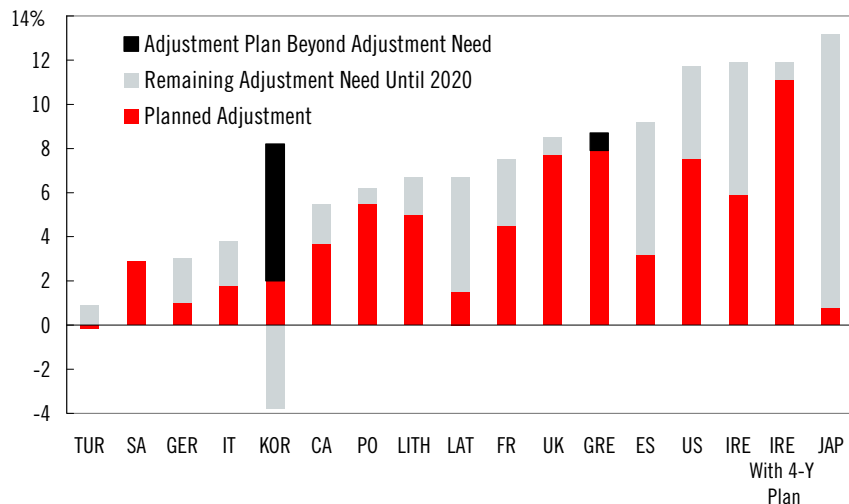
After growing by 1.7-1.8% in 2010, we expect real GDP growth to reach 2-2.5% YoY in 2011 and 2012. Nominal GDP growth is in line with the historical average, running at 5.5–6% over the forecast period. Some downside risks remain. The bulk of the fiscal tightening has yet to take full effect, and the fiscal tightening should be expected to dampen growth in the coming years. With inflation (on the CPI measure) running at more than 3 percent per annum, and with survey-based inflation expectations edging up in line with recent actual inflation, monetary policy is unlikely to be able to play an active supporting role, should the real economy falter. However, the low pound and the strong financial position of the corporate sector will support the continuing recovery, in our view, and thereby also support the cautiously positive fiscal outlook. Continued sovereign debt turmoil in the euro area would adversely affect the UK through Euro weakness and by dampening growth in the euro area — the UK’s major export market. The exposure of some large UK banks to sovereigns and banks in the periphery of the EA is also a source of concern. However, the crisis also contains some mild positives for the UK, as its relative stability attracts capital inflows, keeps yields on sovereign debt low, and raises the attractiveness of foreign direct investment.

11.2. Japan

Despite very high levels of public debt and deficits and no plan for fiscal consolidation, the Japanese sovereign continues to borrow at very low interest rates

According to the IMF, Japan’s gross general government debt stood at 218% of GDP in 2009 and its net debt at 112% of GDP. The government budget deficit is estimated to be 9.6% in 2010, the primary (non interest) deficit 9.1% of GDP and the cyclically adjusted primary deficit 7.6% of GDP, with similar levels projected until 2015, the end of the forecast horizon. The recent IMF Fiscal Monitor noted that, of all the countries considered, Japan has the largest total adjustment need required to achieve fiscal sustainability and the largest remaining adjustment beyond measures that have already been planned (Figure 27).

Figure 27. Selected Countries — Planned Adjustment by Governments and Remaining Adjustment Need Until 2020 in Terms of Cyclically Adjusted Primary Balance, 2010-2020F



Estimated adjustment needs in CAPB terms between 2010 and 2020 to achieve debt targets in 2030 (60 percent of GDP in advanced economies for gross debt, 80 percent of GDP for net debt for Japan and 40 percent in emerging economies). Sources: IMF Fiscal Monitor November 2010 and Citi Investment Research and Analysis

Figure 28. Sovereign Debt Ratings, October 2010

	Moody's	S&P	Fitch
Canada	Aaa	AAA	AAA
France	Aaa	AAA	AAA
Germany	Aaa	AAA	AAA
UK	Aaa	AAA	AAA
USA	Aaa	AAA	AAA
Japan	Aa2	AA	AA
Italy	Aa2	A+	AA-
Greece	Ba1	BB+	BBB-

Source: Bloomberg

Huge refinancing requirements and falling total net household savings imply that Japan is highly vulnerable to increases in yields on Japanese sovereign debt and self-justifying funding crises.

Adverse demographic trends, structural weaknesses, and less-than-forceful macroeconomic and financial policy imply that growth prospects for the Japanese economy are poor. At the same time, there is no sign of planned or actual consolidation. Indeed, Japan has just announced a small fiscal stimulus.⁴³ With such budgetary fundamentals, it is hardly surprising that Japan is one of two G7 countries not to have a triple-A rating (Italy is the other one). It is currently rated Aa2 by Moody (AA by S&P and Fitch, see Figure 28). But government bond yields remain extremely low and CDS rates on Japanese government bonds are only marginally above those of Germany.

For the moment, Japan's sovereign is protected against normal market discipline, despite fiscal fundamentals that would imply a high degree of sovereign risk in other countries, by a very large stock of private financial wealth (the product of high past private saving rates), and an unequalled home-bias in Japanese portfolio preferences. Together these act as a form of self-imposed or voluntary financial repression, permitting the Japanese sovereign to borrow at rates well below 'fair value'.

The large stock of private financial wealth (reflected in Japan having a net foreign investment position of plus 57 percent of GDP in 2009, despite the large net debt of the state) is a fiscal asset to the extent that private wealth, or the income streams it generates, can be taxed in the future. Alternatively, it provides the private sector with the financial resources to accommodate and make up for cuts in public spending categories for which privately purchased alternatives exist, such as health, education and retirement. The home bias is reflected in the fact that about 95 percent of all Japanese sovereign debt is held domestically.

The benign low interest rate equilibrium in Japan is, we think, vulnerable to 'defection'. Private saving rates are coming down fast as the population ages and declines. Total net household saving has fallen below the net addition to the stock of Japanese sovereign debt, although the Japanese corporate sector continues to be a large net saver. But given the likely future declining trend in the Japanese private sector financial surplus (unless there is a large decline in gross domestic capital formation that offsets the age-related further decline in the private saving rate) and the continuing large public sector financial deficit of Japan, Japan is likely to turn into a current account deficit country before long. This makes it likely that more Japanese government debt will be bought by foreign investors in the future. Even if existing Japanese government bond holders (households and institutional investors like the postal system) continue to be willing to hold 10-year JGBs at a 1.50 percent interest rate or less, it is unlikely that the rest of the world will absorb significant additions to the stock of Japanese sovereign debt at these interest rates. For the same fundamentals that support the benign low interest rate equilibrium, there also exists a 'fear equilibrium'. In a 'fear equilibrium' the marginal holder of Japanese sovereign debt believes there is a non-trivial likelihood of sovereign default (or of an inflationary and exchange rate depreciation solution to the public debt overhang) and interest rates rise sharply, thus validating the fear of worsening public finances that triggered the increase in interest rates in the first place. The timing of the shift to a 'fear equilibrium' cannot be predicted with any degree of precision. But absent any determined and sustained commitment to tackle the unsustainable fiscal programme of the sovereign, the shift from the benign to the fear equilibrium seems bound to happen sooner or later.

⁴³ Japan enacted a supplementary budget for fiscal 2010 to finance a 5 trillion yen (€60bn) stimulus package on 26 November 2010.

The United States too have also lagged most other advanced economies with rapidly rising public debt levels in making binding commitments on fiscal consolidation.

11.3. United States

The United States too have also lagged most other advanced economies with rapidly rising public debt levels in making binding commitments on fiscal consolidation. Serious discussions on fiscal reform have only begun very recently, as the mid-term elections of November 2010 made it impossible to reach an agreement that is acceptable to both parties. The ambitious proposals announced by the two co-chairmen of the bipartisan National Commission on Fiscal Responsibility and Reform, which included spending cuts and tax increases that would erase almost \$4trn from projected deficits until 2020, was supported by 11 members of the 18-person committee, short of the 14 votes required to send it to the Congress for a vote. The ultimate plan may thus change considerably from the ambitious proposals, but the proposal will most likely improve the level of the debate on fiscal reform in the US.

By some measures, the fiscal position of the US is worse than for the EA as a whole, and even than that of Spain and Portugal, two of the EA periphery countries at risk of being frozen out of the international capital markets. Thus, the general government gross (net) debt is estimated at 93% (66%) of GDP in 2010, the general government budget deficit at 11.1% of GDP, the general government structural (cyclically-adjusted) budget deficit at 8.0% and the general government cyclically-corrected primary (non-interest) deficit at 6.5% by the IMF. Growth prospects, partly for demographic reasons, are however likely to be better in the US than in most of the EA member states.

11.3.1. The effect of including Fannie Mae and Freddie Mac in estimates of US general government gross debt

The US fiscal data are also flattered by the accounting decision not to count the debt of Fannie Mae and Freddie Mac

The US fiscal data are flattered by the accounting decision not to count the debt of Fannie Mae and Freddie Mac, two federally chartered institutions that provide credit guarantees for about 60 percent of the outstanding residential mortgages in the United States at the end of 2010, as part of the general government gross debt. On 7 September 2008, Fannie Mae and Freddie Mac were placed into the Conservatorship of the Federal Housing Finance Agency (FHFA). As a result of this, the US Congressional Budget Office (CBO) concluded that these two institutions had effectively become government entities, whose operations should be included in the federal budget.^{44 45}

For Q3, 2010 Fannie Mae reported total liabilities and (negative) equity of just over €3.2 trillion and Freddie Mac total liabilities and (negative) equity of just under \$2.3 trillion. The sum of these, \$5.5 trillion, is equal to 37 percent of annual GDP (the BEA estimates Q3, 2010 nominal GDP at an annual rate to be \$14,750.2). This would put the US gross general government debt at 130 percent of GDP in 2010, incidentally, the same level as Greece, but with a higher deficit (actual, structural and cyclically corrected primary) than Greece.

⁴⁴ See Congressional Budget Office (2010), "CBO's Budgetary Treatment of Fannie Mae and Freddie Mac", Congressional Budget Office Background Paper, January, The Congress of the United States. <http://www.cbo.gov/ftpdocs/108xx/doc10878/01-13-FannieFreddie.pdf>

⁴⁵ One wonders why the debt and the fair value of the assets of these two GSEs are not included in the General Government accounts. The CBO states: "Neither CBO nor OMB incorporates debt securities or mortgage-backed securities issued by Fannie Mae and Freddie Mac in estimates of federal debt held by the public. In budget documents, debt held by the public is defined narrowly as including only debt issued directly by the Treasury. Excluding the two entities' debt is consistent with the exclusion of other federal obligations, such as those of the Tennessee Valley Authority or commitments made under federal loan guarantee programs." Whatever the merits of these legalistic arguments for not classifying Fannie and Freddie's debt as *federal* government debt, there can be no doubt that these agencies are part of the General Government sector and therefore ought to be included in the General Government accounts.

Of course, there are assets on the balance sheet of Fannie and Freddie as well, and because of double-entry bookkeeping, they are reported as equal in value to liabilities plus equity. So if we were to take the reported value of the assets of Fannie and Freddie as their fair value, the net debt (gross debt minus financial assets) of the US general government would not be affected by the inclusion of Fannie and Freddie. There can be little doubt, however, that the fair value of the assets held by Fannie and Freddie is significantly less than what is reported on the balance sheets of these institutions, which value most mortgages at amortised cost. For instance, Fannie May values more than \$2.5 trillion of 'Loans held for investment' at amortised cost, which is likely to be rather higher than the NPV of the future debt service on these loans that can reasonably be expected, discounted at interest rate that reflects the appropriate degree of risk attached to these future payment streams.

Rather than publishing an estimate of the fair value of the assets of Fannie and Freddie, and adding the liabilities of Fannie and Freddie to the Gross General Government Debt and the difference between the liabilities and the fair value of the assets to the Net General Government debt, the CBO has estimated (in 2009) the NPV of the net cost to the Federal budget of the operations of Fannie and Freddie over the next 10 years. This is a truncated estimate of (minus) the comprehensive net worth of Fannie and Freddie, calculated by discounting all positive and negative payments accruing in the intertemporal budget constraint of Fannie and Freddie over a 10-year horizon.

For the 10-year period 2010-19, the CBO estimates the cost to the US federal budget of the two government-sponsored enterprises (GSEs) at \$390bn, which is just 2.64 percent of 2010 GDP. The US Treasury and the OMB, using a different methodology, come to a total cost of \$160.6bn, which is just 1.08 percent of 2010 GDP. These would be (truncated and therefore likely biased downwards) estimates of the increase in Net General Government Debt as a percentage of GDP that would result from the inclusion of Fannie and Freddie in the General Government balance sheet. Even the larger of the two numbers seems small, given the continued weakness of the US housing market and the high level of unemployment (and especially the rising contribution of long-term unemployment). Unless there is a major (unforeseen by us) revival in the US residential real estate market, or a resumption of growth at a rate that will bring down unemployment rapidly (which we also don't foresee, despite the recent upward revision of near-term US growth prospects), the contribution to general government net debt of Fannie and Freddie could well be significantly higher than estimated by the CBO.

The current fiscal situation of the US therefore certainly gives rise to concerns about its sustainability, in particular, once the GSEs are included in calculations of the public debt.

Concerns about US fiscal sustainability would be present even in the absence of an age-related explosion of public spending on social security and healthcare

11.3.2. Medicare and Medicaid

These concerns would be present even if one ignored the future health-related and age-related explosion of public spending under existing commitments for Medicare and, to a somewhat smaller degree, for Social Security retirement benefits and Medicaid, and instead assumed that the dollar value per beneficiary of these spending obligations would henceforth grow in line with nominal GDP per capita, thus avoiding 'excess cost growth'. This would be a similar constraint to that implied by imposing the Medicare Sustainable Growth Rate (SGR) as an upper bound on the growth of all age-related and health-related public expenditures. The SGR is a method used to control spending by Medicare on physician services, as part of a strategy to ensure that the yearly increase in the expense per Medicare beneficiary does not exceed the growth in GDP per capita.

Rules like the SGR, aiming to restrict the growth of age-related and health-related public spending in the US, have typically been suspended whenever they threatened to bite. The two most recent examples are the signing by President Obama on 16 December 2010 of the Medicare and Medicaid Extenders Act of 2010, which delayed the implementation of the SGR until 1 January 2012 and the earlier delay of the implementation of the painful (to physicians) features of the SGR on 24 June 2010, until 1 December 2010. In 2007, the CBO estimated the 'excess cost growth' for Medicare between 1975 and 1990 at 2.9% p.a., and between 1990 and 2005 at 1.9% p.a. The slowdown was concentrated between 1993 and 2000 when excess cost growth averaged about zero, and has since been reversed.⁴⁶

Note that it is increasing spending per beneficiary rather than the rising number of beneficiaries that has accounted for the bulk of the increase in health-related public spending since 1975.⁴⁷ Population ageing is only part of the story so far, and not the most important part.

11.3.3. Why are yields on US sovereign debt still low?

Despite their recent rise, yields on US government debt remain low by historical standards. 10-year yields stood at just 3.54% p.a. on December 31, up from a low of 2.41% on October 6, but still only just over half the levels — in nominal terms — seen at the beginning of this decade (Figure 29).

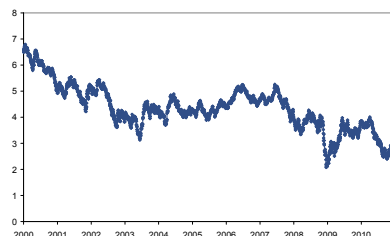
The markets continue to treat the sovereign debt of the US as effectively free of both default risk and inflation risk, despite not committing to any fiscal tightening, now or in the future, and despite the fact that a bi-partisan consensus was found on extending all of the Bush tax cuts for at least another two years, but without any matching commitment to undo the effect of these fiscal measures on the public debt through future fiscal tightening. As long as the markets continue to treat US sovereign debt as effectively free of default risk and inflation risk, expansionary fiscal measures like the one enacted in December 2010 will continue to be effective in stimulating demand, even though they store up trouble for the future.

Near-term cyclical reductions in the US budget deficit and high demand for US Treasuries from (higher-saving) US corporates and households and safe-haven seeking foreigners have kept down yields so far.

⁴⁶ CBO (2007), *The Long-Term Outlook for Health Care Spending*, The Congress of the United States, November

⁴⁷ Medicare and Medicaid were introduced in 1965. The unique start-up features of their first decade make this decade unsuitable for extracting underlying trends.

Figure 29. US – 10-year yield on Treasury Bonds



Source: Federal Reserve Board and Citi Investment Research and Analysis

Age-related future spending pressures imply that fiscal tightening measures in the medium and long term are required to safeguard fiscal sustainability, but political will is lacking currently

There are at least three reasons for low US Treasury yields, in our view. First, there is the strong cyclical nature of the budget deficit, which, we believe, is underestimated by the cyclical adjustment procedures of the CBO, implying that the US (general government) budget deficit will shrink noticeably over the next few years, even in the absence of fiscal tightening measures, if the economy recovers (as we assume it will). The IMF expects the US general government deficit to fall from 11.0% of GDP in 2010 to 5.7% in 2011. Real growth prospects in the US are better than in Japan and most of the EA and the EU, partly driven by more favourable demographic prospects and nominal GDP growth runs at around 4 to 4.5% p.a. currently.

Second, US Treasury yields are kept low by the global reserve currency status of the US dollar and the associated size of its economy and unrivalled breadth, depth and liquidity of its financial markets. These make the US dollar and US sovereign debt beneficiaries from an unrivalled safe-haven demand for US dollars and US Treasury bonds. For the foreseeable future, there is no viable alternative to the dollar in that role, especially when the pretender to the throne, the euro, is facing some fundamental questions of its own, including questions relating to its very existence.

Note, however, that the continued dominance of the US dollar as the world's leading currency and the continued, or even rising *relative* attractiveness of US Treasury securities as stores of value do not preclude a sharp re-pricing of both the US dollar and of Treasury bonds. Increasing concerns about eventual monetisation of the public debt and/or about sovereign default risk for the US need not manifest themselves by significant movements out of the dollar into other currencies or out of US Treasury bonds into other sovereign debt instruments. Portfolio holders around the world could simply end up holding about the same portfolios of currencies and sovereign debt instruments as before, but at much higher yields for US (and possibly other) sovereign securities and at a significantly weaker external value for the US dollar.

Third, households in the US are deleveraging and have increased savings rates substantially, while the US corporate sector has levels of liquidity that are very high in historical terms. High incremental demand from the US domestic private sectors helps to keep Treasury yields low.

In the near term, these three factors may be sufficient to prevent a fiscal crisis from erupting in the US. In the medium to long-term, however, these factors are unlikely to continue to shield the US sovereign from bond market vigilantes and we think the likelihood of a crisis rises substantially with the length of the time horizon, unless credible fiscal tightening is achieved. A substantial rival as a reserve currency may yet emerge, maybe when the euro area has resolved its existential crisis. Private sector deleveraging in the US will eventually come to an end.

More importantly, however, are the future public spending pressures referred to earlier, emanating from social security obligations and the demand-driven, state-funded healthcare programmes Medicare and Medicaid. Medicare outlays have grown by 9% p.a., on average, over the last thirty years, and this is ahead of an explosion in the share of the population that is eligible for Medicare.⁴⁸ Absent the will and the institutional capacity to tackle healthcare expenditure, in particular, but total public spending pressures in general, it is inevitable, in our view, that the US will ultimately run into painful market discipline.

⁴⁸ US/Europe: Delay and Reform or Just Delay? Monday Morning Comments, 6 December 2010

At the same time, the polarisation of the US polity is such that a fiscal burden sharing rule that would command a majority in both Houses of Congress has been impossible to find, with one major party unwilling to contemplate cuts to social security and healthcare spending, and the other major party effectively vetoing any tax increases. The new political situation after the mid-term elections, with a divided Congress, may improve the prospects of fiscal reform somewhat, as fiscal consolidation is now seen as one of the few major policy areas in which the current administration could potentially garner enough Republican support to pass legislation before the next presidential election.

It is possible, though of course undesirable, that the impetus for such measures would require at least the early visible manifestations of a major fiscal crisis. We can see what would be in store in that scenario to some extent by considering what has been happening since the beginning of the last recession at the state and local level, where balanced budget state constitutions and poor creditworthiness of many cities have forced many states and local authorities into radical and sometimes desperate budget tightening measures. But at the Federal level, there is no evidence that higher taxes and or lower public spending are about to come to Washington DC.

Few disagree that the US needs significant fiscal tightening, at any rate in the medium and long term. Is there any remaining scope for a further fiscal stimulus in the short run, beyond the deferral of the reversal of the Bush tax cuts and the mild further stimulus provided by the reduction in the employee Social Security tax by 2 percentage points? The answer depends entirely either on a belief in the market's continued focus on the near term or on the credibility of a programme of immediate tax cuts or public spending increases, tied to a commitment to future fiscal tightening. Should this credibility be present, it would make sense to make use of it. The (credible) anticipated future tightening would reinforce the current fiscal boost, through the effect of future fiscal restraint on current long-term interest rates.

So in our view the question is not whether the US will, in the absence of a credible commitment to sustained fiscal tightening, run into market discipline in the form of a sharply lower external value of the US dollar and a sharp increase in long Treasury rates, reflecting either a higher perceived sovereign default probability and/or a higher expected future inflation rate. Bond market exceptionalism is indeed exceptional and cannot be expected to endure when the fundamentals keep shifting against it. The imposition of normal financial market discipline on the US does not mean the US dollar has to lose its global reserve currency status. A sharp repricing of Treasuries and the US dollar is eminently compatible with the continued use of the US dollar as the dominant global currency, although it would certainly encourage the search for alternatives.

11.3.4. The dangerous half-truth of monetary autonomy

What does a nation with unsustainable public finances gain as regards public debt and deficit management options when it has monetary autonomy instead belonging to a multi-nation monetary union or currency union? A country with monetary autonomy has a national currency whose management is in the hands of a national central bank or national monetary authority, in contrast to a monetary union or currency union where two or more countries share a common currency managed by a supranational central bank or monetary authority.

Use of monetary autonomy to consolidate public finances relies on use of anticipated and unanticipated inflation tax

For there to be any material difference, it first has to be the case that under monetary autonomy, the national monetary authority or central bank can, when push comes to shove, be told what to do by the fiscal authorities. If the national central bank has both instrument independence and target independence, and if the targets of the central bank are materially different from that of the fiscal authority (say, because the central bank ranks price stability above all other objectives), then national monetary autonomy does not provide the national fiscal authorities with significantly more funding options than would a monetary union.

We believe that the empirical evidence supports the 'fiscal dominance' outcome over the 'monetary dominance' outcome whenever a game of 'chicken' is played between the monetary and fiscal authorities of a single nation about the financing of an unsustainable fiscal deficit. The ECB may yet prove an exception to the fiscal dominance outcome, not primarily because the Treaty endows it with greater formal independence than any other central bank, but because the ECB faces 17 national fiscal authorities that are unlikely to act in a coordinated way to impose their will on the monetary authority.

So in principle, monetary autonomy provides the fiscal authorities with the option to expand, at will and by any amount, the monetary base. This discretionary use of seigniorage (base money issuance) permits the fiscal authorities, in extremis, to use both the anticipated inflation tax and the unanticipated inflation tax to try to eliminate an unsustainable fiscal position.

It is the *discretionary* use of seigniorage and of the anticipated and unanticipated inflation taxes that differentiates a single nation state with monetary autonomy and a pliable central bank from a monetary union with a dominant central bank. Even in a monetary union, the Treasuries of the member states receive their share of the profits of the central bank. In the case of the ECB, these profits are distributed via the shareholders, the 17 national central banks (NCBs), to the ultimate 'beneficial owners' of the ECB, the Treasuries of the euro area member states. But in a monetary union setting, there is a presumption that the national fiscal authorities will not be able, severally or jointly, to induce the common monetary authority to monetise national public debt and deficits. This presumption may be about to be tested in the case of some of the EA periphery member states and the ECB.

How large are the real resources a national fiscal authority can extract if it can take control of the seigniorage-creating capacity of its national central bank? Consider, first, seigniorage and the closely related anticipated inflation tax.

Revenues from anticipated inflation tax are subject to Laffer-curve and unlikely to yield substantial amounts of revenue at acceptable rates of inflation

11.3.4.1. Seigniorage and the anticipated inflation tax

Let s be seigniorage as a share of GDP, that is the change in the stock of base money, M , divided by nominal GDP, PQ , where P is the GDP deflator and Q real GDP. Base money as a share of GDP is denoted $m = M / (PQ)$.

$$s = \frac{\Delta M}{PQ} = \frac{\Delta M}{M} \frac{M}{PQ} = (\pi + \gamma)m \quad (2)$$

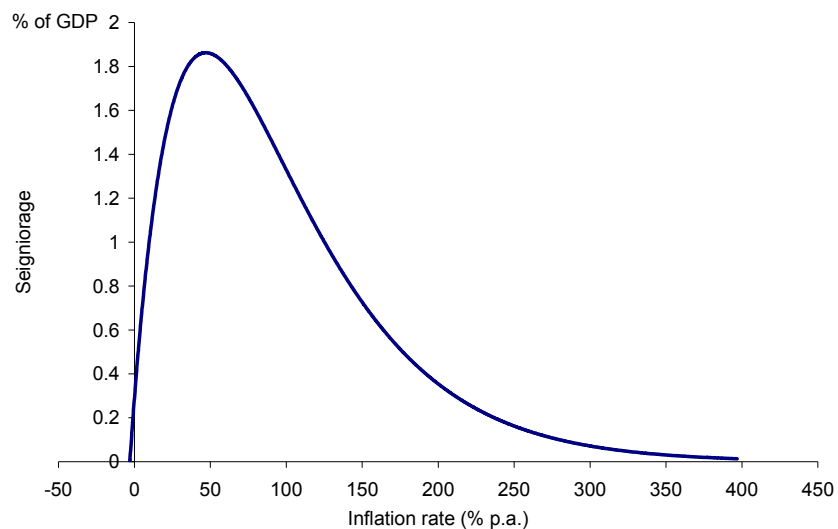
The last equality on the right-hand side is not an identity, unlike the first two. It expresses the assumption that in the long run the income velocity of circulation of base money is constant and that consequently the growth rate of the nominal stock of base money, $\Delta M / M$, equals the growth rate of nominal GDP, that is, the sum of the inflation rate, π and the growth rate of real GDP, γ . The limits to real seigniorage extraction come from the fact that although nominal seigniorage can be made anything, even infinitely large, the higher inflation and higher rate of currency depreciation that will sooner or later result from higher nominal base money growth will feed into higher inflation expectations and currency depreciation expectations. Higher inflation expectations and higher expected exchange rate depreciation mean higher nominal interest rates and a lower demand for real base money — a higher income velocity of circulation for base money. Empirically, raising inflation starting from a low initial level, higher actual and anticipated inflation at first raise real seigniorage revenue but after inflation crosses some threshold, lowers it. An example of a base money demand function that has this long-run seigniorage Laffer curve property is Cagan's semil-logarithmic demand function for base money; π^e stands for expected inflation rate:

$$\begin{aligned} \ln m &= \alpha - \beta \pi^e \\ \beta &> 0 \end{aligned} \quad (3)$$

The anticipated inflation tax, τ^e is the reduction in the real value of the stock of base money due to inflation, when this inflation is anticipated, that is, $\tau^e = \pi m$ when $\pi = \pi^e$. So seigniorage is the sum of the inflation tax plus, γm , the 'real growth dividend', enjoyed because the demand for real base money grows with real GDP, permitting γm worth of seigniorage to be extracted without this putting upward pressure on prices.

With the Cagan base money demand function, seigniorage as a share of GDP is given by $s = (\pi + \gamma)e^{\alpha - \beta\pi}$, which is plotted in Figure 30 for $\alpha = -2.35$ and $\beta = -2.00$, parameter values that fit the post-War II US demand for currency quite well. Commercial bank reserves (required and excess) with the Fed are ignored on the assumption that they are likely to be remunerated at something close to a market rate of interest in the future. With three percent real GDP growth and 2.5 percent inflation (on the GDP deflator measure), this would produce long-run seigniorage revenue equal to about half a percentage point of GDP.

Figure 30. Inflation and Seigniorage Income



Note: The graph has been generated using illustrative parameter values, see text above for further information.
Source: Citi Investment Research and Analysis

The inflation rate that maximises the long-run share of seigniorage in GDP, $\hat{\pi}$, is given by $\hat{\pi} = \frac{1}{\beta} - \gamma$. For our numbers, this would be at an inflation rate of

47 percent per annum. Seigniorage at that inflation rate would be just 1.86% of GDP - nothing to write home about.

Use of unanticipated inflation tax is default by another name and can be expected to have similar, or perhaps more pernicious, side-effects

11.3.4.2. The unanticipated inflation tax

Terminology is not completely standardised. One might think that the reduction in the real value of the stock of base money outstanding when actual inflation π rises but expected inflation π^e does not, would be called the unanticipated inflation tax, that is $\pi m = \pi e^{\alpha - \beta \pi^e}$. However, this is only part of what is commonly meant by it. What is commonly referred to as the unanticipated inflation tax is the reduction in the real value of current and future debt service on all domestic-currency-denominated fixed-rate instruments caused by inflation that is higher than was anticipated at the date the instrument was issued. Currency can be viewed as a special case of a fixed rate security: it is formally a zero coupon perpetuity, promising to pay a zero coupon forever. It is unique as a store of value because its nominal interest rate or coupon does not vary even when anticipated future inflation varies. An ordinary, non-currency fixed income instrument behaves differently. With a coupon C_0 , a constant instantaneous real risk-free rate r and an initial expectation of constant future inflation rate π_0 , the value of a perpetuity would be $\frac{C_0}{r + \pi_0}$ (ignoring term and risk premia). If, unexpectedly, the expected inflation rate rises to, say, $\pi_1 = r + 2\pi_0$, the nominal discount factor would halve and the value of the outstanding debt instrument paying the fixed coupon C_0 would be halved. Of course, any new perpetuity issued once the higher inflation is incorporated in market expectations would have to pay a coupon $C_1 = 2C_0$ to raise the same amount of revenue for the issuer.

So what the US, Japan and other countries with monetary autonomy gain as regards fiscal funding options is the ability to use unanticipated inflation to impose capital losses on owners of public debt that was issued when inflation expectations are lower.

Let us note, first, that the manipulation of inflation surprises to impose capital losses on holders of nominally denominated fixed rate sovereign debt is, from an economic perspective, indistinguishable from a default on that sovereign debt, except for the absence of possible legal consequences for debtor and creditors. The use of the unanticipated inflation tax to halve the real value of current and future public debt service is substantially the same as a sovereign default with a fifty percent recovery rate. Formal default breaks a legal contract. The deliberate manipulation of the price level violates the social contract. The absence of legal recourse for creditors when capital losses are imposed on them through price manipulation rather than through the violation of contractual commitments specified in non-index-linked, nominal terms may be attractive to the borrower, but it does not mitigate the pain for the creditor or the reality of the redistribution of wealth from creditor to borrower.

It is unfortunate that in most countries the law suffers from money illusion, but that should not change the economist's appreciation that an unanticipated inflation solution to an unsustainable fiscal situation amounts to a default: it lowers the real value of current and future public debt service to a level below what was expected by the creditors when the debt was issued, through a deliberate manipulation of monetary instruments under the control of the authorities.

It is true that the price level cannot be managed with a high degree of precision. There are changes in the general price level and in asset prices that are as much a surprise to the issuer as to the creditor. However, it is also true that any government that gets hold of the levers of fiat money creation, through paper or electronic issuance, can do pretty much anything to the real value of the outstanding nominally denominated fixed rate debt.

So from a substantive economic perspective, what the US, Japan and the other nations blessed with monetary autonomy gain is not an alternative to sovereign default, but another way for the sovereign to default. Which way of defaulting is more destructive? Clearly, the legal costs associated with formal default can be a serious obstacle. But in some ways unanticipated inflation is more pernicious than formal sovereign default, because unanticipated inflation also causes redistribution between private creditors and debtors whose contracts are not index-linked. It may be that redistribution in favour of fixed rate mortgage-holding home owners at the expense of banks would not be politically unpopular in some circles. But the redistribution away from pensioners on fixed-rate annuities and towards upwardly mobile yuppies borrowing heavily because of earnings profiles that rise steeply with age might not be as popular. The destruction of middle-class German savings by the Weimar hyperinflation was no doubt matched by corresponding debt reductions for the borrowers, sovereign and private, but just like redistributions of wealth through default, redistributions of wealth through inflation surprises are not neutral, but can be profoundly destructive.

Markets learn. Anticipated inflation boosts will be reflected in higher nominal interest rates on new debt. If it is perceived/feared that the authorities will systematically try to use inflation *surprises* to reduce the real value of current and future debt service, regardless of the current levels of inflation and nominal interest rates, then the markets will refuse to accept domestic-currency-denominated instruments at any nominal rate of interest. They will insist instead on price index-linked debt instruments or foreign-currency index-linked instruments. The fear of a formal default causes a funding strike and a sudden stop. The fear of an inflationary 'solution' to a public debt overhang will cause a funding strike and a sudden stop for fixed rate instruments denominated in domestic currency. In the limit, even the legal tender properties of currency will no longer be sufficient to make it widely acceptable.

Neither the US nor Japan are anywhere near the abyss described in the previous paragraph. But those who argue that there is nothing to worry about in the case of the US and Japan because these countries have monetary autonomy appear to miss the point that monetary autonomy only gives the sovereign material additional fiscal elbow room if the sovereign is willing and able to systematically debauch the currency by engineering large, unexpected increases in the rate of inflation. Even if this is possible, it would be costly. And in all likelihood it would not be possible to a sufficient degree and for long enough to resolve the fiscal imbalances. The view that monetary autonomy gives the sovereign significant, low-cost funding options is a dangerous illusion.

Hungary's public debt level are high by EM standards and recent deficit targets have only been met by confiscatory shifts of pension assets from private to public balance sheets

11.4. Hungary

Hungary's level of gross general government debt is estimated to be around 79% of GDP in 2010, close to the EA average, but high by Emerging Market standards. The general government budget deficit is expected to reach almost 4% of GDP in 2010, while the 2009 deficit was revised up to 4.4% from 4.0% and above the target of 3.9%. In 2011, the deficit is supposed to fall below 3% of GDP. However, the measures taken to reduce the general government deficit include controversial confiscatory shifts of pension assets from private to public balance sheets as well as 'crisis taxes' on the banking, retail, telecom and energy sectors. The revenue impact of the imposition of a flat 16% income tax is uncertain, but unlikely to be significantly positive.

The IMF, which in July 2010 suspended the loan programme it had in place with Hungary since late 2008 after it could not agree with the Hungarian authorities on some of the measures in the adjustment programme, praised the determination of the Fidesz government to adhere to the fiscal targets agreed with its predecessor, but noted that its economic program 'relies to a substantial extent on temporary and distortive measures that may jeopardise medium-term fiscal sustainability, increase uncertainty, and ultimately harm growth' (IMF (2010c)). A distinct positive is that the general government primary balance is currently (mildly) in surplus and is expected to remain so or close to balance over the next few years.

High funding requirements imply that the Hungarian sovereign remains at risk of a funding crisis, especially now that it can no longer take for granted liquidity support from the IMF or the ECB/EU

Market funding requirements for 2011 – 2014 are quite large. The growth outlook is fragile (we expect 1.0% growth in 2010, rising to 2.4% in 2011 and 2.7% in 2012) and further endangered by some of the tax measures and the uncertainty around them. The determined attack by the government on the central bank and on the legislative framework establishing its operational independence has met with the strong disapproval of the IMF, the EC and the ECB, and is likely to be in violation of Hungary's commitments under the Treaty. The ECB provided the Hungarian central bank with a €4bn repo facility at the height of the 2008-2009 financial crisis. This was highly unusual, as Hungary is not a member of the euro area. Future support may not be forthcoming as readily, should the Hungarian government be deemed, by the ECB, to have undermined its central bank's independence.

The combination of these factors and the absence of an EU/IMF lifeline imply that the risk of a funding crisis over the next few years is non-negligible and should be reason enough for the government to reduce its confrontational rhetoric and get serious about achieving a lasting reduction in public spending rather than relying on a sequence of one-off increasingly distortionary revenue measures..

Public finances are in dire straits in many advanced industrialised countries, not just within the EA, and are often tied up with fragile banking systems

12. Conclusion

The deterioration of the public finances in the majority of the advanced economies is unprecedented in peacetime. Although the focus of most of the markets and commentators has been on the EU, and especially the countries in the EA periphery, both Japan and US public finances are unsustainable, in our view, and in the absence of credible and substantial fiscal tightening both would eventually face painful discipline through the markets for foreign exchange and sovereign debt and derivatives.

In the euro area, the fiscal crises in the periphery are inextricably tied up with the fragility of much of the EU banking system, not just in the periphery, but also in the core. The sovereign insolvency problems will have to be resolved jointly, and preferably simultaneously, with a fair number of bank insolvency problems, if the European continent is not to suffer a sustained period of slow growth because of a combination of debt overhang and crisis overhang.

The sovereign debt crises in the euro area share a key feature with previous emerging market sovereign crises: because much of the sovereign debt is held abroad and all of it is denominated in a currency whose issuance is not under the control of the national authorities. This means that neither the anticipated inflation tax (seigniorage acquired through the issuance of base money) nor the unanticipated inflation tax (the reduction in the real value of domestic currency denominated fixed rate nominal debt through unanticipated inflation) are instruments that can be used, even in extremis, in a discretionary manner by the national authorities. That just leaves bail-outs, fiscal pain and sovereign default as means for addressing fiscal unsustainability.

Significant cross-border fiscal transfers are not currently and in the foreseeable future politically feasible in the euro area. Through the exposure of the ECB, the EFSF, the EFSM and the Greek facility to the periphery sovereigns, there will inevitably be some ex-post fiscal burden sharing if and when a sovereign default occurs, but the amounts should be limited.

Euro area break-up remains unlikely for the time being...

Although it is possible to come up with a portfolio of scenarios for the break-up and even the demise of the euro area, we consider it extremely unlikely that the euro area will fall apart. The most serious threat would be the emergence of a de-facto fiscal transfer Europe, making open-ended and possibly uncapped transfers from the fiscally stronger to the fiscally weak countries. This would, in our view, result in an exit of Germany and a handful of other fiscally stronger countries from the euro area, and could even destroy the EU.

...but we think survival beyond doubt and success requires larger sovereign liquidity facilities, debt restructuring for insolvent sovereigns, and debt restructuring and recapitalisations for systemically important banks

For a number of euro area sovereigns, the consolidated position of the sovereign and the banking sector looks unsustainable. This means that either the unsecured debt of the banks will be restructured, or the sovereign debt or both. We are witnessing, in a number of EU, member states, a change in the political climate towards greater tolerance for burden sharing by creditors of both sovereigns and banks. The conditions are being put into place that will facilitate and render increasingly likely the imposition of haircuts on senior unsecured bank creditors of insolvent banks and of sovereign creditors. Evidence for this are, first, the creation in a growing number of EU member states of special resolution regimes for banks that make it technically possible to restructure the balance sheets of near-insolvent banks at the speed of crises, and second, changes in the political rhetoric of burden sharing by creditors.

To guarantee the survival of the euro area, we believe the liquidity facilities will have to be increased greatly in size from their current level of barely over €700bn of loanable funds to at least €2 trillion. At least half of this should be pre-funded to be available at the speed of crises. Given the political and constitutional obstacles to increasing the size of the fiscally funded facilities, it looks unavoidable that the ECB will be called upon to do most of the heavy lifting in the short run. It might be possible for the ECB to fund the enlarged facilities through securities purchases or loans that would be joint and several guaranteed by the EA member states, thus creating a capped E-bond or E-loan.

To prevent the liquidity facilities from becoming transfer or subsidy facilities, their enhancement would have to be accompanied by the restructuring of unsecured bank debt (subordinate and senior) of insolvent banks and of the sovereign debt of those sovereigns for whom default makes more sense than fiscal pain and continued debt and crisis overhang. Monetary autonomy is of limited value in minimising the economic and social cost of resolving fiscal unsustainability.

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Notes

Appendix A-1

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