

Transatlantic economic challenges in an era of growing multipolarity

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Opening Address:

Transatlantic relations and globalisation in time of crisis?

Vitor Gaspar

I want to start by thanking Jean Pisani-Ferry for inviting me to address this important conference. I am particularly grateful for his kind words of introduction and for his friendship and support over the years. We had (and still have) an excellent tradition of cooperation.

It is my privilege to open this Bruegel – PIIIE Conference “*Transatlantic Challenges in an Era of Growing Multipolarity*”. I would like to reflect with you on likely trends for transatlantic dominance of globalisation. I will first comment on some long term trends leading to shifting patterns of power at global level. Second, I will argue that the current crisis will likely accelerate these trends. Finally, I will suggest that, in this context, transatlantic cooperation is crucial for a smooth transition at the global level and conclude.

I am just back from Washington where I participated in the World Bank – IMF annual meetings. It is a long standing tradition that the leadership of the World Bank is entrusted to an American, while the Managing Director of the IMF is a European. This state of affairs reflects the balance of world economic power that prevailed in the 1950s when these multilateral international organisations were starting. In 1950, Europe, the United States and other Western Offshoots (using the expression of Madison) represented about 57 percent of World GDP – at the time the 27 member states of the European Union represented 28.2 percent of World GDP and the United States 27.3 percent. The Transatlantic dominance was even more pronounced if measured by shares in world trade or finance. In terms of population the shares were much lower at 14.8 percent and 6.2 percent respectively, reflecting the relative patterns of prosperity and deprivation around the world.

It is impressive to compare these indicators with the prospects for 2050. Such long term perspective suggests a profound long term change going forward. In the century from 1950 to 2050 the share of Europe and European Offshoots will have fallen from about 57 percent to about 40 percent of world GDP. Western Europe will have fallen from 26.2 percent to 17.9 percent and the US from 27.3 percent to 19.6 percent. In the same period Asia will have moved from about 18.4 percent to 36.5 percent. To a very large extent these trends reflect the reversal of the Great Divergence that took place from the mid-1700s to the mid-1950s and led to dominance of World Trade and Finance by Europe and European off-shoots. The shifting patterns of power going forward are clear. Effective cooperation and coordination in the global economy require that governance of multilateral organisations and groups adapts to these changing patterns. The process of transition may be characterised by growing multipolarity as in the theme for this conference. There can be no guarantees that the transition will proceed smoothly. A cooperative and multilateral approach (that I am tempted to label the European approach) is only one possible way to conceive the transition. But, in whatever way it occurs, the transition at global level will have profound effects on transatlantic political, economic and financial relations. Global transition is a powerful undercurrent that persistently influences transatlantic relations.

This undercurrent operates today in an environment dominated by the Global Crisis. The crisis is often referred to as the first crisis of globalisation. If that were the case it would be without historical precedent. However, I think it is the case that our crisis is one of few crises on record that affected the very core of the international financial system. Dates that come to mind are 1825, 1873 and 1929.

In all these cases history bears witness of profound changes in economic and financial regimes. The same can reasonably be expected also this time around.

In Washington the sovereign debt crisis in the euro area, together with banking fragility, was lively debated and widely regarded as the single most important risk for the global economy. At the same time developments in the United States are also a cause for concern with persistent high budget deficits and increasing debt ratios combined with a weak economy. Risks affecting global developments are identified as centring in the North Atlantic area. Specifically, the IMF in its World Economic Outlook identifies the two main risks for world economic prospects as: *“The first, that the euro area debt crisis runs beyond the control of policy makers, notwithstanding the strong political response agreed in the July 21, 2011 EU summit ... Leaders must stand by their commitments to do whatever it takes to preserve trust in their national policies and the euro.”* And the WEO continues: *“The second is that activity in the United States, already softening, might suffer further blows—for example, from a political impasse over fiscal consolidation, a weak housing market, rapid increases in household saving rates, or deteriorating financial conditions. Deep political divisions leave the course of US policy highly uncertain.”* And the WEO concludes *“Either one of these eventualities would have severe repercussions for global growth. The renewed stress could undermine financial markets and institutions in advanced economies, which remain unusually vulnerable. Commodity prices and global trade and capital flows would likely decline abruptly, dragging down growth in emerging and developing economies. The extent to which this could lower global growth is illustrated in more detail in a downside scenario—the euro area and the United States could fall back into recession, with activity some 3 percentage points lower in 2012 than envisaged in WEO projections. Damage to other economies would also be significant.”*

It seems to me very likely that the fact that Europe and the US are now perceived as at the root of the two most important sources of risk for the global economy will accelerate the shifting in patterns of power that would likely occur in any event. Relative positions are changing rapidly and a new paradigm seems to be closer. It is clear that in this context the world governance model will need to change. Europe and the US should be prepared to work constructively to adapt global governance as required.

The financial crisis has represented a turning point for global governance, both politically and economically. The crisis has spread globally through strong economic and financial linkages. In fact, the inter-linkages and the spill-over effects across countries were evident as never before. In this context, a new willingness to engage in multilateral co-ordinations and co-operation became apparent.

However, further progress is necessary. The economic and political power will need to be reorganised so that it can include rising powers. This change will inevitably require the involvement of more countries in the centre of world's decisions. The G-20 meetings are a clear example of this change. This is a further example of the relevance of the reference to multipolarity in the conference's title.

The United States and the European Union have a lot in common. Fundamental values range from democracy and human rights to the market as the predominant resource allocation mechanism. A recent survey of the German Marshall Fund (released in July 2011) contains much interesting material and illustrates many important points. Let me give you just a few examples. To the question “How desirable is it that US exert strong global leadership?” 85 percent of Americans find that desirable and 14 percent undesirable. For the EU-12 the balance is also positive with 54 percent and 39 percent respectively. When the same question is asked about the EU 69 percent of Americans are

positive while only 20 percent find it undesirable. The corresponding proportions for the EU12 are, respectively, 76 percent and 18 percent. Interestingly the answer to the question “To what extent do you agree with the following: economic power is more important than military power?” 85 percent of respondents from EU12 agree while the majority in agreement in the USA is also quite impressive at 71 percent.

Clearly there is a lot to build on to deepen transatlantic cooperation.

In 1754, Adam Smith wrote in his *Theory of Moral Sentiments*¹:

"Independent and neighbouring nations, having no common superior to decide their disputes, all live in continual dread and suspicion of one another. Each sovereign, expecting little justice from his neighbours, is disposed to treat them with as little as he expects from them. The regard for the laws of nations, or for those rules which independent states profess or pretend to think themselves bound to observe in their dealings with one another, is often very little more than mere pretence and profession. From the smallest interest, upon the slightest provocation, we see those rules every day, either evaded or directly violated without shame or remorse."

It is in my view of central strategic interest for the parties on both sides of the Atlantic to show that we are well past the pessimistic realism expressed in Adam Smith's quote. In the early days of the crisis, in the autumn of 2008, the US and the EU pushed strongly for cooperative solutions at the global level. In current circumstances it is vital to frame transatlantic relations in an inclusive multilateral global framework.

Today's conference will contribute greatly to the debate on transatlantic relations and their place in the global context. I am looking forward to learning from the papers presented and the subsequent debate.

Thank you for your attention.

¹Adam Smith, *The Theory of Moral Sentiments*, in Online Library of Liberty: Glasgow Edition of the Works and Correspondence of Adam Smith, volume I, part VI, chapter II, 3, page 239-240, available on line at <http://oll.libertyfund.org>.

The international monetary system is changing: What opportunities and risks for the euro?

Ignazio Angeloni and André Sapir²

1. At the crossroads

After a pause of thirty years, discussions on the future of the international monetary system (henceforth IMS or “the system”) have restarted. An increasing number of observers are arguing that the system has facilitated, or at least not prevented, the resurgence of economic and financial imbalances that are at the origin of the recent crisis. Meanwhile, due to market forces and policy action, the system has evolved in recent years and more changes are likely in the near future. The aim of this paper is to outline some of these developments and to discuss foreseeable implications for Europe.

Before 2007, some had already noted the peculiar configuration that the post-Bretton Woods system had assumed, with China and the US increasingly unbalanced in their external positions and with a common interest on their part to postpone or even avoid adjustment (Dooley, Folkerts Landau and Garber, 2004). With the crisis, concerns about this situation have increased. Three things happened. First, analyses of the mechanisms driving the supply and demand for risky assets in the pre-crisis years have shed light on the links between the expansion of global liquidity and the propensity by wealth holders and banks to take on leverage and risk (see, for example, Adrian and Shin, 2008). A connection with the IMS arises because the hegemonic position of the US dollar, in combination with the expansionary stance of the US monetary policy, is often recognised as an indirect cause of the rising supply of international liquidity in the years preceding the outburst of the crisis (as argued, for example, by Gourinchas, 2010). Second, the depreciation of the dollar and the ensuing search for portfolio diversification by official reserve holders accelerated a demand-driven evolution towards a “multipolar” IMS (at least if measured at current exchange rates; ECB (b) provides evidence). On the supply side, China has made tentative steps to encourage some cross-border use of its currency. Finally, the growing evidence that global imbalances are not going to go away, even once the global economy were to emerge from the crisis, has injected a sense of “quid agendum” among policymakers.

Clearly, the fact that there are discussions does not *ipso facto* mean that reform will actually happen. It does not even mean that the current market-driven evolution (that we will describe in some detail below) will lead to a discernibly distinct endpoint in a foreseeable future. History is not encouraging in this respect. The extensive debate in the 1960s and 1970s on the weaknesses of the dollar-centred fixed rates system and its possible alternatives did not lead anywhere, except in its dissolution (forty years ago as we write) and replacement with what was later dubbed, dismissively, a “non- system”. By contrast, a monetary order bound to last for decades was delivered in a three-week secluded

² European Central Bank and Bruegel (first author), and Université Libre de Bruxelles and Bruegel (second author). The ideas expressed in this paper are personal and should not be attributed to anybody else than the authors. An earlier version of this paper was presented at the Bruegel-PIIE conference on *The Transatlantic Relationship in an Era of Growing Multipolarity* held in Berlin on September 27, 2011. We are grateful to our discussants, Otmar Issing and Adam Posen, and to other conference participants for helpful comments.

conference (1-22 July 1944), with little contribution from outside experts or public opinions. Can this time be different? Perhaps; it is significant that in addition to discussions there are, at present, powerful economic forces at work that should plausibly propel further changes, on top of those we already see today.

Our scope in this piece is twofold. First, we review the main recent developments in the IMS and possible future trends in the medium term, including the role of China and its currency. Here we draw mainly on a recent report by Bruegel and CEPII that we co-authored with others (Angeloni et al, 2011), in which these trends are examined in more depth. Second, we discuss the position of the euro in the context of these developments. Discussing prospects concerning the international role of the euro may seem hazardous at the present time, when some are prophesying its demise. While not underestimating these risks, we contend that the prospects are not necessarily as grim as they appear at present. Our focus is on the fundamental forces that will, assuming the current tensions subside, shape the position of the euro within different possible scenarios for the evolution of the IMS in foreseeable future.

We make three main points:

1. The international position of the US dollar is going to erode further, though the speed of the process is uncertain. This will create a demand for other currencies to be used internationally as means of payment and store of value³. The real question is how this vacuum will be filled.
2. Barring a resurgence of monetary multilateralism, leading, for example, to a revival of the SDR – eventuality we regard as implausible except in case of major crises – the most realistic scenario is one in which other currencies will come to share the privilege, and the burden, of exercising an international role. Both the Chinese renminbi (RMB) and the euro are partially qualified to play this role, alone or in combination, and are bound to compete for that role. The outcome will depend on a mix of circumstances and policies.
3. The prospects for the euro are challenging but far from hopeless. As others, we are of the view that the euro crisis will be overcome only with further radical steps towards fiscal and financial integration. While it seems unclear at present whether the political cohesion and leadership necessary for such steps can materialise, one should note that, historically, political and economic unifications have typically progressed in times of crisis. The euro is at a risky crossroads, but what matters for our argument here is that the reforms needed to stabilise it internally – some of which are already in progress – are the same ones that would promote its international attractiveness. Internal stabilisation, if achieved, is likely to be matched by a growing international strength.

2. The IMS and the crisis

The current system, or ‘non-system’ as some call it, emerged from the ashes of the Bretton Woods regime in the early 1970s. Its emergence was accompanied by major policy reforms at national level that, taken together, gave rise to the current international financial architecture, which is made of widespread financial liberalisation, the generalisation of central bank independence, policy regimes aimed at delivering domestic stability and the gradual acceptance of exchange-rate fluctuations. For many observers and policy players it was deemed to be not just the only viable system, but also the most desirable one. A system of generalised floating and flexible inflation-targeting with full capital

³ A different view is presented by Kenen (2011), according to whom “There are no alternatives to the present role of the dollar in the international monetary system.”

mobility, at least in the advanced world, seemed well suited to achieving policymakers' goals of full employment, stable prices and sustainable current-account positions. In this setting, their main task was to 'keep their own house in order' (generally intended as some notion of internal balance: low inflation and near-full resource utilisation). International coherence was expected to result from the consistency of national self-centred policy rules.

Gradually, however, this hope dissipated as the two assumptions on which it rested became untenable. First, macroeconomic policies by the key players were meant to remain disciplined and consistent with maintaining the system in balance. This was obviously not the case for the United States whose currency retained a central role in the system giving it the 'exorbitant privilege' of easy external deficit financing and seignorage extraction. Second, countries outside the advanced world, often unable or unwilling to abide by the system of generalised floating and flexible inflation-targeting with full capital mobility and were once a relatively marginal component of the global economy, have become major players.

As a result, in recent years the IMS has undergone a transition, the most important one since the end of Bretton Woods. The conditions for change were already in place before the crisis, as a result of a number of factors.

The first is the trend decline in the weight of the US in the global economy. This movement is clearly underway and will continue, or even accelerate, as we document below. History shows that monetary dominance is persistent: currencies tend to preserve their international role for long after the decline of the respective economy (Flandreau and Jobst, 2009). Over time, however, economic size and performance become increasingly relevant in the attractiveness of a currency for global investors.

In addition, the position of the US dollar has been threatened by the uncertainties connected with the growing external imbalance of the US economy. US deficits contributed to the supply of dollars in the global economy, hence initially supporting the position of the hegemon, but over time they generated doubts about the sustainability of such position – the time-honoured and still valid Triffin (1960) dilemma – and a growing demand for portfolio diversification. The financial crisis has accelerated this evolution. Perceived risks in the US banking system and sovereign debt have fuelled the demand for diversification by private and official wealth holders. The weakness of the US dollar has intensified, except for a short-lived "safe haven effect" during the first phases of the turmoil.

Another contributing factor is the transformation of Asia, since the end of the 1990s, from a chronic state of underdevelopment into a thriving, competitive and highly interconnected economic region. The web of financial and trade linkages across the region has grown exponentially (Kubelek and Sa, 2010). Though a regional "monetary pole" has not emerged yet, the conditions for one arising are increasingly present. China, the largest regional economy, while still hesitant on whether such developments should be encouraged, has nonetheless moved some steps towards developing an international role for its currency (Vallee, 2011).

Since 2005, and increasingly after 2008, China has adopted a more flexible exchange rate stance, something that is seen by many as a sign of further steps towards an open monetary and financial system, including more cross-border use of the RMB within the region. Interestingly, Fratzscher and Mehl (2011) document a sharp increase in the influence exerted by the Chinese currency on other regional exchange rates, starting after the softening of the dollar peg in 2005 and particularly after the financial turmoil of 2008. These authors go as far as suggesting that the renminbi may already have acquired, unnoticed by most, the status of an international currency.

Furthermore, dissatisfaction with capital flows volatility has revived the debate about the costs and benefits of free capital mobility. The general consensus established in the 1990s about the benefits of financial globalisation has been undermined, not only because of the crisis but also, and more simply, because many emerging countries have been repeatedly overwhelmed by surges of capital inflows followed by sudden outflows. Also, many of them, including China and India, have demonstrated that they could perform economically while retaining tight capital controls.

The accumulation of very large international reserves by still relatively poor countries raises concerns about the welfare cost of holding reserves and capital allocation at global level. Foreign-exchange reserves are mostly invested in high-quality and low-yielding liquid assets, mainly government bonds. Such an investment strategy has welfare costs for countries that accumulate reserves and has implications for international capital flows that are undesirable from an allocative viewpoint. It also has consequences for global financial stability, because it increases the burden of diversification and maturity transformation on banking sectors located in the reserve currency countries – mainly the US. Moreover, there is a growing fear among large official reserves holders that the present system exposes them to the risk of large capital losses, should the dollar depreciate in a disorderly way. In brief, foreign-exchange reserves accumulation does, beyond a certain point, offer an unfavourable risk-return trade-off and maybe a source of negative global externalities. Rising concerns in the developing and emerging world were vividly exposed in a widely commented post by China's central bank governor in March 2009 (Zhou, 2009), in which he unexpectedly called for a reform of the IMS based on a revival of the Special Drawing Rights (SDR).

Finally, increasing disputes over the pegging strategies of emerging countries, and monetary policies in the advanced countries, emphasise the increasingly evident need for an emancipation of monetary policies in large emerging countries. The process started before the crisis with the adoption of inflation-targeting monetary policy strategies by many emerging economies. However, fear of floating and lack of international cooperation led many other countries to maintain the objective of a stable exchange rate and to sterilise the monetary consequences of increased net capital inflows. In the wake of the crisis, the large growth differential between the 'North' and the 'South' has made such double-target model unworkable without raising barriers to capital flows. These developments have also prompted fears of 'currency wars'.

The common theme running through these developments is the recognition that current international monetary arrangements seem incapable of delivering not only domestic internal and external stability for each individual country, but also global economic and financial stability. A broadly shared, though not unanimous, opinion among academics (see for example Eichengreen, 2009, Portes, 2009) and policymakers (see de Larosière, 2009, Turner, 2009 and King, 2010) is that the interplay between external imbalances among the main currency areas and financial market developments was an essential ingredient in the genesis of the crisis. There is also broad (but again not unanimous) recognition that macro-imbalances were facilitated by the lack of incentives for policy adjustment and the weakness of multilateral disciplines. Whether the uneasiness about the performance of the system – well articulated by the report of the Palais-Royal initiative (Camdessus et al., 2011) – and the ensuing discussions will lead to reform action soon, or will lose force in the face of the formidable negotiating difficulties that any reform of international monetary relations entails, is difficult to predict. Sceptics point out that agreements on overhauls of the IMS were only reached in exceptional circumstances, typically following major wars.⁴

⁴The Smithsonian Agreement of 1971, that simply took note of the unilateral decision by the US Government to end the Bretton Woods system, is hardly an exception.

All in all, there are in our views elements to believe that, despite the fact that (1) its role in the genesis of the global crisis remains controversial, (2) it proved fairly resilient during the crisis and (3) it will be hard to reform, the current IMS is bound to evolve through either policy initiatives or market developments, or probably both. The two main factors that have contributed to the preservation of the status quo in the last three decades – the uncontested dominant position of the US economy and the absence of plausible candidates to join the US dollar in its international role – are gradually eroding. What is much less clear at present is what direction this evolution will take, say, over a horizon of 10 to 15 years from now.

3. Realistic options for the foreseeable future

To design possible medium-term scenarios for the evolution of the IMS, it is useful to examine the structural factors that shape the global monetary order, their balance and how they are likely to develop over time. Following Angeloni et al. (2011), we distinguish three shaping factors.

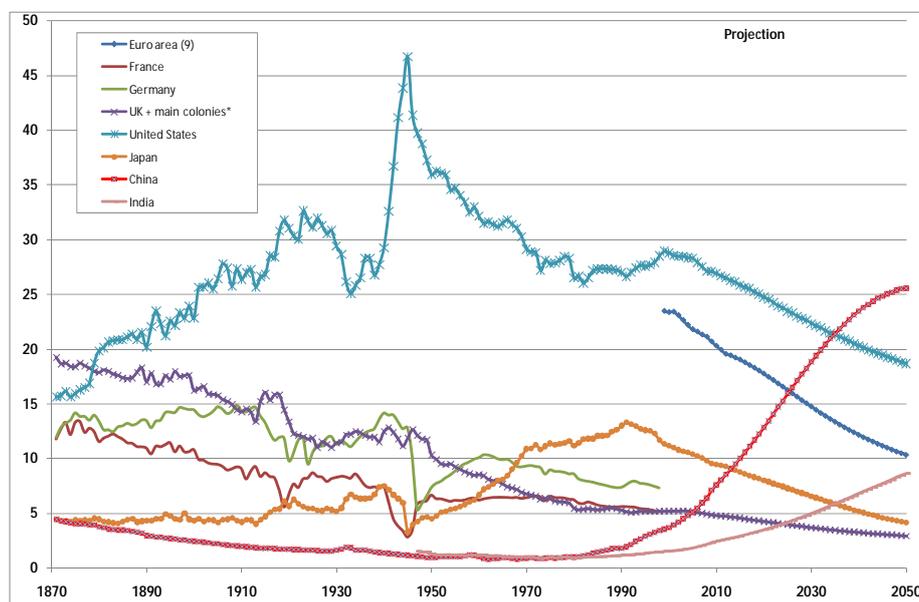
The first is the sheer economic size of nations. Throughout the history of the IMS there has been a link (albeit a complex one) between economic size and monetary leadership, with the complexity coming from the fact that incumbency matters because of ‘network externalities’ associated with the international use of currencies. A similar tension between economic size and incumbency is likely to apply in the decades to come as well, suggesting that the impact of economic size on monetary power, while surely present, is likely to be delayed.

Figure 1 provides a bird eye’s view of the evolution of the world economy and the distribution of economic power from 1870 to 2050, at 2005 exchange rates. Throughout the nineteenth and twentieth centuries, the share of the largest economy in world GDP remained consistently above 15 per cent. For most of the Gold Standard period (1879-1913), the sterling area composed of the UK and its main colonies met this criterion. It was either the dominant power in terms of GDP or a close second to the US. Throughout the Bretton Woods period (1945-1973), the US was the undisputed dominant power, with a weight consistently over one-fourth of world GDP.

According to long-term projections, the world economy in the twenty-first century is likely to see the emergence of two new dominant players:⁵ China and India. China should overtake the US around 2035, at constant relative prices (Subramanian, 2011, offers a comprehensive account of the progress of China). By the middle of the century, US weight should be down to less than 20 per cent and, unless significant enlargements take place, the euro zone’s weight will be down to 10 per cent. Even assuming enlargement of the euro area to the current EU and beyond, its weight is unlikely to reach 15 per cent. In contrast, China could weigh one fourth of the global economy at the 2050 horizon, and India almost as much as the euro area. In the meantime - say, in the next 10 to 20 years - there will be an interregnum during which economic power will be much more evenly distributed amongst a core group of countries.

⁵The projections in this paragraph are from Fouré et al. (2010) and are based on assumptions about demography and productivity..

Figure 1: Percentage shares of selected countries and areas in world GDP, 1870-2050 (at 2005 exchange rates)



Sources: see Angeloni et al. (2011).

The second factor has to do with the ability of a country or a group of countries to exercise monetary leadership. Beyond economic size, this ability depends on financial development, on the quality of economic and financial institutions, on the nature and effectiveness of governance, and on an economic power's political might and commitment to global leadership. Table 1 summarises the respective situations of the US dollar, the euro and the renminbi with respect to these elements.

Table 1: The incumbent and the challengers: state of play in 2011

	US dollar	Euro	renminbi
Size	27% of world GDP, decreasing	20% of world GDP, decreasing (but potential for enlargement)	7.6% of world GDP, increasing
Financial markets and openness	Unrivalled liquidity and depth, full capital mobility	Second after the US, but bond markets remain fragmented in the absence of unified Eurobonds. Full capital mobility	Underdeveloped markets and restricted capital mobility
Legal system	Strong	Strong	Weak
Budgetary and monetary policy	Increasing concerns over the sustainability of budgetary policy and the risks of debt monetisation	Strong monetary record and institutional independence. Concerns over solvency of some individual state borrowers	Strong fiscal position. Good monetary policy track record but at risk, in part because of currency peg
Ability /willingness of policy system to respond to unexpected shocks, lender of last resort function	Strong	Strong for central bank but broader capacity limited by institutional arrangements	Strong
Stance towards international currency role	Incumbent	Officially neutral. Unilateral euroisation by non-member countries actively discouraged	Support for early steps of RMB internationalisation
Political cohesion and geopolitical power	Strong	Limited by political fragmentation	Strong and in ascendance

Source: Angeloni et al (2011).

The table indicates that there are several reasons why the dollar is dominant at the moment. Its main, not negligible, weakness arises from concerns over the sustainability of budgetary policy and the possible monetary consequences of debt unsustainability. The dollar faces however two potential rivals. The first, the euro, has many of the attributes of an international currency and already a sizeable share in foreign exchange reserves and international bond issuances, but weak governance and political foundations. The second potential rival, the renminbi, has strong underpinnings in terms of economic potential and coherence in policymaking but is still far from having acquired the characteristics of an international currency. In short, for the time being the euro will not be dominant

and the renminbi cannot, and this gives the dollar a still-unrivalled status. But this situation is unlikely to last beyond the 10-15 year horizon considered here.

The third factor relates to the likely evolution of global financial conditions. A major question is whether the trend towards global financial integration observed in the last decades will continue and lead to the full inclusion of emerging countries into the global financial network. The appetite for unfettered capital market liberalisation has significantly diminished in the wake of the 1997-98 Asian crisis and of the more recent global crisis. An increasing number of emerging economies have reintroduced capital controls or are contemplating such a move, often with explicit or implicit support from the IMF. The resumption of capital flows after the worse of the global crisis was over nevertheless suggests that these controls were more defensive than offensive; they convey a more cautious approach to liberalisation by emerging and developing countries rather than an irreversible U-turn. Meanwhile, Asian financial centres have continued to strengthen, and their openness and integration have increased.

A separate issue concerns the direction of capital flows. A striking characteristic of the last decade is that, in net terms, while private capital has been flowing ‘downhill’, from relatively richer to relatively poorer countries, official reserve hoarding has reversed the direction of total net flows ‘uphill’. Although they abated somewhat in the aftermath of the global crisis, there are reasons to believe that ‘South-North’ capital flows are going to remain strong and that the world saving-investment balance pattern is not going to reverse dramatically over the next 10-15 years.⁶

Based on these observations, there seems to be three scenarios for the IMS in the foreseeable future, say the next 10-15 years:

1. A repair-and-improve scenario whereby changes to current arrangements are introduced through incremental reforms. These are *inter alia* enhanced surveillance, a voluntary reform of exchange-rate arrangements, especially in Asia; improved international liquidity facilities; accompanying domestic reforms such as the development of home-currency financial markets; and regional initiatives to complement current IMF facilities. Under this scenario, the international role of key currencies remains broadly constant and the US dollar retains its dominant role, the euro’s role remains broadly unchanged, and the one of the Chinese renminbi increases, but remains marginal in comparison to the dollar and the euro.
2. A multipolar scenario in which a system structured around two or three international currencies - the dollar and, presumably, the euro and/or the renminbi – emerges over a 10-15 year horizon. Although a move to a multipolar system is generally viewed as a remote prospect, especially in the case of the renminbi, it would be entirely consistent with the long-run evolution of the world economy. Moreover, the Chinese authorities have taken significant steps in this direction through various schemes and their currency has a strong potential for internationalisation. As for the euro, it has already developed as a diversification currency and in this scenario the euro area overcomes its current difficulties and the euro graduates from a mainly regional to a truly global currency. Yet an alternative bipolar scenario with the dollar and the renminbi could occur if the euro remains handicapped economically and politically.
3. A multilateral scenario in which participants agree to take steps towards a strengthened international monetary order. In contrast with the multipolar scenario, which will largely rely on market forces and national policies, renewed multilateralism would require a fairly intense degree of international coordination and the development of new instruments to help escape the pitfalls of regimes based on the dominant role of one or a few national currencies, foster

⁶ See Chapter 3 of the April 2011 IMF *World Economic Outlook*.

macroeconomic discipline and provide for international liquidity management. A system of this sort could build on the existing SDR or rely on other, new vehicles.

Compared with the current regime, each of these three scenarios has advantages and disadvantages in terms of efficiency, stability and equity. It has also its own specificity in terms of feasibility. Table 2 provides an assessment of the three scenarios in terms of these four criteria.

Table 2: Assessing the three scenarios

Criterion	Scenario 1	Scenario 2	Scenario 3
	Repair improve	and Multipolarity	Renewed multilateralism
Efficiency			
Economies of scale	0	-	0/-
Savings on reserve accumulation	+	++	+++
Limitation of FX misalignments	+	++	++
Stability			
Global anchor	0	?	+
Discipline	+	++	+++
Limitation of FX volatility	0	-	-
Resilience to shocks	+	+	++
Equity			
Adjustment symmetry	+	++	+++
Limitation of exorbitant privilege	0	+	++
Global seignorage	0	+	+
Limitation of policy spillovers	+	++	+++
Feasibility	+++	++	+

(*) Gains (+) or losses (-) are those implied by moving from the current IMS to each of the alternative regimes. Source: Angeloni et al. (2011).

The first scenario is the least demanding in terms of both domestic policies and international coordination, hence is the most likely in the short run. The third one is the most demanding in terms of both domestic policies and international coordination, and therefore the least likely in the

foreseeable future, unless serious shocks in the global economy (e.g. a deep and prolonged recession, disorderly exchange rate and asset price movements, financial instability and contagion, or any combinations thereof) stark recession force a quantum increase in the degree of international economic and monetary cooperation. The second scenario relies on market forces, geo-political trends and domestic policies rather than international cooperation. Its probability is low in the short run, but significant at the 10-15 year horizon.

In terms of efficiency, stability and equity, all three scenarios offer improvements when compared to the current system. Comparing the three scenarios to each other, we find that that the desirability of a scenario seems to be negatively correlated to its feasibility, at least in the short run. The multipolar and the multilateral scenarios are both superior to the more modest ‘repair-and-improve’ scenario, especially on grounds of equity and, to some extent, stability, although their pros and cons vary across the different criteria. But they are also less likely in the short run precisely because they are more demanding in terms of domestic or international policies.

More extreme multilateral scenarios involving the creation of an ‘outside’ international currency in a proper sense (modelled for example on Keynes’ *bancor*) rather than simply the SDR – a scenario envisaged recently by Padoa-Schioppa (2010) would be preferable in our view, at least theoretically, as they would guarantee a fully symmetric adjustment mechanism and full control of global reserves. Admittedly, however, they are even far less realistic than the more modest multilateral scenario considered here.

If feasibility in the medium term is the main guiding principle, then the multipolar scenario is clearly the most interesting to explore since it best corresponds to the structural changes in the world economy discussed earlier, in particular the role of China.

It should be emphasised, though, that the gains from multipolarity can only materialise if key currencies are truly allowed to float (although maybe in a managed way), and if third countries move towards more flexibility or regional pegs. Here the key question concerns the internationalisation of the renminbi and whether it will make exchange rate flexibility more acceptable for both China and its regional partners.

4. A key question: the role of China

There are several reasons to assume that the renminbi will become a major international currency. As the second largest economy in the world, China already has the scale necessary to create deep and liquid financial markets. The huge size of its foreign trade and foreign direct investment volume forms the basis for renminbi-denominated transactions. In addition, the People’s Bank of China (PBC) and the State Administration of Foreign Exchange (SAFE) have large balance sheets and already actively intervene in on- and off-shore financial markets. Moreover, importantly, as Eichengreen (2010) argues, the rise of the renminbi to a fuller international status will be advantageous to China. Besides the extraction of seignorage, domestic firms would be able to limit their foreign exchange exposures by transacting internationally in their own currency, the PBC will be able to follow an independent monetary policy and China’s financial sector will become more competitive.

At the moment, however, the internationalisation of the renminbi remains very limited, even compared to currencies of other emerging countries. Cheung, Ma and McCauley (2010) show that, in 2007, daily trading of the renminbi barely surpassed the sum of daily imports and exports from China, whereas foreign exchange turnover in relation to foreign trade was around 10 for the Indian

rupee or the Korean won and roughly 100 for international currencies such as the Swiss franc or the US dollar.

There are, clearly, formidable obstacles that must be overcome before China's currency gains international status, which presupposes capital account convertibility – the ability to freely convert domestic into foreign financial assets at market determined exchange rates. They include the quality of financial regulation and supervision, the degree of the rule of law, the exchange rate policy and the strong reliance on exports. These obstacles are all interrelated and overcoming them will amount to a fundamental change in China's economic model. Barry Eichengreen argues that “these kinds of changes are coming. While one can question the timing – whether Shanghai will have become a true international financial centre by 2020 [as China's State Council has announced] and whether the renminbi will be a first-rank international currency by that date – one cannot question the direction” (Eichengreen, 2010, pp. 6-7).

Indeed the central question about the internationalisation of the renminbi is one of timing, which is a key factor behind the different scenarios for the evolution of the IMS over the next 10-15 years discussed in the previous section.

In scenario 1, it is assumed that China gradually aligns its monetary regime on those of other Asian emerging countries, which can be characterised by ‘dirty’ float and a limited use of capital controls. Building on its experience with the creation of an offshore market for the renminbi, it continues to foster the international role of its currency, but at a gradual pace.

By contrast, scenario 2 assumes that China moves at a more sustained pace towards the internationalisation of its currency. Changes are initially gradual (for example, we suppose an extension of the ‘pilot’ project of renminbi internationalisation launched in 2009, the promotion of one or several active financial centres and initiatives towards increased financial account openness), but they create a momentum and trigger enough two-way capital mobility for a degree of internationalisation of the renminbi to take place despite remaining limitations to capital mobility. Further internationalisation would require greater capital account liberalisation and a freely floating exchange rate.

Whether or not the 15-year time horizon we envisage here would be sufficient for the renminbi to become a floating currency underpinned by fairly complete capital mobility and therefore to be fully internationalised is difficult to say.

Eichengreen (2010) argues that it took only 10 years (1914 to 1924) for the US dollar to go from a situation where, like the renminbi today, it played a negligible role in international trade and payments to one where it became the leading international and reserve currency. It is not clear, however, whether the international circumstances would allow such a rapid rise of the renminbi in the coming 10 years or even whether the Chinese authorities have the will and the capacity to transform their economy and, indeed, their social and political systems, to a sufficient extent to make that possible.

5. Opportunities for Europe

In the 10-some years of its existence, the euro has made only limited progress in its international presence. Measured by the usual yardsticks – share in global official reserves, use as currency anchor for exchange arrangements, denomination of foreign trade, etc. – it is the second currency after the US dollar. But so it was already shortly after its introduction; the more recent years have seen little

progress in this respect (see ECB (b) and Dorrucchi and McKay, 2011). The stability of the euro's position in the rankings of international use over the decade is striking in light of the diverse influences acting in opposite directions – the sharp depreciation in the first two years, the subsequent re-appreciation coupled with euro area enlargement, recently the financial crisis, etc. The remarkable stability of the status quo for many years may have been due on the one side to inertia generated by the long-standing dominance of the US economy and its currency, and on the other to the lack of serious contenders from the emerging world, on the other. Both conditions are rapidly changing.

The stance of European policymakers towards the phenomenon has been ambivalent. In 1999, the ECB formulated a doctrine that can be labelled “watchful neglect”. According to it, the internationalisation of the euro is a market driven process that should be monitored, not pursued (“neither fostered nor hampered” is the expression used in the ECB, 1999); it is a by-product of other goals (price stability, financial integration), not a goal in itself. This view arose partly from the consideration of the potential costs and risk of an international currency, in terms of added volatility and vulnerability to external influences (an aspect emphasised by Gourinchas, Govillot and Rey, 2010). Over the years, the ECB has regularly monitored the euro's usage in international markets, publishing extensive reports. On the other hand, other policymakers in Europe have expressed different nuances. The Commission's position seemed typically more sympathetic (Almunia, 2008), or even at times expressed an open endorsement (EU Commission, 2008). A rather warm support has come also from the European Parliament (European Parliament, Draft resolutions to the ECB Annual Report, various years). Among member states, different positions have been expressed, some sharing the “neglect” view, others more openly sympathetic to its promotion.

Looking ahead two major questions arise. The first is whether the transition of the IMS suggests that the “neglect” doctrine, prevailing in Europe in recent years, should be reviewed. The second is whether, regardless of the policy stance, those changes imply that a market-driven acceleration of the progress in the euro's international position is likely. Let's consider the two questions in turn.

Historical experience suggests a negative answer to the first question. The British pound and the US dollar – the main global currencies in the last two centuries – acquired their international position not as a result of policy actions deliberately aiming at that goal, but as a consequence of a variety of economic, financial and geo-political developments and conditions. Economic policy may well help those conditions materialise, but its effect on whether a currency is accepted across borders as a medium of exchange and used as store of value is mainly indirect. For example, consider the circumstances linking the creation of the US Federal Reserve (1913) to the establishment of the dollar's international position in subsequent years (Eichengreen, 2011). The presence of a central bank at the centre of the then developing US financial system, guarding financial stability after the major banking crises of the earlier years and providing the real economy with an “elastic currency”, undoubtedly contributed to the rising cross-border role of the dollar after the Great War (Eichengreen and Flandreau, 2009 and 2010). But neither was the Fed founded to promote such role, nor was this a relevant consideration in the mind of Benjamin Strong or other early US central bankers.

Different, in our view, is the answer to the second question, namely, whether the present circumstances are more favourable for the euro to expand internationally. The euro has shown, in recent years, a considerable attractiveness at regional level, especially in Eastern Europe. This process possesses a built-in inertia, which creates favourable conditions for a further spreading in coming years, other things equal. In addition, as we observed, there is now a new and genuine demand for currency diversification in the system. It is unlikely that this demand will go away in the foreseeable future, on the contrary. This should create, *ceteris paribus*, favourable conditions for the

gradual emergence of a multipolar IMS, as we have argued, in which the euro would be a natural candidate for a prominent role.

A major obstacle to such development at present is clearly the European sovereign debt crisis. As we write, the crisis is far from settled and may in fact not have reached its climax. Whatever the eventual outcome, more market turbulence is likely. While there is no statistical evidence yet that the euro debt crisis has altered the portfolio shares of global private and official asset holders, or has affected other indicators measuring the international use of the euro, the present uncertainties are enough to discourage anybody from venturing into conjectures on further advancements of the euro's cross border presence in the years to come.

While agreeing that caution is warranted, there are, we think, two important counterarguments. The first is that, just as one should not rule out less favourable scenarios, it is also plausible that the present crisis may trigger reforms that would not otherwise have been made and will, in the end, permanently strengthen the institutional foundation of the euro. The euro sovereign debt crisis could turn out to be a necessary catalyst for progress. This paper is not the place for a discussion of this scenario and its likelihood. But we note that such outcome would have several relevant historical precedents. In their overview of five well-established federations (US, Canada, Germany, Argentina and Brazil), Bordo, Merkiewicz and Jonung (2011) conclude that

“... institutional developments in most of the five federations were driven by exceptional events, often downturns in economic activity during deep crises... which affected in a fundamental way the institutions of the five federal states. In response to the economic crisis, central governments increased their power.”

The strengthening of central institutions at the expense of regional ones in these five federations involved, first and foremost, fiscal policy and the financing of public debts. While these five examples refer to cases where an established political union pre-existed monetary and fiscal unification, several arguments suggest that present-day Europe (where many functions are already transferred at Union level and a common central bank exists) is more comparable to historical examples of national monetary unifications than to international ones (Bordo and Jonung, 1999).

Our second argument is that most reforms, enacted or under consideration, aimed at strengthening the euro's economic governance are also likely to promote its position in the IMS. There is, in other words, strong synergy between the *internal stability* of the euro and its *external attractiveness*. Therefore, should the more favourable scenario mentioned above materialise, the euro will probably be well positioned to assume a growing role in a multipolar currency system. Let us consider the different aspects of this argument in some detail.

Lane and Milesi-Ferretti (2001 and 2009) and Gourinchas and Rey (2005) have concluded, looking at detailed data on US balance sheets, that the dollar's international role is linked to the US acting in many ways like a financial intermediary, issuing liabilities attractive for international portfolio holders (mainly private liquid balances and official reserve holdings) and investing in more risky assets. To extract the “exorbitant privilege” the US banking sector performs a liquidity-creating and a maturity transformation function, much like a bank, for the rest of the world (as noted already by Kindleberger, 1965). In recent years this intermediation has become more extreme, as the demand for liquidity by international investors has increased while the lending side (equity and FDI investment, often in emerging economies) has become more risky. This interpretation seems to fit to some extent also the earlier case of the British pound; in the gold standard, and until later in the first half of the 20th century, the City of London performed financial intermediation by supplying liquid

assets to international investors (bank deposits, Treasury paper, etc) and financing, via trade credit, the vast international trade between the UK and its empire (Eichengreen, 2011, chapter 3).

The question arises of whether the financial and banking sector of the euro area can perform a similar function, and what the conditions are. Will the reforms in the area of economic governance recently undertaken or being discussed help in this direction?

Of central importance here is the stability, efficiency and integration of the euro area banking and financial sector, including its governance and the availability of an effective safety net. The reforms enacted in 2010 go some way towards providing new and sounder regulatory and supervisory structures. In particular, the European Systemic Risk Board (ESRB), an EU body of central bankers and supervisors, entrusted with the responsibility of monitoring systemic risks and making policy recommendations, should ensure regular and well informed oversight against the resurgence of systemic risks. At a more operational level, the introduction of new European supervisory agencies (respectively on banks, markets and other intermediaries) should help ensure consistent regulation across the area (a level playing field) and homogeneous implementation of rules (a single rulebook), a major deficiency that the institutional structure of the early EMU years had left unresolved (Padoa-Schioppa, 2007).

This granted, much remains to be done. The new European supervisory structures need to be tested and will acquire credibility and influence gradually, building on the limited statutory powers they have. This can only be achieved through consistent and successful performance in the field. This is particularly relevant for the ESRB which does not possess direct intervention powers but acts through non-binding recommendations. The interplay between the ESAs and the national supervisors, a complex web of cross country and cross-institutional interlinkages, will unavoidably have to be phased in gradually and by trial-and-error. In addition, there is an unresolved potential tension between two financial logics in Europe. One is financial integration associated with the internal market, the other is financial supervision associated with the single currency, with the tension coming from the fact that the former is an EU matter, whereas the latter has an important euro area dimension as the crisis has shown. The ESRB and the ESAs are EU rather than euro area bodies, which may preclude their evolution towards euro area supervisors.

A closely related issue regards financial integration, i.e. the ability of the euro area financial system to ensure broadly uniform lending and borrowing (risk-adjusted) conditions to all market participants, especially across borders. In the early years of EMU cross-border financial integration, measured by volumes of cross border flows and yield spreads, progressed steadily but unevenly (more on money markets, less in other market segments; see the ECB's Financial Integration in Europe, various issues). The financial crisis has impaired financial integration very seriously; at the time of writing there are parts of the euro area banking system and money markets that are cut out of regular market linkages and receive financing by the ECB, or else at drastically different conditions than the rest of the area. This has endangered the monetary policy transmission process, as often emphasised by the ECB, but also generated uncertainty and opacity in market conditions within and across compartments (interbank funds, bonds, retail banking services), constituting a factor of discouragement for international investors. The new supervisory and regulatory framework will help but is not sufficient, considering in particular that much of the phenomenon originates from rising and volatile sovereign spreads (Angeloni, 2011).

We regard the integration of sovereign bond markets as a first key condition to *jointly* restore financial stability in the euro area and to enhance the euro's international role. A broad, liquid and integrated market for public sector benchmarks plays a key role in all well-functioning financial

systems. Official wealth holders (central banks and other sovereign institutions), covering a rising share of global funds under management (check) have a systematic preference for low-risk instruments. While the German Bund has fulfilled this role to some extent, an area-wide liquid market, including benchmarks issued and guaranteed by European institutions, would contribute to financial integration (by improving the collateral pools) and to the attractiveness of the euro as an international store of value.

While the advantages of area-wide bond issuances (or bond guarantees) from the point of view of fostering European financial integration and promoting the international attractiveness of the euro are clear, the political and institutional conditions for their introduction, in amounts significantly beyond those already existing for specific purposes (like the issues by the EIB, the Commission or the EFSF) are complex and challenging. A discussion of them would lead us too far from our central theme. Suffice to say that an adequate legal and economic basis would require new Treaty provisions, including strict issuance rules and limits to guarantee the quality of the new instruments and to avoid free-riding.

The second condition we see to underpin the confidence on the euro both internally and internationally is to upgrade the euro area economic performance. Price stability in a strict sense no longer seems sufficient in this respect; real sector performance will be equally important. In the first decade of the euro, progress has been achieved in making euro area labour markets more responsive and in securing a reduction of unemployment rates (ECB, 2008). But this has not prevented growing competitiveness gaps and external disequilibria across euro area countries. Real economic performance gaps across countries increasingly coincide with differentials in sovereign credit risks and in financial sector risks. The euro area has agreed on a new surveillance framework, the Excessive Imbalance Procedure, with the aim of triggering structural policy responses as a result of monitoring of national developments and peer pressure. The challenge will be, once again, implementation: peer pressure can easily lose force and political bargaining produce laxity, as the experience of the SGP demonstrates. If achieved, better and more even-handed economic performance would also improve the chances the euro area may successfully perform the intermediation role that, we have seen, is proper of countries that issue international currencies. Such role requires a pool of investment opportunities, both domestically or across borders. A strong banking sector would hardly prevail in a weak euro area economy.

6. Conclusions

The reasoning we have developed supports three conclusions.

First, the IMS is changing at an accelerating pace, partly due to the influence of the financial crisis. The stable equilibrium that prevailed for decades, characterised by a dominant US dollar and the lack of plausible alternatives, is no longer there.

Second, this situation creates opportunities and risks for the system as a whole and for individual currencies. It seems likely that the next decades will witness the emergence of a multipolar IMS, where the dollar will continue to play a crucial role but other currencies will also occupy a key role. It also seems likely that the Chinese RMB will, sooner or later, be one of the key currencies.

Third, the prospects for the euro are less clear but by no means sombre. As a result of the sovereign debt crisis, which has exposed some fundamental institutional weaknesses, the euro finds itself in a sort of knife's edge situation: either regress or advance, both internally and internationally. The reforms needed to provide the euro with stable institutional foundation largely coincide in our view

with those likely to foster its international use. Stability, efficiency and integration of the banking and financial system are crucial conditions for both internal and international viability and will require further reform of the financial supervisory framework, a broad and liquid sovereign bond market and structural reforms on the real side of the economy. The coming months will tell whether the euro area is able to demonstrate the political cohesion and leadership necessary for such steps to materialise. If it does, internal stabilisation of the euro will be achieved and is likely to be matched by a growing international role.

REFERENCES

- Adrian, Tobias and Hyun Song Shin (2008), "Liquidity, Monetary Policy, and Financial Cycles", Federal Reserve bank of New York, *Current Issues in Economics and Finance*, Vol. 14, No. 1
- Almunia, Joaquín (2008), "The second decade of the euro: what role for the euro in the Global Economy?" Speech at the Peterson Institute, Washington, 11 April.
- Angeloni, Ignazio (2011), "Policy perspectives on financial integration after the crisis"; in *Post-crisis growth and financial integration in Europe*, edited by E. Nowotny, P. Mooslechner and D. Ritzberger-Grünwald, Edward Elgar
- Angeloni, Ignazio, et al. (2011), *Global Currencies for Tomorrow: A European Perspective*; Bruegel Policy Brief n. 13
- Bordo, Michael D and Lars Jonung, (1999), "The Future of EMU: What Does the History of Monetary Unions Tell Us?" NBER Working Papers 7365
- Bordo, Michael D., Agnieszka Markiewicz and Lars Jonung (2011), "A Fiscal Union for the Euro: Some Lessons from History", NBER Working Papers 17380
- Camdessus, Michel, Alexandre Lamfalussy and Tommaso Padoa-Schioppa (2011), *Reforms of the international monetary system: a cooperative approach for the twenty first century*, Palais Royal initiative final report.
- Cheung, Y.-W., G. Ma and R.N. McCauley (2010), "Renminbising China's foreign assets", CESifo Working Paper No. 3009.
- Dooley, M., Folkerts-Landau, D. and P. Garber (2004), "The Revived Bretton Woods System", *International Journal of Finance and Economics* 9, pp 307-313.
- Dorucci, E. and J. McKay (2011), "The international monetary system after the financial crisis", ECB Occasional paper No. 123, February.
- Eichengreen, Barry (2009), "The financial crisis and global policy reforms", Federal Reserve Bank of San Francisco, Asian Economic Policy Conference.
- Eichengreen, Barry and Marc Flandreau (2009), "The rise and fall of the dollar (or when did the dollar replace sterling as the leading reserve currency?)", *European Review of Economic History*, vol. 13(03), pages 377-411, December.
- Eichengreen, Barry (2010), "The renminbi as an international currency", mimeo.

- Eichengreen, Barry and Marc Flandreau (2010), “The Federal Reserve, the Bank of England and the rise of the dollar as an international currency, 1914-39”, BIS Working Papers No. 328.
- Eichengreen, Barry (2011), *Exorbitant Privilege*, Oxford University Press.
- European Central Bank (a), *Financial Integration in Europe*, (various years)
- European Central Bank (b), *The International Role of the Euro*, (various years)
- European Central Bank (1999), *Monthly Bulletin*, May
- European Central Bank (2008), *10th Anniversary of the ECB*, Annex to the *Monthly Bulletin*
- European Commission (2008), *Frequently-asked-questions on EMU and the euro*; EU Commission website
- European Parliament, Draft resolution to the ECB Annual Report, various years.
- Flandreau, Marc and Clemens Jobst (2009), "The Empirics of International Currencies: Network Externalities, History and Persistence," *Economic Journal*, vol. 119(537), pages 643-664
- Fouré, Jean, Agnès Bénassy-Quéré and Lionel Fontagné (2010), “The world economy in 2015: a tentative picture,” Working Paper 2010-27, CEPII: Paris.
- Fratzscher, Marcel and Arnaud Mehl (2011), “China’s Dominance Hypothesis and the Emergence of Tri-polar Global Currency System”, mimeo 2011
- Gourinchas, P.-O. (2010), “US Monetary Policy, ‘Imbalances’ and the Financial Crisis”, remarks for the Financial Crisis Inquiry Commission Forum, mimeo.
- Gourinchas, P.-O. and H. Rey (2005), “From World Banker to World Venture Capitalist: US External Adjustment and The Exorbitant Privilege”, NBER working paper 11563.
- Gourinchas, P.-O., H. Rey, and N. Govillot (2010), “Exorbitant Privilege and Exorbitant Duty”, mimeo, University of California.
- Kenen (2011) “Beyond the Dollar”, paper presented at the AEA Allied Social Science Association Meetings, Denver, Colorado.
- Kindleberger, Charles (1965), *Balance of Payments Deficits and the International Market for Liquidity*, Essays in International Finance, May
- Kubelec, C. and F. Sá (2010), “The geographical composition of national external balance sheets: 1980-2005”, *Bank of England Working Paper* No 384, March.
- Lane, P. and G.M. Milesi-Ferretti (2001), “The External Wealth of Nations: Measures of Foreign assets and Liabilities for Industrial and developing Countries”, *Journal of International Economics* 55 p. 263-294

- Lane, P. and G.M. Milesi-Ferretti (2009), “The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities”, IMF Working Paper WP06/09.
- Padoa-Schioppa (2007), Progressing within the Lamfalussy Framework, available at <http://www.tesoro.it/documenti/open.asp?idd=18832>
- Portes, Richard (2009), “Global imbalances”, PEGGED Policy Brief n. 3
- Subramanian, Arvind (2011), *Eclipse: Living in the shadow of China’s Economic Dominance*, Peterson Institute for International Economics
- Triffin, R. (1960), *Gold and the Dollar Crisis: the Future of Convertibility*, Yale University Press.
- Vallée, S. (2011), “The path of Internationalisation of the RMB”, Background paper prepared for the report *Reforming the international monetary system: options and implications*, April.

European monetary unification: precocious or premature?

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1. Introduction

Prior to the formation of the euro area, a process formally known as European Economic and Monetary Unification (EMU), research suggested that potential participants in EMU were less economically integrated than regions of the United States. Subsequent research held out the hope that countries within the euro area were becoming more integrated because of the formation of the “single market” in 1992 and the creation of the common currency in 1999. This paper finds only weak evidence of an increase in euro-area integration since 1999. Countries in the euro area remain considerably less integrated than regions or states within the United States, particularly in the area of labour markets.

2. Previous studies

In a widely-cited paper, Tamim Bayoumi and Barry Eichengreen (1992) found that the precursor to the European Union, the European Community, was less economically integrated—and thus less well-suited as a common currency area—than the United States. However, they also noted that a core group of countries centred on Germany was roughly equally integrated as the United States.⁸ Bayoumi and Eichengreen based their conclusions on measures of the correlation of inflation and economic activity across members of the European Community and across regions of the United States over the period 1960-88. The guiding principle is that regions that share common economic movements are better suited to share a common monetary policy than regions with highly different economic movements.

Jeffrey Frankel and Andrew Rose (1998) argued that currency union may increase the synchronisation of business cycles across member economies, in part because of increased trade links. Andrew Rose and Eric van Wincoop (2001) predicted that trade of euro-area countries would rise “in excess of 50 percent.” Richard Baldwin (2006) subsequently estimated that currency union had increased trade among euro-area countries by 5 to 15 percent. Joseph Gagnon and Marc Hinterschweiger (2011) found results consistent with Baldwin’s estimate.

Phillip Lane (2006) surveyed research on several dimensions of integration within the euro area, including price differentials, labour mobility, financial integration, fiscal coordination, and trade. Lane found strong evidence for integration in financial markets and trade; he found little evidence of increased integration of labour markets, and only weak evidence of integration in fiscal policy and inflation.

Rose (2008) found that EMU had increased trade of member countries between 8 and 23 percent. Using meta-analysis of 20 studies of the effect of trade on business cycle correlation, he estimated that the increased trade caused by EMU may have increased the correlation of de-trended real output across euro-area members from about 0.2 to at least 0.4.

⁷ I thank Anders Aslund, Otmar Issing, Jacob Kirkegaard, Juan-Carlos Martinez Oliva, Adam Posen, Ted Truman, and John Williamson for helpful comments, and Marc Hinterschweiger for gathering the data.

⁸ The core group was Belgium, Denmark, France, Germany, Luxembourg, and the Netherlands.

Jean-Claude Trichet (2011) argued that measures of dispersion of inflation, GDP growth, and labour costs across members of the euro area are comparable to those across states of the United States.

3. A fresh look

This paper presents updated analysis similar in spirit, though somewhat simpler, than that of Bayoumi and Eichengreen (1992). Bayoumi and Eichengreen decomposed shocks into supply and demand shocks. They focused more on supply shocks than on demand shocks because differences in monetary policy across European countries prior to EMU contributed to dispersion in demand shocks that presumably would not be present after EMU. This paper does not decompose shocks in this way because it focuses on the period after EMU in which the euro area had a common monetary policy.

In addition to looking at GDP growth and inflation, this paper examines the unemployment rate. The importance of labour market integration for a currency union was first advanced by Robert Mundell (1961) in his Nobel-prize-winning research on optimum currency areas. The experience of Texas within the United States over the past few years confirms Mundell's insight. The rise of world oil prices since 2003 has greatly boosted the growth rate of Texas GDP, yet the Texas unemployment rate has remained close to the US average as a large inflow of workers arrived from other states. This labour market flexibility has reduced the cost to Texas and the rest of the United States from having a common monetary policy. Because unemployment is more closely linked to the unobservable output gap than real GDP, divergences in the unemployment rate across regions may be a better indicator of the cost of a common monetary policy than divergences in GDP growth.

Data description

Table 1 describes the data and the definition of regions. The variables are the rates of real GDP growth, inflation, and unemployment. Inflation is measured using the GDP deflator.⁹ Because the regional breakdowns for the euro area have different geographic coverage, the area-wide data for the euro area are calculated as nominal-GDP-weighted averages of data for the regions that are included in each breakdown. Table 2 displays summary statistics for both the 12 years since the launch of EMU, 1999-2010, and for periods prior to EMU, which differ according to availability of data.

The main regional breakdown for the United States consists of the nine Census divisions. An alternate breakdown consists of the 50 states plus the District of Columbia. Statistics for this alternate breakdown are weighted by nominal GDP in order to damp the effect of idiosyncratic shocks in small regions.

The main regional breakdown for the euro area consists of the 11 original members minus Luxembourg. Luxembourg is excluded because it has a population barely one-tenth that of the next smallest member (Ireland). Very small regions are prone to idiosyncratic shocks that bias downward their correlation with the rest of the currency union. One alternate breakdown consists of the 11 original members plus Denmark, which has maintained a tightly pegged exchange rate to the euro since its inception, and Greece, which joined the euro area in 2001. As in the case of the alternate breakdown in the United States, statistics for this alternate breakdown are weighted by nominal GDP. Another alternate breakdown, referred to as the core group, consists of the core countries identified by Bayoumi and Eichengreen (1992) plus Austria.

⁹ Consumer price inflation is not available on a state or regional basis in the United States. It is available for selected metropolitan areas. Bayoumi and Eichengreen (1992) used the GDP deflator.

Real GDP growth

According to Table 2, real GDP growth was moderately higher in the United States than in the euro area during 1999-2010 but variability of this growth was roughly equal in the two areas. Differences in growth rates across regions (the third line) were slightly larger in the euro area than in the United States, but the opposite was true in the years before 1999. The variability of real GDP growth over time in each region (the fourth line) was somewhat greater on average in the euro area than in the United States after 1999.

Table 3 presents results of panel regressions of real GDP growth in the United States and the euro area. The top half of the table focuses on the post-EMU period and the bottom half focuses on the pre-EMU period. Real GDP growth in each region is regressed on two lags of itself plus the current value of GDP growth for the area as a whole.¹⁰ In addition, there is a complete set of regional fixed effects that allow each region to have a different average growth rate. Δy denotes the growth rate of GDP. α and β are coefficients to be estimated. The subscript i in the regression equation denotes regions and the subscript t denotes years. The subscripts EA and US denote area-wide data for the euro area or the United States, respectively.

$$\Delta y_{it} = \alpha_i + \beta_1 \Delta y_{it-1} + \beta_2 \Delta y_{it-2} + \beta_3 \Delta y_{(EA|US)t}$$

The coefficient β_3 indicates the extent to which the regions share common shocks; a value of β_3 near zero means regions do not share common shocks, whereas a value of β_3 near one means regions fully share common shocks. The coefficients β_1 and β_2 indicate the extent to which idiosyncratic, or region-specific, shocks are persistent or transitory. Large values indicate that regional differences persist for a long time, whereas small values indicate that regional differences die out quickly. Finally, the standard deviation of the regression is a measure of the size of the typical region-specific shock (in percentage points).

According to the top half of Table 3, shocks to real GDP growth rates in the post-EMU period are highly shared across regions, as shown by the estimates of β_3 close to one. Region-specific shocks are not persistent, as shown by the estimates of β_1 and β_2 close to zero, although there is a slight indication of greater persistence in the euro area 10-country and 13-country breakdowns. These results are not sensitive to excluding the Great Recession years (2008-10) from the analysis, as shown in the second column for each area. Figure 1 displays the magnitude and persistence of region-specific GDP shocks for the main regional breakdowns in the post-EMU period based on these regression results. Region-specific GDP shocks are moderately larger in the euro area and have slightly greater persistence.

In the pre-EMU period, regional coherence (β_3) was roughly the same in the United States, but noticeably lower in the euro area. Persistence of regional GDP shocks (β_1) was slightly larger in the United States and considerably larger in the euro area prior to EMU. These results may reflect the adoption of a common monetary policy in the euro area, which replaced region-specific monetary policies with a common monetary policy.

Overall, the GDP regressions display similar degrees of economic integration in the United States and the euro area since 1999.

¹⁰ Additional lags are never significant in Tables 3, 4, and 5.

Inflation

As can be seen in the middle section of Table 2, inflation was a little higher in the United States than in the euro area over the past 12 years. In addition, the volatility (standard deviation) of US inflation was somewhat higher than that of euro-area inflation. However, the dispersion of average inflation rates across regions was much higher in the euro area than in the United States.¹¹ The volatility of regional inflation is also higher in the euro area than in the United States, despite the lower volatility for the euro area as a whole.

Table 4 presents regressions of regional inflation similar in structure to those shown for GDP growth in Table 3. For the United States, the results are similar for both regional breakdowns and for the shorter sample period. The estimates of β_3 imply that inflation in each region moves roughly one-for-one with national inflation. The estimates of the lag coefficients (β_1 and β_2) imply that idiosyncratic regional shocks to inflation are very short-lived.

The estimates are different for the euro area. For the main breakdown (10 countries), regional inflation moves a bit more than half of area-wide inflation (β_3) and idiosyncratic regional shocks are strongly persistent—two-thirds of any increase in regional inflation carries over into the next year (β_1). In the sample that ends in 2007, the persistence of region-specific inflation is a bit lower and the coherence of regional inflation rises a bit, but the coherence is still notably lower, and persistence considerably higher, than in the United States. For the 13-country breakdown, the coherence of regional inflation (β_3) also is somewhat higher, probably reflecting the high weights on French and German inflation, which dominate the euro-area average. For the core group, persistence (β_1 and β_2) drops essentially to zero, similar to that in the United States, but coherence remains notably lower than in the United States.

Figure 2 displays the magnitude and persistence of region-specific inflation shocks based on the regressions for the main regional breakdowns in 1999-2010. Region-specific inflation shocks (even after allowing for different regional mean rates of inflation) are much larger and more persistent in the euro area than in the United States.

The bottom half of Table 4 shows results for the pre-EMU period. For the United States, the results are essentially the same as for the post-EMU period.¹² For the 10-country and 13-country euro area breakdowns, the regressions find similar persistence and lower coherence before EMU than after. For the core of the euro area, the differences before and after EMU are somewhat greater.

Note that all of these regressions include regional fixed effects, which allow each region to have a different average inflation rate. One objective of a monetary union may be to have the same average inflation rate across the regions. The summary statistics show that regional inflation rates are very similar in the United States but much less so in the euro area. Regressions without regional fixed effects (not shown) display similar results to those of Table 4 for the United States, but less coherence and greater persistence for the euro area. Different mean rates of inflation might arise if euro-area regions had different price levels prior to EMU and were converging toward a common level of prices. Before the Great Recession, it was commonly argued that higher inflation in the periphery of the euro area reflected such a convergence process. Now, however, many argue that different inflation rates across euro-area regions during the past decade led to a divergence of prices from long-run equilibrium.

¹¹ Surprisingly, this dispersion is even greater for the core of the euro area, at 0.8 (not shown in the table).

¹² The negative second lag in the 51-state regression is probably spurious. Owing to lack of data, the sample for the United States is rather short.

Overall, the inflation data and regressions for the post-EMU period display greater economic integration in the United States than in the euro area, although the differences are notably smaller between the United States and the core of the euro area. The euro area has narrowed some of the large integration gap that existed before EMU, especially in the core.

Unemployment

The bottom section of Table 2 compares statistics on unemployment. The average unemployment rate for the United States is considerably lower than that for the euro area, but unemployment was a lot more volatile in the United States during the past 12 years. It is widely accepted that US firms are both more willing and more able to fire workers in downturns and thus feel greater freedom to hire in upturns. Differences in average rates of unemployment across regions are much larger in the euro area than in the United States. This finding is true even within the core of the euro area (not shown). The volatility of unemployment by region (after subtracting region-specific means) is broadly similar in the United States and the euro area.

Table 5 presents results of regressions of the regional unemployment rates on their own lagged values and on the value of the area-wide unemployment rate. As in the regressions of GDP growth and inflation, fixed effects are included for each region to control for differences in the average unemployment rates across regions. In the United States, about 80 percent of national movements in unemployment are shared across the regions (β_3). Idiosyncratic regional shocks to unemployment die out quickly (β_1 and β_2). These results are not particularly sensitive to ending the sample in 2007.

The results for the euro area are strikingly different. Only about 20 percent of area-wide movements in unemployment are shared across the regions; even in the core, this coherence is only 0.25. These differences are not greatly changed by restricting the sample to the period before the Great Recession. The estimates of β_1 around 1.3 imply that idiosyncratic regional shocks are not only persistent, but actually tend to grow in the near term before slowly dying out. In the core, idiosyncratic shocks do not grow over time, but they are still more persistent than in US regions. Figure 3 shows that region-specific unemployment shocks in the euro area are both larger and more persistent than in the United States.

The bottom half of Table 5 presents results for unemployment prior to EMU. For both the United States and the euro area, the sample is 1982-98. For the United States, the coherence of unemployment shocks across regions appears to have been somewhat lower in the earlier sample and the persistence of regional shocks moderately greater. For the euro area, there is little difference in the coherence of unemployment shocks before and after EMU. In both samples, coherence is far lower in the euro area than in the United States. Persistence appears to have decreased a bit over time in the core of the euro area, but remained well above that in the United States over the past 12 years. For the overall euro area, there is little change in the persistence of region-specific unemployment shocks, with persistence remaining far above that in US regions.

Overall, the unemployment data and regressions for the post-EMU period display much greater economic integration in the United States than in the euro area, and the differences are nearly as large when comparing the United States to the core of the euro area. The euro area has made little progress in integrating its labour markets since the launch of EMU.

4. Conclusion

These results suggest that countries in the euro area are less economically integrated than states or regions in the United States, but the degree of integration varies across markets.

- Progress toward integration in the euro area is greatest in terms of real GDP growth. Countries in the euro area now have GDP growth rates that are nearly as closely connected as those of US regions.
- Inflation rates are less closely linked in the euro area than in the United States, although the core of the euro area has correlations not far from US levels.
- There has been little progress in linking unemployment rates within the euro area. Labour markets in euro-area countries are far less integrated than in US regions, and these divergences are nearly as great for the core of the euro area as for the entire euro area.

REFERENCES:

Baldwin, Richard. 2006. *In or Out: Does It Matter? An Evidence-Based Analysis of the Euro's Trade Effects*. London: Center for Economic Policy Research.

Bayoumi, Tamim, and Barry Eichengreen. 1992. Shocking Aspects of European Monetary Unification. NBER Working Paper No. 3949. Cambridge, MA: National Bureau of Economic Research.

Frankel, Jeffrey, and Andrew Rose. 1998. The Endogeneity of the Optimum Currency Area Criteria. *Economic Journal* 108: 1009-25.

Gagnon, Joseph, and Marc Hinterschweiger. 2011. *Flexible Exchange Rates for a Stable World Economy*. Washington: Peterson Institute for International Economics.

Lane, Phillip. 2006. The Real Effects of European Monetary Union. *Journal of Economic Perspectives* 20, no. 4: 47-66.

Mundell, Robert. 1961. A Theory of Optimum Currency Areas. *American Economic Review* 51: 509-17.

Rose, Andrew. 2008. Is EMU Becoming an Optimum Currency Area? The Evidence on Trade and Business Cycle Synchronisation. Manuscript, University of California, Berkeley.

Rose, Andrew, and Eric van Wincoop. 2001. National Money as a Barrier to International Trade: The Real Case for Currency Union. *American Economic Review* 91, no. 2: 386-90.

Trichet, Jean-Claude. 2011. The Euro, Its Central Bank, and Economic Governance. The Stamp Memorial Lecture at the London School of Economics and Political Science.

Table 1. Data Description

Real GDP, GDP deflator, and unemployment rate
Annual, 1980-2010 (data on US regional GDP and GDP deflator begin in 1987)

United States

9 Census Divisions (Main): New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, Pacific

51 States (Alternate): 50 States plus District of Columbia (statistics weighted by nominal GDP)

Euro Area

10 Countries (Main): Original members except Luxembourg

13 Countries (Alternate): Original members plus Denmark and Greece (statistics weighted by nominal GDP)

Core (Alternate): Austria, Belgium, Denmark, France, Germany, Luxembourg, Netherlands

Sources: IMF *World Economic Outlook* database, US Bureau of Economic Analysis, US Bureau of Labour Statistics.

Table 2. Summary Statistics

Statistic	United States		Euro Area	
Real GDP Growth Rate				
	1988-98	1999-2010	1981-98	1999-2010
Area Average	3.2	2.0	2.1	1.5
Area Standard Deviation	1.7	1.9	1.2	2.0
Std. Dev. of Regional Averages	0.9	0.6	0.7	0.8
Average of Regional Std. Dev.'s	1.9	2.0	2.0	2.6
Inflation Rate				
	1988-98	1999-2010	1981-98	1999-2010
Area Average	2.5	2.2	4.8	1.8
Area Standard Deviation	0.9	0.8	2.6	0.5
Std. Dev. of Regional Averages	0.2	0.2	2.7	0.6
Average of Regional Std. Dev.'s	1.0	0.9	3.5	1.4
Unemployment Rate				
	1980-98	1999-2010	1980-98	1999-2010
Area Average	6.6	5.8	9.2	8.5
Area Standard Deviation	1.4	1.9	1.3	0.7
Std. Dev. of Regional Averages	0.9	0.6	4.1	2.4
Average of Regional Std. Dev.'s	1.6	1.8	2.3	1.8

Note: Regional statistics are based on the main regional breakdowns defined in Table 1.

Table 3. Regression Analysis of GDP Growth Rates

$$\Delta y_{it} = \alpha_i + \beta_1 \Delta y_{it-1} + \beta_2 \Delta y_{it-2} + \beta_3 \Delta y_{(EA|US)t}$$

(α_i are regional fixed effects)

	United States			Euro Area			
	9 Census Divisions		51 States (weighted)	10 Countries		13 Ctry. (weighted)	Core
	1999- 2010	1999- 2007	1999-2010	1999- 2010	1999- 2007	1999-2010	1999- 2010
β_1	0.02	0.10	0.08**	0.01	0.11	0.01	-0.07
(std. error)	(.06)	(.09)	(.03)	(.07)	(.08)	(.05)	(.06)
β_2	-0.05	-0.07	-0.04	0.19*	0.07	0.12	0.03
(std. error)	(.07)	(.08)	(.04)	(.10)	(.07)	(.08)	(.09)
β_3	0.96***	0.89***	0.98***	1.13***	1.10***	1.02***	1.20***
(std. error)	(.05)	(.10)	(.04)	(.07)	(.10)	(.05)	(.07)
Regression							
Std. Dev.	0.95	0.95	1.68	1.32	0.78	1.01	0.95
	1990-98			1983-98			
β_1	0.15**		0.11***	0.44***		0.29***	0.20**
(std. error)	(.06)		(.04)	(.07)		(.05)	(.08)
β_2	-0.04		-0.02	-0.05		-0.09*	0.10
(std. error)	(.06)		(.04)	(.07)		(.05)	(.08)
β_3	0.93***		0.94***	0.80***		0.86***	0.83***
(std. error)	(.07)		(.05)	(.10)		(.07)	(.13)
Regression							
Std. Dev.	0.92		1.60	1.44		1.04	1.44

Notes: *, **, *** denote statistical significance at 10, 5, and 1 percent levels, respectively. Weighted statistics are weighted by regional nominal GDP. See Table 1 for data description and sources.

Table 4. Regression Analysis of Inflation Rates

$$\Delta p_{it} = \alpha_i + \beta_1 \Delta p_{it-1} + \beta_2 \Delta p_{it-2} + \beta_3 \Delta p_{(EA|US)t}$$

(α_i are regional fixed effects)

	United States			Euro Area			
	9 Census Divisions		51 States (weighted)	10 Countries		13 Ctry. (weighted)	Core
	1999- 2010	1999- 2007	1999-2010	1999- 2010	1999- 2007	1999-2010	1999- 2010
β_1	-0.07	0.08	-0.14***	0.65***	0.45***	0.39***	-0.07
(std. error)	(.08)	(.08)	(.04)	(.09)	(.10)	(.08)	(.10)
β_2	0.09	0.01	0.03	-0.04	-0.07	0.00	-0.10
(std. error)	(.07)	(.06)	(.04)	(.10)	(.10)	(.09)	(.10)
β_3	0.94***	0.90***	1.07***	0.60***	0.73**	0.81***	0.71***
(std. error)	(.08)	(.09)	(.06)	(.13)	(.18)	(.12)	(.18)
Regression Std. Dev.	0.59	0.37	1.12	0.90	0.77	0.75	1.09
	1990-98			1983-98			
β_1	-0.02		-0.07	0.53***		0.37***	0.36***
(std. error)	(.10)		(.05)	(.08)		(.06)	(.09)
β_2	-0.03		-0.29***	0.05		0.06	-0.00
(std. error)	(.12)		(.06)	(.08)		(.06)	(.09)
β_3	1.04***		1.28***	0.30***		0.60***	0.38***
(std. error)	(.13)		(.08)	(.10)		(.08)	(.12)
Regression Std. Dev.	0.45		0.85	1.86		1.76	1.67

Notes: *, **, *** denote statistical significance at 10, 5, and 1 percent levels, respectively. Weighted statistics are weighted by regional nominal GDP. See Table 1 for data description and sources.

Table 5. Regression Analysis of Unemployment Rates

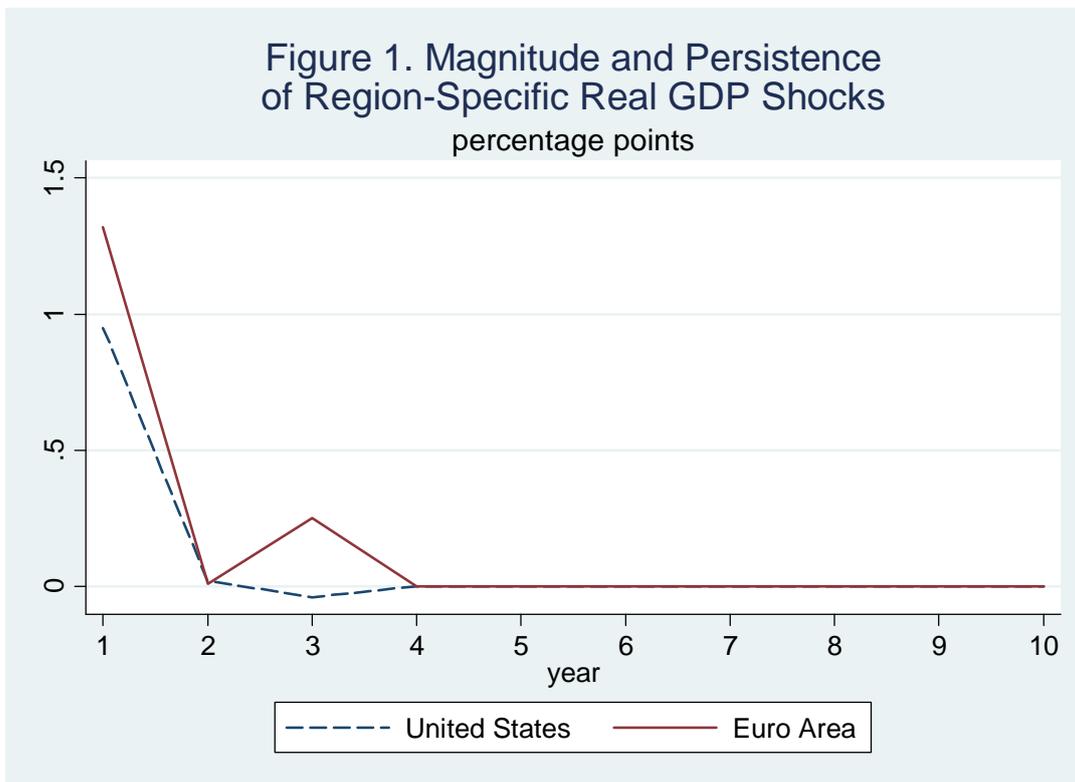
$$u_{it} = \alpha_i + \beta_1 u_{it-1} + \beta_2 u_{it-2} + \beta_3 u_{(EA|US)t}$$

(α_i are regional fixed effects)

	United States			Euro Area			
	9 Census Divisions		51 States (weighted)	10 Countries		13 Ctry. (weighted)	Core
	1999- 2010	1999- 2007	1999-2010	1999- 2010	1999- 2007	1999-2010	1999- 2010
β_1	0.22***	0.46***	0.37***	1.29***	1.15***	1.25***	1.01***
(std. error)	(.08)	(.11)	(.04)	(.08)	(.10)	(.07)	(.11)
β_2	-0.04	-0.20**	-0.09*	-	-	-0.62***	-
(std. error)	(.10)	(.09)	(.05)	0.62***	0.42***	(.07)	0.47***
				(.07)	(.08)		(.10)
β_3	0.83***	0.67***	0.77***	0.19**	0.05	0.19*	0.25**
(std. error)	(.05)	(.09)	(.03)	(.09)	(.09)	(.11)	(.13)

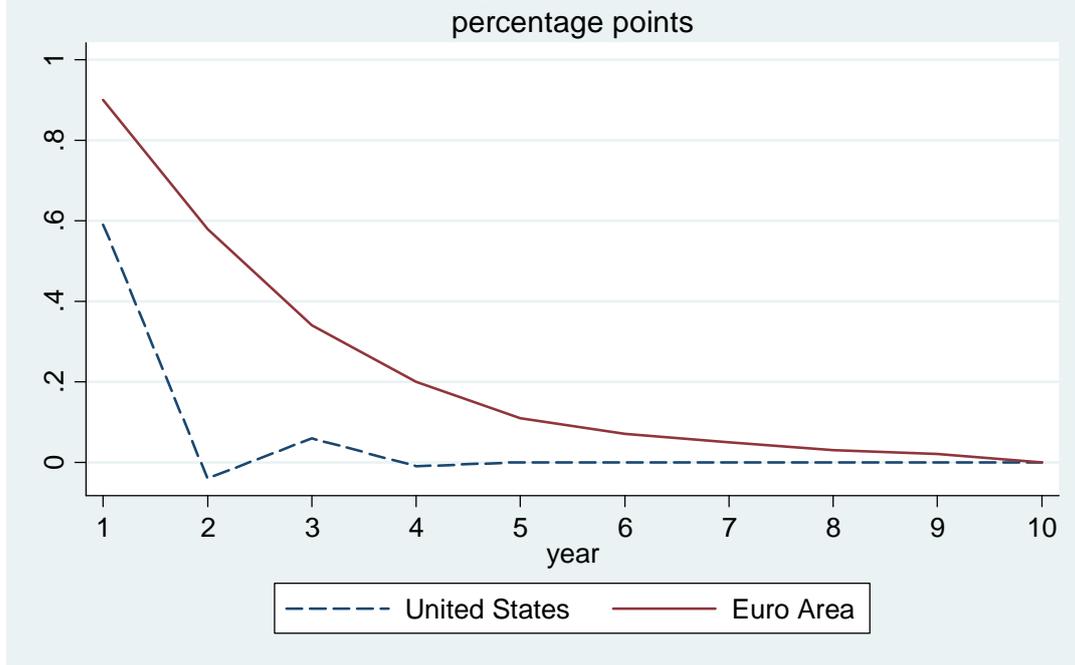
Regression	0.45	0.27	0.63	0.93	0.59	0.85	0.55
Std. Dev.	1982-98			1982-98			
β_1	0.69***		0.77***	1.38***		1.21***	1.28***
(std. error)	(.08)		(.03)	(.07)		(.06)	(.07)
β_2	-0.21***		-0.24***	-0.60***		-0.54***	-
(std. error)	(.06)		(.03)	(.06)		(.05)	0.61***
							(.06)
β_3	0.54***		0.50***	0.07		0.27***	0.15**
(std. error)	(.05)		(.02)	(.07)		(.06)	(.08)
Regression							
Std. Dev.	0.66		0.74	0.91		0.62	0.50

Notes: *, **, *** denote statistical significance at 10, 5, and 1 percent levels, respectively. Weighted statistics are weighted by regional nominal GDP. See Table 1 for data description and sources.

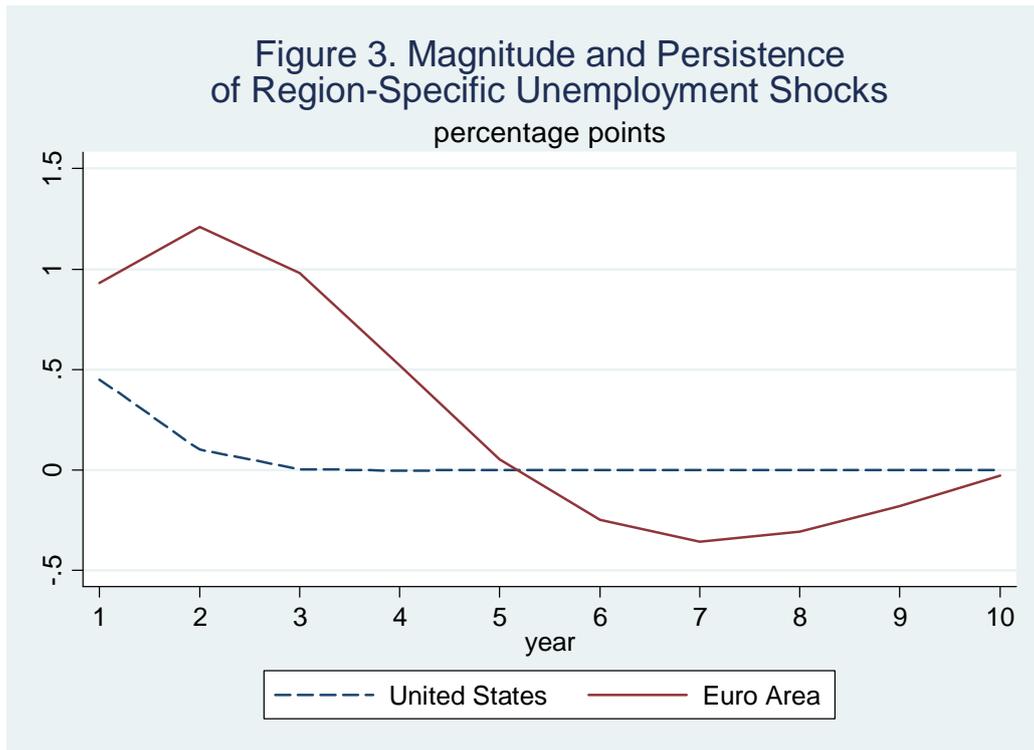


Source: Author's calculation based on regression standard deviation and regression coefficients for the main regional breakdowns in 1999-2010 from Table 3.

Figure 2. Magnitude and Persistence of Region-Specific Inflation Shocks



Source: Author's calculation based on regression standard deviation and regression coefficients for the main regional breakdowns in 1999-2010 from Table 4.



Source: Author's calculation based on regression standard deviation and regression coefficients for the main regional breakdowns in 1999-2010 from Table 5.

Comment by Otmar Issing:

We have two excellent papers – very different in the subject they deal with and in their overall approach.

I agree with the results of Joseph Gagnon’s paper. All studies before the start of European Monetary Union (EMU) showed that only a relatively small number of countries could form a kind of optimal currency area (OCA). EMU starting in 1999 with eleven members and being enlarged later, did not fulfil the conditions of OCA. Gagnon’s analysis shows that expectations in the direction of endogeneity of the OCA criteria were disappointed. Whereas the “core” even increased its coherence, the “rest” demonstrated persistent divergence on a number of macroeconomic indicators. Considering this result it is not surprising that EMU entered a crisis – the dimension of which, however, goes far beyond what could have been foreseen. The challenge is now to use the crisis as a catalyst to conduct the needed structural reforms. Stopping divergence and increasing convergence overall would demonstrate the success of such efforts and bring the whole EMU closer to OCA conditions.

Reading the paper by Ignazio Angeloni and André Sapir (AS) reminded me of my own study *“Leitwährung und international Währungsordnung”* (Berlin 1965), in which I tried to identify the fundamental elements of a stable international monetary system (IMS) with one or more leading international currencies. The analysis by AS can also be seen under the headline of “politics vs. markets” – an issue that was raised already in 1914 by the at that time famous Austrian economist Eugen von Böhm-Bawerk (in a still influential paper with the title *“Macht oder ökonomisches Gesetz?”*). The subject of his study was whether union power could raise wages above the steady state equilibrium. However, the question asked is of a general character and applies to all kinds of political interference in the market which go beyond setting an institutional framework.

To understand the present IMS and develop ideas where it will proceed from here, it is helpful to look back into history. The gold standard was the dominant IMS before 1914. Great Britain and its currency, the Pound Sterling, played a major role. London’s position as a global financial centre goes back to this time. However, this influence was limited by the rules of the gold standard.

The interwar period saw the collapse of the former system and it was not until 1944 when in Bretton Woods a new IMS was created.

The conference was dominated by the only remaining superpower, the USA. This is reflected in the controversy between H. D. White and J. M. Keynes. Politics determined the outcome, i.e. the statute for the International Monetary Fund which put the US dollar in the centre of the Post-Second World War IMS.

By many observers the initial “dollar shortage” was seen as a permanent phenomenon. But, soon the “dollar glut” changed the situation and over time undermined the leading position of the dollar. This was a market driven process triggered by a policy of the key country which ignored its responsibility for the IMS. This attitude was later expressed in the term “the dollar is our currency, but your problem”. Politics also played a role when de Gaulle’s France redeemed its dollars into gold and urged Germany to join (which resisted for opposite political reasons).

The decline of the dollar caused central banks to diversify their currency reserves – a process which slowly made the DM the second most important reserve currency. While the Bundesbank initially was opposed to such a role implying international responsibility, markets did not care about those concerns.

So, the rise of the DM was a demand driven process. AS analyse how the euro took over this role from the DM. The ECB from the start made explicit that its position on an international role of the euro was neutral – neither fostering nor hampering, leaving it to a market driven development.

AS present 3 scenarios for the development of the IMS in the foreseeable future. To my judgment scenario 2 is the most likely where “multipolar” stands for a maximum of two or three currencies. As the dollar as incumbent has many advantages (network externalities), history tells us that changes in the role of leading currencies come rather slowly. Abrupt changes have been the consequence of war. A collapse of the financial system of the international currency could also work as such a catalyst.

Provided that the crisis of EMU will be solved, the euro should continue its steady rise as the second most important international currency and will play a role as an anchor of stability in the IMS.

On a future role of the renminbi all predictions about its role in the IMS are based on a more or less linear extrapolation of past trends. This might look as the most likely scenario. However, history has delivered numerous examples that this is anything but sure to predict.

Panel 2: The Growth Challenge in Europe and the US

Europe's growth emergency

Zsolt Darvas and Jean Pisani-Ferry

Highlights

- The European Union growth agenda has become even more pressing because growth is needed to support public and private sector deleveraging, reduce the fragility of the banking sector, counter the falling behind of southern European countries and prove that Europe is still a worthwhile place to invest.
- The crisis has had a similar impact on most European countries and the US: a persistent drop in output level and a growth slowdown. This contrasts sharply with the experience of the emerging countries of Asia and Latin America.
- Productivity improvement was immediate in the US, but Europe hoarded labour and productivity improvements were in general delayed. Southern European countries have hardly adjusted so far.
- There is a negative feedback loop between the crisis and growth, and without effective solutions to deal with the crisis, growth is unlikely to resume. National and EU-level policies should aim to foster reforms and adjustment and should not risk medium-term objectives under the pressure of events. A more hands-on approach, including industrial policies, should be considered.

Authors' note: We are grateful to Dana Andreicut and Silvia Merler for excellent research assistance, and to several colleagues for useful comments and suggestions. Zsolt Darvas (zsolt.darvas@bruegel.org) is a Research Fellow at Bruegel. Jean Pisani-Ferry (jean.pisani-ferry@bruegel.org) is Director of Bruegel.

1. Introduction

In the twentieth century it was common to joke that 'Brazil is a country of the future, and always will be'. In the same way it is tempting to say that growth is Europe's agenda for the future, and always will be. This goal has been emphasised as a priority at least since the 1980s, and it seems that each decade makes it even more elusive.

It was therefore bold for the Polish presidency of the EU Council to put economic growth at the core of its agenda (Polish Presidency, 2011), and it was brave for the World Bank to undertake an in-depth examination of the 'lustre' of European growth (Gill and Raiser, 2011). Both should be congratulated on their initiatives, because growth in Europe is both more important and more difficult to achieve than at any point in recent decades.

The reasons why restoring growth has become paramount are not hard to grasp. Until the global crisis, Europe's disappointing growth performance could be seen as a merely relative concern vis-à-vis more successful countries. It meant that the continent would not reach the US level of GDP per capita, but it enjoyed already high living standards, and benefited from longer holidays and earlier retirement. As Olivier Blanchard (2004) put it in a (controversial) paper, Europe's lower income per head was perhaps the result of a social choice. Furthermore, as pointed out in the World Bank report,

Europe was successful in fostering the catching up of its least developed areas, where there was the most pressing need for growth.

The global crisis has however altered this benign landscape in three fundamental ways:

- First, growth is of utmost importance for both public and private deleveraging and for reducing the fragility of the banking sector. History shows that in addition to growth and fiscal consolidation, previous rounds of financial repression, inflation, and occasional default helped achieve the deleveraging of the public sector. Europe does not want to have to fall back on the latter three. Without growth, Europe is at risk of struggling permanently with debt sustainability and it is at the mercy of stagnation and a debt overhang. Without growth the sustainability of the (already precarious) European social model would be further brought into question.
- Second, the convergence machine has brutally stopped in the southern part of the EU – and has moved into reverse in Greece, Portugal and Spain, with little chance of short-term improvement. Italy, meanwhile, has been falling behind since the early 1990s.
- Third, the euro-area sovereign debt crisis may put Europe at risk of being seen by investors as a place where there are very few reasons to invest. This may trigger an accelerated weakening of its economic performance.

It is of the highest importance to assess the seriousness of these threats and the possible policy responses. With this goal in mind and with a focus on the medium term, this paper is organised as follows: in section 2, we explain why we think growth should now be given higher priority; in section 3 we investigate if the seeds of future growth have been sown during the recession; in section 4 we discuss the policy responses. Section 5 concludes.

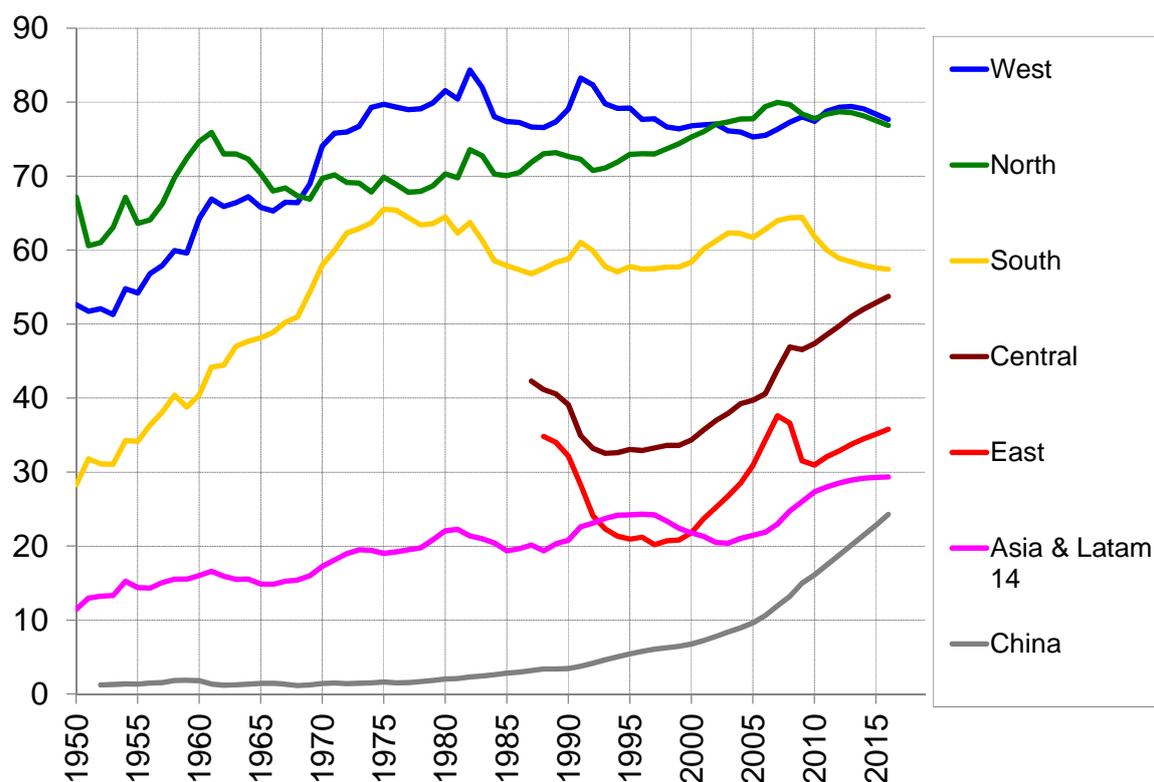
To simplify matters, we use throughout this paper five country groups as the basis for discussion of the diverse challenges. The Appendix presents the classification.

2. Why growth is even more important

2.1 Overall performance

After the second world war, European countries embarked on a rapid convergence with the US in terms of GDP per capita (Figure 1). This was in part based on the rebuilding of the capital stock lost during the war, in part on technological catching-up and in part on economic integration efforts.

Figure 1: GDP per capita at PPP (US = 100), 1950-2016



Source: Bruegel using data from the IMF's World Economic Outlook September 2011, PENN World Tables and EBRD.

Note: median values are shown.

By the late 1970s, however, convergence with the US has stopped in most countries of 'older' Europe – though with significant exceptions, such as Ireland. Countries in the North (Denmark, Finland, Sweden, Ireland, United Kingdom; see Appendix) and South (Greece, Italy, Portugal, Spain) groups in particular had apparently settled for levels corresponding to 80 percent and 60 percent of US GDP per capita. The central and eastern countries by contrast were catching up from the mid-1990s, though from a much lower base.

Figure 1 also shows IMF projections up to 2016 suggesting that the positions of the West and North country groups relative to the US should remain broadly stable, while southern Europe is expected to fall behind and the convergence of the Central and East groups is projected to continue (after the major shock of recent years in the latter case)¹³.

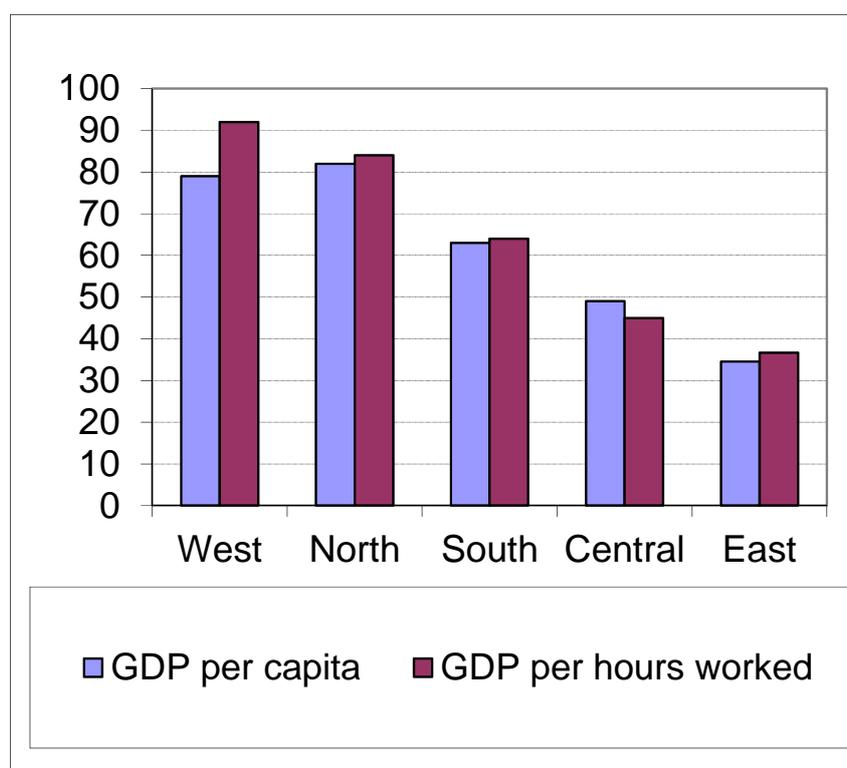
Judging from Figure 1 it seems that the potential for natural catching-up with the US has been exhausted in three of the five groups, and the gap remains noteworthy. Only significant economic reforms and/or a change in social preferences would lead to a change in this diagnosis.

¹³ By 2016, the relative position of the East group is forecast to reach only pre-transition level. Note that data for the late 1980s and early 1990s should be interpreted with caution given the differences in statistical methodology, changes in relative prices, and measurement errors.

Europe should not only look at the US but also the new emerging powers. Figure 1 also underlines the extremely rapid development of China, and shows that smaller countries in Asia and Latin America are also converging.

But there is also some good news. As Figure 2 shows, western European countries are closer to the US in terms of GDP per hour worked, with Belgium and the Netherlands even at US level. From the North group, Ireland is only three percent below. Therefore, these European countries were able to catch-up with the US in terms of productivity; lower per capita output is in part a reflection of social preferences (more leisure), and in some cases higher unemployment. The four South group countries have mixed records in this respect: Spain and Italy are closer to the US than Greece and Portugal.

Figure 2: GDP per hour worked and per capita at PPP (US = 100), 2010



Source: Bruegel using data from the OECD (all but GDP per hour for four Eastern countries apart from Estonia) and Eurostat (GDP per hour for four Eastern countries).

2.2 Deleveraging

The period in the run-up to the crisis was characterised by a rapid increase in private debt in several countries, such as the Baltic countries, Ireland, the Netherlands, Spain and the UK, while in many other countries, private debt accumulation was less pronounced, such as in Austria, the Czech Republic and Germany. In most of Europe, public debt ratios (as a percent of GDP) were generally stable or slowly declining. Some countries, such as Ireland, Spain and Bulgaria had even achieved sizeable debt reductions.

The post-crisis landscape is very different. Public debt ratios in the EU have increased by 20 percentage points on average, and in some cases they have reached alarming levels. At the same time market tolerance of high public debt has diminished severely, especially for the members of the euro

area. The challenge of public deleveraging is therefore paramount. At the same time, several European countries face the challenge of bringing down household or corporate debt.¹⁴

Let us start with public debt. Reinhart and Rogoff (2011) summarise five major ways in which high debt ratios were reduced in past episodes of deleveraging:

- i Economic growth;
- ii Substantial fiscal adjustment, such as austerity plans;
- iii Explicit default or restructuring of public and/or private sector debt;
- iv A sudden surprise burst in inflation (which reduce the real value of the debt);
- v A steady dose of financial repression¹⁵ accompanied by an equally steady dose of inflation.

Of these, economic growth is by far the most benign. There are three main channels through which it aids deleveraging in both the public and private sectors:

- First, higher growth results in higher government primary balances and higher private sector incomes – which can be used to pay off the debt.
- Second, higher growth results in a reduction of the relative burden of past debt accumulation. Other things being equal, a one percentage point acceleration of the growth rate reduces the required primary surplus by one-hundredth of the debt ratio. With the debt ratio approaching or in certain cases exceeding 100 percent of GDP, this is a meaningful effect.
- Third, by improving sustainability, higher growth makes future threats to solvency less probable and for this reasons it is likely to result in lower risk premia. It is not by accident that the potential growth outlook is often mentioned by market participants and rating agencies as a key factor in their solvency assessments.

Box 1 illustrates the point by decomposing factors behind the impressively fast reduction of the UK general government and the US federal debt ratios in the first three post-war decades. Growth and primary surpluses made sizeable contributions to deleveraging, and primary surpluses were partly the result of growth. There were several years with negative real interest rates (and whenever the real interest rate was positive, it was small) which also helped deleveraging. As pointed out by Reinhart and Sbrancia (2011), financial repression was the major reason for low real interest rates.

¹⁴ McKinsey (2010) assessed the likelihood of deleveraging in five EU countries (among others). Concerning the household sector, they found high probability for Spain and the UK, but low probability for Germany, France and Italy. In the case of the non real-estate corporate sector the likelihood of deleveraging is low in the UK and France, moderate in Germany and Italy, and mixed in Spain.

¹⁵ According to Reinhart, Kirkegaard and Sbrancia (2011), “financial repression occurs when governments implement policies to channel to themselves funds that in a deregulated market environment would go elsewhere”. At the current juncture, these authors and Reinhart and Rogoff (2011) foresee a revival of financial repression – including more directed lending to government by captive domestic audiences (such as pension funds), explicit or implicit caps on interest rates, and tighter regulation on cross-border capital movements.

Another reason why public debt deleveraging, and hence growth, is paramount is that without it the European social model is not sustainable. This was observed by Sapir *et al* (2004) and is a major reason why they advocated an agenda for a growing Europe.

BOX 1: DECOMPOSITION OF UK AND US POST SECOND WORLD WAR PUBLIC DEBT REDUCTION

In the UK and the US, the public debt ratio (general government for the UK, federal government in the US) fell rapidly after the second world war. In 1946, the public debt was 257 percent of GDP in the UK and 122 percent in the US. By 1976 it had been brought down to 52 percent and 36 percent, respectively. Table 1 shows average annual growth, interest rates and primary surpluses during these three decades. GDP growth was robust and both countries had primary surpluses (especially sizeable in the UK), but real interest rates were very low – always below the growth rate of GDP and even negative in several years.

Table 1: Average annual growth, interest rate and primary surplus in the UK and the US

	United Kingdom			United States		
	Real GDP growth rate (%)	Real ex-post interest rate (%)	Primary surplus (% GDP)	Real GDP growth rate (%)	Real ex-post interest rate (%)	Primary surplus (% GDP)
1947-56	2.3	-3.0	7.4	3.6	-1.5	2.0
1957-66	2.9	0.2	4.8	4.2	1.7	1.2
1967-76	2.4	-4.6	3.0	3.0	1.0	0.6

Sources: UK: HM Treasury (debt), Office of National Statistics (budget balance, interest payments, GDP from 1948), and measuringworth.com (GDP for 1946-48); US: White House Office of Management and Budget Historical Tables (debt, budget balance), Bureau of Economic Analysis, Table 3.1 Government Current Receipts and Expenditures (interest payments), and Bureau of Economic Analysis (GDP). Note. Ex-post real interest rate is calculated with the so called ‘implicit interest rate’ (ie interest expenditures in a given year divided by the stock of debt at the end of the previous year) and the change in the GDP deflator.

Our decomposition is based on the well-known, simple accounting identity for the change in the debt ratio:

$$d_t - d_{t-1} = \left(\frac{r_t - g_t}{1 + g_t + \pi_t} \right) d_{t-1} - s_t + sf_t$$

where d_t is the gross public debt (% GDP), r_t is the real interest rate (%), g_t is the real GDP growth rate (%), π_t is the inflation rate (%), s_t is primary surplus (% GDP) and sf_t is a stock-flow adjustment (% GDP). Many of these variables are interlinked, for example, faster growth and higher surprise inflation improves the primary balance, which complicates a causal decomposition of the change in the debt ratio. Therefore, we use this simple accounting identity to decompose the changes, ie we report $(r_t/(1 + g_t + \pi_t))d_{t-1}$ under the heading ‘real ex-post interest rate’, $(-g_t/(1 + g_t + \pi_t))d_{t-1}$ as ‘growth’, $-s_t$ as ‘primary surplus’ and sf_t as ‘stock-flow adjustment’. We calculate these values for

each year and sum them up for each decade we consider, in order to get their cumulative impacts over decades.

As Table 2 indicates, growth was an important factor in bringing down debt and it has always more than counterbalanced the impact of the real interest rate, whenever the latter was positive. But the real interest rate was sometimes negative, which is labelled as financial repression by Reinhart and Sbrancia (2011).

Table 2: Contributions to UK and US post-war public debt deleveraging (% GDP)

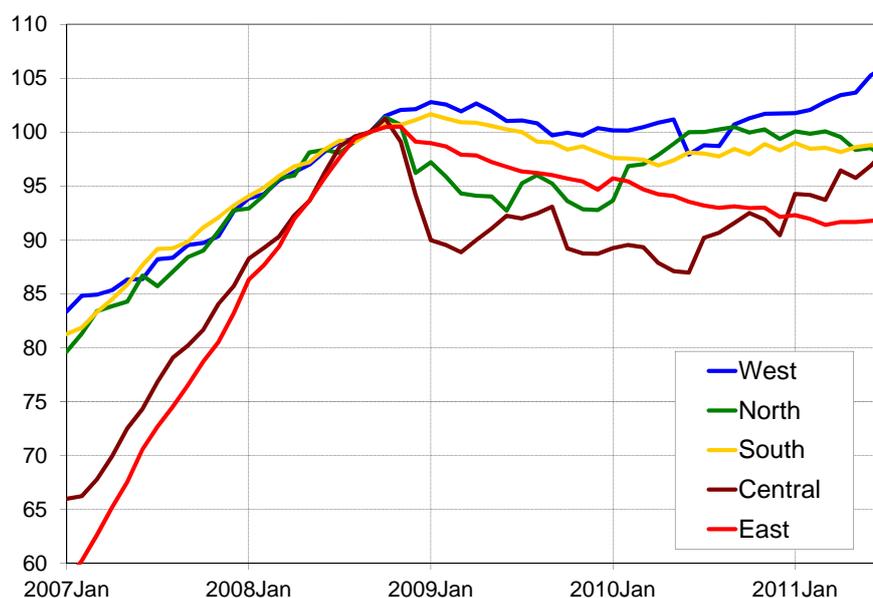
	Reduction in debt ratio	Real ex- post interest rate	Growth	Primary surplus	Stock/flow adjustment
United Kingdom					
1947-56	-128	-58	-37	-74	41
1957-66	-45	3	-29	-48	30
1967-76	-32	-22	-15	-30	35
United States					
1947-56	-58	-15	-28	-20	6
1957-66	-20	9	-21	-12	4
1967-76	-7	4	-11	-6	6

Source: Bruegel calculation based on data sources of Table 1. Note: see the explanation of the methodology and the interpretation of the numbers in the main text.

Turning to the private side, credit developments show that deleveraging has started: as a result of both credit demand and supply factors, credit aggregates have started to fall in several EU countries (Figure 3). These credit developments help private sector deleveraging on the one hand. But on the other hand, the simultaneity of public and private deleveraging is a major challenge that could hinder economic growth and could even lead to a vicious circle of lower growth and lower credit – even to those companies and households that are not overly leveraged.¹⁶ Furthermore, the banking sector in Europe is itself highly leveraged and will need to undergo sizeable corrections, not least because of the Basel III regulations.

¹⁶ There is a growing literature about ‘creditless’ recoveries (see Abiad, Dell’Ariccia and Li, 2011, and references therein), which finds that such recoveries are not rare, but growth and investment are lower than in recoveries with credit; industries more reliant on external finance seem to grow disproportionately less during creditless recoveries; and such recoveries are typically preceded by banking crises and sizeable output falls. But there are at least two important caveats in applying these results to Europe. First, financing of European firms is dominantly bank based and the level of credit to output is much higher than in other parts of the world. Therefore, lack of new credit or even a fall in outstanding credit could drag growth more in Europe than elsewhere. Second, the literature has not paid attention to real exchange-rate developments during creditless recoveries. But Darvas (2011) found that creditless recoveries are typically accompanied by real effective exchange rate depreciations, which can boost the cash-flow from tradable activities, thereby reducing the need for bank financing. But the southern members of the euro area and the eastern countries with fixed exchange rate cannot rely on nominal depreciation and hence this effect cannot work.

Figure 3: Outstanding stock of loans to nonfinancial corporations (September 2008 = 100), January 2007 – July 2011



Source: Bruegel calculation using ECB data. Note: median values.

There are therefore major concerns both on the supply and the demand sides. On the supply side potential growth in the coming years could weaken further post the financial crisis; on the demand side the combination of public and private deleveraging may result in slow growth of private aggregate demand.

In this context, improving potential growth in the long run remains of paramount importance but at the same time policymakers cannot afford to ignore the interplay between supply and demand or between short-term and longer-term developments.

3. Developments during the crisis

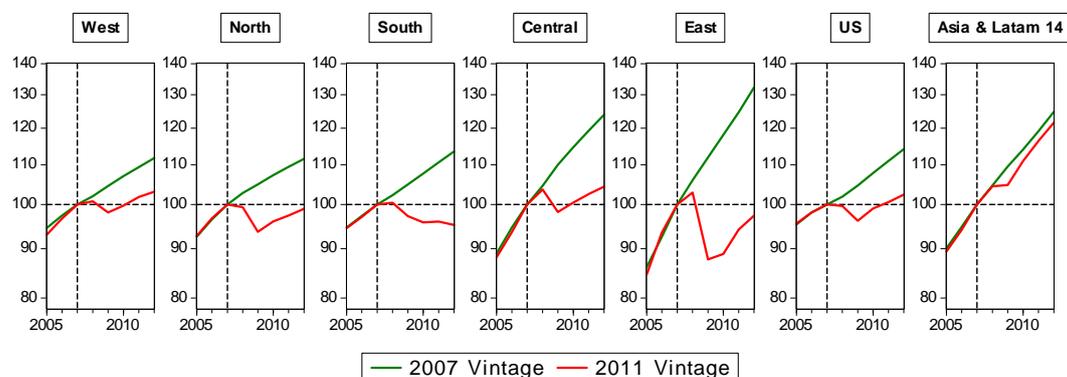
Growth policies are generally and rightly regarded as medium-term oriented. However the impact of the Great Recession of 2009 and the current crisis in the euro area are more than mere cyclical phenomena that could be overlooked in a medium-term analysis. In this section we analyse and discuss the behaviour of European countries during this episode and assess implications for medium-term growth.

3.1 Shock and recovery

A telling measure of the economic impact of the crisis can be obtained by comparing pre-crisis and post-crisis forecasts. While forecasts certainly contain errors, they reflect the views about the future

that are used for economic decisions. In Figure 4, we therefore compare forecasts to 2012 made by the IMF in October 2007 and September 2011.¹⁷

Figure 4: GDP forecasts to 2012: October 2007 versus September 2011 (2007=100)



Source: Bruegel calculation using IMF (2007) and IMF (2011d).

Figure 4 shows that the crisis had a moderate impact on West group countries. There, as in the US, output fell and recovered at a broadly unchanged pace, therefore not closing the gap created by the recession. The impact on the North group was more significant, owing to the greater trade openness of the countries of this group, but the recovery pattern is similar. The situation is much worse in the South group where the recession was mild in 2009, but output decline has continued and is forecast to last at least until 2012. This widening gap is very worrying. Finally, central European economies (with the exception of Poland) also suffered significantly from the crisis, and those of the East group suffered a major shock in 2009, from which they have started to recover but which leaves a major gap amounting to more than 30 percent of the 2007 GDP trajectory.

European developments are similar to those in the US but contrast sharply with the experience of the 14 emerging countries of Asia and Latin America (see Appendix), where the impact was mild. In China (not shown in the figure), pre- and post-crisis growth trajectories are almost identical. These emerging countries were primarily impacted by the global trade shock, but did not suffer from a financial crisis and started to recover when global trade recovered.

3.2 Adjusting to the shock

At the time of economic hardship, firms relied on different strategies to survive and to sow the seeds of future growth. The strategies depend on initial conditions (firms that were not competitive enough before the crisis had no choice but to improve), credit constraints (liquidity-constrained firms had no choice but to cut costs), expectations about future growth (firms looking forward to recovery had an incentive to hoard labour), economic policies (such as *Kurzarbeit*, a scheme financed by the German government to support part-time work and keep workers employed during the recession¹⁸) and other

¹⁷ Our purpose is not to assess the IMF's forecasting ability, rather to use forecast changes as indicative of changes to economic perspectives. Comparison of forecasts by the IMF (2007), the European Commission (2007) and the OECD (2007) made in late 2007 indicate that the other two institutions gave broadly similar forecasts.

¹⁸ See Brenke, Rinne and Zimmermann (2011).

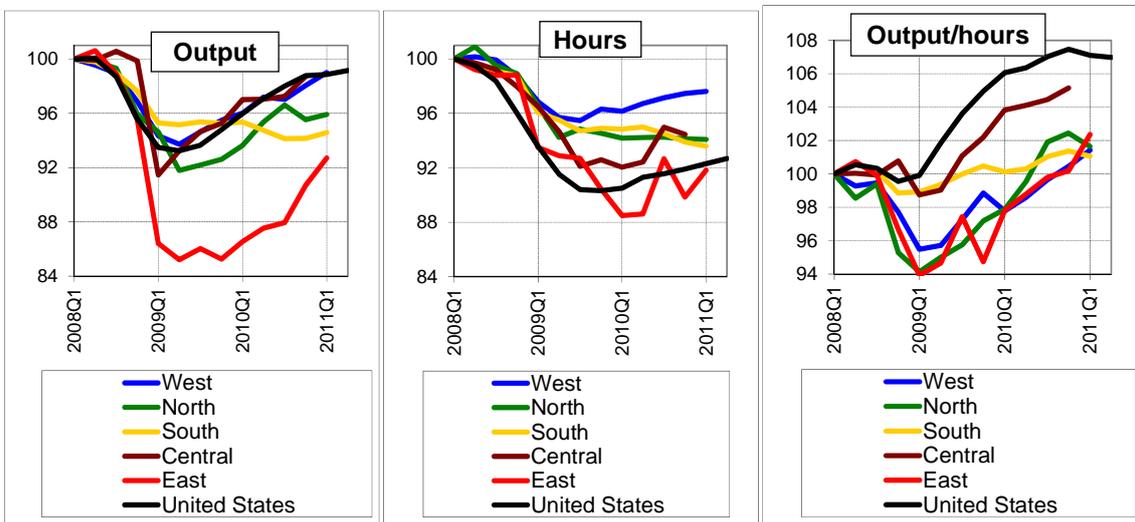
factors, such as exchange rate changes (countries that experienced depreciation faced less pressure to adjust).

To get a better picture of productivity developments in the private sector, we exclude construction and the public sector from GDP and compare patterns of adjustment across countries. The reason for excluding construction is that it is a highly labour-intensive and low-productivity sector that suffered heavily in some countries. The shrinkage of construction may therefore give rise to a misleading improvement in productivity data, whereas it is entirely due to a composition effect.

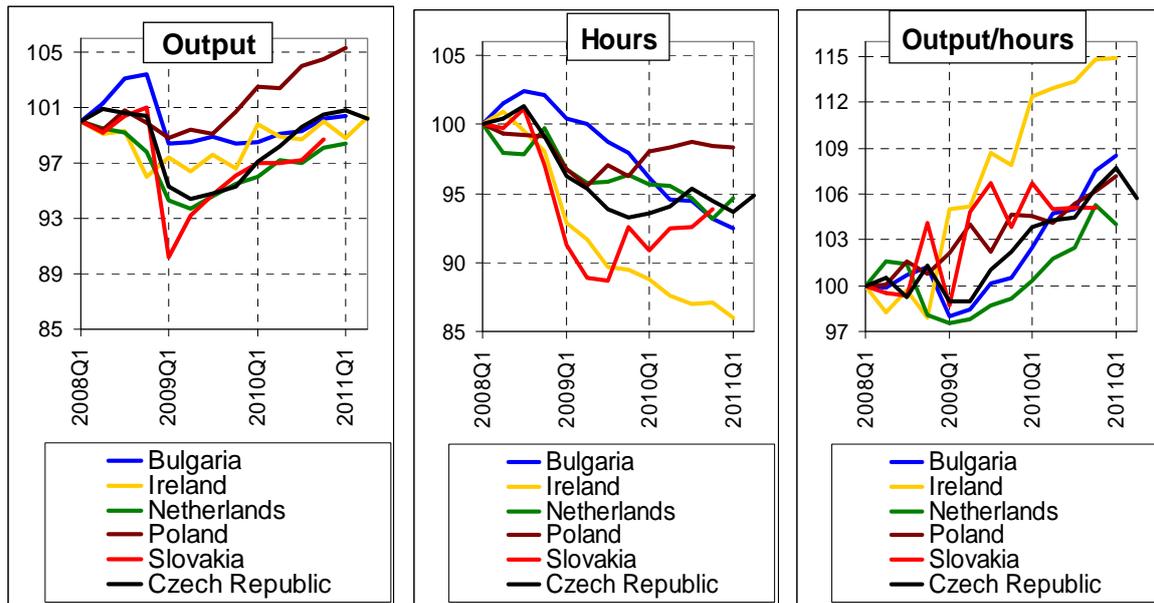
Figure 5 shows output (at constant prices), hours worked, and the ratio of these two indicators, average productivity.

Figure 5: Output, hours worked, and productivity in the non-construction business sector (2008Q1 = 100)

Panel A: EU groups and the US



Panel B: Best performing EU countries



Source: Bruegel using data from Eurostat, OECD and US Bureau of Labour Statistics. Note: median values in Panel A; US data is for the whole business sector.

It is interesting to observe that there was a prompt and significant productivity surge in the US – as a result of reducing labour input by more than the output fall. In western and northern Europe by contrast productivity initially fell while employment did not, which is evidence of labour-hoarding. Only after a lag did productivity start to recover, but only to a level barely above the pre-crisis level. In central Europe productivity started to improve from mid-2009 and the gains are impressive. In southern Europe the fall in output and labour input went broadly hand in hand. Productivity essentially remained flat for the group as a whole.

Interpreting these differences is not straightforward. The broad evidence is that the supply side was more damaged in Europe than in the US, at least if one assumes that the largest part of US unemployment is cyclical. Labour hoarding by European firms seems to have resulted in lasting effects on aggregate output per hour.

There are significant variations within our groups as well. Panel B of Figure 5 shows data for the six best performing EU countries, most of which outperformed the US in terms of the cumulative productivity increase in the last three years. The sharp increase in Irish productivity is remarkable and suggests a brighter growth outlook.¹⁹ Bulgaria ranks second, followed by three central European countries (the Czech Republic, Slovakia, and Poland) and the Netherlands.

The worst performers in terms of productivity increase are from all regional groups. These are Greece from the South group, Romania from the East group, Hungary from the Central group, the UK from the North group, and Germany from the West group. Hungary, Romania and the UK have floating exchange rates that depreciated in 2008-09 and have remained weak since then, which improved external competitiveness. However, Poland, another floater that benefited from an exchange rate depreciation, was among the best performers in terms of productivity increase.

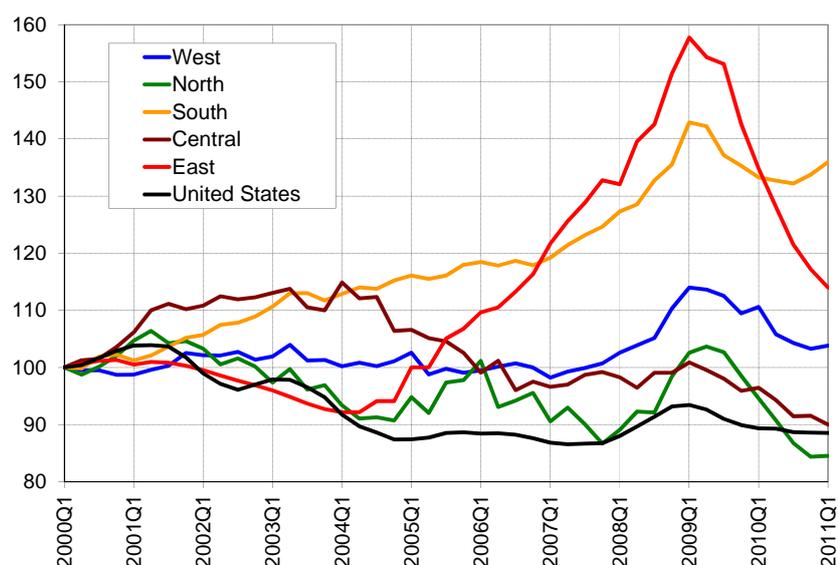
¹⁹ Note that total economy Irish GDP fell by 10 percent between 2008Q1 and 2009/2010, and recovery started in 2011, but the non-construction business sector shown on the figure fell only by three percent and the recovery started in 2010.

German firms were already highly competitive before the crisis and weak productivity developments to date are not necessarily worrying. What is much more worrying is the weak performance of Greece as its real overvaluation would call for major improvements.

Concerning manufacturing unit labour costs (ULC), there was prior to the crisis a surge in the South and the East groups, but not in the other three regions (Figure 6). Post-crisis, there is almost no adjustment in the South group, but the adjustment is impressive in the East group. In the West and North groups, after a temporary increase in 2008, ULC has fallen. Ireland again is the best performer: ULC fell by 25 percent from 2008Q1 to 2011Q1.

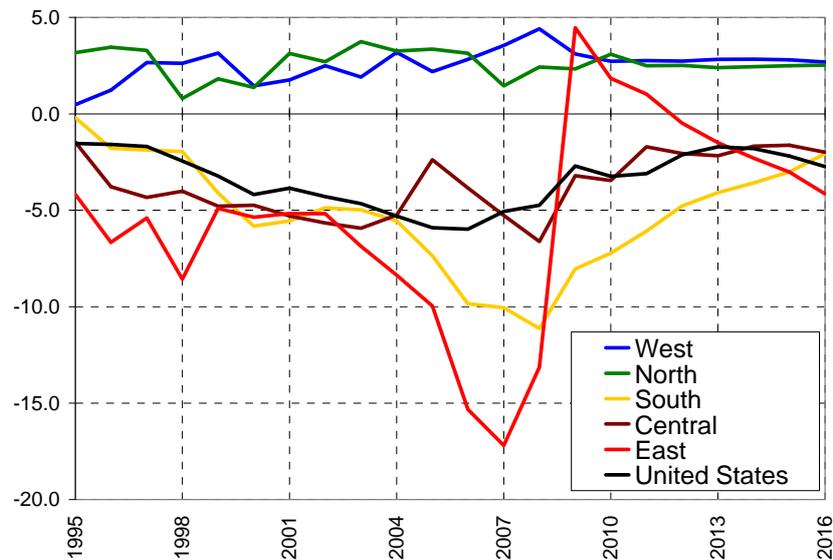
Finally, another major aspect of the adjustment is the impact on external accounts. Figure 7 shows that there was an abrupt adjustment in the East group, due to a sudden stopping of capital inflows, but that the adjustment in the South group is slow. Private capital also stopped flowing into southern European countries. The main reason for the lack of faster adjustment is the massive European Central Bank (ECB) support to southern European banks, which has offset the sudden stop in private capital flows and contributed to financial stability. But at the same time, ECB financing has made it possible for these countries to delay the adjustment, as noted by Sinn (2011).

Figure 6: Unit labour cost in manufacturing (2000Q1=100), 2000Q1-2011Q1



Source: Bruegel using OECD and Eurostat data. Note: median values.

Figure 7: Current account (% of GDP), 1995-2016



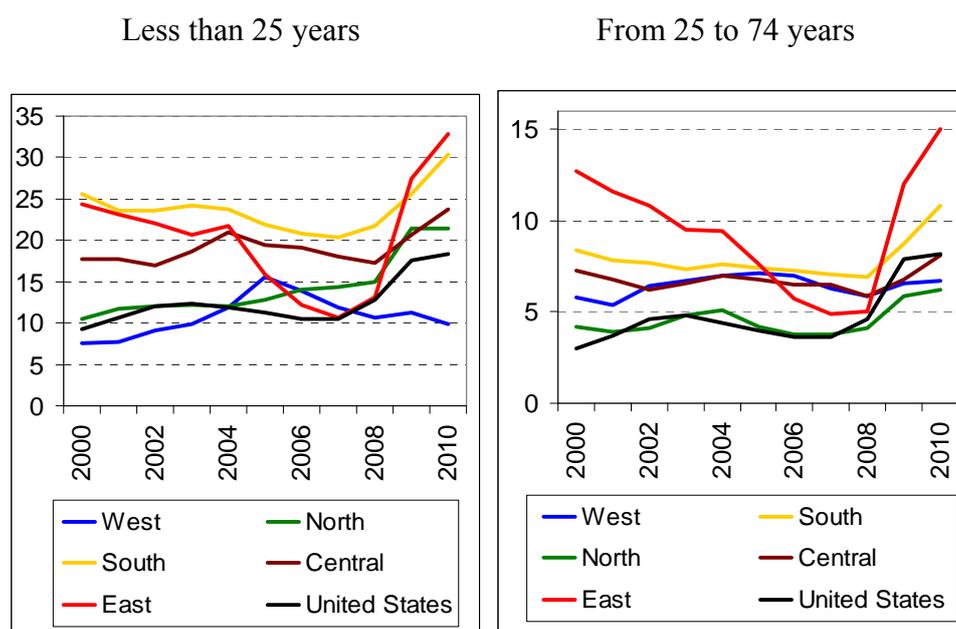
Source: Bruegel using IMF (2011d) data. Note: median values.

3.3 The special challenges of southern Europe

The evidence presented thus far confirms that southern European countries face special challenges. Their economic convergence has reversed, their unit labour costs have failed to improve following a steady rise in the pre-crisis period, and their current account deficits have hardly improved. Most southern European countries are under heavy market pressure and face a vicious circle of low and even worsening confidence and weak economic performance. This and the market pressure necessitate a greater fiscal adjustment, which again leads to a weaker economy, thereby lowering public revenues and resulting in additional fiscal adjustment.

The social consequences of fiscal adjustment and the weaker economy make it more difficult to implement the adjustment programmes and escape the vicious circle. Figure 8 shows that unemployment has increased, especially youth unemployment (which is also very high in the East group). Such a high youth unemployment rate is already leading to widespread frustration and the rise of anti-EU political movements.

Figure 8: Unemployment rate (%), 2000-10



Source: Bruegel using Eurostat data. Note: median values.

Table 3: Programme assumptions and recent forecasts for Greece and Ireland

GREECE	Date of forecast	2009	2010	2011	2012	2013	2014	2015
GDP	May-10	-2.0	-4.0	-2.6	1.1	2.1	2.1	2.7
% change	Sep-11	-2.3	-4.4	-5.0	-2.0	1.5	2.3	3.0
Gross public debt	May-10	115	133	145	149	149	146	140
% GDP	Sep-11	127	143	166	189	188	179	165
Budget Balance	May-10	-13.6	-8.1	-7.6	-6.5	-4.8	-2.6	-2.0
% GDP	Sep-11	-15.5	-10.4	-8.0	-6.9	-5.2	-2.8	-2.8

IRELAND	Date of forecast	2009	2010	2011	2012	2013	2014	2015
GDP	Dec-10	-7.6	-0.2	0.9	1.9	2.4	3.0	3.4
% change	Sep-11	-7.0	-0.4	0.6	1.9	2.4	2.9	3.3
Gross public debt	Dec-10	66	99	113	120	125	124	123
% GDP	Sep-11	65	95	109	115	118	117	116
Budget Balance	Dec-10	-14.4	-32.0	-10.5	-8.6	-7.5	-5.1	-4.8
% GDP	Sep-11	-14.2	-32.0	-10.3	-8.6	-6.8	-4.4	-4.1

Sources: Greece – May 2010 projections, IMF (2010a); the three more recent projections, IMF (2011d), IMF (2011e) and IMF (2011e), respectively. Ireland – the December 2010 projections are from IMF (2010b), and the three more recent projections are from IMF(2011a), IMF 2011a) and IMF (2011e), respectively.

It is interesting to contrast South group countries with Ireland, because the latter seems to have been able to avoid this vicious circle through a greater flexibility to adjust to the shock by improving competitiveness and unit labour costs. The fundamentals of the Irish economy, which are much better than the South group countries (see Darvas *et al*, 2011), have likely played important roles in this development. The Irish programme is broadly on track (Table 3), but the outcomes and recent forecasts for Greece are significantly worse compared to the May 2010 assumptions of the initial programme.

4. What should be done?

The European growth agenda traditionally focuses on horizontal structural reforms that have the potential to improve potential output growth. Much of this agenda is indisputable, but policymakers must also reflect on whether it is still enough. In particular, two issues deserve attention in the policy discussion: the pace and composition of fiscal adjustments, and the potential for more active policies.

4.1 Revisiting the EU2020 agenda

Against the background presented in the previous sections, what can be said of the EU2020 agenda? Most of it clearly still makes sense. Education, research, and the increase in participation and employment rates are perfectly sensible objectives in the current context, and the goals of ensuring climate-friendly and inclusive growth are also appropriate.

Implementing this agenda requires a significant stepping-up of efforts. Progress so far is very uneven within the EU. While indicators related to the five main EU2020 targets are readily available (eg Eurostat), in Table 4 we construct a scoreboard, based on the methodology of IMF (2010c) which was also used in Allard and Evaraert (2010), which assesses the various structural indicators in 2005 and currently. These indicators do not relate to all five main EU2020 targets, but to certain aspects of growth that could be improved with structural reforms. In its progress with structural reforms, the North group is unsurprisingly much further ahead than the West group and, especially, the South group, which is severely lagging on all criteria. While countries under a programme face very strong external pressure to reform, the main challenge is to foster improvements in countries such as Italy, that are performing poorly, but are not under IMF/EU programmes.

Table 4: Structural reform scoreboard

	West					North					South				Central					East					United States			
	Austria	Belgium	France	Germany	Netherlands	Denmark	Finland	Ireland	Sweden	UK	Greece	Italy	Portugal	Spain	Czech Rep.	Hungary	Poland	Slovakia	Slovenia	Estonia	Latvia	Lithuania	Bulgaria	Romania	old	new		
	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new	old	new
Medium Term																												
Labor market inefficiency	yellow	yellow	orange	yellow	orange	yellow	yellow	yellow	yellow	yellow	light green	light green	yellow	light green	light green	light green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Business regulation	yellow	yellow	orange	yellow	yellow	yellow	yellow	yellow	yellow	yellow	dark green	dark green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Network regulation	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	dark green	dark green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Retail sector regulation	red	yellow	orange	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Professional services regulation	orange	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Long Term																												
Institutions and contracts	yellow	light green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Human Capital	yellow	light green	dark green	dark green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Infrastructure	yellow	light green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow
Innovation	yellow	light green	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow	yellow

Source: Bruegel (based on the methodology of IMF, 2010c and Allard and Evaraert, 2010) using OECD, World Economic Forum and Fraser Institute data. Note: the scoreboard is relative to the ‘advanced’ OECD countries, ie OECD countries apart from Mexico and the central European member states. Colour codes: Dark green: the indicator is better by more than one standard deviation that the average; light green: better than the average but by no more than one standard deviation; yellow: worse than the average but by no more than one standard deviation; orange: worse than the average between one and two standard deviations; red: worse than the average by more than two standard deviations. The ‘new’ version of the indicators is based on WEF Global Competitiveness Report 2011/12 (that has data from the year 2009), OECD going for growth 2011 (data 2008 and 2009 only for 2 indicators), Fraser 2011 (2009 data), and World Bank doing business (2010 data). The ‘old’ version is based on data from 2003-2005. Each indicator shown are constructed from a large number of more detailed indicators, see IMF (2010c) and Allard and Evaraert (2010) for details.

4.2 Composition of fiscal adjustments

The vast majority of European countries are facing major fiscal challenges. Assessments of the details vary, but concur in considering that reaching sustainable budgetary positions will require exceptionally large and sustained adjustments amounting to more than 10 percentage points of GDP in Greece, Ireland, Portugal, Spain and the UK (IMF, 2011). A large number of European countries are expected to need adjustments of the order of 5 to 10 percent of GDP.

There is a broad consensus that these adjustments should be as growth-friendly as possible. This implies, first, striking the right balance between revenue-based and spending-based adjustments; and second, selecting from revenue and spending measures the least detrimental to growth. Although there is no ready-made general metric to design growth-friendly adjustment packages, it is widely accepted that revenue measures tend to involve more adverse supply-side effects than spending measures; that tax measures that broaden the tax base or do not directly distort incentives to work and invest are preferable; and that spending cuts should preserve public investment in infrastructure, education and research.

These simple criteria can be used to assess the measures planned and implemented in EU countries. An appropriate starting point is a late 2010 IMF survey of country exit strategies conducted for G20 members and a group of countries (including Greece, Ireland, Portugal and Spain) facing exceptionally high adjustments (IMF, 2010d). This comprehensive survey suggested that virtually all countries facing medium-scale adjustment (between 5 and 10 percent of GDP starting from 2009 positions) were planning expenditure-based adjustment whereas countries facing large-scale adjustments (above 10 percent of GDP) were relying more on mixed strategies. Interestingly, no country was planning a revenue-based adjustment. Second, most countries were envisaging structural reforms of the government sector aimed at reducing the size of the public service and limiting the growth of social transfers. Overall, cuts in public investment amounted to about one-seventh of total spending cuts. Third, planned tax measures gave priority to broadening tax bases as opposed to increasing taxes, especially in the field of direct taxation of labour and capital, and to increased consumption taxes. This was *prima facie* evidence of the governments' intention to make fiscal adjustment as growth-friendly as possible.

The worsening conditions on government bond markets changed the course of events completely. Under increasing pressure, governments had to front-load planned measures, or even to adopt emergency measures in an attempt to meet markets' apparently insatiable demand for fiscal consolidation. The belt tightening was not limited to programme countries (Greece, Ireland and Portugal) but also extended to Italy, Spain and France, which all approved extraordinary fiscal consolidation measures in August and September.

Table 5 provides evidence on the composition of the recent consolidation measures. It is apparent that giving priority to growth has often given way to expediency. In all countries surveyed, recent adjustments are either mixed or revenue-based. It is probable that they are also markedly growth-friendly in the choice of detailed measures.

Table 5: Composition of recent fiscal adjustments in selected euro-area countries

Greece	Original version of IMF/EU Programme (May 2010)	11.1% GDP		
		47.8% expenditure	36% revenues	16.2% structural reforms (*)
	Reinforced Medium Term Fiscal Strategy (June 2011)	12% GDP (on top of what already <u>implemented</u>)		
		52.50% expenditure	47.50% revenues	
2 nd emergency round (September 2011)	1.1% GDP (Property tax on electricity-powered buildings)			
	--	100% revenues		
Portugal	IMF/EU EFF Programme (May 2011)	10.6% GDP		
		67% expenditure	33% revenues	
	Emergency measures due to fiscal slippages (August 2011)	1.1% of GDP		
		--	100% revenues	
Spain	Emergency measures (August 2011)	0.5% GDP		
		~50% expenditure	~50% revenues	
	Emergency measures (September 2011)	0.2% GDP		
		--	100% revenues	
Italy	Fiscal Consolidation Package (August 2011)	3.6% GDP		
		<50% expenditure	>50% revenues	
France	August 2011	0.6% of GDP		
		--	>80% revenues	

Source: Bruegel based on IMF (2010a, 2010d, 2011a, 2011b), Greek Ministry of Finance (2011), ECB (2011), Spanish Ministry of Finance (2011a, 2011b), and news reports in Financial Times, Sole24Ore and LaVoce.info. Note. (*) In the case of Greece, in addition to direct revenue and

expenditure measures, IMF (2010a) included a third category called Structural reforms, which comprise lower expenditures resulting from improvements from budgetary control and processes and higher revenues due to improvements in tax administration.

Evidence thus indicates that the growth-adverse impact of the precipitous adjustment plans that are being implemented in response to market strains are likely to go beyond standard Keynesian effects and also result in potentially adverse supply-side effects. This is in part unavoidable. But good intentions are of little help if they are reneged on under the pressure of events. Whereas there is no magic bullet to address this problem, at least a close monitoring of national plans within the context of the ECOFIN Council is called for.

4.3 Growth policy under constraints

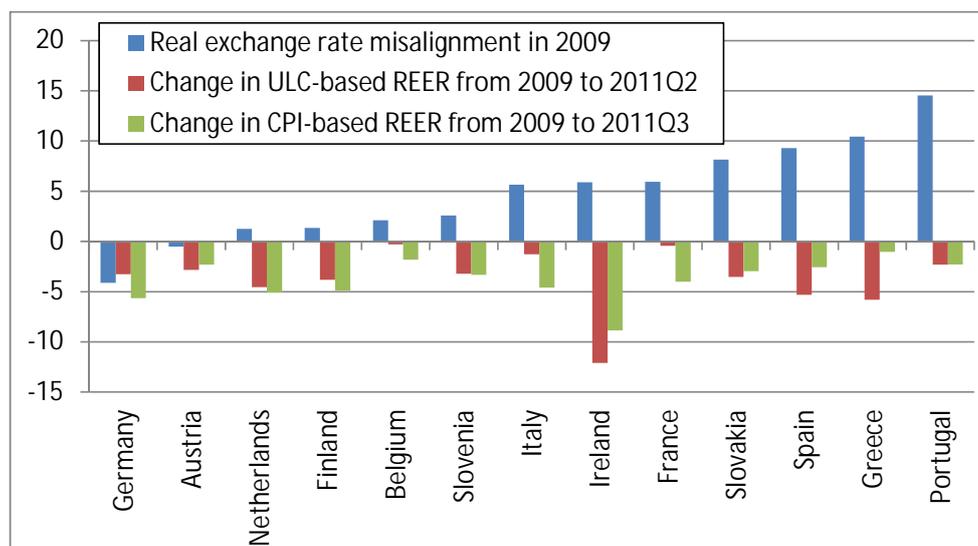
A key challenge for several euro-area countries is how to implement growth strategies in the context of 'wrong' prices. When prices perform their economic role they convey information to agents about the profitability of working or investing in various sectors; this in principle leads to socially optimal choices. In this context the main task of policies is to boost the supply of labour and capital and to create a level playing field for employees and firms.

Things are different, however, when prices are 'wrong',²⁰ which is particularly relevant in the European context because of real exchange-rate misalignments within the euro area and in countries in a fixed exchange-rate regime. Countries that experienced major domestic demand expansion in the first ten years of EMU must reallocate capital and labour to the traded-good sector in spite of a still overvalued real exchange rate. Without policy-driven incentives, private decisions are likely to lead to suboptimal factor allocation in this sector, ultimately hampering growth.

Figure 9 gives European Commission (2010) estimates of real exchange rate misalignments in the euro area for 2009 – the latest available estimate – and the changes in real effective exchange rates since then. The figures presented for the misalignment are the average of two measures, one based on current account norms and the other based on the stabilisation of the net foreign-asset positions. Estimates for 2009 provide lower misalignment than estimates for 2008, so we are erring on the side of caution. What is apparent is that significant misalignments prevail, because the real depreciation from 2009 to mid-2011 in the most overvalued countries (except Ireland) was limited and broadly similar or less than the depreciation in Germany, the biggest euro-area country that already had an undervalued real exchange rate in 2009. Real exchange rate misalignments result in meaningful distortions in private decisions.

²⁰ This traditionally happens when they fail to take account of externalities. Environmental costs here are a well-known example but there are other externalities, either positive (when firms contribute to knowledge) or negative (when they fail to take into account the impact of individual decisions on aggregate financial stability). In this type of context more hands-on policies, including industrial policies, can be advisable, as argued in Aghion *et al* (2011).

Figure 9: Real exchange rate misalignments of euro-area countries in 2009 and adjustment since (%)



Source: Bruegel calculation using data from European Commission (2010) on misalignment and ECB data on real effective exchange rate (apart from the ULC-based exchange rate of Portugal, which is from the Eurostat and available only till 2010Q4).

Furthermore, the correction of these imbalances is exceedingly slow. In the previous section we looked at the evolution of unit labour costs and concluded that with the exception of Ireland, correction has barely started. The persistence of inadequate prices is bound to be detrimental to efficient capital accumulation and to weigh on potential output growth.

In this context policies that help correct distortions are an integral part of the growth agenda. Such policies may involve:

- Product and labour market reforms (ie improvements in several areas assessed in Table 4) that increase the responsiveness of the wage-price system to market disequilibria and help bring about the required correction in relative prices;
- Tax-based internal devaluations that foster an adjustment in relative prices;
- Temporary wage/price subsidies or tax breaks targeted at the traded good sector that help restore competitiveness;
- Industrial policy measures such as sectoral subsidies that favour accumulation in certain sectors.

EU-IMF sponsored adjustment programmes in Greece, Portugal and Spain include structural components, some of which include some of the measures listed above. However in the context of heightened bond-market tensions the focus of policymakers' attention tends to be budgetary consolidation. Growth will only return, however, if the structural agenda is given sufficient weight and if means are mobilised to support it. In countries that benefit from Structural Funds, especially Greece and Portugal where they are sizeable, we follow Marzinotto (2011) and advocate temporary reallocations to support the growth and competitiveness aspects of the programmes. Examples of

growth-friendly policies that could be supported through this channel include credit for SMEs and temporary wage subsidies aiming at restoring competitiveness.

5. Conclusions

In this paper we have revisited the European growth issue in the light of recent developments. We agree with the World Bank (Gill and Raiser, 2011) that Europe can build on its past achievements, but we emphasise that it cannot afford to remain complacent about its recent and current economic performance. For most of the continent, business-as-usual policies are likely to deliver insufficient growth to ensure the viability of the social model, which is in any case under threat because of ageing populations. The challenge of reviving growth is heightened by the deteriorating performance of southern Europe and the very limited, or even disappointing, adjustment these countries were able to achieve during the last three years. The single most remarkable success of the EU, its ability to foster convergence, is under threat. In ‘new Europe’ convergence is still happening, but it should be strengthened.

On this basis our main policy conclusions are:

- The growth agenda is of paramount importance in the current context. The Polish EU presidency should be commended for having selected it as a priority and the detailed proposals in Polish presidency (2011) should be considered seriously;
- The EU2020 agenda remains broadly appropriate, but its governance should be improved to achieve more rapid progress on structural reform in countries that are under threat of falling behind, making use of the new instruments embodied in the European Semester²¹; structural reforms in general, and reforms of product and labour markets in particular, are of paramount importance especially in countries with weak scores and overvalued real exchange rates;
- Tax-based internal devaluations, temporary wage-price subsidies or tax breaks could help restore competitiveness;
- The EU should urgently speed up the reallocation of Structural and Cohesion Funds in countries under programme to support growth and competitiveness, for which a general political will may be there, but action is lacking. Special legislation is needed to turn principles into swift action;
- The proposals for issuing ‘European project bonds’ by the Commission or increasing the capacity of the EIB, to fund investment throughout Europe, should be considered and implemented;
- The growth agenda needs to be put in context. It is of little use to set objectives for the medium term if governments depart from them under the pressure of events. The composition of fiscal adjustments is a case in point in this respect;
- The policy toolkit should be broadened to include policies that help direct resources to the traded goods sectors in a situation when prices give inadequate signals to economic agents. This implies a more hands-on approach, including industrial policies, than under the traditional agenda.

Europe is so integrated that domestic measures may not be sufficient to restore growth in particular countries when the rest of the EU is sinking, even when supported by EU-level initiatives. The euro

²¹ See an assessment of the first European Semester in Hallerberg, Marzinotto and Wolff (2011).

area's lingering sovereign debt and banking crisis is the most important factor in driving confidence down, even in those countries where fiscal sustainability has not been questioned. There is a negative feedback loop between the crisis and growth, and without effective solutions to deal with the crisis, growth is unlikely to resume.

REFERENCES

- Abiad, Abdul, Giovanni Dell'Ariccia, and Bin Li (2011) 'Credit-less Recoveries', *Working Paper*, Volume 58, International Monetary Fund
- Aghion, Phillippe, Julian Boulanger and Elie Cohen (2011) 'Rethinking Industrial Policy', *Policy Brief* 2011/04, Bruegel
- Allard, Celine and Luc Everaert (2010) 'Lifting Euro Area Growth: Priorities for Structural Reforms and Governance', *Staff Position Note* 10/19, International Monetary Fund
- Becker, Torbjorn, Daniel Daianu, Zsolt Darvas, Vladimir Gligorov, Michael A. Landesmann, Pavle Petrović, Jean Pisani-Ferry, Dariusz K. Rosati, Andre Sapir and Beatrice Weder di Mauro (2010) *Whither growth in central and eastern Europe? Policy lessons for an integrated Europe*, Blueprint Volume XI, Bruegel
- Blanchard, Olivier (2004) 'The Economic Future of Europe', *Working Paper* No. 10310, NBER
- Brenke, Karl, Ulf Rinne and Klaus F. Zimmermann (2011) 'Short-Time Work: The German Answer to the Great Recession', *Discussion Paper* No. 8449, CEPR
- Darvas, Zsolt (2011) 'Growing without credit', *mimeo*, Bruegel
- Darvas, Zsolt, Christophe Gouardo, Jean Pisani-Ferry and Andre Sapir (2011) 'A comprehensive approach to the euro-area debt crisis: background estimates', *Working Paper* 2011/05, Bruegel
- ECB (2011) *Monthly Bulletin*, September
- European Commission (2007) 'Economic forecast, autumn 2007', *European Economy* 7/2007
- European Commission (2010) 'Surveillance of intra-euro-area competitiveness and imbalances', *European Economy* 1/2010
- European Commission (2011) 'Europe 2020', http://ec.europa.eu/europe2020/targets/eutargets/index_en.htm, accessed on 04/10/2011
- Gill, Indermit and Martin Raiser (2011) 'Golden Growth: Restoring the Lustre of the European Growth Model', World Bank, Europe and Central Asia (forthcoming)
- Greek Ministry of Finance (2011) *Greece, Medium-term fiscal strategy 2012-2015*
- IMF (2007) *World Economic Outlook*
- IMF (2010a) *Greece: Staff Report on Request for Stand-By Arrangement*

IMF (2010b) *Ireland: Request for an Extended Arrangement – Staff Report*, staff supplement, staff statement, and press release on the Executive Board Discussion

IMF (2010c) *Cross-Cutting Themes in Employment Experiences during the Crisis*, prepared by the Strategy, Policy, and Review Department

IMF (2010d) ‘A Status Update on Fiscal Exit Strategy’, *Working Paper* 10/272

IMF (2011a) *Ireland: Third Review Under the Extended Arrangement – Staff Report*

IMF (2011b) *Regional Economic Outlook 2011 Europe*

IMF (2011c) *Portugal: Request for a Three-Year Arrangement Under the EFF*

IMF (2011d) *World Economic Outlook*, September

IMF (2011e) *Fiscal Monitor*, September

Marzinotto, Benedicta (2011) ‘A European fund for economic revival in crisis countries’, *Policy Contribution* 2011/01, Bruegel

Hallerberg, Mark, Benedicta Marzinotto, and Guntram B. Wolff (2011) ‘How effective and legitimate is the European semester? Increasing the role of the European parliament’, *Working Paper* 2011/09, Bruegel

OECD (2007) ‘OECD Economic Outlook’, Volume 2007/2, No. 82

Polish Presidency (2011) ‘Towards a European consensus on growth’, Report of the Polish Presidency of the Council of the European Union, Warsaw, Poland

Reinhart, Carmen M. and Kenneth Rogoff (2011) ‘A Decade of Debt’, *Working Paper* No. w16827, NBER

Reinhart, Carmen M., Jacob F. Kirkegaard and M. Belen Sbrancia (2011) ‘Financial Repression Redux’, *Finance & Development*, June 2011, p 22-26, International Monetary Fund

Reinhart, Carmen M. and M. Belen Sbrancia (2011) ‘The Liquidation of Government Debt’, *Working Paper* No. 16893, NBER

Sapir, Andre, Philippe Aghion, Giuseppe Bertola, Martin Hellwig, Jean Pisani-Ferry, Dariusz Rosati, Jose Vinals (2004) *An agenda for a growing Europe: The Sapir Report*, Oxford University Press

Sinn, Hans-Werner (2011) ‘The ECB’s stealth bailout’, *VOXEU*, June

Spanish Ministry of Finance (2011a) *Additional Austerity Measures August 2011*

Spanish Ministry of Finance (2011b) *Nota de Pruensa: El Gobierno aproueba la recuperacion delgravamen del Impuesto de Patrimonio*, September

APPENDIX: COUNTRY GROUPS

Pre-crisis developments, current difficulties and prospects vary widely across EU countries. To simplify matters, we define five major groups, which we name according to the cardinal points, and discuss the diverse challenges along these five groups:

- **West:** Austria, Belgium, France, Germany, Netherlands;
- **South:** Greece, Italy, Portugal, Spain;
- **North:** Denmark, Finland, Sweden, Ireland, UK;
- **Central:** Czech Republic, Hungary, Poland, Slovakia, Slovenia;
- **East:** Estonia, Latvia, Lithuania, Bulgaria, Romania.

We leave aside the three least populous EU countries, Luxembourg, Cyprus, Malta, because they have some unique futures and do not fit well to our groups. To control for relative sizes, we use medians for each country group.

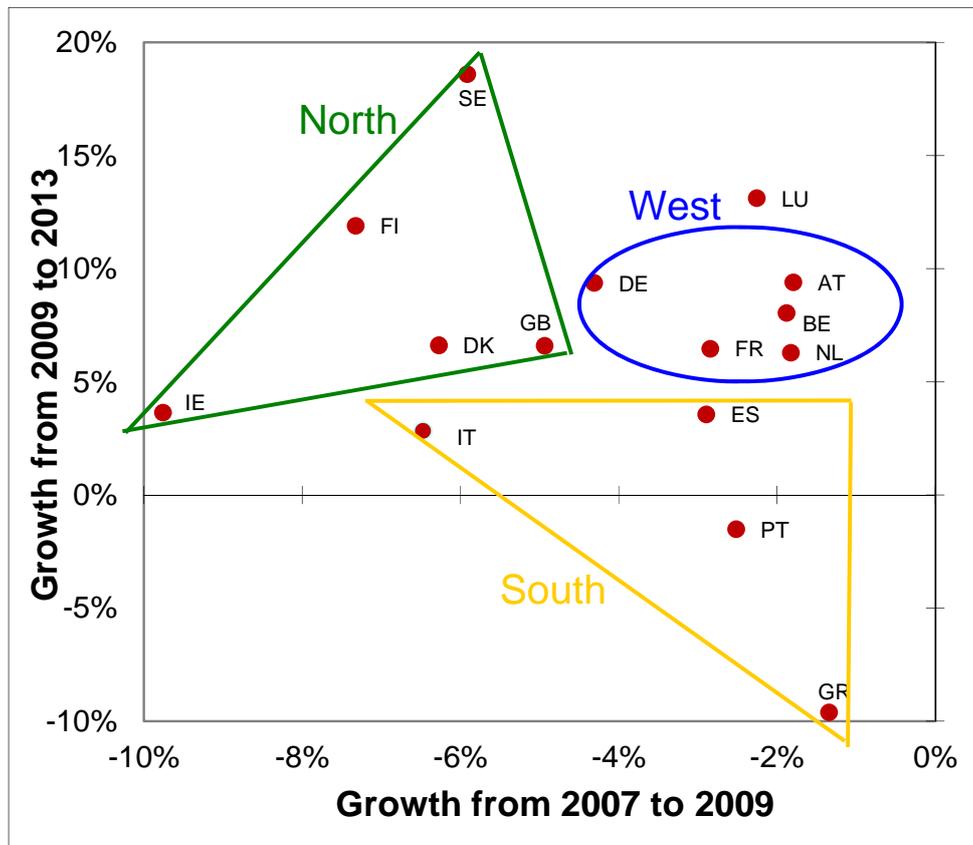
Certainly, our groups are heterogeneous. For example, Ireland faces different challenges to Sweden, and more generally the Scandinavian and Anglo-Saxon economic and social models are different. Yet the North group countries share similarities, such as good governance indicators and low structural reform gaps (see Table 4). These countries were also impacted harder by the initial phase of the crisis than countries in our West group, before bouncing back faster (Figure 10).

The countries that joined the EU in 2004-07 are also heterogeneous. But by analysing in the detail their growth model in Becker *et al* (2010) we came to the conclusion that the five central European countries had developments remarkably different from the three Baltic countries, Bulgaria and Romania and their challenges also differ.

For comparison, in some figures we also show data for the US and China, and for a group of 14 countries from Asia and Latin America (not including China and India):

- **Asia and Latin America 14:** six countries from Asia (Indonesia, Korea, Malaysia, Philippines, Taiwan and Thailand) and eight from Latin America (Argentina, Brazil, Chile, Columbia, Ecuador, Mexico, Peru and Uruguay).

Figure 10: GDP growth from 2007 to 2009 and from 2009 to 2013 in EU15 countries



Source: Bruegel using data from the IMF (2011d).

Challenges to economic recovery in the United States and Europe

Michael Mussa

Introduction and overview

After a quarter century of generally moderate economic growth, interrupted by only relatively mild recessions, the United States and Western Europe suffered their most severe economic contractions of the post-war era during the great global recession of 2008-09. Thanks to the strong performances of most emerging market and developing countries, the subsequent recovery has been moderately vigorous for the world economy on average, even though it has been notably sluggish and disappointing for most of the advanced economies. This paper will examine the reasons for the reasons for the sluggish recoveries so far in the United States and Western Europe and the prospects for their economic growth looking forward.

I will take a medium-term perspective on growth prospects—the next 5 to 10 years, covering both the United States and Western Europe. In accord with the implicit division of labour in this session, I will give somewhat more emphasis on the United States. Issues of short-term macroeconomic policy management and factors underlying long-term economic growth will get some attention, in so far as they are relevant to economic performance over the medium term. For Western Europe, the main focus will be on the euro area. The United Kingdom will get some attention, as it provides a useful contrast with countries in the euro area. Sweden and Switzerland will also get brief mention primarily for the same reason.

The main conclusion of this paper is that both the United States and most of Western Europe, especially the euro area, face significant and persistent problems in significantly and rapidly reducing large existing margins of slack and in restoring their economies to growth paths similar to those that prevailed on average for the quarter century before the great recession. There are important similarities between the problems facing the United States and the euro area, notably in the need for medium-term fiscal consolidation, but there are also important differences. In particular, wide disparities in the economic problems faced by different euro area members, the constraints implied by a unified currency, and the absence of other powerful policy instruments to address regional disparities, makes the achievement of adequate medium-term economic growth especially difficult. I do not have a magical solution for these difficulties; they exist and to a considerable extent will need to be endured.

More generally, I will argue that sound economic policies can only play a limited role in improving medium-term growth prospects, either in the United States or Western Europe—although it is always possible for bad policy to make matters worse. Central banks must still act to help potential financial crises, but there is little room for traditional monetary policy (or quantitative easing) to affect the course of economic activity; and, at some point within the medium-term, monetary policies will need to move to significantly less accommodative stances. The public deficit and debt situations of the United States and most West European countries do not permit significant and sustained fiscal easing to promote economic expansion, and in many countries the immediate and continuing priority is fiscal consolidation. Structural reforms are often touted as the third and critical tool for promoting non-inflationary growth. No doubt, such reforms could be quite helpful in some cases. However, after thirty years of listening to and participating in discussions of structural reform, I remain

sceptical about how much can and will be accomplished to boost meaningful growth in either the United States or Western Europe.

1. Recent histories of comparatively sluggish economic growth

To set the stage for the discussion and establish some benchmarks for what might normally be expected for growth in the United States and Western Europe, it is useful to examine key data concerning the economic performance in the period from 1999 through 2007, preceding the great recession; see Table 1. This nine year period is selected because statistics for the euro area are conveniently available starting in 1999 and because the business cycles in the United States and Western Europe were at similar stages at the beginning and end of this period.²² The two key conclusions from this examination are (1) that growth rates in this nine-year period were not particularly impressive by post-war standards and (2) Except for the United States, unemployment rates declined over the period, suggesting that growth rates of potential GDP were somewhat lower than growth rates of actual real GDP.

Table 1: US and Europe, Real Growth and Unemployment Rate

Country/Area	Real GDP growth	Unemployment	Unemployment
	Annual average rate 1999 through 2007	Rate, 1999	Rate, 2007
United States	2.8	4.2	4.6
United Kingdom	2.8	4.1	2.7
Euro Area	2.2	9.3	7.6
Germany	1.6	10.5	7.8
France	2.2	10.4	7.8
Italy	1.5	10.6	6.1
Spain	3.6	15.9	8.3

With this as background, experiences in the great recession of 2008-09 and the initial stages of recovery through end 2010 are discussed, comparing and contrasting developments in different countries and regions. The general observation is that all countries suffered deep recessions and recoveries were generally disappointing in their initial stages, but there were some meaningful differences in the depth and timing of recessions and in the early pace of recoveries. For most countries, sluggishness in the initial stages of recoveries reflects factors that are likely to keep future growth rates relatively low.

2. Medium-term prospects for the US economy

Recoveries that followed deep US recessions earlier in the post-war era (1957-58, 1973-75 and 1980-82) were typically quite vigorous, especially in their early stages. The recovery from the combined recessions of 1980-82 is particularly noteworthy in this regard. During the six quarters from the beginning of 1983 to the middle of 1984, real GDP rebounded at a 7.5 percent average annual rate and by almost 12 percent cumulatively. During this period the civilian unemployment rate fell from a

²²It makes virtually no difference if the ten-year period from 1998 through 2007 is used. Similarly, the expansion of the euro area after 1999 to include five small countries (Greece, Cyprus, Malta, Slovakia and Slovenia) makes no appreciable difference for growth of the area as a whole.

postwar high of 10.7 percent to 7.2 percent. By the end of 1988, after six years of expansion, real GDP was up cumulatively by almost one-third and the unemployment rate had fallen to one-half of its peak level.

The recovery from the great recession of 2008-09 has been very sluggish by these earlier standards. After a sharp drop of 5 percent from its level at the end of 2007, real GDP began to recover in the summer of 2009. This was sooner than most forecasters had anticipated at the start of that year, including many who feared that the recession would continue to deepen well into 2010. Even for the relative optimists (like myself), however, the pace of the recovery since mid 2009 has been disappointingly slow. At the top end of all forecasters, I had anticipated that annualised real GDP growth during the first six quarters of the present recovery would average 4 percent, barely half of the pace in the initial six quarters of the Reagan recovery. Current estimates place real GDP growth at only a 3 percent annual rate over this period, and real GDP growth for the first half of 2011 is estimated at only a meagre 0.7 percent annual rate.

For employment, the story is even more discouraging. During the recession, employment fell by even more than would normally be expected from the decline in real GDP, falling by 8.8 million (according to the Establishment Survey) from December 2007 to March 2010. The unemployment rate almost doubled from 5.3 percent in December 2007 to a peak of 10.1 percent in October 2009. In the recovery so far, employment is up by 1.9 million from its low and the unemployment rate is now running at 9.1 percent. Initially, the recovery of employment seemed somewhat sluggish in view of the sluggish recovery of output, but the results for the first half of 2011 show moderate employment growth despite exceptionally sluggish output growth. In related developments, estimates of labour productivity growth have turned negative this year and unit labour costs have shown significant increases.

Growth of U. S. aggregate demand

Many of the reasons why the present recovery has been so sluggish are reasonably well understood and have implications for the likely continued sluggishness over the medium term. Before turning to the reasons for sluggishness, however, it is useful to mention factors that weigh in the other direction.

Inventory investment has already staged its usual cyclical bounce-back from sharply negative to moderately positive levels. Further significant contributions to aggregate demand growth from this factor may not be expected. Also on the plus side, business investment in equipment and software has recovered fairly strongly in accord with its usual cyclical pattern, and further contributions to demand growth from such investment may reasonably be expected so long overall economic growth remains at least moderately positive. Investment in non-residential structures has, as usual, lagged in the initial stages of recovery, but may be expected to pick-up again as the recovery proceeds, aided by a low cost of capital. US exports have grown strongly as volumes of world trade bounced-back from very large declines during the global recession.

US imports have also increased during the recovery, but the rise in exports has been sufficiently strong that the deterioration of real net exports subtracted only $\frac{1}{4}$ percentage point from real GDP growth—significantly less than in most US recoveries. The competitive foreign exchange value of the US dollar, along with continued fairly strong growth in key emerging market economies, will support US export growth. Meanwhile, continued subdued growth of domestic demand will slow growth of imports relative to what normally happens during a US economic expansion. The result will likely be US real net exports will deteriorate less than in past expansions, implying less of a drag

on US real GDP growth, and retarding the re-emergence of one of the important imbalances that characterised past expansions.

Turning to factors that have retarded the recovery, consumption spending has grown quite slowly in the present expansion. During the expansion from 2001 through 2002, consumption spending was boosted (beyond gains in disposable income) by rising household net worth, especially that coming from rising home prices--which doubled in real terms between 2001 and their peak in mid 2006. The drop in home prices since their peak (mainly during the recession) has reversed two-thirds of their earlier unsustainable increase. The decline in this important component of household net worth, along with more moderate declines in equity values, have weighed down on consumption and helped to prompt an increase in household saving rates from about 2 percent just before the recession to 5 to 6 percent recently.

Looking ahead, it may be anticipated that consumption spending will rise as GDP rises but at a somewhat lower percentage rate, implying that the ratio of consumption to GDP will decline at a modest pace. Home prices are unlikely rise significantly and the value other components of household net worth will probably not rise sufficiently rapidly to drive increases in the ratio of consumption to disposable income. The old practice of extracting equity from homes through mortgage refinancing in order to support consumption spending will not revive anytime soon. Meanwhile, household disposable income will rise more slowly than GDP because governments will be increasing tax collections and reducing transfer payments as part of their efforts to re-establish fiscal sustainability.

The collapse of the housing bubble has also been reflected in the depression of residential investment, which fell by 57 percent from its peak at end 2005 to mid 2009. Moreover, unlike past recessions that have seen strong rebounds of residential investment in their initial stages, the present recovery has featured no such rebound. Indeed, at mid 2011, two years after the general recession trough, real residential investment was off by a further 3 percent. In comparison, during the combined recessions of the early 1980s, real residential investment fell by 42 percent from its peak in late 1978 to the end of 1982 and then recovered 85 percent of the ground lost over the next two years.²³

The prolonged depression of residential investment in the present recovery reflects primarily the consequence of the bubble in house prices and its subsequent collapse—developments that were not a significant feature of earlier boom and bust cycles of residential investment at the national level. The drop in home prices since mid 2006 (by about one-third according to the Case/Schiller index) left millions of homeowners with mortgage debt greater than the value of their properties. This, together with the rise of unemployment and drop in incomes associated with the recession, lead to widespread defaults and to foreclosures and threatened foreclosures of a scale not seen since the Great Depression of the 1930s. Significant reductions in mortgage interest costs engineered by the Federal Reserve and by the Treasury through its control of the mortgage giants Fannie Mae and Freddy Mac have been unable to propel recovery in the housing market as would otherwise have been expected. Other official efforts to ease problems for distressed homeowners have enjoyed only modest success.

²³ I place the recession trough in the early 1980s in the fourth quarter of 1982. This is consistent with the dating of the cyclical trough in November 1982 and with original estimates that real GDP (in 1972 dollars) fell between the third and fourth quarters of 1982. Later estimates of real GDP (using different bases for real dollars) generally show a small increase in real GDP between the third and fourth quarters of 1982. In accord with the usual cyclical pattern the peak for residential investment came significantly before the general peak in economic activity preceding the 1980 recession.

All of this is painful and costly to the millions caught up in the housing crisis, including the holders of mortgages on distressed properties. There was, however, no viable alternative to most of this pain and cost once the housing bubble had been inflated. House prices needed to decline substantially to realistic levels, and process of foreclosure, with all of its inefficiency and messiness, is the principal means available to deal with situations where homeowners are unable to meet their mortgage commitments. On the whole, it is positive that this necessary correction is occurring much more rapidly during the present episode in the United States than did a similar necessary correction in Japan during the 1990s. Nevertheless, the correction in the United States still has a considerable distance to go and it will be a burden on recovery of residential investment for some years to come.

That said, it is important not to be too gloomy about the contribution that recovery of residential investment can make to overall recovery in the medium term. At the present rate of about 600,000 units per year, new homebuilding is barely sufficient to keep up with the rate of depreciation of units out of the existing housing stock. Normally, formation of new independent households adds 1 to 1.2 million per year to demand for the housing stock. During the great recession, this situation reversed as economic pressures lead some independent households to combine (e.g. young adults moving back in their parents) and some households that would ordinarily have separated not to do so. As economic conditions gradually improve, we may expect the number of independent households to resume growing, thereby absorbing homes presently vacant and adding to the demand for new housing units. Looking ahead 6 to 8 years, it is reasonable to expect that annual new homebuilding will recover to 1.5 to 1.8 million units, although perhaps not to the peak of over 2 million in 2005. This would add about 3 percentage points to aggregate demand (plus any multiplier effects).

As US households slow their own consumption, their demand for government services. This is a key force behind the continuing downward pressure on expenditures and employment in State and local governments. During the first two years of recovery, increased transfers from the federal government have helped to blunt the decline in State and local spending, but these transfers are eroding and will erode further in the context of efforts to reduce the federal deficit. Purchases of goods and services by the federal government, including those for national security, will likely be on a downward path under the pressures for substantial deficit reduction.

During the long expansion from late 1982 to the summer of 1990, real government purchases rose by 31 percent, making a significant contribution to aggregate demand growth during that expansion. During the long expansion from early 1991 through 2000, pressures for deficit reduction helped to contain the cumulative rise in real government purchases to 11.7 percent. In the present expansion, the most recent GDP data indicate that real government purchases reached a peak (for total government and separately for federal and State and local) in mid 2010 and have been declining for the past year. Such declines will probably continue for a while, but in the medium term we are likely to see a resumption of positive growth, at least in the State and local sector. Nevertheless, it is reasonable to project that growth rate of government purchases over the medium term will be less than 1 percent and possibly not much greater than zero.

In sum, looking at the forces driving growth of aggregate demand over the medium term, it seems extremely unlikely that the present expansion could match the 4.2 percent annual growth rate of the long expansion from late 1982 through the summer of 1990, or even match the 3.6 percent average annual growth rate of the long expansion from early 1991 through 2000. Indeed, even a projection of average annual real GDP growth of 3 percent over an expansion lasting another 6 to 8 years seems a little on the optimistic side.

The simple arithmetic supporting this conclusion works out as follows: If real GDP is growing at 3 percent per year, then it is reasonable to suppose (consistent with a gradually declining share of consumption) that real consumption spending would rise at 2.5 percent per year. This implies that consumption would contribute 1.9 percent per year to aggregate demand growth. Real government purchases rising on average at a very sluggish 0.5 percent annual rate contribute 0.1 percent to aggregate demand growth. With an eventual recovery in residential investment, it is reasonable to suppose that real fixed investment would rise at an annual average rate of 8 percent over the medium term. This implies a contribution of 1 percent to the annual growth rate of aggregate demand. With inventory investment making no net contribution, all this would imply aggregate demand growth of 3 percent per year—assuming that real net exports remained flat. Powerful export growth might achieve this latter result, but a more plausible assumption is the real net exports would subtract a modest amount from annual average aggregate demand growth.

The Behaviour of US aggregate supply

Consideration must also be given to likely developments on the supply side of the US economy. This involves assessments of (1) the size of the present output gap (the difference between potential output and actual output resulting from under-utilisation of productive resources), (2) of possible restraints or enhancements to the speed at which the output gap might be closed, and (3) of the underlying rate of potential output growth implied by trend labour force growth and by the rate of productivity increase.

The large declines in output and employment during the great recession and their subsequently very sluggish recoveries would normally suggest a large remaining output gap. In other words, there should be great deal of room for the US economy to expand in response to rising demand, without raising concerns about supply constraints and associated increases inflation pressures. Unfortunately, there are significant problems on the supply side of the US economy that work against this normal expectation, implying that the continued likely sluggishness of the US expansion is not exclusively a problem of weak demand growth.

These supply-side problems include the mismatch between the skills of workers who are unemployed (or have left the labour force and would normally plan to return) and the skill needs in areas where the US economy will now be expanding. Most prominent in this regard is the displacement of large numbers of construction workers. Employment for construction workers (seasonally adjusted) peaked 7.72 million in early 2007 and was down modestly to 7.49 million by December 2007. Employment fell to 6 million during the recession (to June 2009) and has subsequently fallen by 470 thousand. In comparison, total employment, which was 138 million at the start of the recession, fell to a low of 129.2 million in early 2010, and has subsequently recovered by 1.9 million. Thus, out of a total employment decline of 6.7 million from the start of recession to date, fully one-third (2.2 million) is accounted for by construction workers—a sector that compromised only 5.7 percent of total employment at the start of the recession.

The loss of jobs in the construction sector is varies considerably across sub-sectors. Employment in residential construction (including specialty trades) has fallen 42 percent from its peak of 3.4 million in 2007. Employment in construction of non-residential buildings (including specialty trades has fallen 21 percent for its peak of 3.6 million in 2008 to date. Employment in heavy construction and civil engineering as fallen 15.5 percent from its peak during 2008 to date (including a small gain over the past year).

This sub-sector breakdown is important because many construction workers are fairly highly skilled and highly paid and are not especially mobile across sub-sectors. The carpenters, electricians, painters, plasters, plumbers, etc. that predominate in residential construction are not the same as the steel workers and crane operators who erect tall buildings or the heavy equipment operators used heavily in civil engineering projects. A key policy implication is that while federal financing to help support public investments by State and local governments have been effective in reducing job losses among some categories of construction workers (especially in heavy construction and civil engineering) they do not provide a useful solution for many construction workers who are no longer employed. General recovery of employment in construction will need to await recovery of private investment in residential and non-residential structures—a process that will take considerable time.

Another noteworthy feature of the employment situation in the United States is the distribution of employment losses among workers with different levels of educational attainment. Data on this subject, as reported in Table 2, come from the Household Survey and refer to adult workers 25 years of age and higher. Comparing the situation today with than on the eve of the great recession, it is notable that employment for those with a college degree or higher risen by 3.3 percent, while employment less educated categories is down significantly (by 3.5 percent for those with some college, by 8.6 percent for those with only a high school degree, and 13.1 percent for those with less than a high school education). Unemployment rates are up for all levels of educational attainment, but at 4.4 percent the rate for those with a bachelor’s degree or higher suggests that margins of slack are moderate. In contrast, unemployment rates of 8.4 percent, 10.0 percent and 14.3 percent for the other three groups (in descending order of educational attainment) indicates that most of the labour market slack is among such workers.

Table 2: Adults 25 years and over, by Educational Attainment, Number Employed (thousands) and Unemployment Rate (percent)

Education Level	Dec 07	Dec 08	Dec 10	June 11
Less than H.S. Employed	11,358	10,144	9,963	9,768
Unemployment rate	7.6	15.3	15.3	14.3
H.S. only Employed	37,034	33,649	34,465	33,863
Unemployment rate	4.7	10.5	9.8	10.0
Some College Employed	34,924	33,560	33,821	33,708
Unemployment rate	3.7	9.0	8.1	8.4
B.A. or higher Employed	43,476	43,707	44,095	44,894
Unemployment Rate	2.2	5.0	4.8	4.4

These facts raise three related concerns. First, as the US economy recovers and the aggregate demand for labour rises, shortages may develop in supplies of highly educated workers while substantial slack remains for those less well educated. This will tend to constrain the pace of expansion. Second, as total employment expands with re-employment of the unemployed and those who have left the labour force, the productivity of the workers who are added is likely to be lower on average than that of those already employed. This will tend to lower overall labour productivity growth and hence the potential growth rate of the economy. Third, holding wages constant, slower labour productivity growth implies direct upward pressure on unit labour costs. Also, the quest to employ more highly educated workers will like place upward pressures on wages for such workers, adding to upward pressures on unit labour costs. And, all of these problems will likely be

exacerbated by the deterioration in work skills often associated with prolonged unemployment, as well as by the unusual impediments to geographic labour mobility arising from the housing crisis.

Economic policies can help to address some of these supply-side concerns, but one should not expect a great deal in this regard. Workers need to adapt to the changing needs of employers and employers need to provide training or adapt work demands to take account of the skills of the available labour force. These processes have been on-going throughout the history of the US economy, and in general they have functioned effectively to align worker skills with job requirements. The displacement of large numbers of workers during the great recession and the transformation of the US economy underway in the present expansion obviously put greater than normal strain on these essential adjustment processes. But, the existing mechanisms (which involve substantial government involvement especially at the State and local levels) will continue to function and may be expected to perform reasonably well. The policy issue is—what additional might usefully be done? The usual recommendation is more federal programs to retrain unemployed workers for jobs in the expanding areas of the economy.

Unfortunately, the history of federal programs to train the unemployed (extending back to the 1960s) is not a very happy one. Part of the reason probably is that those who are most likely to benefit from retraining seek and obtain it through other means, leaving the federal programs with those for whom retraining is least likely to be successful.

Supply-side concerns also have important implications for the usefulness of demand-side policies, especially monetary policy. The Federal Reserve eased monetary policy aggressively and appropriately to combat the great recession and the financial panic of late 2008 and early 2009. Fears that low core inflation might turn into deflation and concern about the sluggish pace of recovery motivated further easing in the QE2 operation begun in the autumn of 2010. More recently, the Federal Reserve has indicated its intention to keep the federal funds rate near zero at least to the middle of 2013 and has announced measures to lengthen the maturity of its holdings of US Treasury obligations. In taking these latest actions the Fed has taken the view that, although core inflation has recently risen to near its implicit target, large margins of slack and continued sluggish recovery imply that inflation is unlikely to accelerate to a worrying rate anytime soon. Supply-side developments raise questions about the wisdom of this policy.

Weakness in residential investment which has been a key impediment to more rapid recovery has not responded as it has in the past to monetary easing because of the structural problems in the housing sector. Further monetary easing is unlikely to provide much stimulus through residential investment for the same reason. Other components of aggregate demand have typically not been very responsive to movements in interest rates, suggesting that there is little that further monetary easing can contribute enhanced output and employment growth. On the other hand, problems with aggregate supply may mean that significant inflationary pressures are nearer at hand than models relating inflation primarily to the output gap would suggest. Indeed, over the past year, the core inflation rate has picked up from under 1 percent to nearly 2 percent despite a continued large margin of slack—contradicting directly the model of inflation used by the Federal Reserve. Clearly, the output gap does not always dominate the determination of the inflation rate (or changes in the inflation rate). Perhaps the downturn of labour productivity and the increase in unit labour costs during the first half of 2011 have something to do with the rise in core inflation. If so, we may be seeing early evidence that supply-side concerns will constrain monetary policy.

Supply-side issues reinforce the earlier conclusion that the pace of growth of the US economy over the medium term is likely to be significantly more sluggish than during the long expansions of 1982-

1990 and 1991-2000. Specifically, consideration of demand-side factors suggests that if the recovery is sustained over the next 6 to 8 years, we might reasonably expect an annual real GDP growth rate of a little below 3 percent.

Supply-side considerations suggest that we might reasonably expect annual employment growth of 1.6 percent per year, about half from the increase in the working-age population and about half from re-employment of the unemployed and of those that have left the labour force. Over eight years, this would be consistent with a rise of almost 19 million in (the Household Survey measure of) employment and with a gradual reduction of the unemployment rate to about 5 percent.

Problems on the supply-side of the economy suggest that labour productivity growth will be more sluggish than in recent expansions. Specifically, in the expansion from 1982 to 1990, overall labour productivity defined as the ratio of real GDP to total (household) employment increased at a 1.7 percent average annual rate. During the expansion from 1991 through 2000, this measure of labour productivity advanced at a 2.1 percent average annual rate. During the expansion from 2001 through 2007, labour productivity advanced at a 1.5 percent rate. In view of the supply-side problems already discussed, it is plausible to suppose that if the present expansion survives for another 6 to 8 years, labour productivity will advance at a 1.2 percent average annual rate. This implies that potential GDP would rise at about a 2 percent annual rate—given by the sum of normal labour force growth and labour productivity growth. The implied growth rate of aggregate supply, which includes the effect of a declining output gap, would be 2.8 percent. Thus, the story told about aggregate supply over the medium term is broadly consistent with the story about aggregate demand.

Of course, the numbers describing likely medium-term growth rates for aggregate demand and aggregate supply of slightly below 3 percent are subject to significant margins of error. And, there is no guarantee that the present expansion will proceed uninterrupted for another 6 to 8 years. Nevertheless, I believe that these estimates consistent with the most reasonable expectation that medium-term growth for the US economy will be somewhat more sluggish than in recent expansions but not catastrophically so.

3. Medium term growth prospects for western Europe

The advanced economies of Western Europe face many of the same challenges for medium-term growth as the United States, plus others. As noted earlier, real GDP growth in Western Europe and the United States during the reference period 1999 through 2007 was already slower than the growth rates achieved earlier in the postwar era. It is reasonable to expect that most of the factors that contributed to this general slowing of growth will continue to operate in the period ahead for Western Europe as well as for the United States. Gradual elimination of large margins of slack will likely provide some boost to growth rates over the medium term, but other forces impeding economic progress will weigh against and possibly outweigh this effect.

The United Kingdom, Sweden and Switzerland

Before turning to the Euro Area, it is useful to examine the situation in the United Kingdom, followed by a brief discussion of Sweden and Switzerland. The U.K. enjoyed sustained economic expansion from 1993 through 2007 achieving a 2.8 percent average annual growth rate (the same as during the nine year reference period from 1999 through 2007). Although inflation remained well contained over this period, other important imbalances developed in the U.K. economy. Even with the benefit of long expansion, the structural fiscal deficit reached about 3 percent of GDP in 2007. Rapid growth of the financial services industry became a key driver of general economic expansion,

as well as of a housing boom focused in the area around London. The real effective foreign exchange value of sterling appreciated considerably, contributing to persistent weakness in the manufacturing sector. Despite substantial net earnings from financial services, the current account deficit stood at 3 percent in 2007.

With the great global recession and the associated financial crisis, the imbalances that developed during the long expansion have come to the fore. The financial services industry has suffered a serious set back from which it will not soon recover. The housing boom has ended, and although the situation is not as dire as in the United States (or, even more so, Ireland and Spain), recovery in this sector will be a painful and drawn out process. The fiscal deficit ballooned as the economy fell into recession and the old Labour government initially resorted to significant fiscal stimulus. Aggressive reversal of this policy by the new Conservative/Liberal coalition has clearly put significant (temporary) downward pressure on economic activity. One bright spot (at least from the perspective of the U.K.) is the substantial real effective depreciation of sterling since 2007. On the other hand, since 2007 inflation has been running above its announced target and appears likely to continue to do so for at least another year. The Bank of England has essentially ignored this problem and has maintained an exceptionally easy monetary policy to support the economy. Before much longer, however, monetary policy will need to respond to concerns about inflation, lest the whole notion of an “inflation target” for U.K. monetary policy become a bad joke.

Looking to the medium term, fiscal consolidation will continue to depress aggregate demand for at least the next year or two, but then should become essentially a neutral factor. For some of the same reasons as in the United States, growth of consumption spending is likely to remain subdued (but still positive) in the U.K. Business investment should do relatively well as the manufacturing sector continues to expand, but with some worries about the impact on the U.K. of a prolonged slowdown in most of the rest of Western Europe. As with the United States, it is reasonable to assume that real net exports will not make a significant contribution, positive or negative, to real GDP growth in the U.K. All told, after the substantial output losses during great recession and the stagnation of the past two years, it is probably reasonable to expect a medium-term growth rate of about 2.5 percent. This is broadly consistent with a potential growth rate of about 2 percent and with a gradual reduction of the unemployment rate toward 5 percent.

Sweden is interesting its economy has performed quite well relative to most of Western Europe since the mid-1990s. The economy grew at a 3 percent annual rate during the reference period 1999 through 2007, almost a percentage point better than the euro area. With its relatively large manufacturing sector, the Swedish economy was hit fairly hard during the great recession, but the subsequent recovery has been reasonably strong and the unemployment rate is already down 1.7 percentage points from its recession peak and barely 1 percent above its pre-recession level.

The relatively good performance of the Swedish economy reflects, to an important degree, the sound management of economic policy before, during, and after the great recession. Lessons were well learned from the trauma following the collapse of the credit and housing bubbles in the early 1990s and the need to rein in the excesses of Sweden’s welfare state. Since then, the government has run a very responsible fiscal policy, leading to budget surpluses in the years before the great recession. This allowed some room for fiscal support at the depths of the recession, while not leaving a need for aggressive fiscal consolidation in the present recovery (as is needed in many other European countries). Sound management and supervision of Swedish banks (recognising the bitter lessons of earlier experience) allowed them to avoid much of the distress that affected financial institutions in other countries. Also, the flexible exchange rate of the Swedish krona, especially against the euro, allowed the exchange rate to absorb some of the stress from the great recession and the associated

collapse of world trade—an adjustment mechanism not available to members of the euro area. Recent upward pressures on the exchange rate of the krona suggest that this may become more of an impediment to economic growth. Looking at the supply side of the Swedish economy, because the margin of slack in the Swedish economy is not very large, it should be expected that growth over the medium term will be near to the potential growth rate, plausibly about 2.5 percent.

Switzerland provides a useful comparison with Sweden. Economic growth was quite good (at a 3 percent annual rate) during the four years immediately preceding the great recession, but was somewhat disappointing before that. Fiscal policy was soundly managed, and there is no need now for significant fiscal consolidation. Swiss banks (especially the two very large banks) did absorb major losses during the global financial crisis, but these losses were primarily associated with their international operations—not their operations inside Switzerland. The Swiss authorities dealt with these problems without significant cost to the taxpayer or to the Swiss economy. Subsequently, bank regulation (especially capital standards) have been improved to an extent that significantly exceeds the accomplishments of other countries. Quite rightly, the Swiss authorities are not worried that this strengthening of bank regulation will impede growth of the Swiss economy.

Like the Swedish krona, the exchange rate of the Swiss franc has been flexible, at least until quite recently. Switzerland gained some room for maneuver from this exchange rate flexibility which helped to shield its economy from the great recession. More recently, however, the exchange rate has become a problem as the Swiss franc has appreciated very strongly against other currencies, most notably the euro. It remains to be seen how much this appreciation will slow the growth of the Swiss economy, but it seems prudent to suppose growth in the period ahead will not match that immediately preceding the great recession but will likely be in the 1.5 to 2 percent range.

The Euro area, demand and supply side considerations

Turning finally to the situation in the Euro Area, as reported in Table 1, real GDP grew at a rather sluggish a 2.2 percent average annual rate during the nine years preceding the great recession. France (the second largest economy) performed at this average, but Germany and Italy (the largest and third largest economies) grew one-half percentage point below the average. Spain (the fourth largest economy) enjoyed stronger-than-average growth at a 3.6 percent annual rate. Some of the smaller members of the euro area (Finland and especially Ireland) also grew more rapidly than the average, while Portugal lagged behind.

During the reference period 1999 through 2007, real domestic demand in the euro area grew at essentially the same average annual rate as real GDP: see Table 3. Correspondingly, there was relatively little change in the current account of the euro area, which improved from a modest deficit of 0.5 percent of GDP in 1999 to balance in 2007. For individual members of the euro area, however, differentials between growth of output and growth of domestic demand were significant. Germany shows very weak growth of domestic demand, only 1.1 percent per year, reflecting primarily very weak growth of consumption. Italy has slightly stronger growth of domestic demand than of output; whereas France has modestly stronger growth of domestic demand than of real GDP. Spain recorded 4.2 percent annual growth of real domestic demand versus 3.6 percent annualised growth of real GDP.

Table 3: Output and Demand Growth and Current Accounts

Country/Area	Real GDP Growth rate, 1999 to 2007	Domestic Demand Growth rate, 1999 to 2007	Current Account Share of GDP, 1999	Current Account Share of GDP, 2007
United States	2.8	3.1	- 3.2	- 5.1
United Kingdom	2.8	3.2	- 2.4	- 2.6
Sweden	3.0		3.5	8.6
Switzerland	2.1		11.6	9.9
Euro Area	2.2	2.2	- 0.5	0.1
Germany	1.6	0.7	- 1.3	7.5
France	2.2	2.5	3.1	- 1.0
Italy	1.5	1.7	0.7	- 2.5
Spain	3.6	4.2	- 2.1	- 10.0
Netherlands	2.3		4.3	7.6
Belgium/Lux.	2.6		4.2	1.6
Austria	2.3		- 2.8	3.1
Finland	3.5		5.9	4.1
Greece	4.1		- 4.1	- 14.2
Portugal	1.4		- 8.7	- 9.4
Ireland	7.5		0.6	- 5.6

These differentials between the growth of real GDP and real domestic demand are reflected, of course, in the evolution of current account balances. In 1999, the euro area as a whole had a small (about 0.5 percent of GDP) current account deficit, and in 2007 the current account was essentially balanced. Germany had a moderate current account deficit in 1999, amounting to 1.3 percent of GDP. In 2007, this had been transformed into a large surplus equivalent to 7.5 percent of GDP. This rise in the Germany's surplus was offset by deterioration of the current account balance of the rest of the euro area. In particular, France went from a surplus of 3.1 percent of GDP to a deficit of 1 percent of GDP. Italy went from a surplus of 0.7 percent of GDP to a deficit of 2.5 percent of GDP. Spain's current account deteriorated massively from a deficit of 2.1 percent of GDP to a deficit of 10 percent of GDP.

Closely related to these developments was the rapid gain in cost competitiveness of German manufacturing relative to manufacturing in the rest of the euro area. Comparatively rapid increases in labour productivity in German manufacturing, combined with comparatively sluggish wage growth, induced about a 20 percent decline in unit labour costs in Germany relative to those in the rest of the euro area. These gains in Germany's cost competitiveness were more modest vis-à-vis France, but were greater than the average vis-à-vis Italy and Spain. Taking account the real exchange rates among national precursor currencies when the euro was introduced in 1999, it is fair to say that Germany's real exchange rate started out somewhat overvalued, while the real exchange rates of Italy and Spain were initially somewhat undervalued. Developments in the current account balances of euro area members, as well as in labour productivity and wages, indicate that this initial disequilibrium was more than reversed by 2007.

The euro area as a whole was hit fairly hard during the great recession, with real GDP falling about 5 percent. The subsequent recovery has general been quite sluggish but substantial disparities in the performances of different countries. Clearly, there are important issues about medium-term growth prospects for each of the member countries. Greece's problems, in particular, have been a central focus of concern since early last year. More generally, fears about the fiscal sustainability of several euro area members and the spill over effects onto European banks and more broadly to the world economy and financial system have dominated recent debates about economic policies and even about the future of the euro area itself.

The purpose here, however, is not to delve deeply into these very important and immediate concerns. Instead, it will be assumed that current difficulties are resolved without a major systemic breakdown of the euro system or the euro area financial system. Even with continued substantial official assistance, Greece will need to restructure its sovereign debt (but will not leave the euro), and the Greek economy will face a long and painful adjustment to gradually restore its competitiveness and return to reasonable rates of economic growth. Ireland and Portugal, the two other euro area countries now receiving official assistance, may well be able to avoid sovereign debt restructuring and the more extreme difficulties of the Greek economy, but will nevertheless face prolonged periods of adjustment before economic activity comes substantially back toward its previous growth path. Beyond these three countries (which accounted for about 8 percent of euro area GDP in 2007), the considerations relevant for assessing medium-term growth prospects are more within the normal range.

Looking at the prospective growth of aggregate demand, it is important to focus first on growth of domestic demand, which was 2.2 percent during the reference period 1999-2007, the same as the growth rate for real GDP. Growth of domestic demand over the next 6 to 8 years is likely to fall significantly below this figure. Several members of the euro area, most notably Italy and Spain (in addition to Greece, Ireland and Portugal) will need to establish and maintain quite austere fiscal policies in order to persuade markets of fiscal rectitude. Elsewhere there is little or no room for fiscal expansion. Hence, we may expect both that increases of government purchases will contribute little to demand growth and that efforts of fiscal consolidation will weigh upon private spending.

In the period following the advent of the euro, interest rates converged downward toward German rates. This boosted spending (especially for residential investment) in those countries benefiting from this downward convergence. Reduction of fiscal deficits and public debt levels was also made easier. This process will not be repeated in the period ahead. Indeed, there will be a continuing need to work-off the excesses of housing booms in some countries (especially Ireland and Spain) and the likelihood is that at least some of the recent increases of interest rate spreads vis-à-vis Germany will prove durable, except in the unlikely event that the euro area becomes a full fiscal union.

Focusing next on the likely contribution of the external sector to medium-term growth of aggregate demand it is reasonable to expect something positive but not much. Import growth will be somewhat restrained by the weak growth of domestic demand, while euro area exports participate in the general expansion of world trade. However, unlike the reference period where the real exchange rate of the euro was highly competitive against the US dollar and the U.K. pound for the first five years, the euro area enjoys no such competitiveness advantage today. Slight improvement of the euro area current account from a deficit of about 0.5 percent of GDP to a surplus of 0.5 percent of GDP may be reasonable. But this implies a contribution of only 0.1 to 0.2 percentage points to the annual average growth rate of aggregate demand in the medium term. Adding in a reasonable projection for growth of domestic demand suggests that the annual average growth rate of aggregate demand for the euro area in the medium term will be below 2 percent and perhaps as low as 1.5 percent.

Consideration of aggregate supply generally supports the conclusion of medium-term growth below 2 percent. Between 1999 and 2007, the unemployment rate fell from 9.2 to 7.6 percent, indicating that output and employment growth were absorbing significant slack during these nine years. The implication is that the potential growth rate in that period was below 2.2 percent, plausibly about 1.7 percent.

Growth of the euro area labour force arising from population growth and immigration looks likely to be no higher than in the reference period. There is no persuasive reason to believe that labour productivity growth will

any higher than previously, and there are forces operating in the other direction. At 9.9 percent the present euro area unemployment rate is somewhat above the 1999 level, but it will likely prove difficult to reduce it rapidly to near its 2007 low. Germany's unemployment rate (now 7.0 percent) is already below its 2007 level (7.8 percent) and further significant reductions of German unemployment will be difficult to achieve. Despite its weak recovery, Italy's unemployment rate is now not much above its 2007 low. Exceptionally high unemployment in Spain (now 21 percent) reflects to a considerable degree the collapse in construction, and reducing unemployment to near 8 percent again will be a very daunting task. Similarly, reduction of the very high unemployment rates in Greece and Ireland to near their pre-recession lows is likely to be a very slow process at best. All together, it seems unlikely that reducing unemployment and margins of slack will add much more than 0.3 to 0.4 percent per year to the growth rate of aggregate supply over the growth rate of potential output.

Critical divergences within the Euro area

Beyond the normal considerations of aggregate demand and aggregate supply, further important concerns about medium-term growth prospects for the euro area arise from disparities among members in their economic situations. In the debates that preceded the formation of the euro, it was emphasised (especially by sceptics of the euro) that the introduction of a common currency would eliminate exchange rate adjustments as a means for accommodating differing requirements for economic growth in different members, especially differing requirements for adjustments in international competitiveness. Proponents of the common currency generally argued that these problems would be limited by economic convergence before and after the introduction of the euro and by rules ensuring appropriate and cooperative behaviour among the governments of the euro area. Experience before the great recession generally appeared to support the position of the euro's proponents. Subsequently, serious problems have arisen that appear likely to hamper economic growth

Current account imbalances are not always a sign of trouble but they can be. In particular, the (previously described) widening of current account imbalances among members of the euro area between 1999 and 2007, notably the large improvement in Germany's current account and the offsetting deterioration in the current accounts of other members (especially Spain) should have been seen as symptomatic of considerable potential trouble. Developments in the relative cost competitiveness of different euro members should have been seen as a related concern. Instead, euro area officials tended to emphasise that the overall current account of the euro area remained near balance and that the question of (real) exchange rates or payments imbalances among members were not really relevant for a common currency area.

During the great recession, the current account of the euro area moved briefly into moderate deficit, but most recently this deficit has shrunk to only about 0.5 percent of area GDP—the same as in 1999.

The German surplus has fallen from its 2007 peak but is still about 5 percent of GDP. Spain's deficit has shrunk dramatically to about 4.5 percent of GDP, while France's deficit has remained essentially constant at 2.5 percent of GDP and Italy's deficit has grown to almost 4 percent of GDP.

By themselves, present payments imbalances of euro area members are not especially disturbing, but they are much more so when viewed in the contest of other economic developments. With its large manufacturing sector, the German economy was hard hit by the global recession and the collapse associated in world trade, and real GDP fell 6 percent. However, unlike most of the rest of the euro area, Germany has enjoyed a fairly strong recovery, with real GDP rising above its previous peak by early this year, and the unemployment rate now below its pre-recession low. Strong gains in German exports and associated gains in real net exports have driven this recovery, along with an important contribution from domestic demand. For the rest of the euro area real GDP is still about 2 percent below its pre-recession peak, and the unemployment rate is up from modestly from its peak during the recession and almost 3 percent above its pre-recession low. Domestic demand growth has been quite modest, and real export growth has been significantly less buoyant than for Germany. The cost competitiveness advantage of German manufacturers vis-à-vis the rest of the euro area has not diminished. The real exchange rate for Germany appears to be significantly undervalued relative to that of the rest of the euro area, especially Italy, Spain, Ireland, and Greece.

Starting from this situation, the question is—How can the euro area reasonably be expected to achieve a medium term growth rate as high as 2 percent? Already operating near potential, sustained growth of 2 percent or better may not be achievable for Germany. To achieve whatever is its maximum sustainable growth rate, growth of demand for German output will need to come primarily from rising domestic demand, not from rising net exports as was the case from 1999 to 2007. Indeed, for the rest of the euro area to achieve medium-term growth that modestly exceeds potential growth and allows for gradually falling margins of slack, it will probably be necessary for weak domestic demand growth to be supplemented by improvements in real net exports. Such improvement would clearly not be consistent with little change in the real trade balance of the euro area and continued significant growth of Germany's real trade surplus.

Significant adjustments in the relative competitiveness of different euro area economies will clearly be essential to achieve something close to medium term growth of 2 percent for the euro area. The relative cost competitiveness of most euro area countries needs to improve vis-à-vis Germany, in some cases very substantially. This will be required to redistribute improvements in net exports toward those member countries where margins of slack are high and constraints on the growth of domestic demand are likely to be tight. Germany and the Netherlands (and possibly Austria and Finland) will have to be on the other side of this adjustment process, with domestic demand growth somewhat outstripping output growth and with relative cost competitiveness gradually eroding versus other euro area members.

How might this adjustment process operate? David Hume suggested a key part of the necessary mechanism two and a half centuries ago. In those countries already operating near potential, with relatively buoyant growth of domestic demand, wages (and, to a lesser extent, prices) will be pushed up. In other countries where margins of slack are considerable and domestic demand growth is relatively weak, wages will decline or rise less rapidly. Over time, the necessary adjustments in relative cost competitiveness will be achieved. Economic policies should promote or, at a minimum, not impede these adjustments. However, even with the best of policies medium-term economic growth is still likely to be impeded by the need for substantial adjustments to correct critical divergences among members of the euro area.

Keynote address:

The euro area crisis and future global implications

Wolfgang Schäuble

Ladies and gentlemen,

For more than two decades, economic policy in industrialised countries has tried to avoid recessions sacrificing fiscal prudence and monetary rectitude in the process. When financial markets crashed, central banks, particularly in Anglo-Saxon countries, cut interest rates. And when growth declined, governments plundered the public's purse - even worse they robbed children's piggy banks - to make up for the private sector's reluctance to spend freely.

One result of such misguided policies was a series of debt-financed asset bubbles. For me it is no coincidence that the last of these financial crisis started in the United States and its real-estate sector. US policymakers attempted to support high levels of growth via monetary policy. They tried to promote home ownership of poorly skilled workers by having less stringent lending practices. The former IMF chief economist Raghuram Rajan analysed that problem in parts lucidly when he argues in his recent book that America's growing inequality and thin social safety net create tremendous political pressure to encourage easy credit and keep job creation robust - no matter what the consequences to the US and world economy are.

Now, I am not here to blame US economic policy. And helping the poor and undereducated is a worthy goal. But lax monetary and lending policies are no replacement for good education and social policies. And while there are indeed adverse incentives in the social market economy, I would argue that - as a system partially designed to alleviate social inequity by a mix of income redistribution and accessible education - it is superior to the US model which uses monetary and lending policies to soften inequality.

Back to the financial crisis. When the last of those debt-financed bubbles burst three years ago, governments had to up the ante and use massive fiscal stimuli and central banks had to take resort to unprecedented measures of easing monetary policy to avoid the breakdown of financial markets and an ensuing depression.

To be fair, those measures have been necessary to avoid a depression. But Keynesian deficit spending has had unfortunate consequences: Governments' debts and deficits are on the verge of spiralling out of control. At least markets think so, withdrawing their confidence and demanding higher risk premiums, i.e. interest rates.

Governments are now faced with a predicament. There is little political or market appetite for more fiscal and monetary stimuli. But markets and citizens do not crave tighter fiscal and monetary policies either, for fear of their economies heading back into recession.

There is a feeling that politics is at wit's end. And in a sense that is true: Governments and central banks have used up much of their fiscal and monetary firepower. I think it is no accident that unemployment in the US has remained stubborn despite all the efforts by the Federal Reserve and the United States government to promote growth. We will not spend our way out of the current predicament, nor will it work to lower the debt burden by inflating the problem away. Loosening

monetary and fiscal policies in the short-term while promising monetary and fiscal tightening in the medium-term might have worked in the past. Today however, as market reactions demonstrate, it lacks credibility with investors as well as with our citizens.

The key question today is: What is the alternative to those boom and bust cycles of the past, caused by and in turn causing overleveraged public and private sectors? Is there an alternative economic policy framework?

I would argue that we can establish an alternative economic policy framework - a framework that does not encourage laissez faire economic policies of the recent past nor the discretionary meddling in economic affairs of the seventies, but nevertheless will not lead to marginal economic growth in tightly regulated markets; an economic policy framework which fosters sustainable growth.

I am convinced that we can establish fiscal and financial policy frameworks that encourage long-term sustainable growth of the economy instead of short-term volatile growth bursts or long-term economic decline. But for this to happen, immediate fiscal consolidation and structural reforms in highly indebted countries are of the essence. Public debts and deficits in a number of industrialised countries are too high and we need to bring them down fast. Markets no longer accept current debt and deficit levels and they no longer accept that governments put economic reform off until after the next election.

Recent studies - most prominently Rogoff's and Reinhart's book "This Time Is Different" - , have shown that once government debt burdens reach thresholds perceived to be unsustainable, more debt will stunt rather than stimulate growth. Investors as well have reached the conclusion that debt and deficit levels in a number of countries are unsustainable and expect governments to bring them down - now.

There are some who argue that fiscal consolidation, a smaller public sector and more flexible labour markets will lead to a decrease in consumption in these countries in the immediate future. I am not sure that's necessarily the case, but even if it were, there is a trade-off between short term pain and long term gain in these countries: I would argue that an increase in consumer and investor confidence and a shortening of unemployment lines will in the medium term cancel out any short-term dip of consumption. I am not deluding myself, however and neither should you: It will take not months but years, before these efforts will bear fruit.

Given the time necessary to bring public debts and deficits down to sustainable levels in Europe, we will have to provide strictly conditional financial assistance to highly indebted and less competitive member countries. In essence we are buying those countries the time they need to put their public finances on a sustainable footing and improve their competitiveness.

One of the major problems of most of these countries is their large current account deficit, exposing their lack of competitiveness and strong dependency on imports. A key question therefore is: What effect would fiscal adjustments have on countries' external balances? Well, the IMF looked at fiscal policy changes over the past 30 years in advanced economies. What they found was that fiscal policy has a large and long-lasting effect on the current account. And the improvement in the current account takes place not just because imports fall as a result of lower consumption and investment. They also found that exports rise as the real exchange-rate will depreciate.

That finding is true for countries where the exchange rate is fixed as well. Of course, as the real exchange-rate depreciates, domestic wages and prices will have to adjust.. And these adjustments are

painful, no doubt. But that is why in the case of Greece we are providing financial assistance and allow Greece to prolong the adjustment period to accommodate social hardships. Now there are a number of economists who argue that it will be easier politically to deal with nominal real exchange rate adjustments. Well, they should not fool themselves.

No, the key question for the euro zone is: Can we establish and adhere to a framework for the economic governance of the euro zone that encourages long-term sustainable growth of our economies instead of short-term volatile growth bursts or long-term economic decline? I think we can. But every journey starts with the first step: For this to happen, immediate fiscal consolidation and structural reforms in Italy, Spain, Portugal and Greece are of the essence.

Ladies and gentlemen, only calling for more budgetary discipline will be insufficient. We have to repair public finances, but we have to do so in a way that rather encourages than hinders future growth. Governments need not only convincingly demonstrate their commitment to fiscal consolidation but also to increasing competitiveness to restore confidence of markets as well as their citizens.

Let me repeat that: The challenge for governments today is not to repair public finances. It is not even to start repairing public finances immediately. It is to restore the trust of investors and citizens in the sustainability of their governments' fiscal policies and foster sustainable growth in the long run. Otherwise the financial, economic, social and political consequences of an ensuing crisis of confidence would be dramatic and difficult to contain.

Some argue that such a demand for sustainable growth is Eurocentric and something only wealthy European countries can afford. Others even argue that it is a sinister strategy by well-off nations to stop developing nations from gaining ground.

Well, nothing could be further from the truth. Developed as well as developing nations alike - at least most of them - learned a hard lesson the last three years: Namely, that long-term gains have been consistently postponed or forsaken for short-term gratification, that fiscal and financial policies are off-track and unsustainable. This time we will have to take the long view: Developed economies need - and are in the process of - de-leveraging. It is not only households who have to live within their means, who - at least in the long run - cannot spend more than they earn, it is countries and it is citizens as well.

Recent events have shown that a common currency cannot survive without solidarity between its members. But such solidarity has its limits, it can only accompany a country's reform efforts, not replace them: A member state has to be willing to deal with the root causes of its problems itself, European solidarity cannot replace a governments resolve. But it is not only highly indebted countries that have to change. Brussels has to change its bureaucratic ways as well. Perhaps it is no accident that enthusiasm for the European idea has been fading while the Commission's staff - and their pay - has been steadily increasing. But for Europe and its members to become more efficient, their bureaucracy has to become more effective and less self-absorbed. Helping those countries which are most in need by realigning their spending priorities to foster sustainable growth could be a start.

It is indeed vital, that we look at more than just government budgets, debt and deficit figures. We must consider an individual members' economic performance too, improve competitiveness and better co-ordinate economic policy.

And while we are talking about improving competitiveness: Yes, we have to avoid overly large imbalances between member states. But no, this cannot take the form of successful countries voluntarily limiting their competitiveness. The only workable course is for those countries in the euro zone who are somewhat weaker, to become stronger. We can help them, but we cannot do their job. One does not resolve one's own problems of competitiveness by asking others to become less competitive and one cannot permanently close the gap between expenditure and income by asking others for money.

I am well aware that growth rates in Europe will vary, notwithstanding our best efforts to improve competitiveness. While not a zero sum game, growth in the more mature economies of western Europe will not keep pace with growth rates in a number of Eastern European countries, not least for demographic reasons, but also because of pent-up demand in those countries. But that is not a bad thing at all: If you ask me: What is Europe's contribution to global prosperity? It is our emphasis on long-term, stable and sustainable growth. I would even argue that gearing economic policies towards that goal is worthy of consideration even in those economies in Asia and South-America which are more dynamic than the mature economies in Europe.

I think the core lesson from the past crises is that high cyclical, credit-fuelled growth, which is driven by the financial market, does more harm than good. Instead, we need to create the preconditions for lasting and sustainable growth: Sustainable growth defined as steady, environmentally-friendly and socially-compatible growth propelled by the industry and productivity of the real economy and not by an overleveraged financial sector.

I am convinced that, if we stick with our policy of fiscal and structural reforms, we will put the economies of the euro zone on a sustainable footing and prevent the debt crisis of some countries from becoming a crisis threatening the euro zone as a whole and in turn the world economy.

Now, there are some, who are not satisfied by the way European politicians are dealing with the crises, who are now calling for the supposed structural faults in European Monetary Union to be corrected once and for all by building up the political and fiscal union. But that is an approach that does not reflect the genesis of European integration. Europe always moved forward one step at a time. And it will do so in future as well. I am a great fan of Karl Popper and his concept of an open society which improves through a constant process of trial and error. If we want to draw the right lessons from the recent crises, then that is how we have to proceed.

But there is time for little and there is a time for bold steps. And the time for bold steps is now. Governments in the euro zone need not just to commit to fiscal consolidation and improved competitiveness and governance, they have to deliver. And they will. We will strengthen the institutional links between the common European monetary policy and the still national responsibilities of member states for fiscal policies.

I believe that it will become increasingly necessary for European democracies to strengthen the bond between its citizens and Europe on each step of the way by strengthening the democratic mandate of European institutions. However, that does not mean that the fiscal and monetary policy decisions taken by these democratically legitimated institutions need the public's continual approval of their decisions. As I understand it that squares with an insight of constitutional economics: That you establish and legitimate your principal monetary - and fiscal - institutions with a strong democratic mandate but entrust them to conduct monetary and fiscal policy as independent from politics as possible. Of course these institutions will still make mistakes, but at least mistakes based on error-prone interpretations of the public mood should not be one of them.

Ladies and gentlemen, to sum things up: To regain credibility, immediate fiscal consolidation and structural reforms in highly indebted and non-competitive countries are of the essence, even as the returns on that investment are one, perhaps two election cycles away. Europe has begun to create a framework that promotes the sustainable growth of the real economy. A framework which encourages more responsible behaviour on the part of European governments and - by the way - of financial market participants as well. Strengthening the institutions of the euro zone may need treaty changes and will take time. But make no mistake about it: The direction is undisputed, as is the decisiveness of all member states to defend the common European currency. We will form an ever closer European Union, contributing to European prosperity and global stability in the process. Thank you very much!

The debt challenge in Europe

Alan Ahearne and Guntram B. Wolff

Abstract

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

1 Introduction

The global financial crisis has had a profound effect on the euro area economies. The initial response of significant fiscal expansion in some countries to address shortfalls in domestic demand resulting from corrections in housing and asset markets was followed by a phase of gradual fiscal retrenchment. What started as a Greek fiscal crisis with significant market risk premia on the Greek sovereign quickly transformed into a crisis affecting five euro area economies. Greece, Ireland and Portugal have entered financial assistance programmes. Spain and Italy face heavy market pressure from elevated yields on their sovereign debt.

This is not the place to describe the developments of the last two years and the fundamental policy mistakes that have been made. Clearly, the handling of Greece and the responses of the Eurogroup and the European Council have not been enough to stop the fire from spreading. In short, the euro area is in a precarious situation.

At the heart of the ongoing crisis in the euro area are market concerns about the sustainability of sovereign debt in some EMU countries. Standard models of public debt dynamics show that if the interest rate on the debt exceeds the nominal growth rate of GDP, then stabilisation of the debt-to-GDP ratio requires that the country must run a sufficiently large primary (that is, non-interest) budget surplus. Based on this analysis, the prescription for EMU countries with sovereign debt difficulties consists of a cocktail of medicine: (1) fiscal consolidation to reduce primary budget deficits, and (2) real exchange rate depreciation through price and wage cuts to boost growth of net exports and reduce current account deficits. These policy actions are expected to increase investor confidence in the sustainability of public debt, thereby lowering interest rates on sovereign debt. Lower interest rates further improve the debt dynamics.

An issue that has not received the attention that it deserves in the debate over sovereign debt sustainability is the interaction between public debt and private debt. Rising fiscal deficits can

support aggregate demand and thereby facilitate private sector deleveraging in cases where businesses and households find themselves over-indebted. But as governments implement needed fiscal consolidation programmes, the accompanying increases in taxes and cuts in spending may frustrate the efforts of the private sector to reduce the debt overhang (Eggertsson and Krugman, 2010). For that reason, it is important to understand how over-indebted businesses and households might respond to planned policy actions in the current crisis.

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

2 Debt and competitiveness: an overview

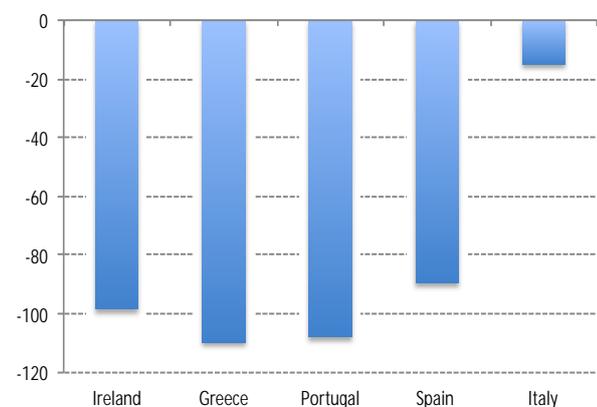
The current euro area crisis is characterised by a combination of both an overhang in debt (public and private) and a need for significant adjustment in price competitiveness. The combination of these two factors renders this crisis especially dangerous, resulting in large banking sector fragility and weak economic growth.

Figure 1 documents the net external financial assets (as a percentage of GDP) of Greece, Portugal, Ireland, Spain and Italy. As can be seen, net external liabilities currently exceed 100 percent of GDP in Greece and Portugal. Ireland's net external liabilities are close to 100 percent, though caution is required in interpreting the data for Ireland.²⁴ In Spain, the figure is around 90 percent. Only in Italy are the net external liabilities relatively low, at less than 20 percent of GDP.

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

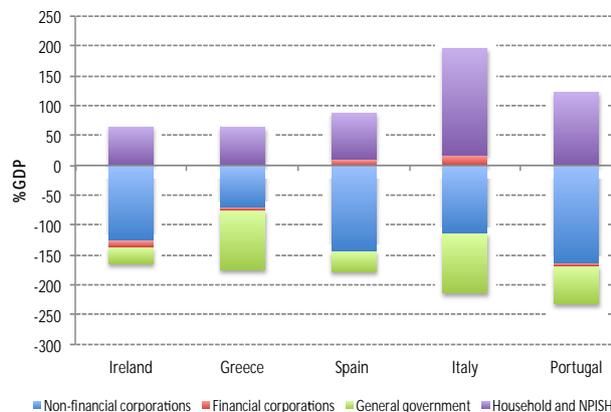
²⁴ Gros (2011) estimates that based on accumulated current account balances over the past 25 years, Ireland's external liabilities are about 20 percent GDP, compared with the figure of nearly 100 percent reported by Eurostat. The differences in estimates may reflect distortions in the data associated with the presence of the large International Financial Services Centre (IFSC) in Dublin.

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



Source: EUROSTAT

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



Source: EUROSTAT

These net positions conceal very large gross financial asset and liability positions. Ireland certainly stands out with financial assets and financial liabilities of around 18 times GDP, though these figures are distorted by the inclusion of activities in the International Financial Services Center.²⁵ But the gross positions for the other countries are also large, easily constituting stocks of assets and liabilities exceeding several years' worth of income.

Such large stocks can render countries' net external positions vulnerable to changes in the prices of assets and liabilities. Suppose that asset values react differently to changes in economic circumstances than liabilities. In that case, an economic or financial shock has the potential to change markedly the net asset position of a country.²⁶

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

²⁵ According to the IMF, Ireland's reported gross external liabilities are around 1,100 percent of GDP (end-2010), but most of these liabilities are related to IFSC activities and are largely offset by external assets. Excluding the IFSC, gross external liabilities are estimated to be about 330 percent of GDP. www.imf.org/external/pubs/ft/scr/2011/cr11276.pdf

²⁶ An extensive discussion of valuation effects can be found in European Commission (2010).

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

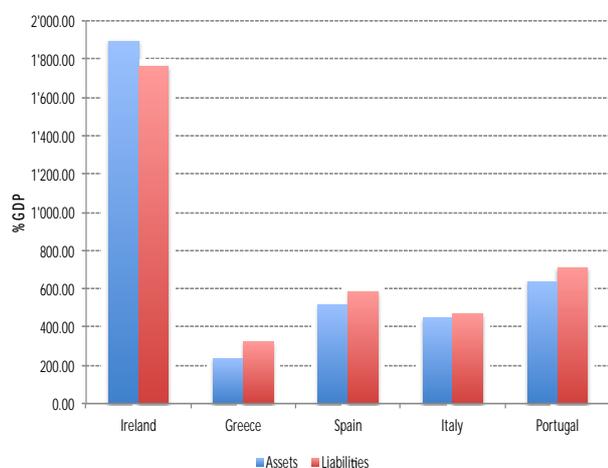
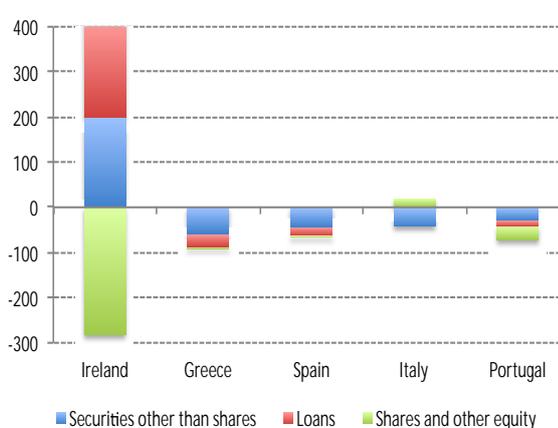


Figure 4: Net assets/liabilities across categories as % of GDP (2009)



Source: EUROSTAT

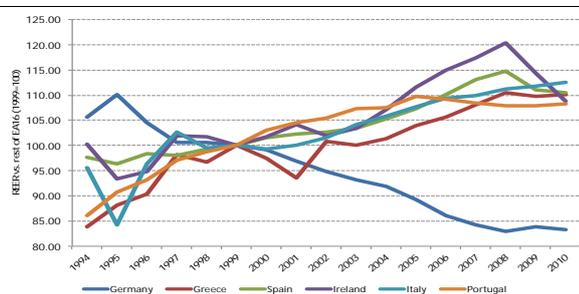
Note: Assets and liabilities are obtained as the sum of the three categories: securities other than shares, loans, and shares and other equity.

Source: EUROSTAT

These high external and internal debt burdens must be seen in the light of the significant competitiveness adjustments that are required in these economies. Figure 5 summarises the divergence in competitiveness based on unit labour costs for these economies. It shows that there has been a continuous divergence in relative unit labour costs since 1999. This divergence in competitiveness has not been corrected to any great extent during the crisis, except for the case of Ireland and to a lesser degree Spain.

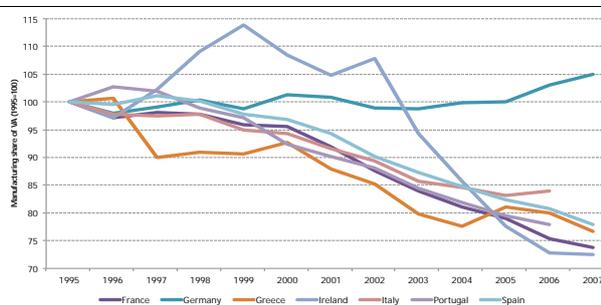
The loss in price competitiveness has gone hand in hand with a significant decline in the share of the manufacturing sector in total value added (see Figure 6). The value added share has fallen by as much as 25 percent, highlighting a tendency of de-industrialisation of the euro area “periphery”. To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

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



Source: DG ECFIN Price/Competitiveness Database

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



Source: OECD

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

Table 1: Size of the export sector

(Gross exports as a % of GDP)

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

Source: AMECO database.

The discussion above suggests that most of the economies that are the focus of this paper face a double challenge. On the one hand, they have to deal with large debt burdens. These debt burdens can be difficult to cope with when interest rates on public and private debt are rising and when incomes are falling because of the recession. Needed fiscal consolidation further depresses incomes, both directly through budgetary measures such as tax hikes and indirectly by aggravating the recession. On the other hand, the economies in question need to increase their competitiveness in order to grow and to be able to service their foreign debt. This is particularly relevant for those economies that hold large external debt positions. Repaying external debt means that a country needs to run current account surpluses. The combination of the two factors, the need for a competitiveness adjustment and the debt overhang makes the current situation delicate. While downward wage adjustments help on the competitiveness and export side, they may also reduce the overall income in the near term (depending on the time profile of job creation), making debt repayment more difficult.

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

3 Corporate debt

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

A simple measure of balance sheet adjustment is the net lending of the non-financial corporate sector.²⁷ Corporate net lending measures corporations' net financial investments (if positive) or, alternatively, their net needs in terms of external finance (if negative). In the euro area, corporate net lending increased by more than 3 percentage points of GDP between 2000 and 2004 before decreasing again during the recovery (see Figure 7). The current economic crisis is also leaving its footprint in euro area corporate net lending, which has been increasing strongly since 2008Q3; in fact, in 2010Q1 it was in positive territory in seasonally adjusted terms for the first time in the history of the euro area.

²⁷ An important literature investigates the determinants of corporate balance sheet adjustment. The finance literature offers two competing models of financing decisions and balance sheet structure. In the trade-off model, firms identify their optimal leverage ratio by weighing the costs and benefits of additional debt. The benefits of debt include, for example, the tax deductibility of interest and the disciplining effect of debt in case of agency problems between managers and shareholders (Jensen 1986). The cost of debt includes potential bankruptcy costs and others. In the pecking order model (Myers and Majluf, 1984), equity issuance and, to a lesser degree, debt issuance comes with a cost due to asymmetric information between managers and investors. In this model, companies prioritise their sources of financing, using internal funds first before resorting to debt and ultimately equity. The pecking order model predicts that a firm's debt issuance is an inverted function of its net cash flows (cash earnings minus investment layouts). Fama and French (2002) test both models with firm-level data and find supporting and contradicting evidence for both models suggesting that both models partially hold.

Figure 7: Net lending of the non-financial corporate sector, euro area, in % of GDP



Note: four quarters backward moving average

Source: EUROSTAT, own computations

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

Sorensen et al (2009) estimate that by the end of 2006, the debt overhang in the euro-area corporate sector was as much as 15 percent (that is, the corporate debt was as much as 15 percent above its estimated equilibrium level). Judging by intra-area differences in the pace of debt accumulation over the past decade, the overhang could be considerably larger in some Member States. This may explain the rapid increase in corporate net lending.

The aggregate euro area figure conceals significant differences across individual euro area countries. Table 2 shows the percentage adjustment in corporate net lending since the beginning of the recent adjustment processes. Spain has seen by far the largest adjustment of corporate net lending with an adjustment of close to 9 percent of GDP, but adjustments in Portugal, Greece, Ireland and even Italy have also been sizeable. As pointed out earlier, this strong balance sheet adjustment goes hand in hand with a significant recession unless the shortfall in domestic demand is offset by an increase in demand in other sectors of the economy, typically the public or external sector.

Table 2: Non-financial corporations and government net lending (% of GDP)

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

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

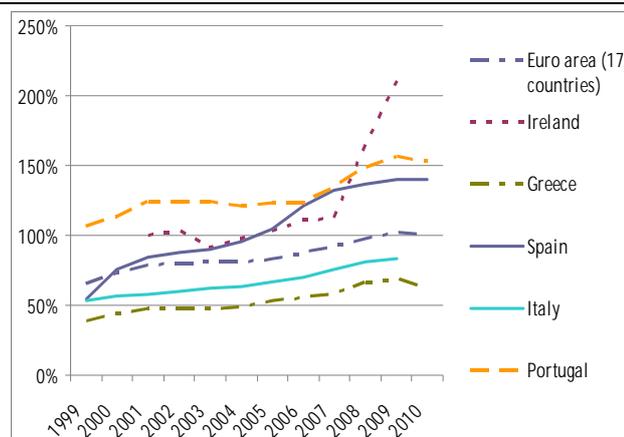
Source: EUROSTAT

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

How much has corporate debt and leverage adjusted? Figure 8 plots the debt to GDP ratio and reveals that corporate debt levels have barely started to decline.²⁸ Similarly, corporate leverage ratios continue to remain high and have not adjusted much (Figure 9).

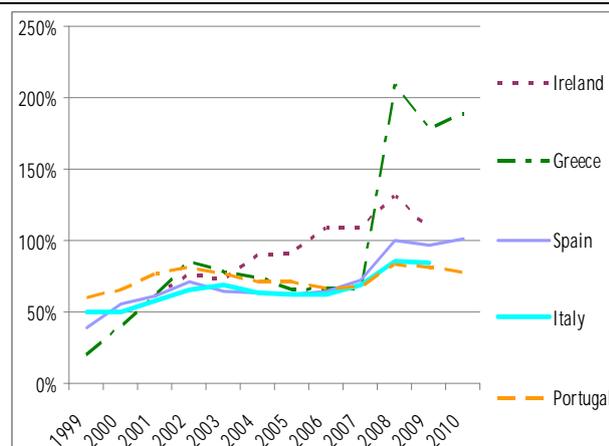
²⁸ The jump in Ireland's corporate debt in 2007 may reflect the move of one or more multinational companies' corporate headquarters to Ireland.

Figure 8: Debt to GDP ratio, non-financial corporate sector (1999-2010)



Source: EUROSTAT

Figure 9: Leverage, non-financial corporate sector (1999-2010)



Source: EUROSTAT

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

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

This long balance sheet adjustment is typically accompanied by large changes in macroeconomic variables. Table 3 is taken from Ruscher and Wolff (2010) and provides the statistics related to the adjustment of corporate balance sheets. The authors show that the development in time of a number of central variables, starting from the year prior to the balance sheet adjustment episode ($t=0$) up to the year $t=4$.²⁹

²⁹ The set of countries is kept constant during this period so that changes in the values are not driving by changing samples. For different variables, the data availability is different and this explains the different number of observations per variable considered.

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

(1) To ensure a constant size of the sample for every year, the table covers only those events which lasted more than 4 years and for which the respective data are available. The number of observations per variable differs for due to data availability reasons. Period. t=0 is the year prior to the balance sheet adjustment. "VA" is value added.

(2) In the case of "real growth" the actual change is the difference between the cumulated growth during the 4-year adjustment period and the cumulated growth in the broader sample during an average 4 year period.

(3) Leverage is measured by the ratio of debt to equity (data from the balance sheet section of national accounts).

(4) Liquidity is measured by corporations' holdings of "currency and deposits" (data from the balance sheet section of national accounts).

Source: Ruscher and Wolff (2010).

A number of key features of corporate balance sheet adjustment can be discerned from Table 3 and are highlighted in Ruscher and Wolff (2010).

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

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

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

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

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

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

Ruscher and Wolff (2010) also analyze the drivers of this corporate balance sheet adjustment. They find that large debt levels, a weak liquidity situation as well as negative stock market shocks can trigger adjustment.

4 Household debt

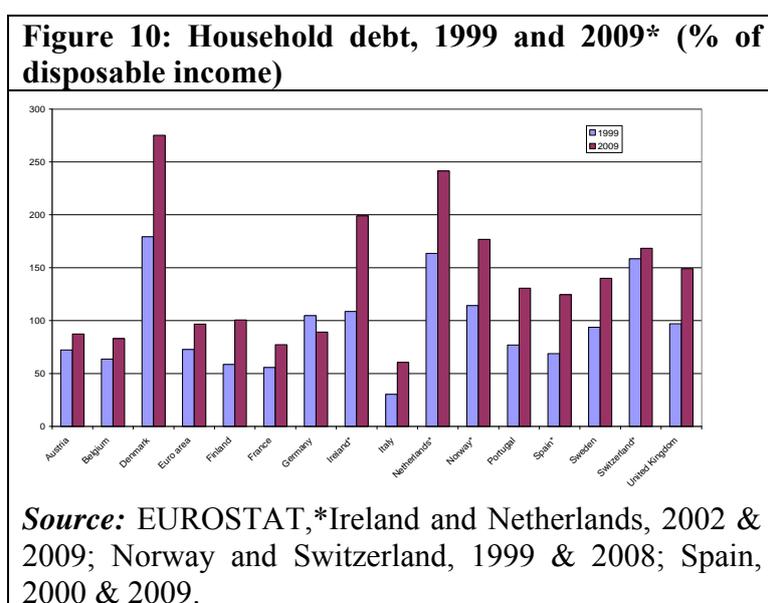
Large-scale fiscal consolidation in crisis countries requires measures to raise taxation revenues and spending cuts. Other things being equal, such policies reduce household disposable income and could result in financial distress when households are highly indebted. Widespread financial distress would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

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

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

How much debt did households take on during EMU?

In most European economies, household indebtedness has risen sharply since the late 1990s. As shown in Figure 10, the ratio of household debt to disposable income in the euro area on average increased from 73 percent in 1999 to 97 percent in 2009. The rise in household indebtedness during EMU marks the continuation of a broader trend across advanced countries in which average household debt as a percentage of GDP in the OECD as a whole has doubled from about 40 percent to 80 percent over the period 1985-2005.



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

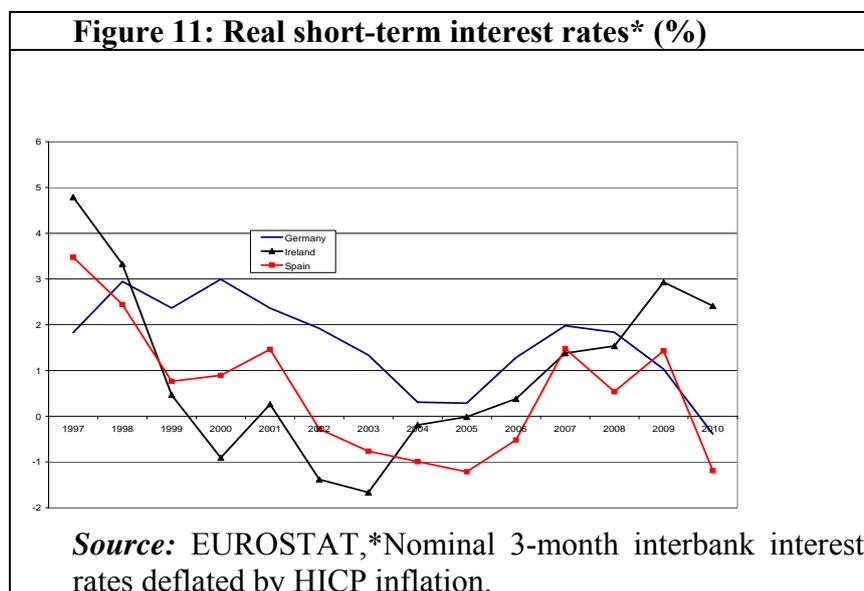
Outside of the euro area, the increases in household debt in Sweden and the United Kingdom matched those in Spain and Portugal, while indebtedness of the household sector in Denmark even managed to outpace Ireland.

Why has household indebtedness risen?

Economic theory provides a useful starting point for understanding the rise in indebtedness over the past couple of decades. The well-known permanent income (or life-cycle) model of consumption and saving relates decisions on savings and borrowings to life-cycle factors.³⁰ Savings are typically low or negative during an individual's early working years and during retirement when income is low. Households save at a higher rate during late working years when income is highest. Standard economic theory suggests several factors that might account for the rise in household indebtedness across countries during EMU and differences in indebtedness across countries.

³⁰ The life-cycle model was developed in the 1950s and is closely associated with Franco Modigliani, Albert Ando and Milton Friedman. Modigliani (1986) provides a useful summary.

- **Real interest rates.** For many EMU countries, real interest rates fell after 1999. This is especially true for Ireland and Spain (Figure 11) which recorded some of the largest increases in indebtedness after the creation of the single currency. Negative real interest rates in Ireland and Spain contributed to housing bubbles and rapid increases in household indebtedness.



- **Future income expectations.** Prolonged periods of relatively fast economic growth like those experienced by several EMU economies during the so-called “Great Moderation” can lead households to believe that disposable incomes are likely to continue to rise at a strong pace well into the future. Permanent income considerations would then encourage households to borrow against these expected future income gains.
- **Demographics.** Ireland and Spain have a relatively large proportion of the population in their early working years, which could explain some of these countries’ high indebtedness. Moreover, the young workforce in Ireland is highly educated and well qualified, so expectations of future real income growth were high during the boom.³¹ In addition, the young workforce in Ireland and Spain was boosted by large inward migration during the boom years.

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

Housing is typically the largest asset owned by a household. So although rapid rising house prices have been accompanied by large increases in gross household indebtedness, the net wealth of households has generally increased. However, in countries that experienced house price booms and

³¹ According to Eurostat data, more than 80 percent of the population aged between 20-24 years are educated to at least upper secondary level, marking the highest proportion in the EU15. On the other end of the scale are Portugal (55 percent) and Spain (60 percent).

busts over the past decade or so (Ireland and Spain), net wealth is now deteriorating because of the ongoing declines in housing values.

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

Other things equal, declines in disposable incomes push up households' debt burdens. In countries with large public debt levels, necessary fiscal consolidation will reduce disposable incomes through higher taxation burdens and lower social transfer payments. Therefore EMU countries with higher levels of both public and household debt would appear to be most vulnerable. Figure 13 presents gross household and general government debt for euro area economies in 2011.³² Both Ireland and Portugal have above euro-area average levels of both household and public debt, strikingly so in the case of Ireland. Spain has above average levels of household debt, but below average public debt; while in the Italy, the opposite is true

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

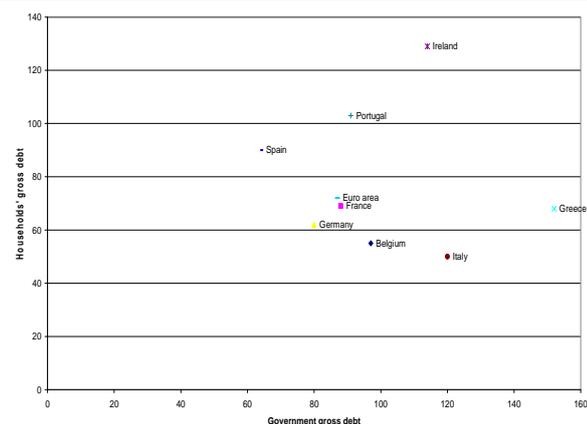
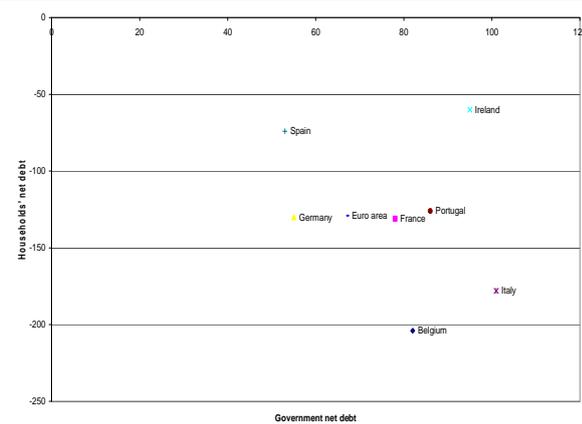


Figure 13: Government and household net debt (% of GDP)



Source: IMF.

Another perspective on the interaction of public debt and household debt is offered by Cecchetti, et al (2011). They find that beyond a certain level, debt is bad for economic growth. They estimate the threshold is in the range of 80 to 100 percent of GDP for public debt and around 85 percent of GDP for household debt, though they caution that their estimate of the effect on growth of household debt is very imprecise. Relating these estimates to the data presented in Figure 12, it can be seen that Ireland and Portugal exceed both thresholds; Spain exceeds the threshold for housing indebtedness but not for public debt; while Italy and Greece exceed the threshold for public debt but not for housing indebtedness. This approach might suggest a need for household deleveraging in Ireland, Portugal and Spain to better position these countries for sustained economic recovery.

³² Latest IMF WEO projections for public debt and most recent data for household debt.

So far we have considered only gross measures of indebtedness. Of course households and governments also hold stocks of financial assets, so net indebtedness can be considerably lower than gross measures. In fact, as shown in Figure 13, gross financial assets for the household sector exceed gross liabilities in all countries, so that net financial assets are positive (or net debt is negative). Moreover, our measure of assets excludes the value of housing, meaning that the true net worth of the household sector is even greater still. The ranking of countries when the net debt measure is used is similar to the pattern for gross debt, though one striking change is that Portugal's household sector has markedly higher gross indebtedness than the euro area average, but close to euro area average net indebtedness.

It should be noted that in the discussion of a country's household debt, households are treated as an aggregate. Although, on average, net household financial assets for a country might be positive, there may be a large cohort of households with substantial net indebtedness that may find it difficult to meet debt obligations. In other words, the distribution of financial assets and liabilities across households in a country is important for the degree of financial distress that household may experience. Unfortunately, reliable data on financial conditions at the individual household level are not yet available for the euro area crisis countries.³³

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

Household deleveraging during the current crisis

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

³³ The Eurosystem of Central Banks recently launched an initiative to produce and publish surveys of consumer finances across euro area countries, similar to the Survey of Consumer Finances in the United States sponsored by the Federal Reserve Board.

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

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

Source: Eurostat

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

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

Other countries' experiences with household deleveraging

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

The remainder of the section focuses on the three cases we can identify from our data in which household debt (as a percentage of disposable income) recorded negative annual growth in one or

more years. These episodes are: Finland (1990-1997), the United Kingdom (1991-1997) and Sweden (1993-1995).³⁴ Each of these episodes was associated with the bursting of a large housing and credit bubbles, recessions, currency crises, and in the case of Finland and Sweden, severe banking crises.

Table 5: Real GDP Growth

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

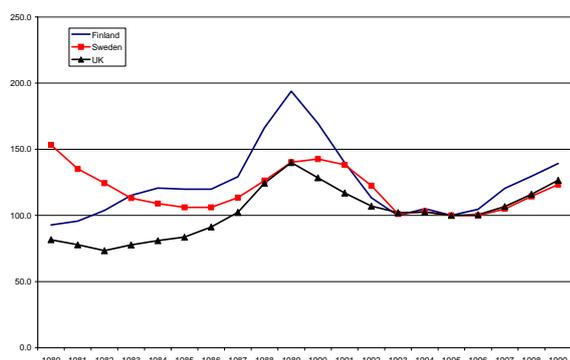
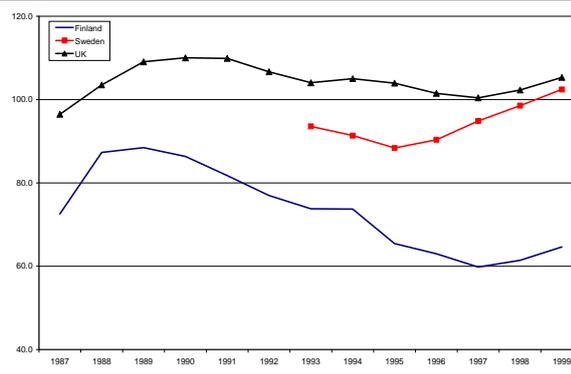
Source: OECD for Finland, Sweden and UK. IMF WEO September 2011 for others.

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

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

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

³⁴ Data for household indebtedness in Sweden are available only from 1993. It is likely that household deleveraging began a few years earlier, along the lines of what happened in Finland.

Figure 14: Real house prices (1995 = 100)**Figure 15: Household debt (% of disposable income)**

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

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

How did households in these countries deleverage? Table 6 decomposes the drop in indebtedness in Finland into changes in nominal household debt and nominal disposable income. Several aspects of the Finnish experience are worthy of comment.

Table 6: Finnish household indebtedness**(Billions of Finnish mk)**

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

Source: Statistics Finland

First, household debt continued to rise through 1991, even though real economic activity slumped that year. This suggests that it may take a while for households to realise that the boom is over. Second, household managed to pay down about 7½ billion mk of debt between 1992-1996, equivalent to about 20 percent of the stock of debt in 1991. Third, disposable incomes rose in most years of the adjustment, with the exception of 1993 and 1994. By 1995, disposable income was markedly higher than at the height of the boom in the late 1980s. More than two-thirds of the reduction in indebtedness over the period 1990-1997 was brought about by an increase in disposable income, with the remainder due to lower debt.

Table 7: UK household indebtedness

(Billions of pounds)

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

Source: Office for National Statistics

Table 8: Sweden household indebtedness

(SEK Billions)

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

Source: Statistics Sweden

Tables 7 and 8 produce the corresponding data for the UK and Sweden. What is most striking about the UK experience is that in no year did UK households pay down nominal debt. The reduction in indebtedness has achieved by continuous increases in disposable incomes. The role of rising disposable income in helping over-indebted households to deleverage in all three countries is an important feature of the earlier experiences.

5 Policy options and conclusions

Faced with high levels of debt, the corporate and household sectors have responded to the financial crisis, a deterioration in access to finance and weakening growth prospects by beginning a process of balance sheet adjustment. Balance sheet adjustments have been strong in the corporate sector as well as the household sector.

This balance sheet adjustment has led to a large drop in domestic demand in the five “peripheral” euro area economies. Governments have reacted to different extents to this slow down by allowing fiscal deficits to widen. This fiscal support together with banking sector rescues has led to a sharp increase in public debt to GDP ratios. Financial markets in turn have grown increasingly worried about the underlying solvency of governments and risk premia have risen. These high risk premia are now forcing the government sector into a fiscal adjustment that is taking a heavy toll on economic growth.

Peripheral euro area economies are trapped in a situation of high private and public sector debt, significant market pressure and a need for significant competitiveness adjustments. We have argued that the situation in Italy (and possibly Ireland) appears to be less problematic as external debt is small and structural problems can in principle be solved. However, determined policy action is required in Italy to reverse the weak growth prospects and the structural difficulties in the economy.

The EU policy response to this dilemma has so far focused on supporting the public sector by alleviating market pressure and providing rescue programmes to Greece, Portugal and Ireland. This official support was initially offered at relatively high interest rates which quickly turned out to be unsustainable. On 21 July, European leaders agreed to lower interest rates on official assistance loans. Markets, however, remain unconvinced. A number of further policy options therefore need to be discussed.

- 1) The past experiences of corporate and household deleveraging that we study in this paper highlight the key role of overall economic growth in facilitating private sector deleveraging. A important lesson we draw from this analysis is that policymakers must ensure that the overall euro area macroeconomic stance is appropriate. Koo (2010) argues that the right policy response in Japan to the corporate balance sheet adjustment is fiscal expansion. At the current juncture in Europe, fiscal space is limited. Instead, a significant and prompt reduction in interest rates by the ECB is in order. The cut in interest rates of 0.25 percent on 3 November is a good start, but rates are still too high given that economic activity is weakening and inflation pressures are falling. While German public finances require a gradual fiscal consolidation, there is scope to increase the growth potential of this consolidation by providing the right incentives for investment.
- 2) The ECB has an important role to play in stabilising the euro area bond market. The best way forward would be to clearly anchor market expectations by announcing a rate at which the ECB would intervene. But the ECB's bond purchasing programme should not be unconditional. Bold structural reforms are badly needed in some countries and the ECB should push for action. There is also a need to define a clear policy of outlining the division of labour between EFSF and ECB.
- 3) Internal devaluation to restore competitiveness will take time. There are policy measures that can accelerate this process without increasing the indebtedness of the private sector. Marzinotto, Pisani-Ferry, and Wolff (2010) argue that unused structural funds could be spent on targeted wage subsidies in the tradable sector to promote the creation of jobs in the export sector. Increased competition in goods and services markets to boost productivity and bring down prices in the non-traded sector would also contribute to improved competitiveness.
- 4) As shown above, Germany's intra-euro area real exchange rate has depreciated markedly since the creation of the euro. Further depreciation of Germany's real exchange rate vis à-vis the rest of the euro area would be inconsistent with the need to restore price competitiveness and reduce current account deficits in several other countries. It is therefore necessary that inflation rates in the eurozone periphery fall below 2 percent and that the ECB stabilises euro area aggregate inflation at 2 percent so that German inflation surpasses the 2 percent.
- 5) Reducing external debt burdens requires improvements in external balances in the peripheral economies. This in turn requires expansion of the traded sectors. Policymakers could usefully focus on structural reforms that facilitate the re-allocation of the work force to the tradable sector.
- 6) Fiscal consolidation is necessary in countries in large public deficits, but in making budgetary adjustments policymakers should be cognisant of the unequal distribution of assets and liabilities across households. Where possible, the burden of fiscal consolidation in countries with over-indebted household sectors should weigh more heavily on households with little or

no debt than on the highly indebted cohorts. More generally, fiscal adjustments should be done in a way that minimises negative effects on growth. Darvas and Pisani-Ferry (2011) have shown that this has often not been the case in the last years. A policy rethink is necessary.

- 7) Debt relief may be required in some cases. If public and/or private debt levels cannot be managed by the debtors, creditors will have to accept losses. This is not the place to review the way such debt reduction can be achieved causing the lowest damage to the euro area as a whole and the individual country.

REFERENCES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

General government net indebtedness – is there a role for the asset side?

Jacob Funk Kirkegaard

“A national debt, if it is not excessive, will be to us a national blessing.”

Alexander Hamilton, letter to Robert Morris, Apr. 30, 1781

“It shows nobility to be willing to increase your debt to a man to whom you already owe much.”

Marcus Tullius Cicero

1. Introduction

Government debt levels in United States and Europe has since the beginning of the Great Recession in 2008 risen to unprecedented peacetime levels approaching 100 percent of GDP. The focus of political and debt market concerns have generally been rising general government gross debt levels. This paper will take a broader approach to government debt, and in addition consider the scope of contingent liabilities from public interventions to support financial institutions and financial markets since 2007³⁵, as well as especially the asset side of governments' balance sheets. This paper will ask the question if “forgotten government assets” hold the answer to today's high general government gross debt levels? The paper will attempt to estimate government financial and non-financial assets and consider the political and economic possibilities of disposals of recently acquired distressed assets by governments on both sides of the Atlantic, as well as the wider-ranging prospects for renewed privatisation drives to reduce government debt levels.

2. The new debt reality in Europe and the United States

The Great Recession, which in both the United States and Western Europe caused the largest decline in economic activity in 50 years³⁶, has through resulting declines in government revenues and necessary counter-cyclical stimulus spending generated the highest transatlantic peacetime general government³⁷ debt levels in modern history. This trend is summarised in table 1.

³⁵ Includes only the direct actions by national governments. Financial market interventions carried out by the European Central Bank and US Federal Reserve in support of financial stability and economic growth will not be considered, as central banks are not considered part of the general government for statistical and accounting purposes. Government support measures for non-financial institutions and general economic stimulus support are also not included.

³⁶ See IMF (2009).

³⁷ Comparing debt levels at the general government level, i.e. including all sub-national governmental levels at state, regional and local levels, allows for more accurate comparisons between different countries irrespective of whether they have a unitary or federal governmental structure. Regrettably, for most countries debt data at the general government levels is only available for recent decades.

Table 1: General Government Gross Debt Levels 1980-2012p, Percent of GDP

Country	1980	1990	2000	2007	2008	2009	2010	2011p	2012p
United States	42.3	63.9	54.8	62.3	71.6	85.2	94.4	100.0	105.0
EU-27	N/A	N/A	62.4	59.5	63.9	74.3	79.8	82.3	83.7
Euro Area 17	N/A	54.1	69.1	66.4	70.1	79.7	85.8	88.6	90.0
Germany	N/A	N/A	59.7	65.0	66.4	74.1	84.0	82.6	81.9
France	20.7	35.2	57.3	64.2	68.2	79.0	82.3	86.8	89.4
Netherlands	N/A	N/A	53.8	45.3	58.2	60.8	63.7	65.5	66.5
Belgium	74.1	125.8	107.9	84.2	89.6	96.2	96.7	94.6	94.3
Austria	N/A	56.1	66.5	60.7	63.8	69.6	72.2	72.3	73.9
Finland	10.8	13.9	43.8	35.2	33.9	43.3	48.4	50.2	50.3
Slovak Republic	N/A	N/A	50.3	29.6	27.8	35.4	41.8	44.9	46.9
Slovenia	N/A	N/A	26.8	23.4	22.5	35.5	37.3	43.6	47.2
Luxembourg	N/A	N/A	6.2	6.7	13.6	14.6	18.4	19.7	21.5
Estonia	N/A	N/A	5.1	3.7	4.6	7.2	6.6	6.0	5.6
Cyprus	N/A	N/A	48.7	58.3	48.3	58.0	60.8	64.0	66.4
Malta	N/A	N/A	55.9	61.8	61.3	67.3	67.1	66.3	66.1
Countries Supported By the ECB									
Italy	N/A	94.7	109.2	103.6	106.3	116.1	119.0	121.1	121.4
Spain	16.6	42.5	59.3	36.1	39.8	53.3	60.1	67.4	70.2
IMF Program Countries									
Greece	22.6	73.3	103.4	105.4	110.7	127.1	142.8	165.6	189.1
Portugal	N/A	57.3	48.5	68.3	71.6	83.0	92.9	106.0	111.8
Ireland	65.2	93.5	37.8	24.9	44.4	65.2	94.9	109.3	115.4
Non-Euro "Old EU Members"									
United Kingdom	46.1	32.6	40.9	43.9	52.0	68.3	75.5	80.8	84.8
Denmark	N/A	N/A	60.4	34.1	42.2	41.8	43.7	44.3	45.8
Sweden	N/A	N/A	53.2	40.2	38.8	42.8	39.7	36.0	32.6
Other OECD Countries									
Australia	N/A	16.2	19.3	9.6	11.7	16.9	20.5	22.8	23.8
Canada	N/A	75.2	82.1	66.5	71.1	83.3	84.0	84.1	84.2
Japan	51.4	68.0	142.1	187.7	195.0	216.3	220.0	233.1	238.4
Korea	N/A	12.8	16.7	30.7	30.1	33.8	33.4	32.0	30.0
Switzerland	N/A	38.2	61.1	57.2	54.8	54.8	54.5	52.4	51.2

Source: IMF World Economic Outlook Database September 2011;

Table 1 shows how in recent years general government gross debt levels in the United States have for the first time surpassed levels in the EU-27 and euro area, as well as all individual EU-15 and euro area members, except Greece, Italy, Belgium and Ireland. Meanwhile, going back further in time, it is evident how general government debt in all countries (except the U.K. under Margaret Thatcher) rose rapidly from relatively low levels during the 1980s, before beginning to decline from a combination of rapid economic growth and spending restraints in the United States, Belgium and Ireland during the 1990s. After 2000, this transatlantic trend, however, reversed itself, as US general government debt levels began rising, while those of the EU-27 and euro area declined slightly. In Europe therefore did the dramatic increase in general government indebtedness after 2007 mark a reversal of longer-term trends, while in the United States the Great Recession merely accelerated what was already rising indebtedness.

Table 1 further illustrates how low government debt levels going into the Great Recession provided no ex ante guarantee for countries to escape its effects. Most explosively in Ireland, where a debilitating construction and real estate collapse and an ensuing banking crisis has caused general gross government debt levels to explode from just 25 percent of GDP in 2007 to an estimated 109 percent in 2011, pushing the country into the arms of the IMF. But also Spain, which in August 2011 had to be supported by the ECB secondary market bond purchases to shore up confidence³⁸, as late

³⁸ See ECB Press Release August 7th, 2011 at <http://www.ecb.int/press/pr/date/2011/html/pr110807.en.html>.

as 2008 had less than 40 percent of debt to GDP. This issue will be further explored in section III below.

3. The transfer of private “distressed assets” to the public sector during the crisis

The scale of the drop in economic output during the Great Recession (reducing the denominator) and the associated drops in government revenues and scaled up stimulus spending (increasing the numerator) is responsible for the majority of the deterioration in general government debt levels.

As can be seen in table 1, countries like Ireland, Spain and the UK, which as late as 2007-08 had general government debt levels below or close to 40 percent of GDP by 2011 had far higher levels, which in the case of Ireland surpassed 100 percent of GDP and had forced the country to seek conditional financial assistance from the IMF and the EU. In all three countries, the Great Recession exposed the relative pro-cyclicality of government revenues – buoyed pre-crisis by strong revenues related to booms in the construction, real estate or financial services industries³⁹- and showed how even their very low pre-crisis general government debt levels was no reliable indicator of their ultimate debt sustainability. Low gross debt levels pre-crisis is no panacea, and general government revenue sources reliable through the business cycle and robust to especially real estate and construction decelerations are an important additional source of long-term fiscal stability.

However, the public policy response to the global financial crisis, which has since 2007 required US and EU government interventions into the private financial sector of an unparalleled magnitude, has played a critical role in the debt build-up, too.

Substantial amounts of impaired⁴⁰ or illiquid⁴¹ privately owned financial assets and liabilities have in the absence of operating and sufficiently deep distressed assets/debt markets⁴² during the course of the crisis been transferred to the general government to support individual institutions and the financial system as a whole⁴³. Notable examples of entire institutions taken over by governments are Anglo-Irish Bank, the Irish National Building Society and Allied Irish Bank (AIB) in Ireland, Bradford and Bingley (B&B) and Northern Rock in the UK, Hypo Real Estate (HRE) and IKB Deutsche Industriebank in Germany, Caja Castilla La Mancha (CCM) and Caja Sur in Spain, or AIG, Fannie Mae and Freddie Mac in the United States. Asset transfers from private financial institutions

³⁹ See OECD (2009, 2011a and 2011b) for discussions of the high government revenue volatility in the UK, Ireland and Spain and the need for less cyclically sensitive revenue sources.

⁴⁰ Impaired assets refer to assets in a balance sheet valued in excess of their long-term/fair value and consequently expected to incur future losses. Eurostat (2011a).

⁴¹ Illiquid assets refer to assets that cannot be disposed of in the short term due to the lack of a properly functioning market. Eurostat (2011a).

⁴² Distressed assets or debt typically refers to assets or debt that is put on sale, usually at a highly attractive price, because its owner is compelled to sell it at short notice. Multiple reasons for such sales can be envisioned, including seller bankruptcy, excessive debts or prudential and regulatory constraints.

⁴³ Activities of central banks are outside the scope of this paper. However, while central banks for reasons of risk control in normal times would probably never engage in transactions involving distressed assets and lend only against high quality collateral, the global financial crisis has led to numerous examples of such transactions. The ECB in May 3rd 2010 suspended its application of the minimum credit rating threshold in the collateral eligibility requirements in open market operations for Greek government and guaranteed collateral, a suspension subsequently extended to also to Ireland and Portugal. The ECB has further since May 2010 been engaged in purchases of euro area government bonds through its Securities Market Program (today €152.5bn) and the ECB covered bond purchase program (today €59.4bn)). See ECB website at <http://www.ecb.int/mopo/implementation/omo/html/index.en.html>. The U.S Federal Reserve for instance in June 2008 extended credit to Maiden Lane I LLC to acquire certain assets from Bear Stearns, did so again in November and December 2008 in Maiden Lane II LLC and III LLC to purchase assets from AIG, and also during the operation of the Term Asset-Backed Securities Loan Facility (TALF), see <http://www.federalreserve.gov/releases/h41/current/h41.htm#h41tab4>.

to the general government have also taken the form of partial guarantees of high risk assets in some institutions⁴⁴ or the transfer of only part of the risky asset of an institution to the general government sector⁴⁵.

The complexity of many government financial rescues and associated uncertainty about how such operations are recorded in governments' accounts raises questions about the ultimate effect on the same governments' reported indebtedness of such measures to stabilise the financial system. Two principal issues cloud the outlook;

First, there is the question of the correct sector classification – inside or outside the general government sector – of the entities created during the crisis (See also box 1). In the EU, where the rules concerning the Stability and Growth Pact's Excessive Deficit Procedure creates an obvious incentive for national governments to seek to place any financial defeasance entity created during the crisis outside the general government sector to eliminate any potential adverse effect on annual deficit levels, this is a particular concern and has prompted a series of Eurostat statistical decisions to clarify the issue⁴⁶.

However, in the United States, too – likely prompted by the desire to avoid the full consolidation of Government Sponsored Entities (GSEs)⁴⁷ taken into conservatorship in 2008 onto the federal government's books – has this issue emerged during the crisis. Today, while the US executive branch continues to treat Fannie Mae and Freddie Mac as outside the US federal government for budgetary purposes, the Congressional Budget Office considers that the two GSEs should be treated in the federal budget as government entities. Neither the Executive branch nor the CBO, though, incorporates debt securities or mortgage-backed securities issued by Fannie Mae and Freddie Mac in estimates of federal debt held by the public⁴⁸.

Secondly, there is the broader matter of accounting for the gross and net debt effects of transfers to the general government sector of impaired or illiquid assets during the crisis. Public interventions to support private financial institutions during the crisis which resulted in the government taking majority or full ownership of the rescued entity (e.g. nationalisation) invariably resulted in the transfer of both assets and liabilities to the general government sector. Often, the value of liabilities assumed by the general government is most easily established (assuming that for purposes of instilling financial stability the general government does not pursue default on such assumed obligations) and can be added to the existing gross debt levels of the general government.

However, as described in box 1, the concept and extent of general government assets and their valuation is generally surrounded by considerable uncertainty. An asset value uncertainty that is

⁴⁴ This was the case in for instance the loss-sharing agreement between Citigroup, the US Treasury, Federal Reserve and FDIC of \$301bn in Citigroup assets under the US Treasury TARP-funded Asset Guarantee Program. The guarantee was in place from January to December 2009, but did not result in any losses to the US government. See US Treasury (2010:30f) for details.

⁴⁵ This was the case with for instance the transfer of €77.5bn of WestLB assets to the government controlled ErsteAbwicklungsanstalt (EAA) in 2009. See EEA (2011) for details.

⁴⁶ See Eurostat (2009, 2011a and 2011b) and related publications at http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/excessive_deficit/supplementary_tables_financial_turmoil.

⁴⁷ Government-sponsored enterprises (GSEs) are federally chartered but established to be privately owned and operated financial institutions authorised to make loans or loan guarantees for limited purposes. GAO (2009) lists three GSE – Fannie Mae, Freddie Mac and the Federal Agricultural Mortgage Corporation (Farmer Mac), while the US Office of Management and Budget typically include also the Farm Credit System and the Federal Home Loan Bank System among GSE-type entities.

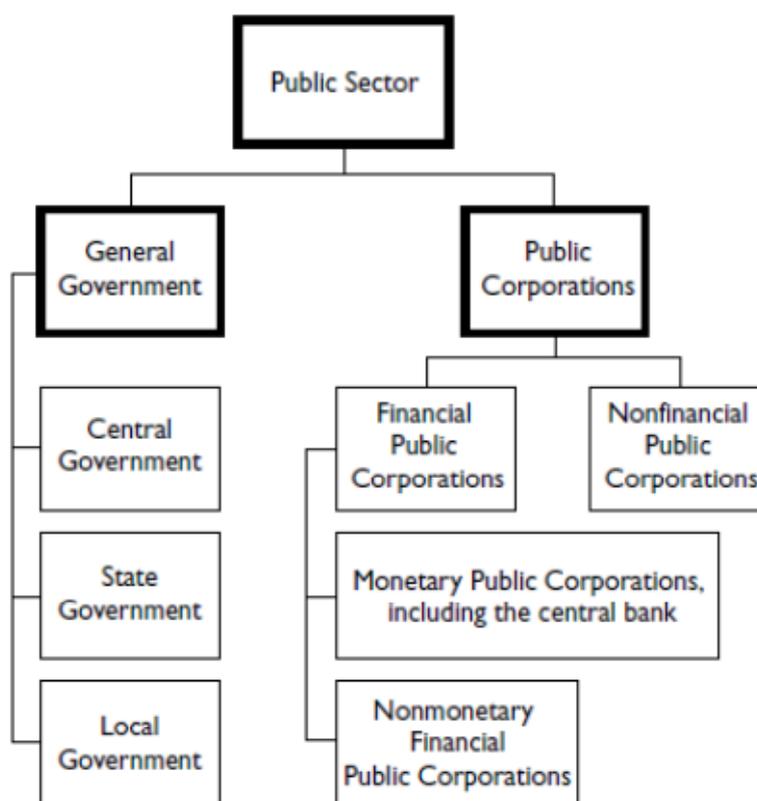
⁴⁸ See CBO (2010).

often acute, when dealing impaired or illiquid asset taken over in a crisis, whose long-term value is by definition uncertain. Correspondingly, the net debt effects of financial rescues are unclear, but invariably (as the recovery value of assumed assets will almost always be above zero) considerably smaller than the gross debt effects for the general government.

Box 1: Accounting Treatment of the Public Sector

Comprehensively accounting for the economic activities of governments is a complex affair, as the public sector makes up for a sizable chunk of modern economies. The IMF’s Government Finance Statistics Manual (GFSM)⁴⁹ breaks the public sector into several constituent parts, as depicted in figure 1;

Figure 1: The public sector broken down



Source: IMF (2001).

The “General Government” consists of all legal and administrative levels in a country, which is typically (though not exhaustively) comprised by the central, state and local government subsectors. Important, though, is what is not included in the “general government sector”, namely public corporations and quasi-corporations owned by the general government. Such corporations may carry out governmental operations and specific transactions on behalf of their general government owners in a variety of forms with fiscal policy implications, including; lending to special parties at preferential interest rates, selling power to select customers at reduces rates, employing more staff

⁴⁹ This box builds extensively on IMF’s Statistics Department GFSM, 2nd Edition (IMF 2001) available at <http://www.imf.org/external/pubs/ft/gfs/manual/>.

than required, purchasing additional inputs at above-market prices, or selling output at less than market determined prices. Changes in the value of public corporations will moreover affect the value of the equity-type assets held by the general government.

In figure 1, the GFSM list two separate analytical sub-groupings for public corporations; 1) Non-financial public corporations, including all resident non-financial corporations controlled by general government units; and 2) Financial public corporations, divided into a) Monetary public corporations, including the central bank⁵⁰ and all resident depository corporations controlled by the general government; and b) Non-monetary financial public corporations. For the purposes of this paper, the classification of the central bank outside the general government is of particular importance.

Like private corporations, the public sector and its constituent parts also have a balance sheet, or stock compilation, as a statement of the value of the assets owned at a specific time and the financial claims, or liabilities, held by other entities against it. As with private entities, assets included on the public sector balance sheet must be economic assets over which ownership rights are enforced and from which economic benefits are derived from use over a period of time.

However, due to the sovereign character of governments, their balance sheets will invariably incorporate a wider range of assets than do private organisations. Such assets contain “infrastructure assets”, i.e. immovable non-financial assets with no alternative use and whose benefits accrue to the public in general, including such items as streets, highways, bridges, communication networks, military assets, canals or dikes. Governments also own “heritage assets”, generally intended to be preserved indefinitely due to historic, cultural or educational significance. Lastly, governments by exercising their sovereign powers can create new assets for itself by asserting ownership over naturally occurring assets that would otherwise not be subject to ownership. Such “non-produced assets” include electromagnetic spectrum, subsoil natural resources, fresh water and hydro-resources or fishing resources in exclusive economic zones.

Box table 1 presents a simplified version of a public sector entity balance sheet.

⁵⁰ The central bank includes the central bank itself, currency boards or other independent authorities that issue national currency backed by foreign exchange reserves, and any other entity that primarily perform central bank activities.

Box Table 1: The Public Sector Balance Sheet Items

Assets	Liabilities
<p><u>Financial Assets</u></p> <p>Domestic</p> <ul style="list-style-type: none"> Currency and Deposits Securities Other Than Shares Loans Shares and Other Equity Insurance Technical Reserves Financial Derivatives Other Accounts Receivable <p>Foreign</p> <ul style="list-style-type: none"> Currency and Deposits Securities Other Than Shares Loans Shares and Other Equity Insurance Technical Reserves Financial Derivatives Other Accounts Receivable <p>Monetary Gold and SDRs</p> <p><u>Non-Financial Assets</u></p> <p>Fixed Assets</p> <ul style="list-style-type: none"> Buildings and Structures Machinery and Equipment Other Fixed Assets <p>Inventories</p> <p>Non-Produced Assets</p> <ul style="list-style-type: none"> Land Subsoil Assets Other Naturally Occurring Assets 	<p>Domestic</p> <ul style="list-style-type: none"> Currency and Deposits Securities Other Than Shares Loans Shares and Other Equity (Public Corporations Only) Insurance Technical Reserves Financial Derivatives Other Accounts Payable <p>Foreign</p> <ul style="list-style-type: none"> Currency and Deposits Shares and Other Equity (Public Corporations Only) Loans Shares and Other Equity Insurance Technical Reserves Financial Derivatives Other Accounts Payable

Source: IMF (2001)

In principle, the GFSM demands that the valuation of all government assets at any given time is their current market value. However, given the character of many especially non-financial government assets, in reality no functioning market for price discovery exists for most items on the public sector's balance sheet asset side. Correspondingly, the statistical reporting of general government balance sheet values is extremely limited and invariably not consistent across even industrialised countries⁵¹.

In reality, due to these data deficiencies, probably no truly comparable data exists today for for instance trans-Atlantic net general government debt levels, due to differences in the collection methodologies of government financial asset data^{52, 53}. At the same time, it is evident from the

⁵¹ This is illustrated by the fact that no country in the IMF membership reports data values for non-financial governmental assets to the IMF Government Finance Statistics.

⁵² See notes to OECD Economic Outlook Annex Table 33 "General Government Net Financial Liabilities" (defined by the OECD here as the general government gross liabilities subtracted general government financial assets) for a discussion of the large differences in data collection methodologies for OECD countries' general government financial asset data. See http://www.oecd.org/document/25/0,3746,en_2649_34109_33702745_1_1_1_1,00.html.

composition of governments' non-financial assets that their value can never be an objective or exact number, but will always be "political number". Or in other words, net general government debt levels are invariably wholly dependent on the political willingness of a sovereign government to make its financial and especially non-financial assets available for purchase by private investors and the conditions of the process at a given point in time.

Dramatic political reorientations of government policy concerning the scope of the general government emerging from an urgent sovereign debt crisis (like in Greece currently) or political revolutions (1989 and after in the former communist countries) can consequently have a direct and material impact on governments' net debt levels. The launch of privatisation drives from similar shifts in governments' political orientation can have the same effects.

Due to the – at least in industrialised nations with solid governmental institutions – large stock of government non-financial assets which could potentially be sold to private entities, sovereign debt crises in the OECD inevitably therefore revolves around a sovereign's "willingness to pay" at least as much as its objective "capacity to pay".

End Box

In the EU, Eurostat has for the purposes of ensuring even-handed enforcement of the SGP's EDP collected a series of data covering the statistical recording of general government interventions to support financial institutions and markets during the crisis⁵⁴. Based on statistical decisions for each reported instance of intervention, the Eurostat data classifies the resulting transactions as inside or outside the general government sector and their effects on general government net revenues/costs and general government assets, liabilities⁵⁵ and contingent liabilities. Contingent liabilities concern liabilities, which may contribute to general government liabilities in the future, even if they are not presently recorded as government debt. In the EU, such contingent liabilities have come predominantly in the form of government guarantees granted to private financial institutions' assets and liabilities, securities issued by the general government under liquidity schemes for banks, and the operations of special purpose vehicles.

In the United States, no comparable comprehensive official collection of data covering the impact of financial interventions on the US general government books have been found by this author. However, COP (2011) and U.S Treasury (2010) provides data material sufficient for at least a partial reproduction of US data comparable to those of Eurostat. US data for incurred contingent liabilities, however, are not available. Figure 1 brings together Eurostat and compiled US data.

⁵³ The general government net debt data presented in the IMF's WEO are calculated in a simplified manner as gross debt minus financial assets corresponding to debt instruments. The included financial assets are: monetary gold and SDRs, currency and deposits, debt securities, loans, insurance, pension, and standardised guarantee schemes, and other accounts receivable. IMF net general government debt data does not take non-financial government assets into account. See <http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/weoselser.aspx?c=193%2c158%2c122%2c542%2c124%2c137%2c156%2c181%2c423%2c138%2c935%2c196%2c128%2c142%2c939%2c182%2c172%2c576%2c132%2c936%2c134%2c961%2c174%2c184%2c532%2c144%2c176%2c146%2c178%2c528%2c436%2c112%2c136%2c111&t=34>

⁵⁴ Eurostat data covers seven types of transactions particularly relevant with respect to 'public interventions to support financial institutions and financial markets during the financial crisis. These include general government led recapitalisation operations, lending, guarantee issuance, purchase of assets and defeasance, exchange of assets, new bodies created during the crisis and transactions carried out by public corporations. See Eurostat (2009 and 2011a).

⁵⁵ General government liabilities here refer to liabilities incurred by the general government to finance their interventions. Such liabilities come in the form of new government bond issuance or direct loans taken out. Eurostat (2011a: 8f)

**Figure 1: General Government Assets, Liabilities and Contingent Liabilities from Public Interventions to Support Financial Institutions
End-2010, Percent of GDP**

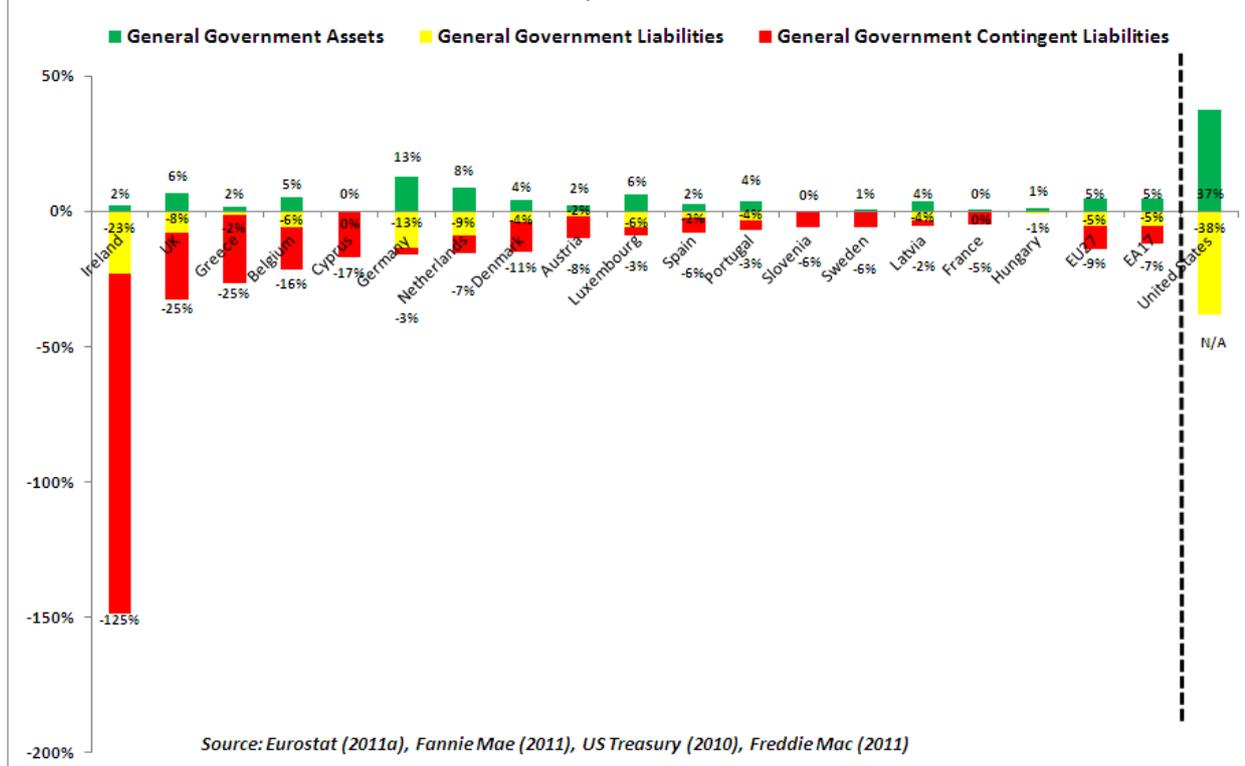


Figure 1 show the impact on general government assets and liabilities of interventions in the 17 EU members where such interventions were recorded by Eurostat and the United States⁵⁶. It is noteworthy how in almost all countries, the relative magnitude of assets and liabilities transferred to the general government sector roughly corresponds. As such, the impact on trans-Atlantic general government net debt levels of financial market interventions since 2007 could be relatively limited.

Only in Ireland, where very large capital injections into the country’s banking sector has been financed with new general government liabilities and relatively few assets has been transferred directly to it in return, has public crisis interventions led to sizable increases in net debt levels. The Irish government’s National Asset Management Agency (NAMA) is not part of the Irish general government and thus excluded from these data⁵⁷. Yet, as NAMA purchased €71.2 billion in loan assets from five financial institutions involving 850 debtors with more than 11,000 individual loans collateralised by 16,000 individual properties, it paid only €30.2bn for them, implying an average 58 percent haircut on transferred private assets. Consequently, the just over €30bn in bonds (19 percent GDP) issued by NAMA is offset by assets acquired at a very substantial discount. Consolidating NAMA into the general government of Ireland will therefore in all likelihood have a relatively limited general government net debt impact, and depending on the ultimate value of the asset acquired may even serve to reduce Ireland’s net debt.

⁵⁶ The ten EU members with no reported crisis intervention that resulted in changes to general government assets, liabilities and contingent liabilities were Bulgaria, the Czech Republic, Finland, Estonia, Italy, Lithuania, Malta, Poland, Romania and Slovakia. In three of these (Finland, Italy and Lithuania) interventions affected general government deficits, but not directly the assets, liabilities and contingent liabilities of the general government.

⁵⁷ The decision to exclude NAMA from the Irish general government was taken by Eurostat. See NTMA (2011) and NAMA (2011). - http://www.ntma.ie/Publications/2011/GG_debt_NTMA_info_note.pdf

Ireland's outlier status in Europe is furthermore illustrated by the magnitude of the Irish government's contingent liabilities, which even after already incurred losses remain at 125 percent of GDP⁵⁸, or five times the level of contingent liabilities in second and third placed Britain and Greece and far in excess of the EU and euro area average of 7-9 percent of GDP.

The largest EU private asset (and liability) transfer directly to the general government at 13 percent of GDP has occurred in Germany, followed by the Netherlands at 8 percent and the UK and Luxembourg at 6 percent of national GDP. This illustrates the scale of the private financial sector crisis in Germany, where the collapse of several financial institutions has seen €318bn in distressed German bank assets transferred to the German general government⁵⁹, accounting for nearly 75 percent of all asset transfers in the Euro area⁶⁰ and almost three times the level of distressed assets transferred from UK banks to the British government⁶¹.

In "distressed assets" terms therefore Germany has by a substantial margin had the second-worse banking crisis in Europe. As an instructive comparison, it should be noted that even if the Spanish government uses up all the available €99bn in its "bank rescuing fund FROB⁶²" to comprehensively recapitalise its Cajas sector, Madrid will likely still end up spending less to clean up its failed banks than the German government. Obviously, the German banking crisis has not occurred on the back of a domestic housing slump and hence is not accompanied by the same macro-economic downturn as seen in Ireland or Spain – but as a stand-alone banking crisis, Germany's is proving very expensive indeed.

As the two principal German "wind up companies" – the federal German government's FMS Wertmanagement (FMS) and the state of Nordrhein Westphalia's Erste Abwicklungsanstalt (EAA) – has by Eurostat been reclassified into the general government⁶³, these transfers has led to an increase in reported German gross general government debt of 9.5 percentage points of GDP from 2009-10, accounting for the vast majority of the total 2010 German debt increase to 82.3 percent of German GDP. The troubled German banking sector therefore makes up for essentially all the deterioration in 2010 of recorded gross general government debt in Germany. Without transfers of impaired assets and liabilities, Germany's 2010 real growth rate of 3.5 percent and general government deficit of 3.3 percent would otherwise have meant an essentially stable debt-to-GDP ratio. With FMS and EAA already consolidated into the German general government sector, in the event that the companies are successful in their goal of liquidating transferred portfolios while limiting the costs to the German taxpayer, a future downward revision of reported German general government gross debt is plausible⁶⁴.

⁵⁸ Ireland's contingent liabilities were 196 percent of GDP at the end of 2008 and 176 percent at the end of 2009.

⁵⁹ The majority of transferred distressed assets in Germany origins with the Hypo Real Estate group, in relation to which in late 2010 €175bn of assets was transferred to the federal German government's FMS Wertmanagement "wind-up company". See FMS (2011). Meanwhile, at the German state level, Erste Abwicklungsanstalt controlled by the state government of Nord-Rhein Westphalia, in 2010 saw the transfer €77.5bn of assets from the troubled WestLBLandesbank. See (EAA 2011).

⁶⁰ Euro area total at end-2010 was €440bn.

⁶¹ At the end of 2010, €109bn of distressed assets had been transferred to the UK government.

⁶²

⁶³ See Eurostat (2011a). The estimate of U.K. transferred assets does not include the value of now majority-owned Royal Bank of Scotland.

⁶⁴ The recent discovery of a €55.5bn "accounting error" in FMS Wertmanagement, leading to a likely 2.6 percent downward revision in German government debt is illustrative of this potential. See Financial Times *Germany €55bn Richer After Error at Hypo "Bad Bank"*, October 29 2011.

Figure 1 finally illustrates the scale of assets and liabilities transferred from the private sector to the general government sector in the United States are considerably larger than in Europe. The US data included in figure 1 refer to the outstanding balance of TARP funds, and the transfer of government sponsored entities (GSEs) Fannie Mae and Freddie Mac to conservatorship in the US Treasury⁶⁵. While as mentioned above, the US executive branch does not consider the two GSEs as part of the federal (and thereby general) US government for budgetary or debt recognition purposes, the logic and outcome of their financial rescue by the US Treasury in 2008 should demand such treatment and with certainty amounts to an intervention-type similar to those recorded by Eurostat in the EU⁶⁶.

Figure 1 shows how the consolidation of roughly comparable private assets and liabilities transferred to the US government during the crisis would add little to the net US general government debt position by end-2010⁶⁷. On the other hand, such a consolidation of transferred assets and liabilities would have added materially to the reported gross US general government debt levels reported above in table 1. US gross general government debts would rise to 129 percent of GDP in 2010, below only Japan (220 percent) and Greece (142 percent), but significantly above Italy (119 percent) and more than 50 percent higher than the euro area average⁶⁸.

Unlike in the case of Germany (and several other EU countries), where the effects of financial rescues have largely been consolidated onto the government balance sheet and are already reflected in reported gross government debt numbers, the lack of such recognition in reported US general government gross debt levels means that no future improvement in reported US government gross debt levels arising from the successful unwinding by the US government of its rescued GSEs is possible.

4. Future general government consolidation requirements

Today's exceptional general government gross debt levels will require equally exceptional longer-term fiscal adjustment on both sides of the Atlantic restore debt ratios to what can be considered sustainable levels. Generally a ratio of 60 percent of gross government debt to GDP is considered reasonable, as it provides governments the fiscal space to launch a forceful counter-cyclical fiscal stimulus program in the event of a sudden deep economic downturn without the risk of triggering immediate solvency concerns⁶⁹. In the EU, the 60 percent long-term debt target is of course also

⁶⁵ All asset and liability data are end-2010 values, except TARP balances from GAO (2011), which refers to the outstanding balance from March 9th 2011. Fannie Mae data from Fannie Mae (2011) and data from Freddie Mac from Freddie Mac (2011).

⁶⁶ The notion that Fannie Mae and Freddie Mac, when financially guaranteed and managerially completely controlled by the US federal government, should not be considered a part of the general government sector, when Ginnie Mae (the Government National Mortgage Association), which performs the same tasks from within the Department of Housing and Urban Development, is, defies economic logic and common sense. See <http://www.ginniemae.gov/about/about.asp?Section=About>.

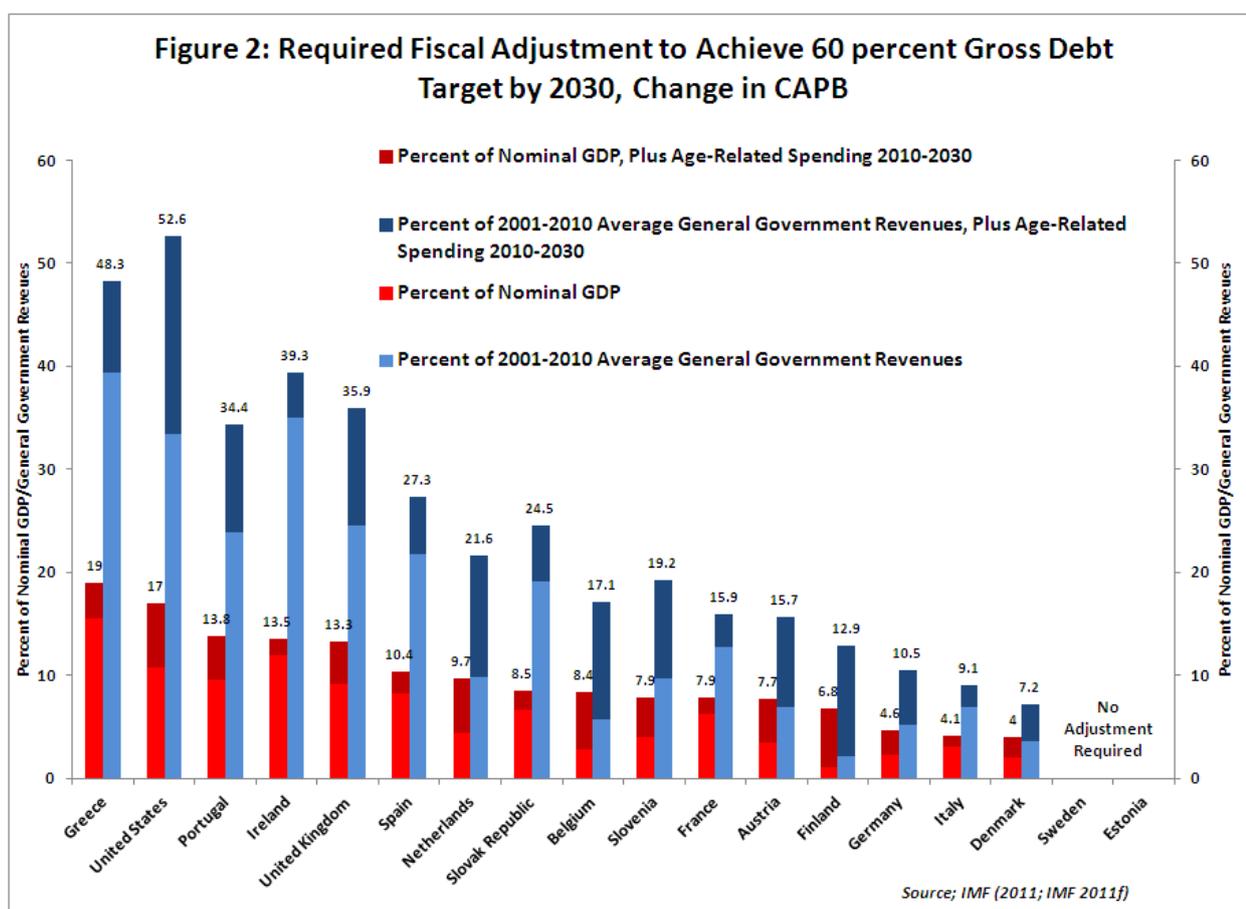
⁶⁷ As the US Treasury has since 2008 guaranteed to maintain the two companies' positive cash position, deteriorations of the asset quality in Fannie Mae and Freddie Mac will lead to an ongoing increase in the US federal government debt. The US Treasury has already provided the two GSEs with over \$100bn in new capital in this way. See Fannie Mae (2011b) and Freddie Mac (2011b). The CBO currently includes estimates of such future losses in its baseline budget projections for the US federal government.

⁶⁸ Gross debt data for Greece, Italy and the Euro area includes the effects of financial rescue operations conducted here up to end-2010.

⁶⁹ As will be discussed further below, very rapid increases in public liabilities related to banking crises and an economic downturn has the potential to make a pre-crisis level of gross government debt of 60 percent of GDP insufficient. See also IMF (2011b) for a discussion of the appropriateness of a long-term gross government debt target of 60 percent of GDP.

enshrined in the European Treaty⁷⁰, where it has following recent euro area decisions taken on a new degree of policy relevance. After having been de facto ignored by the euro area to facilitate the founding euro member status of Italy and Belgium⁷¹, the March 2011 decision by euro area leaders to introduce an annual numerical benchmark of 1/20 reduction in debt in excess of the reference value 60 percent⁷² reintroduces the 60 percent gross debt level as a key long-term policy target in the euro area.

Figure 2 shows first the scope of required fiscal consolidation in the United States and Europe in terms of improvements to the general government cyclically adjusted primary balance (CAPB) to from today's debt levels achieve a 60 percent gross government debt level by 2030. And secondly, the total fiscal consolidation required when taking into consideration also projected ageing related increases in healthcare and pension spending between 2010 and 2030 (requiring offsetting fiscal measures)⁷³.



⁷⁰Protocol #12 on the Excessive Deficit Procedure, annexed to the Treaty of the European Union. See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12008M/PRO/12:EN:HTML>.

⁷¹The original 60 percent gross debt reference value in the Maastricht Treaty was circumvented from the beginning of EMU through the addition to Article 126 (ex Article 104) in the European Treaty of the clause that debt values above 60 percent of GDP would be excessive “unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace”. What would constitute an “insufficiently diminishing ratio at an unsatisfactory pace” has never been established by European leaders.

⁷²See Conclusions of the Heads of State and Government of the Euro Area of March 11 2011 at http://consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/119809.pdf

⁷³Data from IMF (2011b) relies on a modeled fiscal adjustment strategy, which assumes CAPBs improve in line with April 2011 Fiscal Monitor projections from 2011-12 and gradually from 2013 until 2020, after which it is maintained constant until 2030. Projected healthcare and pension spending increases to be offset is from IMF (2011b) statistical table 9 and appendix 1.

Figure 2 (red bars) shows how the largest required improvement in the general government CAPB to reach a 60 percent gross debt level by 2030, when including also projected rising general government healthcare and pension costs, at 19 percent of nominal GDP is in Greece, surpassing the 17 percent required improvement in the United States and 13-14 percent in Portugal, Ireland and the UK. Required consolidation in Greece and the United States is significantly above required levels in Spain, too, and more than twice the scale of France with a necessary 7.9 percent of nominal GDP improvement in the CAPB. Meanwhile, low required adjustment of noticeably Italy at just over four percent illustrates Rome's existing positive CAPB, and relatively modest projected increases in pension and healthcare expenses⁷⁴. Germany and the Scandinavian countries similarly face relatively modest additional future fiscal consolidation and Swede and Estonia none at all to secure the 60 percent debt target by 2030.

With fiscal consolidation on both sides of the Atlantic requiring historic improvements in countries' CAPB and consequently presenting governments with sizable political implementation challenges, it becomes relevant to consider the scope of required future fiscal measures relatively to the existing weight of the government in the economy. The same amount of improvement in the CAPB in terms of GDP may be politically easier to achieve in countries with a relatively larger existing general governmental sector, as it will indicate a relatively smaller required change in the status quo. This is so, even as countries with a small existing general government share of the economy (like the United States) can be said to possess substantial "hypothetical fiscal space"⁷⁵ from potential future revenue increases to move the CAPB towards sustainability. However, judging from the on-going debate in the United States, it is evident that the political obstacles of accessing "hypothetical fiscal space" from legislating future revenue increases can be at least as high (if not higher) as the political obstacles associated with very substantial cuts in government spending in European countries with a large existing general government sector. On-going coordinated fiscal austerity in Europe thus suggests – perhaps as a result of the more urgent and severe debt crisis here – that cutting spending in crises to restore fiscal sustainability in "big government countries" is today politically easier than raising revenues in "small government countries" like the United States to achieve the same goal.

To capture the magnitudes of required fiscal consolidation relative to the current size of countries' general government sectors, figure 2 therefore also shows the CAPB consolidation efforts as a share of average general government revenue during the decade from 2001-2010.

Measured as a share of the average 10y general government revenues, the United States at 52.6 percent stands out as having the biggest future political challenge of fiscal consolidation relative to the status quo, due to the relatively smaller government sector here (an average 32 percent of GDP from 2001-2010, compared to for instance 39 percent in Greece or 45 percent in Italy⁷⁶). Greece at 48 percent is almost at US levels, while Ireland, Portugal and United Kingdom face fiscal consolidation efforts above 1/3 of the long-term average size of the general government. Meanwhile, by this metric, the (Western) continental European countries with relatively larger general government sectors face a smaller future fiscal consolidation effort.

5. General government assets and potential privatisation proceeds

These future consolidation requirements to reduce gross debt levels to sustainable levels are of a truly herculean magnitude and justifiable concerns will arise about the trans-Atlantic political

⁷⁴ See also IMF (2011c) for a discussion of Italy's relatively benign long-term debt sustainability projections.

⁷⁵ Actual "fiscal space" is defined in Heller (2005) as "room in a government's budget that allows it to provide resources for a desired purpose without jeopardising the sustainability of its financial position or the stability of the economy".

⁷⁶Data from IMF (2011).

willingness to ultimately restore general government fiscal stability through traditional means of revenue increases and spending cuts. Other government policy initiatives will have to be considered to help restore the health of government finances.

As described in Reinhart and Rogoff (2010) and Kirkegaard, Reinhart and Sbrancia (2011), several other avenues to restoring fiscal sustainability apart from austerity are open to governments. These include sovereign defaults, bursts of unexpected inflation combined with financial repression and rapid growth. Each though has such large drawbacks that their efficacy must be questioned. Attempting to restore fiscal sustainability through a sovereign default is patently mad, as the cure kills the patient, while creating abrupt spikes in inflation and financially repress the private sector will also be both difficult and costly for individual governments in a relatively open and financially integrated global economy. Lastly, the long-term demographic outlook for both the United States and especially Europe will in all probability make rapid economic growth an impossible road to a sizable reduction in the trans-Atlantic debt burden.

Yet, as indicated in section II, there is a large difference between the gross and net debt implications of financial rescue operations in all countries analysed in this paper, due to the simultaneous transfer of sizable assets to the general government sector. This same difference in overall gross and net debt positions exist for the entire general government sector, as recorded government assets are sizable in several countries. Complete recording and utilising government assets therefore offers an additional road towards fiscal sustainability, beyond the on-going (generally) positive revenue return from governments' asset holdings.

As discussed in box 1, significant data concerns surrounds the recording of comprehensive and correctly valued general government assets. Fiscal sustainability analyses on a general government net debt basis are therefore complicated to carry out. Two principal data sources exist for general government net debt information for the United States and Europe; the IMF WEO database⁷⁷ and the OECD Economic Outlook Annex Tables⁷⁸. These two sources though are not methodologically similar, as the general government net debt data presented in the IMF's WEO are calculated in a simplified manner as gross debt minus financial assets corresponding to debt instruments. The included financial assets are: monetary gold and SDRs, currency and deposits, debt securities, loans, insurance, pension, and standardised guarantee schemes, and other accounts receivable. IMF net general government debt data does not take non-debt instrument government assets into account⁷⁹, and therefore avoids any uncertainty concerning for instance the estimation of future projected earnings from equity holdings⁸⁰.

OECD "net government debt" data, or more precisely general government net financial liabilities, meanwhile includes data for a wider range of government financial assets, including also general government non-debt assets such as equity participation in private sector companies and holdings in public corporations⁸¹. OECD net financial liabilities data are estimated as simply general government financial assets minus (all recorded) financial liabilities, making it akin to the general government's "net financial worth". The status and treatment of government prefunded assets and pension

⁷⁷ Available at <http://www.imf.org/external/ns/cs.aspx?id=28>.

⁷⁸ Available at http://www.oecd.org/document/61/0,3746,en_2649_34109_2483901_1_1_1_1,00.html.

⁷⁹

See <http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/weoselser.aspx?c=193%2c158%2c122%2c542%2c124%2c137%2c156%2c181%2c423%2c138%2c935%2c196%2c128%2c142%2c939%2c182%2c172%2c576%2c132%2c936%2c134%2c961%2c174%2c184%2c532%2c144%2c176%2c146%2c178%2c528%2c436%2c112%2c136%2c111&t=34>

⁸⁰ This simplification, however, clearly understates the assets of country governments with large listed and non-listed equity holdings outside the general government sector. See also IMF (2011f: Appendix 3).

⁸¹ See http://www.oecd.org/document/25/0,3746,en_2649_34109_33702745_1_1_1_1,00.html#t=32.

liabilities in public employee pension plans are a further very significant source of divergence across countries. The distinction in the 1993 System of National Accounts (SNA) between “autonomous” (outside the general government sector) and “non-autonomous” (inside the general government sector with the funded component reflected in the books) means that some EU countries (like Finland) has its pre-funded pension plans reported as part of the general government and contributing to general government assets, while most countries don’t. This makes cross-country comparability of net government debts problematic.

Figure 3 shows available US and European gross and net debts, as well as debt assets from the IMF WEO database and “other financial assets” from the OECD Outlook Annex tables.

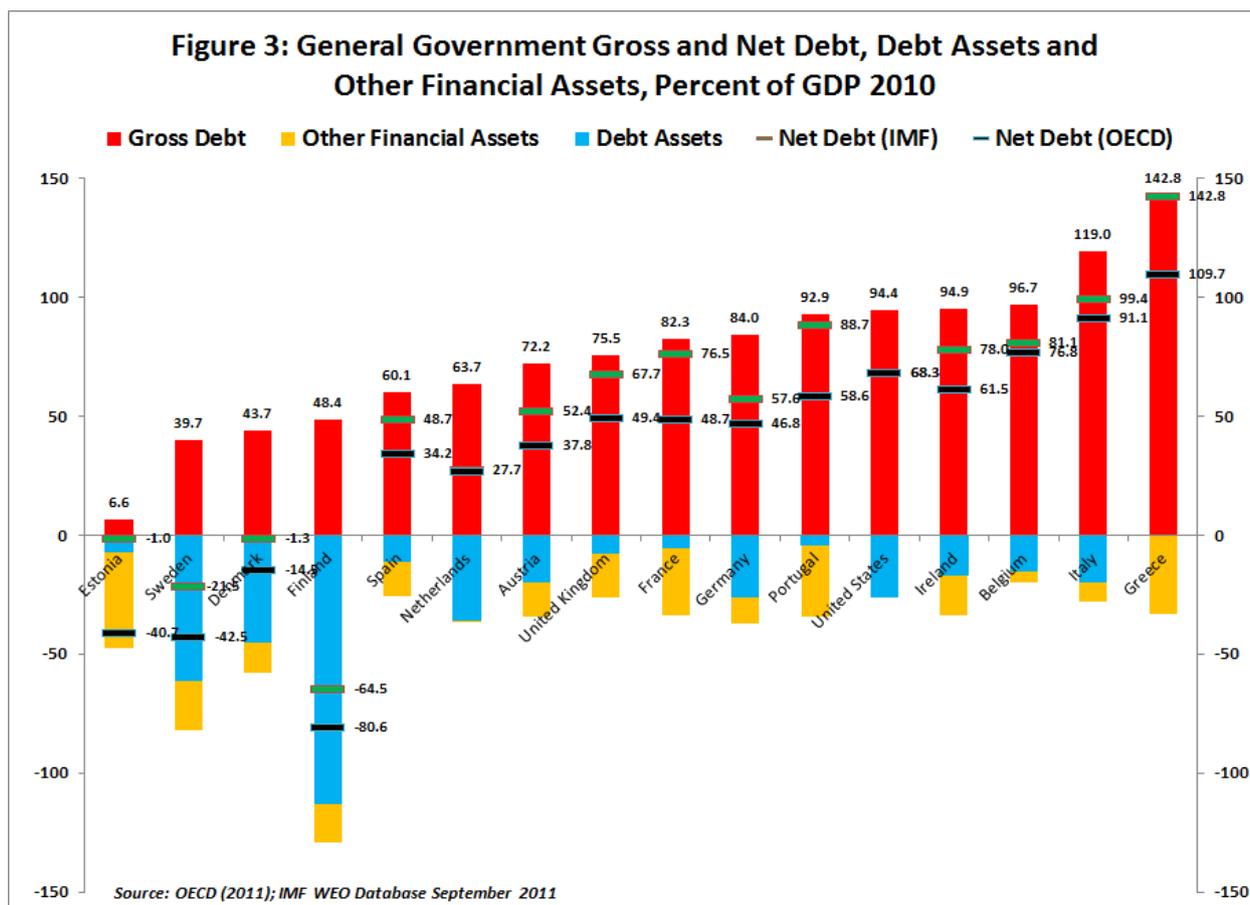


Figure 3 underlines the precarious state of Greece, where in 2010 gross and net debts as recorded by the IMF were similar, with as the only country no debt assets (blue bars) recorded for the Greek general government. OECD data meanwhile suggested that the Greek general government possess about 33 percent of GDP in other types of financial assets⁸².

At the same time, if one believes the OECD data, Greece actual net general government debt in 2010 was only around 109 percent of GDP. Combined with the fact that parts of the most recent Greek bailout package from July 21st 2011 will add further to general government assets, this suggests that

⁸²The lack of Greek general government debt assets is partly an outcome of the country’s pension system, which historically has been a wholly public PAYGO system with no pre-funded or private components. OECD global pension statistics shows no assets in either autonomous nr non-autonomous Greek pension systems. See www.oecd.org/daf/pensions/gps.

the gross debt to GDP ratio projections for Greece overstate the country's solvency problem⁸³. Part of the envisioned future gross debt increase for Greece is scheduled to be set aside for zero-coupon AAA-rated assets as collateral for the private sector involvement (PSI)⁸⁴. Up to 10 percent of GDP is furthermore scheduled to be used to recapitalize the Greek banking system, a set of transactions through which assuming the government takes ownership shares in return government assets will also be accumulated.

Figure 3 also shows how general government net debt levels, when estimated with the more inclusive OECD data, are generally lower in Europe than in the United States. Only Greece, Italy and Belgium had net government debts higher than the United States in 2010. Meanwhile, in the Scandinavian countries (incl. Estonia), large general government financial assets surpassed outstanding government gross debts in 2010.

Box 2: US Federal Government Debt – Different Holders, Different Impact?

In June 2011, the total federal government outstanding was \$14.3tr, amounting to 95.8percent of nominal Q2 2011 GDP⁸⁵. As such, the vast majority of general US government debt is evidently issued by the central federal government, while US state and local governments due to their balanced state budget clauses have historically not accumulated much independent debt.

Several important conceptual sub-categories of US federal debt exist⁸⁶:

Debt Held By the Public: Federal debt held by all investors outside of the federal government, including individuals, corporations, state or local governments, the Federal Reserve, and foreign governments.

Debt Held by Government Accounts (Intra-governmental Debt): Federal debt owed to government accounts, primarily to federal trust funds such as Social Security and Medicare. The cumulative surpluses, including interest earnings, of these trust funds and other government accounts have been invested in Treasury securities, almost always nonmarketable. Whenever a government account needs to spend more than it takes in from the public, the Treasury must provide cash to redeem debt held by the government account.

Marketable Treasury Securities: Marketable securities, which consist of Treasury bills, notes, bonds, and TIPS, can be resold by whoever owns them.

Nonmarketable Treasury Securities: These are non-transferable securities issued by the government and registered to the owner. While the securities cannot be sold in the financial market, they can be redeemed at any time after they have been held for one year.

Almost all U.S federal debt is issued in marketable securities with only \$427bn (less than 3 percent) outstanding in non-marketable securities at the end of June 2011. The distinction between total outstanding debt, debt held by the public and debt held by government accounts, however, is far larger. Ultimo June 2011, \$9.7tr (65 percent) of total federal debt was held by the public, while \$4.6tr (35 percent) was held by government accounts.

⁸³ See Cline (2011) for an in-depth discussion.

⁸⁴ See IIF (2011).

⁸⁵ All debt data in this box is from US Treasury (2011). GDP data from BEA at <http://www.bea.gov/national/xls/gdplev.xls>.

⁸⁶ Definitions from GAO (2011) at <http://www.gao.gov/special.pubs/longterm/debt/glossary.html>

From the definition of debt held by government accounts, it can be seen that this debt would under the IMF/OECD definitions of net government debt would count as “debt assets” for the general government and thus be subtracted from general government gross debt in the estimation of general government net debt. Consequently, debt held by the public is quite close to the definition of general government net debt.

Box table 1 shows the different government account holders of outstanding federal debt end-June 2011. Social Security, federal employees and healthcare insurance funds account for over 80 percent of this category. It is important to note that most of these “government accounts” were trivial in size or did not exist the last time the US federal government had debt levels approaching today’s levels right after World War 2. Consequently at that point in time, there was very little difference between total debt and “debt held by the public”. Once the Social Security and Hospital Insurance Trust Funds cash flows turn negative (Given the labour market crisis in the US since 2008 and temporary payroll tax breaks, this turning point has already been reached) and more federal employees begin retiring, today’s difference will again begin to narrow rapidly.

Box Table 1: Government Account Holders Of Federal Debt, June 2011, \$USbn

Federal Old-Age and Survivors Insurance Trust Fund (Social Security)	2,498.2	54%
Federal Employees Retirement Funds	696.6	15%
Federal Hospital Insurance Trust Fund (Medicare/Aid)	267.2	6%
Federal Disability Insurance Trust Fund	171.0	4%
Federal Supplementary Medical Insurance Trust Fund	80.4	2%
Employees Life Insurance Fund	39.1	1%
Deposit Insurance Fund	37.2	1%
Exchange Stabilization Fund	22.8	0%
Highway trust Fund	22.1	0%
Unemployment Trust Fund	21.1	0%
National Service Life Insurance Fund	7.8	0%
Airport and Airway Trust Fund	7.6	0%
Federal Savings and Loan Corporation, Resolution Fund	3.4	0%
Federal Housing Administration	2.2	0%
Postal Service Fund	0.6	0%
Railroad Retirement Account	0.5	0%
Treasury Deposit Funds	-	0%
Other	742.7	16%
Total	4,620.4	100%

Source: US Treasury (2011)

Which of the different US sub-categories of debt is most relevant from a debt sustainability analysis perspective is a hotly contested issue. On the one hand, it is clear that since US debt held by government accounts is overwhelmingly held by entities created to finance the US social safety net, this debt reflect a future burden on the US economy and the US Treasury. On the other hand, it can be argued that while debt holders outside the government sector enjoy strong legal protections against unilateral actions by the US federal government, this is not true for government account debt holders. Or put in another way, the federal government could legally (though not of course

politically) much easier in an emergency default against intra-government entities than against the public.

“Defaults” against intra-governmental holders of debt can come in multiple forms through future changes in laws governing such entities. Ultimately, this indicates the difference between “political promises for the future” and legally protected “government debt commitments”. A cut in retirement benefits for instance amount to a “default” against the “political promises for the future” to retirees, against which they will have no recourse except to try to vote in another government⁸⁷.

Yet, the US social safety net and its associated pension and healthcare trust funds is already severely underfunded, when measured against the actual costs of the “political promises for the future” made by US politicians concerning the social services to be provided. Far reaching reforms of especially Medicare/Aid will therefore be required merely to reduce the current scope of future underfunding. What this means is that unless the United States government decides to essentially eliminate the provision of any future social services, it will not be able to avoid the costs of servicing the debt held by government accounts already today, as it is earmarked for this purpose.

Cuts in social “entitlements” of such magnitude are politically implausible, and the costs of the debt held by government accounts thus amounts to a lasting future economic burden for the US Treasury. Since the U.S federal government according to both the IMF and OECD at the same time owns very few other “financial assets” to offset its gross liabilities, valid debt sustainability analyses for the United States should consequently be carried out using the total outstanding debt levels and not merely the data levels for debt held by the public.

Taking any comfort in today’s large, but temporary, difference between total US outstanding debt and debt held by the public is misguided. Government debt held by government accounts, accelerated by recent US payroll tax cuts, will soon largely disappear and almost all US debt will be held by the public again.

End Box

Another source of information about government assets is the value of any equity holdings in listed companies⁸⁸. Selling such holdings to private buyers could immediately raise funds for the general government to potentially reduce gross debt. Table 2 contains a non-exhaustive list of EU government equity holdings in listed companies in 2011.

⁸⁷ Obviously in liberal democracies, interest groups may also try street protests and other non-violent demonstrations to try to put pressure on their government. They strictly need not wait for the next election to push their case.

⁸⁸ Such holdings are included in the OECD but not IMF data for general government net debts.

Table 2: European Government Holdings of Quoted Shares, Value February 2011, €bn

France	Value €bn	Italy	Value €bn	Germany	Value €bn	Finland	Value €bn	Greece	Value €bn
EDF	66.0	ENEL	17.0	Commerzbank (1)	2.7	Fortum OJJ	13.7	Pireaus Bank	0.02
GDF/Suez	32.0	ENI	30.0	Deutsche Telecom	18.8	Sampo	2.6	Hellenic Telecom	1.1
France Telecom	16.0	Finmeccanica	2.2	Deutsche Post	6.9	Nokia	0.1	Public Power Corp.	1.9
ADP	4.0	Terna	3.7			Kone	0.1	Opap	2.3
Safran SA	4.0					Stora-Enso	1.2	Hellenic Petroleum	1.1
Renault SA	3.0					Metso	0.1	Athens Water & Sewage	0.4
THALES	2.0					Neste Oil	2.3	Pireaus Port Authority	0.3
Air France-KLM	0.9					Outokompo	1.1	Thessaloniki Water and Sewage	
Dexia SA (1)	0.5					Rautaruukki	1.3		
Dexia Belgium (1)	1.9					Sponda	0.2		
CNP Assurances	0.1					Finair	N/A		
AREVA-CI	0.1					TeliaSonera	N/A		
EADS	0.01					Others	0.5	Others	0.5
TOTAL	130.4	TOTAL	52.9	TOTAL	28.4	TOTAL	23.2	TOTAL	7.62
Percent of 2010 GDP	6.7%		3.3%		1.1%		12.9%		3.3%
Belgium	Value €bn	Austria	Value €bn	Portugal	Value €bn	Ireland	Value €bn	Addendum: US (TARP)	% of Shares
Dexia Belgium (1)	0.5	Verbund AG	3.9	Energias de Portugal	3.6	Bank of Ireland (1)	1.0	GM	33.3
Belgacom	6.8	ÖMV	N/A	Galp Energia	1.2	Aer Lingus	0.2	Chrysler	9.2
		Telekom Austria	1.8					Ally Financial	73.8
		Oesteriche Post	1.1					AIG	92.2
TOTAL	7.3	TOTAL	6.8	TOTAL	4.8	TOTAL	1.2		
Percent of 2010 GDP	2.1%		2.4%		2.8%		0.8%		

1) Acquired via emergency capital infusion during crisis. Source: UBS (2011); OECD (2011c) and Bloomberg

France is easily the country with most equity holdings in currently listed companies valued at €130bn in early 2011⁸⁹, but also in Italy did such holdings surpass €50bn. Only in Finland did equity holdings surpass 10 percent of GDP (figure 3 similarly showed Finland as a country with large government financial assets), while elsewhere in the euro area holdings were small as a share of the total national economy.

Government assets though need not be held in just currently listed companies. Indeed, the vast amount of public corporations will be unlisted companies, which governments to potentially raise revenue from would have to either list on the stock market or sell outright to a private buyer through a privatisation transaction⁹⁰. Figure 4 shows the total government revenue obtained by EU-15 governments from privatisations from 1977-2009⁹¹. Just like French government today still retains the largest equity holdings (table 2), it is also the EU-15 country which has historically privatised most assets valued in current dollars at over \$200bn, followed by Italy at around \$175bn. Meanwhile measured as a share of 2010 GDP, Portugal has historically been the EU-15's most intensive privatiser at 16 percent of 201 GDP between 1977-2009, followed by Finland at 13 and Greece and Sweden at 10 percent.

Figure 4 illustrates how European countries have in earlier privatisation campaigns been able to raise substantial amounts of revenue from divesting previously state-owned assets, even in countries today under IMF programs. Yet, it is equally clear from the fact that Greece historically between 1977-2009 managed to privatise just over \$30bn worth state assets makes the country's commitment to divesting €15bn (\$20bn) by end-2012 and €50bn (\$67bn, ~20 percent of GDP) by end-2015⁹² extremely ambitious by the country's historical standards. Less so in a historical context is the Portuguese IMF commitment to privatise for a total of €5bn (~3 percent of GDP) by end-2013⁹³, considering Portugal's earlier \$37bn in such revenues. Meanwhile, in Ireland the key privatisation

⁸⁹ Given the recent decline in European stock markets, the valuations listed in table 2 from February 2011 are likely to be higher than today.

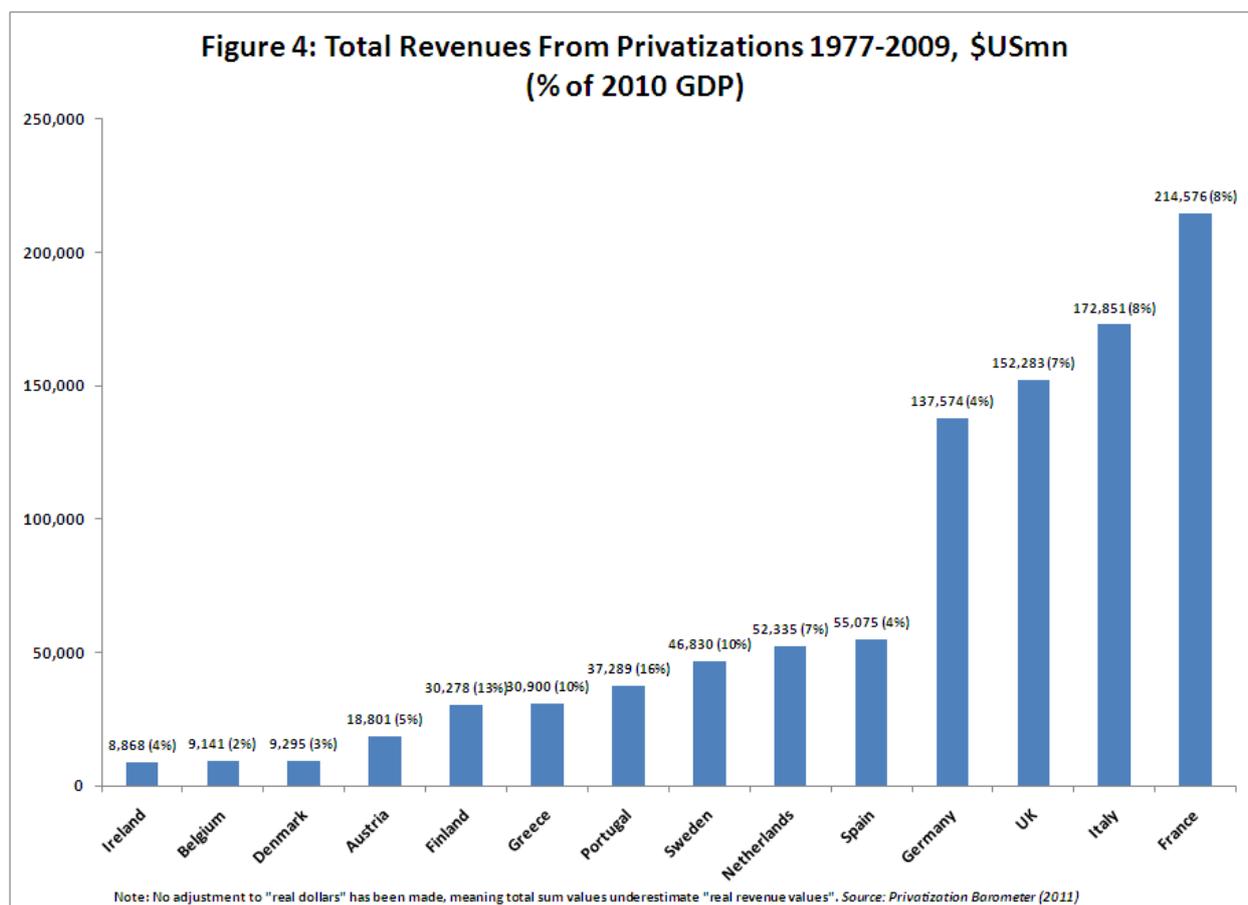
⁹⁰ See OECD (2011c) for older survey data breaking out the value of listed and unlisted government equity holdings.

⁹¹ Figure 4 is computed from current dollar transaction values and will hence underestimate the real value of transactions conducted early in the period.

⁹² IMF (2011d:20ff). Revenues are scheduled to come from sales of listed companies (€5bn), unlisted companies (€2bn), infrastructure concessions (€9bn) and roughly €35bn from state-owned real estate assets with clear legal title.

⁹³ IMF (2011e:21)

issue facing the government is what to do about the roughly €30bn (acquisition cost) of private assets taken over by NAMA since the beginning of the crisis. Historically, Irish governments can be seen in figure 4 not to have raised much revenue of this type, but has set a €7.5bn (5 percent of GDP) NAMA asset sales revenue target by end-2013⁹⁴.



Rather than be dictated by either acute crisis requirements for cash (fire sales) or a “small government is good government” ideology, decisions to privatise state assets must always be evaluated against the expected value of lost future government revenue. Frequently, in addition to instant new cash revenues, large productivity improvements can be secured through privatisations, as governments can escape the need to continuously subsidise loss-making state-owned enterprises and new private owners are better able to reallocate and restructure such assets⁹⁵. Yet, at the same time governments should be particularly wary of selling off lucrative monopolies in for instance gambling to private investors, both because the public sector thereby risks losing stable and sizable future revenue streams and because private monopolies almost invariably reduces consumer welfare even more than a government one. Particularly during times of acute financial market stress, sudden large-scale privatisation initiatives may therefore result in too little new revenue being raised right away to make up for the future loss of control of state assets.

While only in Greece among the current IMF-program countries is traditional privatisation revenues (As opposed to divesting distressed NAMA assets taken over by the Irish government during the country’s financial crisis) expected to play a material role in restoring short-term fiscal sustainability, it seems clear that for this to be successful the IMF and EU’s new involvement in the Greek

⁹⁴NAMA (2011).

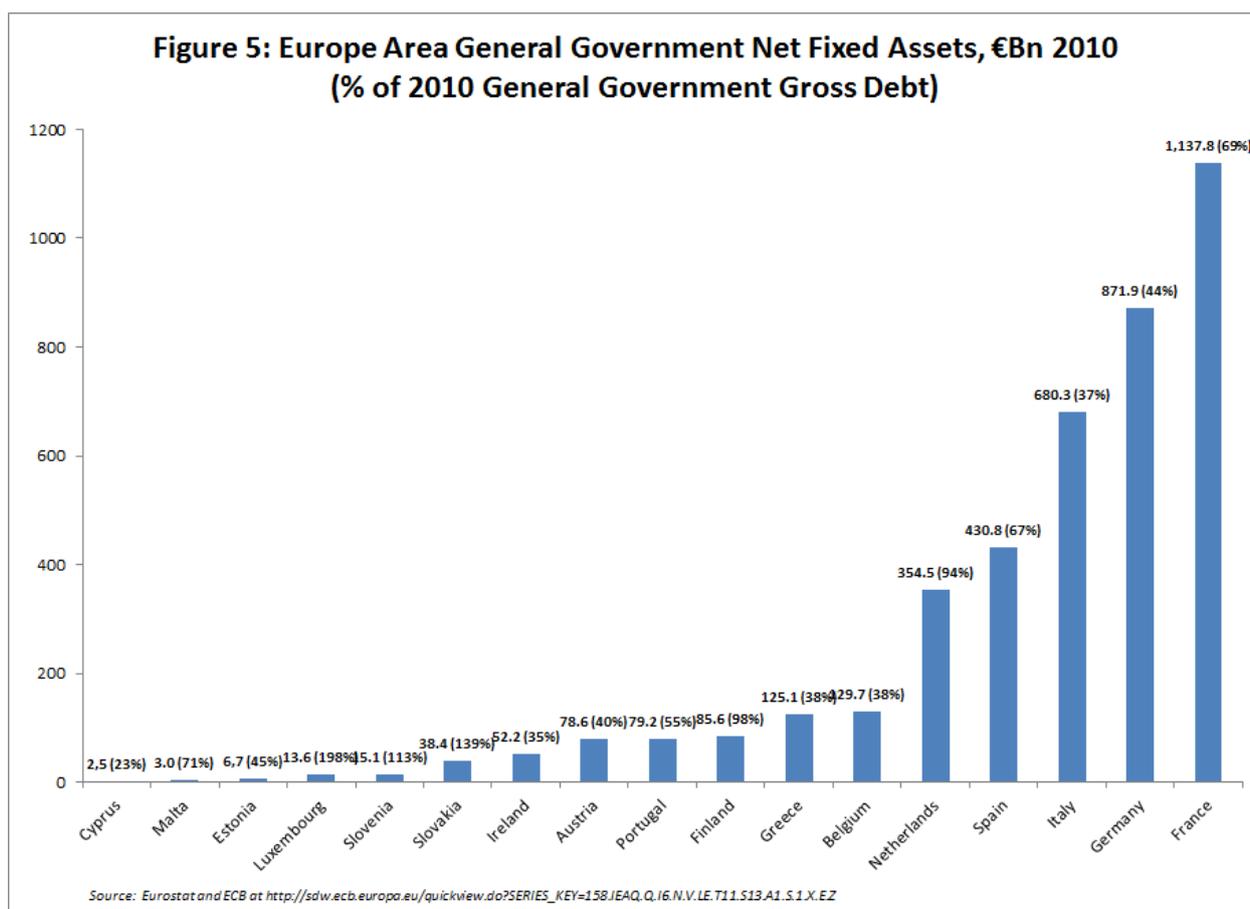
⁹⁵ See OECD 2011c).

economy must usher in a “political /economic revolution” not dissimilar to the fall of the Berlin Wall in 1989. The demise of communism and state-control of Eastern European economies was accompanied by large-scale privatisation campaigns across the region during the 1990s. Only through a similarly decisive break with past political resistance to privatisations will Athens be able to create a sufficiently large improvement in its business climate to attract private sector buyers for its assets. The coming years will indicate whether this is politically feasible or if sufficient private risk appetite can be mobilised.

Doom a plenty exists surrounding Greece and much of the rest of the euro area. Yet at the same time, recent elections in both Ireland and Portugal led to strong majority pro-IMF reform governments coming into office in the midst of deep recessions, while in general EU national elections since the beginning of the financial crisis in late 2007 has produced fiscally conservative winning platforms⁹⁶. As such, it cannot be ruled out that the current economic crisis in Europe has led to a lasting shift in public perceptions about the scope of government in the euro zone and consequently that a new wave of privatisations might be unleashed as a result. Partly due to sheer economic and financial necessity, partly enabled by the associated crisis-generated shift in public opinion.

This raises the question whether euro area governments may in the near term be able to begin to better utilise the “forgotten part of their balance sheet”, their real estate and other fixed assets, for new revenue generation purposes? So far this section has focused exclusively on governments’ financial assets, but as discussed in box 1, governments also hold an extensive portfolio of fixed assets, which crisis-induced shifts in public opinion might enable euro area governments to increasingly offload through new privatisations. Unlike for governments’ financial assets, where data availability is merely poor, no reliable estimates of the scope and value of governments’ fixed assets exists. The best approximation is an aggregate number for the entire euro area published regularly by the ECB, which stood at €4.1tr in quarter 4 of 2010. Assuming that the ratio of total fixed assets in the euro area is the same as the available ratio for governments’ annual consumption of fixed capital, this aggregate number can then be broken into approximate estimated national values. This is done in figure 5 for the end-2010 values.

⁹⁶ The most extraordinary example hereof is Latvia, which has now reelected a government twice which oversaw a 20 percent decline in living standards since 2007. Other noticeable election results is the historic reelection of a center-right government in Sweden in September 2010, or the UK Conservative party’s victory in May 2010 after a campaign of explicit promises of tough future austerity. In the fall of 2011, traditional center-left parties in Europe are part of the government in only Spain, Austria, Slovenia, Greece, Finland (junior coalition member), and non-EU Norway and Iceland.



By virtue of their size, the largest euro area members will of course have the largest holdings of net fixed assets. France again leads the euro area in this government asset measure with over €1.1tr in fixed assets, followed by Germany at €872bn and Italy at €680bn⁹⁷. By this estimation Greece has €125bn in fixed assets, Portugal around €80bn and Ireland just over €50bn. The Greek estimate of €125bn in government fixed assets is considerably lower than an estimate of over 100 percent of GDP in “potentially privatisable assets” in Greece ultimately controlled by the Greek government discussed by IMF staff in the spring of 2011⁹⁸.

However, on top of the methodological uncertainties surrounding the estimated values in figure 5, it must be clear that “total fixed assets” contain far more than any government could plausibly privatise under any circumstance. As discussed in box 1, many government assets are “heritage assets” of important national, educational and historical value which could never be sold off. The values in figure 5 (even if they were correctly estimated) thus represent substantially more fixed assets than could be converted into new revenues even under the best political and economic circumstances.

As indicated by the numbers for total fixed assets as a share of 2010 gross government debts, too, it is consequently not realistic to assume that even historically large new privatisation drives in the EU-

⁹⁷ Incomplete fixed asset data from the OECD’s Detailed National Accounts Database shows comparable general government fixed asset data values to those in figure 5, albeit for the year 2009. Finland reports €87bn, Belgium €126bn, Netherlands €357bn, Germany €1,068bn and France €888bn. See http://stats.oecd.org/BrandedView.aspx?oeed_bv_id=na-data-en&doi=data-00024-en.

⁹⁸ See Press Conference with IMF European Division Head Antonio Borges on April 15th 2011 at <http://www.imf.org/external/np/tr/2011/tr041511.htm>.

15 will be able to seriously erode gross debt levels in high debt euro area countries. Total fixed asset levels between 35-40 percent in Greece, Italy and Belgium is evidence of the futility of such hopes⁹⁹.

The sudden emergence of new “created fixed assets” on euro area balance sheets, similar to the large auction revenues from the sale of electromagnetic spectrum to telecommunication carriers in the early 2000s, cannot be ruled out in the future. Likewise, governments might find new innovative ways to securitise future revenue streams with investors for immediate cash payments, or engage in leaseback arrangements by selling real estate assets and leasing them immediately back. Substantial longer-term productivity improvements, which almost always emerge from outright privatisation transactions, may also be feasible from this type of government fixed asset management operations¹⁰⁰.

Yet, the magnitudes in figure 5 ultimately suggest that this type of “asset sweating” measures will play at most a peripheral role in returning today’s high-debt countries to more long-term sustainable net debt levels in the future. The asset side of general governments’ balance sheets on both sides of the Atlantic cannot credibly substitute for required new revenue, spending and most importantly growth enhancing structural reforms to address current gross debt levels.

A final straight-forward way to again illustrate the finding above that the asset side of government balance sheets can only play a relatively modest role in the restoring transatlantic fiscal sustainability is to estimate what impact assets could have on the primary surplus required to stabilise different levels of government debt. The general debt sustainability criterion stipulates that the government primary surplus (PS) required to stabilise debt levels is given by $PS = d (r - g) / (1 + g)$, where d = debt/GDP ratio, g = nominal growth ratio and r = interest rate on government debt¹⁰¹. Usually, such sustainability estimates are estimated based on governments’ gross debt levels, but may also be estimated using net debt levels. Doing so implies assuming that all recorded government assets can be converted into cash and used to service or pay off parts of outstanding gross debt. As was discussed in box 2 for the US this is an implausible assumption, but for the purposes of illustrating the relative scope the impact government assets could potentially have on debt sustainability, this exercise nonetheless has heuristic value. Table 3 shows debt sustainability estimates for selected countries based on general government gross debt levels, IMF net debt levels and OECD net financial liability levels.

⁹⁹ In the EU under the Stability and Growth Pact rules, privatisation proceeds moreover do generally not count towards reducing annual deficits, even if they reduce government total gross debt levels. In accounting terms, large privatisation proceeds would consequently only reduce annual deficits through reduced government interest expenses.

¹⁰⁰ See Nicoletti and Scarpetta (2003) and OECD (2011c).

¹⁰¹ See also Goldstein (2003) and Cline (forthcoming) for a discussion of debt sustainability.

Table 3: Debt Sustainability Estimates, By Gross and Net Debt Levels

Country		Germany	France	Italy	Spain	Portugal	Ireland	Greece	Japan	United Kingdom	United States
1	General Government Gross Debt 2011(p), % of GDP	83%	87%	121%	67%	106%	109%	166%	233%	81%	100%
2	General Government Net Debt 2011(p) (IMF), % of GDP	57%	81%	100%	56%	102%	99%	153%	131%	73%	73%
3	General Government Net Debt 2011(p) (OECD), % of GDP	50%	60%	101%	46%	75%	70%	125%	128%	62%	75%
4	Average Nominal Growth Rate(p) 2011-2016	2.5%	3.6%	2.6%	3.3%	2.0%	3.6%	1.0%	1.2%	5.2%	3.9%
5	General Government Implicit Interest Rate (p) (1)	3.0%	3.5%	4.4%	3.7%	4.7%	4.2%	4.8%	1.2%	4.2%	3.1%
6	<i>Primary Balance Required for Debt Sustainability - Gross Debt</i>	0.4%	-0.1%	2.0%	0.3%	2.8%	0.7%	6.2%	0.0%	-0.8%	-0.8%
7	<i>Primary Balance Required for Debt Sustainability - IMF Net Debt</i>	0.3%	-0.1%	1.7%	0.3%	2.7%	0.6%	5.7%	0.0%	-0.7%	-0.6%
8	<i>Primary Balance Required for Debt Sustainability - OECD Net Debt</i>	0.2%	-0.1%	1.7%	0.2%	2.0%	0.4%	4.7%	0.0%	-0.6%	-0.6%
9	Average Projected Primary Balance (p) 2011-2016 (2)	1.4%	-0.9%	3.5%	-2.2%	1.5%	-1.2%	3.0%	-6.4%	-1.8%	-4.7%
10	<i>Implied required improvement in projected average primary balance 2011-2016 - Gross Debt</i>	-1.0%	0.8%	-1.4%	2.5%	1.3%	1.9%	3.2%	6.4%	1.0%	3.9%
11	<i>Implied required improvement in projected average primary balance 2011-2016 - IMF Net Debt</i>	-1.2%	0.8%	-1.8%	2.4%	1.2%	1.8%	2.8%	6.4%	1.1%	4.2%
12	<i>Implied required improvement in projected average primary balance 2011-2016 - OECD Net Debt</i>	-1.2%	0.8%	-1.8%	2.4%	0.5%	1.6%	1.7%	6.4%	1.2%	4.1%
13	<i>Addendum: Implied maximum interest rate for debt sustainability with average projected primary balances 2011-2016</i>	4.3%	2.6%	5.6%	0.0%	3.5%	2.4%	2.8%	-1.6%	2.8%	-1.0%

(1) Annual interest expense as percent of gross general government debt of preceding year. (2) The five-year 2011-2016 average value covers a period during which very large improvements in the primary balance in several countries are projected. As such, it is inherently an optimistic value, which assumes that governments do as projected in the IMF September 2011 WEO. Values in italics are estimated, while 2011 data are projected. Sources: IMF (2011); OECD (2011); European Commission (2011)

Table 3 shows how in most countries, the primary balance required for debt sustainability is only marginally lower when relying on net debt data instead of higher gross debt levels. Lines 6-8 show how in Germany, the difference is just 0.2 percent of GDP, in Italy 0.3 percent, in Spain 0.3 percent and in the U.K and US 0.2 percent. Meanwhile, only in Portugal and Greece at 0.8 and 1.5 percent respectively in the required primary balance is the difference of a politically and fiscally meaningful size. Relying on net debt levels for Portugal instead of gross levels thus reduces the required improvement in the primary balance from 1.3 percent of GDP (line 10) to 0.5 percent of GDP (line 12), while in Greece the same reduction is from 3.2 percent to 1.7 percent of GDP. In other words, only in countries with low nominal growth and high interest costs does the gross vs. net debt difference make a real difference and government assets have any substantive relevance. In countries like the United States, Japan, France, Germany and the UK, assuming (impossibly) that all recorded government assets could be used to reduce outstanding gross debt makes just a few decimal points difference in the required primary balances for debt sustainability.

6. Concluding remarks

This paper has with a starting point in present day high general government debt levels analysed the effects of government interventions to support financial markets during the Great Recession and the scope and character of the asset side of general governments' balance sheets. Ireland has seen by far the largest fiscal effects of financial market interventions, while excluding Ireland Germany has seen the highest amount of distressed private financial assets/liabilities transferred to the general

government in the EU. Meanwhile through the takeover of Fannie Mae and Freddie Mac, the scope of the US federal government reception of previously private financial assets during the crisis significantly surpasses interventions in Europe (excl. Ireland).

Required future fiscal consolidation efforts on both sides of the Atlantic are of a historic scale. But, this paper's investigation into countries' historical record of generating new revenues from government assets through privatisations and the potential magnitude of new privatisation campaigns in the future suggests that the "asset side of governments' balance sheets" can provide only nonessential assistance to this effort. Neither the high-debt general governments of Europe or the United States seem to possess the assets today to materially reduce their gross indebtedness through asset divestments. In the case of Greece, this could have potentially large effects on its current IMF-led rescue program.

In the end, today's highly indebted governments will not be able to rely on their currently held assets to service their liabilities, but must instead trust their future austerity and structural reform actions and the lower deficits and higher growth these will generate.

REFERENCES

Cline, William (Forthcoming). Sustainability of Greek Public Debt. Forthcoming Policy Brief Peterson Institute For International Economics, Washington, D.C.

Congressional Budget Office (2010) *CBO's Budgetary Treatment of Fannie Mae and Freddie Mac*. CBO, Washington, D.C.

Congressional Oversight Panel (2011) *The Final Report of the Congressional Oversight Panel, March 16th 2011*. COP, Washington, D.C.

Erste Abwicklungsanstalt (2011) *Erste Abwicklungsanstalt Annual Report 2010*. Erste Abwicklungsanstalt, Dusseldorf

European Commission (2011). *AMECO Database*, available at http://ec.europa.eu/economy_finance/db_indicators/ameco/index_en.htm.

Eurostat (2009) *Eurostat Guidance Note: The statistical recording of public interventions to support financial institutions and financial markets during the financial crisis*. Eurostat, Brussels

Eurostat (2011a) *Eurostat Supplementary Table for the Financial Crisis: Background Note April, 2011*. Eurostat, Brussels.

Eurostat (2011b) *Eurostat Guidance on accounting rules for EDP: Financial defeasance structures Manual on Government Deficit and Debt - Chapter IV.5*. Eurostat, Brussels

Fannie Mae (2011) *Annual Report 2010*, available at www.fanniemae.com

Freddie Mac (2011) *Annual Report 2010*, Available at www.freddiemac.com

FMS Wertmanagement (2011) *FMS Wertmanagement Annual Report 2010*. FMS Wertmanagement, Berlin.

Heller, Peter (2005). Back to Basics -- Fiscal Space: What It Is and How to Get It, *Finance and Development*, June 2005, Volume 42, Number 2

Goldstein, Morris (2003). *Debt Sustainability, Brazil and the IMF*. Peterson Institute For International Economics Working Paper 03-1. Peterson Institute, Washington, D.C.

IMF (2001) *Government Finance Statistics Manual, 2ND Edition*. IMF, Washington, D.C.

IMF (2009) *World Economic Outlook, April 2009*. IMF, Washington D.C.

IMF (2011) *World Economic Outlook Database, September 2011*. IMF, Washington, D.C.

IMF (2011a) *IMF Fiscal Monitor Update June 2011*. IMF, Washington, D.C.

IMF (2011b) *IMF Fiscal Monitor April 2011*. IMF, Washington, D.C.

IMF (2011c) *Italy – Article IV Review 2011*. IMF, Washington, D.C.

IMF (2011d) *Greece - Fourth Review Under the Stand-By Arrangement and Request for Modification and Waiver of Applicability of Performance Criteria*. IMF, Washington, D.C.

IMF (2011e) *Portugal: First Review Under the Extended Arrangement*. IMF, Washington, D.C.

IMF (2011f) *IMF Fiscal Monitor September 2011*. IMF, Washington, D.C.

Kirkegaard, J., Reinhardt, C. and M. Belen Sbangia (2011) Financial Repression Redux, *Finance & Development*, June 2011, Vol. 48, No. 1

National Asset Management Agency (NAMA) (2011). *Annual Report 2010*. NAMA, Dublin

National Treasury Management Agency (NTMA) (2011) *Information Note on Ireland's Debt*, available at http://www.ntma.ie/Publications/2011/GG_debt_NTMA_info_note.pdf

Nicoletti, G. and S. Scarpetta (2003), "Regulation, Productivity and Growth: OECD Evidence", *OECD Economics Department Working Papers*, No. 347, OECD Publishing. doi: [10.1787/078677503357](https://doi.org/10.1787/078677503357)

OECD (2009) *Economic Survey of the United Kingdom*. OECD, Paris

OECD (2011) *Economic Outlook Economic Background Annex Tables*. OECD, Paris

OECD (2011a) *Economic Survey of Spain*. OECD, Paris

OECD (2011b) *Economic Survey of Ireland*. OECD, Paris

OECD (2011c), The size and composition of the SOE sector in OECD countries, *OECD Corporate Governance Working Papers, No.5*, www.oecd.org/daf/corporateaffairs/wp The Size and Composition of the SOE Sector in OECD Countries.

Privatisation Barometer (2011) The PB Report 2010, available at www.privatizationbarometer.net

Reinhart, Carmen M., and Kenneth S. Rogoff, 2010, *From Financial Crash to Debt Crisis*, NBER Working Paper 15795 Cambridge, Massachusetts: National Bureau of Economic Research

UBS Investments Research (2011) *European Economic Monitor 20 July 2011: How Can Governments Sweat Their Assets?*, UBS, London

United States Government Accountability Office (2009) *Federally Created Entities: An Overview of Key Attributes*. GAO-10-97.GAO, Washington, D.C.

United States Treasury (2010) *The Troubled Asset Relief Program: Two Year Retrospective*. US Treasury, Washington, D.C.

United States Treasury (2011) *US Treasury Bulletin June 2011*. US Treasury, Washington, D.C.