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## Country Indebtedness

An Update

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## Introduction

The Credit Suisse Research Institute is dedicated to thought leadership and, in this study, which appears, one year after our first paper on the topic, we provide our new insights into one of the most crucial issues in the world economy today – country indebtedness. Since World War II, the debt-to-GDP ratio of major industrial countries has exhibited a broad U-shape, with a long decline (helped by robust growth and interest rates often below inflation) followed by more than three decades of increase from the late 1970s, likely to take the average ratio over 100% soon. In many countries, this has been accompanied by rising private debt burdens. The longevity of this unsustainable trend, long predating the financial crisis, suggests that to understand its causes and ultimate cure, we must look to deep faultlines in economic and political processes.

Allowing debt to rise has been an easy solution for the short term, storing up the longer-term problems of potential intergenerational tensions and the risk of financial instability. Financial markets failed to impose discipline on this process. Instead, government bond yields fell to record lows even as debt ratios accelerated. Various factors facilitated this trend: the credibility of central banks as inflation-fighters, the disinflationary impetus from low-cost producers, the false intra-Eurozone convergence, and the savings glut in emerging countries. These factors no longer look sustainable. The Eurozone's false convergence has already reversed dramatically. The rise of the consumer in emerging countries seems set to erode the importance of the saving glut and low-cost production. And even the credibility of central banks may come into question.

The result is that societies in developed countries now have to address the internal conflicts hidden by rising debt. Countries on the euro periphery are already doing this due to the pressure of external crisis, while the UK has embarked on it proactively, as has Germany, where the pressures are less severe. But France has only just made a start, while both the USA and Japan are still postponing the matter. As 2010 has vividly demonstrated, taking corrective action early would be easier while investors are still friendly and more likely to give credit – not only for deficit cuts, but also for growth-boosting measures. The danger is that it takes a broader crisis to spur such action.

**Hans-Ulrich Doerig,**  
Chairman of the Board of Directors

# The Debt Manifesto

- 1. Cyclically-adjusted primary surpluses to achieve debt stabilization and reduction**
- 2. Longer, more flexible working lives and efficient incentives for health care**
- 3. New monetary architecture to help rebalance global savings and consumption**
- 4. Redraw the map of Europe physically and financially**

### 1. Cyclically-adjusted primary surpluses to achieve debt stabilization and reduction

- Indebted governments to aim at a structural primary surplus as the new cornerstone of sound public finances.
- While there is no unique stable debt level, the higher the debt, the greater the risk, and so the bigger this surplus must in general be over the cycle.
- The implied hard decisions on public spending and taxes can be mitigated by measures to support stronger, sustainable medium-term growth.
- That means not just easy money, but also structural changes in the three following areas.

### 2. Longer, more flexible working lives and efficient incentives for health care

- Incentivize sensible use of health care, for example, via fast-track treatments for people with healthy lifestyles, co-pays, tax on unhealthy foods and even lifetime or points-based personal health care-budgets.
- For disability benefits, balance tougher tests and work-seeking rules with improved in-job support and greater recognition of mental illness.
- Create a Nobel-stature global prize series for medical advances that radically cut treatment costs.
- Abolish fixed retirement dates; replace with flexible work/leisure mix from 55 to 80 (rising as longevity improves), making sure that work always pays more than a pension, and offering retraining.
- Link above-inflation rises in state pensions and in public health-care budgets to sustained phases of above-trend GDP growth.

### 3. New monetary architecture to help rebalance global savings and consumption

- Create a set of “EM-ERMs” of emerging currencies managed in a band around fixed but adjustable central rates against each other, with each whole bloc managed to trend up against the US dollar, euro and yen. Trend appreciation of emerging against developed currencies mitigates inflation in the former and deflation in the latter. EM-ERMs would address one of the main barriers to this: concern among emerging countries about competitiveness against one another.
- Surplus countries should not only address any structural barriers to consumption, but also, where they are inefficient at channeling savings abroad, shift from the historic focus on investment in foreign government bonds and instead finance infrastructure projects in the indebted countries, helping balance the impact of fiscal austerity there.

### 4. Redraw the map of Europe physically and financially

- Finalize agreement on Eurozone fiscal coordination: combine credible support for weaker countries and banks via an enlarged support fund which can assure low funding costs with enhanced market discipline and effective surveillance and sanctions for fiscal excess. Otherwise, integrity of the euro rests too much on ECB monetary actions.
- Cross-border infrastructure projects (and related trade agreements), financed by (foreign) private risk capital, to restore the Mediterranean’s historic role at the center of a European/African/Mid-East economy (see map on pages 38 and 39).
- Privatize in sectors where other countries have done this successfully.

# Sovereign debt: A turbulent road toward stabilization?

As we enter 2011, there are concerns that the European sovereign debt crisis may have been the prelude to a global fiscal crisis in the USA and elsewhere. In our view, fiscal problems around the world are likely at times to cause market turbulence, especially if governments delay the decisions needed to cut deficits, but ultimately we believe the political will can be found to achieve fiscal stability. While the world economy's return to self-sustaining growth will help, difficult policy choices will still be unavoidable.

**Oliver Adler**, Head of Global Economics & Real Estate Research, Credit Suisse Private Banking  
**Giles Keating**, Head of Research for Credit Suisse Private Banking and Asset Management

The debt crisis that befell a number of sovereigns in Europe's "periphery" during 2010 raises the specter of a similar crisis affecting much larger sovereign borrowers in Europe, the United States or Japan. Indeed, the ratio of government debt to GDP has been rising seemingly inexorably in the advanced economies ever since the late 1970s (see Figure 1). It stabilized temporarily during the boom years that led up to the financial crisis but has since been on an even sharper upward trajectory. Moreover, the simulations shown in Figure 2 and in the Appendix suggest that these ratios are most likely to continue to rise over the coming years in the majority of advanced countries, even if the deficit cuts that have already been announced

come into effect. Most notably, our projections show that as compared to the Eurozone as a whole, and in particular when compared to Germany, the rise of the debt ratio is likely to be considerably greater in the United States, and even far more dramatic in Japan. Does this mean that the European debt crisis might be repeated in these countries, with potentially far more negative consequences for global stability?

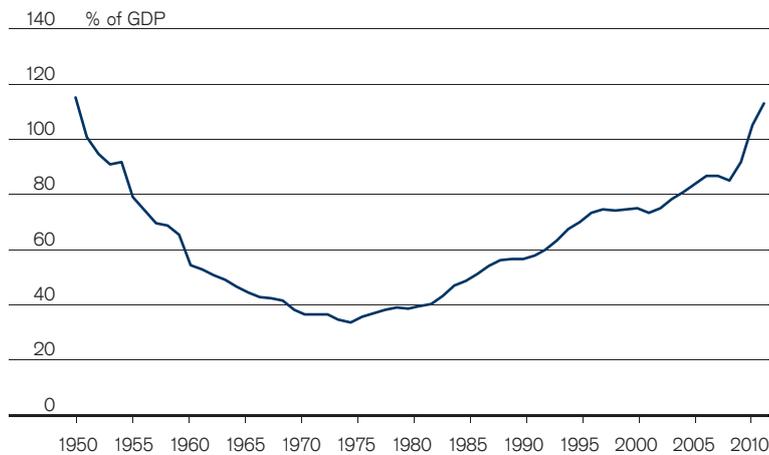
## **Eurozone crisis probably not the template**

While such a scenario cannot, of course, be excluded with certainty, it seems unlikely to us for now. The European crisis was triggered by a num-



**Figure 1**  
**Government debt ratio for G-7**

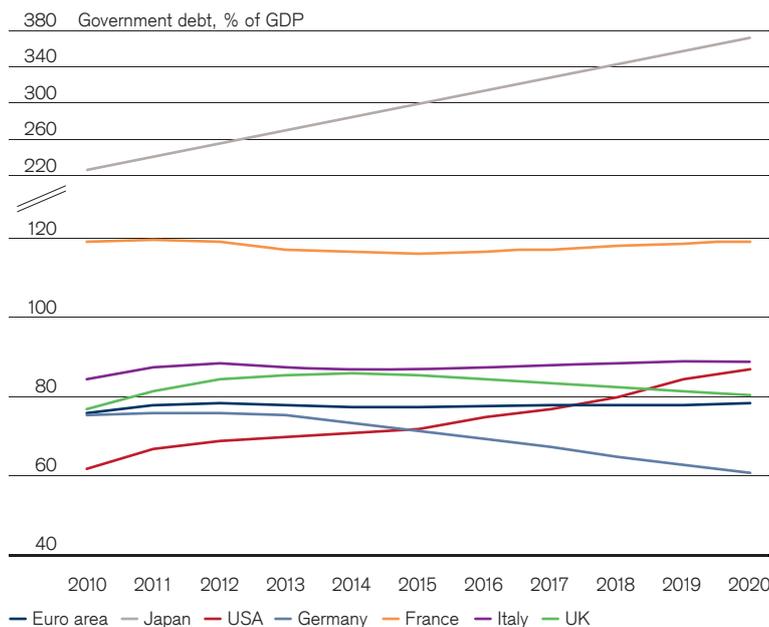
Source: IMF, Credit Suisse



**Figure 2**  
**Debt simulations for selected countries**

Source: IMF, Credit Suisse

Note: For the methodology used to derive the forecasts represented in the figure below, see page 62.



ber of factors specific to the Eurozone that are absent in the case of the majority of large borrowers. Most importantly, from the autumn of 2009, financial markets increasingly began to realize that what had, through the convergence of interest rates and credit ratings, appeared to have become essentially “one” Eurozone sovereign borrower, in fact consisted of a very diverse group of borrowers of differing strength and quality. This perception was reinforced by the “vicious funding circle” (see pages 24 ff.), in which the collateral value of the weaker sovereign bonds was eroded, damaging balance sheets of domestic banks and feeding back into the credit quality of sovereigns who had guaranteed the liabilities of these banks.

Moreover, although the stronger Eurozone governments as well as the ECB, together with the IMF, eventually provided support to the weaker sovereigns, it remains unclear to this day whether there is a commitment to make all creditors of Eurozone governments as well as the senior creditors of European banks “whole.” Finally, although the members of the Eurozone have, as explained in the article on page 26, irretrievably abandoned their currencies, and any attempt to resurrect, or introduce new currencies would create major legal and financial havoc, the very inability to issue their own high-powered central bank money makes the sovereign members of EMU and their banks more vulnerable to a potential default than other countries which retain their own central banks.

In contrast, the USA and other large non-euro sovereign borrowers have their own central banks with the power and, we believe, the commitment to support the sovereign as well as the banking system if needed. Unlike some of the smaller Eurozone countries, they also benefit from a deep and effective tax base, which in extremis can be used for emergency revenue-raising. As a result, they enjoy far better access to global capital markets.

**Tightening borrowing constraints**

That said, large sovereigns will, too, at some point face constraints on their ability to borrow. While “hard” limits – in which the borrower is suddenly cut off from markets and faces insolvency – are much less likely to be reached than was the case for peripheral European sovereigns or, in earlier periods, emerging markets, constraints are quite likely to tighten gradually as capital becomes scarcer, both for cyclical and structural reasons.

Since the financial crisis, the increase in private sector savings (a consequence of “deleveraging”) has largely funded the increase in public sector deficits in the G-3 (see Figure 3). However, as the economic recovery proceeds, savings rates are likely to stop rising, and will more likely decline, while private sector investment should recover further. Domestic funds to finance public sector deficits will thus be scarcer. The same is likely as regards foreign funds. The current account bal- >



## How much debt is too much?

Is there a clear limit for government debt, beyond which things go wrong? The short answer is “no.” This is illustrated, for example, by data from Reinhart & Rogoff,<sup>1</sup> which shows that past defaults occurred at a wide range of government debt-to-revenue ratios (see below). So what are the factors that determine which debt level is sustainable? First of all, looking only at gross

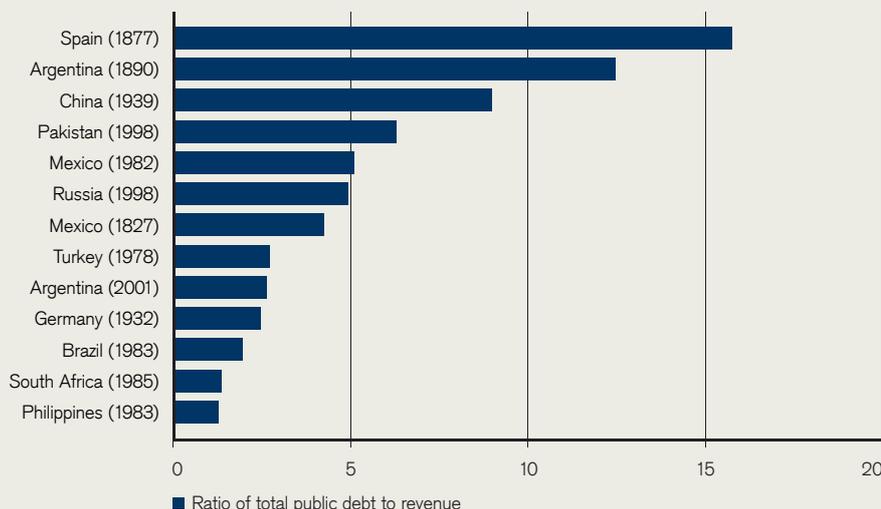
debt is misleading. If a government has a large amount of assets, it can in principle use these to repay debt. For example, while Japan has by far the highest ratio of government debt to GDP in the world, its ratio of net debt to GDP is much lower, though still slightly higher than that of Greece. Second, looking at the public sector is not sufficient. If a country has large private sav-

ings, these can in principle be used to finance the public debt, especially if investors have a strong home bias. In Greece and Portugal and to a lesser extent in Spain, domestic private savings are low, so public debt was financed by more “fickle” foreign investors; all three countries are net foreign debtors. For large debtors, default risk is much lower if the debt is denominated in their own currency, especially if it is a global reserve currency. This suggests that US sovereign risk is limited, despite high public and national debt. Finally, the ability to collect taxes also affects the ability to service sovereign debt. This, in turn, depends on the wealth and income of a country, the efficiency of the government and tax authorities, and the willingness of citizens to pay taxes rather than to evade them. For a more detailed discussion of various measures of sovereign risk, see pages 56 ff.

**Marcel Thieliant,**  
Credit Suisse Private Banking

### Defaults at very different debt/revenue levels

Source: Reinhart & Rogoff (2009)



<sup>1</sup> Reinhart, C.M. & Rogoff, K.S. (2009). "This Time Is Different: Eight Centuries of Financial Folly." Princeton University Press.

Figure 3

### G3 private and public sector balances

Source: Eurostat, Datastream, Credit Suisse

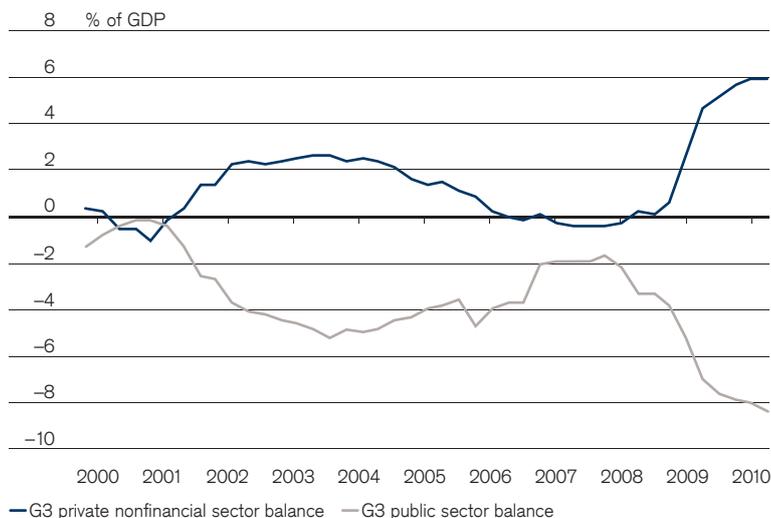
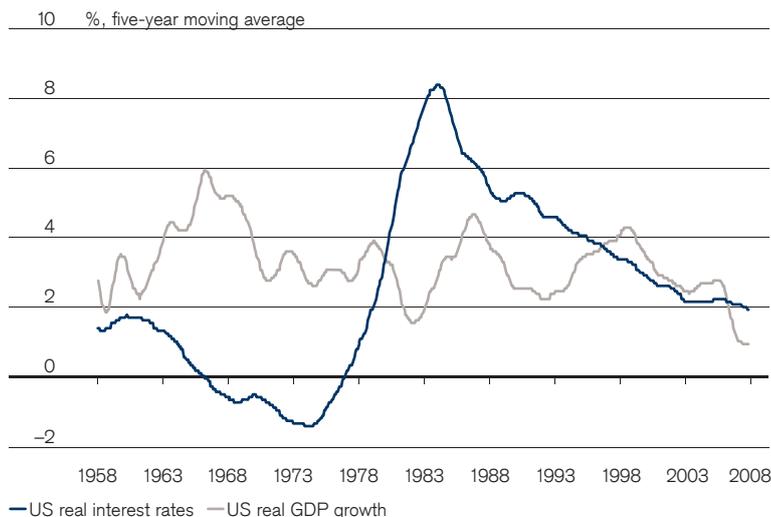


Figure 4

### Interest rates and GDP growth in the United States

Source: Bloomberg, Credit Suisse



ances in a number of key emerging markets, such as Brazil and India, have already begun to decline as consumer as well as investment spending has recovered.

This reduction in the “savings glut” of emerging markets is likely to be a longer-term structural trend, which will raise real borrowing costs for governments everywhere.<sup>1</sup> Increased investment in advanced economies, for example much-needed infrastructure spending in the USA, could add to that pressure. In addition, the costs of funds may rise to some extent due to a combination of tighter regulations for banks and a structurally higher risk aversion of investors. In sum: Advanced country governments are quite likely to face an intensifying “crowding out” problem or, more concretely, rising interest costs. Borrowing costs are also likely to increase cyclically as the Federal Reserve and other central banks eventually wind down their extraordinary liquidity measures and raise interest rates. If, on top of this, risk premiums on government debt were to be pushed up at such a point, either due to worries over debt sustainability or because of inflation fears, a spiraling debt crisis could still result.

#### No easy options

The key question is whether and how governments can avoid such a crisis scenario. In the period following World War II, the main drivers for debt reduction were strong economic growth in excess of interest costs (see Figure 4). On top of this, mild inflation eroded the real value of debt in some countries, not least the United States. Looking forward, these exit routes seem less likely to be available. First, the trend growth rate for most advanced economies is lower today due to demographic factors of limits to productivity growth. There is also evidence that countries with very high public debt tend to grow more slowly,<sup>2</sup> perhaps because such economies are hampered by a disproportionately large and inefficient public sector, or by high and distorting tax rates.

At the global level, fiscal and structural policies to expand domestic demand in emerging markets could help boost growth in debtor nations to some extent. Although (as noted above) this might lead to upward pressure on bond yields, a trend appreciation of emerging market currencies (perhaps facilitated by coordination mechanisms as discussed in the article on page 40) would provide an important offset. That said, the USA and some of the countries with the highest debt levels in Europe have historically benefited less from rising emerging market demand than “structurally strong” exporters, such as Germany, Japan or commodity exporters,

<sup>1</sup> For an excellent analysis of the trend toward scarcer capital see McKinsey Institute, “Farewell to Cheap Capital?,” December 2010.

<sup>2</sup> See Carmen Reinhart and Kenneth S. Rogoff. “Growth in a Time of Debt.” American Economic Review, May 2010.

so global rebalancing, while supportive, is certainly not the panacea for the debt problem.

Finally, higher inflation also seems an unlikely solution to the debt problem. For now, inflation trends are likely to be moderate in most advanced economies due to excess capacity and low inflation expectations. Longer term, it seems unlikely that the ECB or the Bank of Japan would be willing to engineer high inflation given their mandates. In the UK, inflation could in theory erode debt due to the rather long average maturity of government bonds, but this seems unlikely given the costs of past Sterling crises. In the USA, the Fed has the mandate to restrain both inflation and unemployment and, given the continued role of the dollar as a reserve currency, unit of account and trading vehicle, the USA may still be the only country that can

run a mildly inflationary policy without being “punished” by global markets. That said, the US advantage has probably been substantially eroded, and pushing inflation up rapidly (even if possible) could easily become destabilizing.

### Tackling distributional issues is the key

The simple conclusion from the above discussion is that the advanced economies will have very few options other than to pursue serious fiscal consolidation. Under pressure from the crisis, peripheral Europe has started on the long road to consolidation. In the UK, as a result of the election of a Conservative-led government, the process has begun as well. Germany has adopted a constitutional balanced budget amendment, similar to the one that has been in

## What is the best time and approach to cutting debt?

Standard macroeconomic analysis suggests that deficit cuts have an adverse impact on the business cycle via so-called multiplier effects. Multipliers are thought to be especially high when there is a lot of excess capacity in the economy. This suggests that cutting spending or raising taxes in deep recession is a bad idea – delaying fiscal consolidation until the economy picks up seems to be the right approach. However, this only works if markets find the government’s consolidation program credible. If not, trust is lost, interest rates soar, and financing the deficits becomes impossible. Then the only way forward is to cut the deficit immediately and harshly, in order to try and reestablish confidence. At such a crisis point, the credibility of a consoli-

dation program can be enhanced, private sector confidence can be boosted, and borrowing costs lowered if a strong external agent, say the IMF, is given the power to supervise the government, and if support provided to the government is conditional on it achieving certain milestones.

What type of consolidation measures are more, or less, successful? Standard multiplier theory suggests that expenditure cuts will have a more negative effect on the economy than tax hikes. However, some empirical studies suggest the opposite.<sup>1</sup> To check this, we examined 32 consolidation episodes since 1970 in which the cyclically adjusted primary balances improved by 1% or more for at least two consecutive years. We split

the sample depending on whether more than 50% of the improvement in the budget balance was due to cuts in expenditures or due to increased tax revenues. As the figures below show, output growth was clearly below the peer group average in the case of tax hikes but in line with peers where spending cuts were applied. The most likely reasons are that tax hikes weaken incentives to work and invest while expenditure cuts reduce waste and increase efficiency.

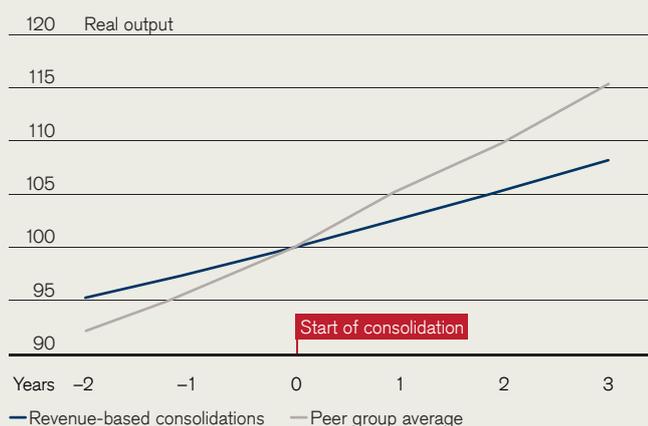
**Marcel Thieliant,**  
Credit Suisse Private Banking

<sup>1</sup> Alesina and Perotti, and IMF. These related to programs that reduced the debt-to-GDP ratio by at least 5%.

### Output after fiscal cuts

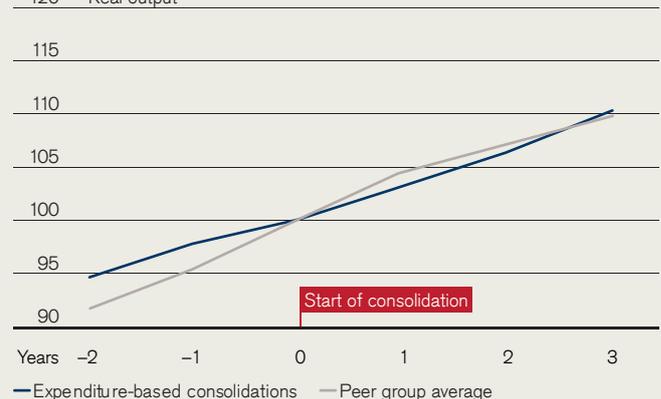
After expenditure-based cuts

Source: OECD, Credit Suisse



After tax-based cuts

Real output



place in Switzerland over the past decade, which will enforce fiscal discipline to a considerable extent. However, in other countries, notably France, consolidation has barely begun, while both the United States and Japan are, for now, maintaining expansionary fiscal policies which will likely result in a significant further increase in debt. But even where consolidation measures have been announced, they will in most cases not suffice to stabilize debt ratios, and additional measures will be needed (see chart below).

Given that discretionary government spending is by now quite a limited share of the total in most advanced economies, and in view of the fact that there are both economic and political limits to raising taxes, the reform of entitlement spending has really become the key to slowing and ultimately reversing the rise in government debt. Many options are in fact available (see pages 40 ff. for more details). What is needed are basic political agreements which begin to tackle what are essentially distributional issues.

### Credible solutions needed to preempt sensitized markets

At the heart of the Eurozone debt crisis lay not just failures of fiscal discipline but also an excessive

build-up of private debt, both financed by markets and institutions seemingly oblivious to the risks. This has, of course, changed dramatically over the past year. In fact, it has been the loss of investor confidence that has forced governments into harsh corrective action and the Eurozone governments into a redesign of its institutions and mechanisms (see article on page 33). These should help to limit the risks of future debts crises, at least among smaller borrowers.

However, the available funds would clearly be insufficient to support the large borrowers in the Eurozone, if they were to lose the confidence of markets – they are “too large to save.” Hence, it is of prime importance that these countries tackle their structural fiscal deficits soon. The “too-large-to-save” label applies *a fortiori* to the major global borrowers, such as the USA and Japan. As noted above, both of them certainly have the means to stabilize and reduce their debts, and arguably their access to local and global markets gives them more time. However, even here market confidence could at some point be damaged. If credible long-term fiscal consolidation plans are established soon, the crisis scenario will fade away. If not, investors will need to prepare for further eruptions.

## Substantial consolidation needs

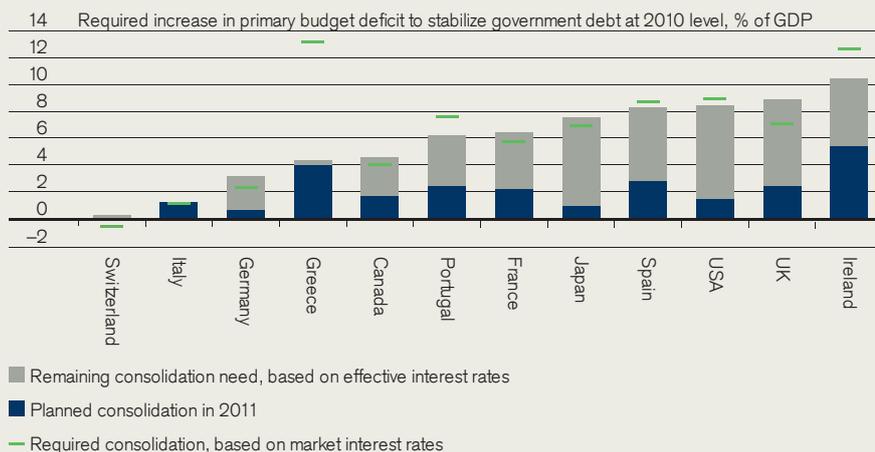
The figure shows the announced plans for deficit reductions in 2011, together with our estimates of the additional and permanent (!) improvement in the primary (i.e. noninterest) fiscal balances needed to stabilize the debt-to-GDP ratio at end-2010 levels. The total height of the bar indicates the overall consolidation needed, based on the assumption that the

average interest rate on outstanding debt remains unchanged going forward. The blue part at the bottom of each bar denotes the cuts that governments have foreseen in their 2011 budgets. The green line indicates the consolidation needed if governments had to pay the 10-year market yield prevailing in early December 2010 on all outstanding debt.

Some of the results are probably what most readers would expect, others are somewhat surprising. The largest deficit reduction is needed in Ireland where deficits surged due to the real estate and banking crisis. Spain and Portugal also require large total cuts as would be expected, while Greece should already have accomplished most of the needed consolidation by the end of 2011. However, the upward revision of the Greek deficit numbers for 2009 means that, despite significant deficit reduction efforts in 2010, quite a bit more needs to be done. Moreover, stabilization is not sufficient given where the debt ratios, stands in the case of Greece. In Germany, the required shift is relatively minor because the debt level is moderate. In Italy, debt is much higher, but the primary deficit is fairly low to start with. That said, to get the Italian debt ratio down closer to the Maastricht level would require major cuts. Among the largest cuts needed are those in Japan, the United States and the UK. Switzerland stands out as running a sustainable policy.

### Policy changes to stabilize debt

Source: Datastream, Bloomberg, Credit Suisse





## Does debt lead to higher inflation?

One way to erode the value of debt is by means of inflationary finance. A study by Reinhart and Rogoff<sup>1</sup> shows, however, that there was no positive relationship between sovereign debt and inflation for a majority of industrial countries during the last century. Our own analysis for six developed economies (USA, UK, Japan, Germany, France and Italy) from the 1950s onwards generally confirms their results. If anything, higher debt ratios tended to be associated with lower inflation. That was most likely due to cyclical effects. In recessions, and in the years immediately following them, government debt typically rises due to revenue shortfalls, while inflation declines due to high spare capacity.

However, some of the evidence does point to possible inflation risks. First, the Reinhart/Rogoff data show that, in the case of the USA, a high government debt ratio – the critical threshold seems to have been around

90% – was associated with significantly higher inflation. Our interpretation is that the inherent demand for dollars under the gold-exchange standard may have “seduced” the USA into inflating away some of its debt. Second, our own data shows a slightly positive relationship between debt and inflation for other countries as well during the years of expanding welfare states in the 1960s and 1970s and prior to the mid-1980s, after which monetary discipline was reestablished. Third, the relationship between debt and inflation is quite strong for developing countries. Reinhart and Rogoff analyze 24 cases between 1900 and 2009, and find that the median inflation rate more than doubles, from less than 7% to 16% as the debt ratio rises from the low 30% range to above 90%. In these countries central banks enjoyed far less independence and were therefore more prone to finance government deficits.

The Federal Reserve’s decision to resume the purchase of government debt (quantitative easing) in the

autumn of 2010, and enhanced debt purchases by the ECB following the Irish debt crisis, have raised the possibility that inflationary finance is making a comeback. How can we judge whether this is the case? The simple, but imprecise, answer is that risks would rise if central banks were to be coerced by governments into purchasing more debt than needed to achieve their conservative inflation target. If a central bank buys bonds, it generates high-powered money that can be used by commercial banks to increase deposits and credit. The central bank purchase also lowers bond yields and thereby stimulates borrowing. If these actions combine to boost the economy so much as to generate higher-than-targeted inflation, the central bank will need to reverse its purchases. Only then will it have proven that the original intervention in the debt market was not inflationary. It seems unlikely that this proof will be forthcoming very soon.

<sup>1</sup> Reinhart and Rogoff, op cit, Growth in a Time of Debt, December 2009.

# Defaults since Delos

History can help assess the likelihood and consequences of modern-day sovereign default. Default depends on the particular structure of an individual economy as well as that country's position in the world economy, including its geopolitical power. The economic aspect of that power is easily summarized: A government that can borrow is much more powerful than one that cannot.

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**James Sweeney**, Global Strategist, Credit Suisse Investment Banking

The ability to borrow has long underpinned sovereign power. An inability to refinance signals weakness – the ultimate foreign policy sin – and goes hand in hand with changes in the geopolitical balance. Through the ages, sovereign or local government defaults have occurred under a vast range of circumstances, but have typically come in clusters following large shocks, such as wars, depressions and banking panics. As with corporations, heavily indebted poorer or smaller countries are most likely to default, especially where they are unable to print the currency in which they have borrowed. Conversely, currency debasement has often substituted for actual default, but the two have occurred together many times as well. And one or the other or both are most often seen in countries with weak or failed political systems.

In the fiat money/floating currency period since 1973, no rich country has defaulted or suffered hyperinflation. But, after the banking panic of 2008–09, it has become possible to imagine a wave of rich country defaults or forced debasements. Needless to say, the economic and geopolitical consequences would be huge. The likely fallout from large country debt crises is extreme – potentially embracing severe depression and the end of globalization. For that reason alone, default any time soon (as opposed to money printing) is most unlikely. Default by heavily indebted smaller





countries might appear less worrisome, but in today's highly interdependent world this too could trigger great financial turmoil. Some burden-sharing may therefore be in everybody's interest. The euro area is the obvious test case.

Below, we briefly survey the long history of sovereign default and debasement, which is both fascinating and illuminating. It tells us that sovereign risk is as much about politics and power as debt levels and economic performance.

### From Delos to Venice

The first recorded sovereign defaults occurred in the fourth century B.C. in Greece. A group of city-states defaulted on loans from the Delos Temple. This was unusual. Ancient states relied on things like mines and war booty for revenue and usually did not borrow from the public, but temples would lend from their vast holdings. Distressed sovereign borrowers generally preferred debasement of the local coinage to default, which was costlier for the government. That said, Athens never debased its coin, which became a sort of reserve asset across the Mediterranean region for hundreds of years and generated substantial seigniorage revenue for the city-state.

Forced loans, heavy taxation, as well as currency debasement were the hallmarks of the decline of the Roman Empire. After its fall, usury laws restricted institutionalized lending and neither states nor individuals could rely on a stable credit market. Europe's economy withered. Power belonged to local land owners rather than princes. The sovereign debt market disappeared for centuries.

Europe's economic reawakening began in Venice and soon sovereign debt reappeared. The Venetian Republic forced its nobles to lend to the state at low rates of interest, usually 5%. From 1200 to 1400, these loans entirely replaced taxes. A secondary market for the securities developed, even though no certificates were issued and owners of the debt had to be registered by the State. The bonds were traded internationally, the "right" to own the bonds was sought, and the securities became another type of reserve asset for the wealthy.

### Sovereigns and their bankers

While outright default never occurred in Venice, it was happening elsewhere in Europe. The Knights Templar essentially became a commercial bank in the 13th century. They lent to monarchs, including Phillip the Fair of France, who later banished them and canceled his debts. Edward III of England did the same to his Italian creditors. The famous Medici were also finished off by lending to princes and states that didn't pay. Sovereign default has been the biggest historical cause of banking system collapses.

Because of a sovereign's ability to change the rules, it has been common historically for sovereign borrowers to pay more than creditworthy private

businesses. The ancient book of Ecclesiasticus puts it like this: "Lend not to him who is mightier than thou." A modern version might be "Go ahead and lend, but add a risk premium."

Lenders still provided funds because they gained power by financing sovereigns, while sovereigns benefited from being able to borrow. The most powerful empires in history have been backed by strong financiers, and sovereign risk has always been deeply bound up with banking system solvency and confidence. More recently "social contracts" seem to have been established, in which banks are, effectively, agents of the state, backed implicitly or explicitly by government resources. All the better if those financiers were domestic agents subject to the state's legal power, for dependence on foreign lenders implies a less powerful "hegemon."

### Imperial shifts

From at least the Middle Ages, the ability to borrow underpinned the power of the state, and economic and military success underpinned the power to borrow. But empires do not last forever. History is full of examples of superpowers that first were rich, then were leveraged, then were indebted to foreigners, and then lost status as their economic supremacy faded and their finances weakened. While political power creates economic power and vice versa, it is interesting to note how regularly the world's most powerful country has lost its status financially and politically in the same period.

The ability to leverage a nation can itself contribute to imperial collapse. In the late 15th and early 16th centuries, Spain was Europe's richest country because of its dominance of South America and access to silver and gold mines. Spain's kings leveraged up in an attempt to dominate Europe. But instead of achieving true hegemony, the Spanish crown became a serial defaulter, missing payments in at least nine years between 1557 and 1662. At the same time, major inflations became endemic, private capital markets were stunted, and an opportunity to build lasting power was lost.

Other European countries also saw inflation increase after Spanish gold flooded the system. In Great Britain, the inflation of the late 16th and early 17th centuries benefited the owners of hard assets – mostly the landed gentry and aristocracy – but tended to increase hardship and discontent elsewhere. It may even have contributed to the Civil War. But from 1688 onwards, when constitutional monarchy, British naval power and early industrialization made Britain the dominant global economic and military power and sterling the world's principal reserve currency, the price level was essentially stable for over 200 years, rising briefly only during wars and famines.

But before that, and after Venice, Florence and Genoa declined as leading financial centers, it was the Dutch that most successfully combined fiscal stability, international trade and financial innova- >

## Why governments (do not) pay their debt

Governments are rarely successfully taken to court as sovereign immunity laws make it difficult for creditors to impound their assets. So is it not optimal for governments to borrow as much as possible and then forget about the obligation to repay?

An important reason for governments to service their debt, beyond issues of “pride and morals,” is that creditworthiness yields economic benefits. Creditworthy borrowers can access funding at a low cost, or at least maintain access to funding. This offers a borrower, be it a government or an enterprise, the ability to smooth out the effect of shocks and to overcome liquidity bottlenecks. A high level of country creditworthiness strengthens the ability of domestic enterprises and banks to obtain financing for their plants and equipment, while access to trade finance plays a key role in the development of the export and import sectors. Uninterrupted debt servicing helps signal to potential investors (foreign as well as domestic) that it is worthwhile to make the investment in the first place, and it strengthens their sense that they can participate as owners of production facilities in the debtor country without excessive risk of expro-

priation or of arbitrary government rulings against them.

But when a government's debt service payments become very large, there may come a point at which the benefit of defaulting on the debt service payments exceeds the benefits from remaining a “good debtor.” A heavily indebted government may then weigh the present value of the benefits of default against the economic benefits of continued debt servicing. The benefits of default are twofold: (1) it provides cash-flow relief up front; (2) it may provide prolonged cash-flow relief in the case of a long deferral of principal payments, a reduction in the debt stock or of interest payments. The cost is the loss, at least until creditworthiness can be regained, of the benefits listed above. That cost may be large for sovereigns that, although heavily indebted, see a chance of retaining an investment grade rating or of relatively quickly regaining it. The government of Greece may consider itself in this category. But the cost is small for those sovereigns that think they will never realistically be able to gain investment grade status. The government of Ecuador may have considered itself in that category when it decided to default in 2008.

Sovereign default is almost always a matter of choice, in the sense that any sovereign can in principle run a fiscal policy over time that is sufficiently prudent to obviate the need for excessive borrowing. Sovereign default risk is therefore always to some extent a question of “willingness to pay.” That said, a government's “ability to pay” is often a function of policy decisions that its predecessors have made. If past policy decisions have resulted in a very high level of debt service payments, the government may be unable to pay, even if it principally wants to do so, except by imposing severe austerity which may be politically unacceptable. Banks and portfolio managers may at some point conclude that any additional lending to a particularly heavily indebted government is equivalent to investment in a pyramid scheme. Once the lenders draw that conclusion and halt the flow of funding, the government will (if it is running a large budget deficit) have no choice but to default on its debt service and/or ask for financial assistance from the IMF or other multilateral lenders.

**Kasper Bartholdy**, Global Head of Economics and Fixed Income Strategy for Emerging Markets, Credit Suisse Investment Banking



tion. Dutch bonds had become international reserve assets already in the 17th century, with (sovereign) bond yields around 3% rather than the 6% or more that the restored monarch Charles II had to pay in England. Indeed, the British envied and tried to copy the Dutch system of finance in the 18th century, though it was not until the 19th century that British long bond yields fell to 3%. The local culture of high savings and careful policy of maintaining funded debt allowed Holland to project a level of geopolitical power that was disproportionate to the country's domestic resources. The Dutch government was a key financier for the fledgling American revolutionaries, for example. This was the opposite of the Spanish experience, and it lasted until Napoleon overran the lowlands in the late 18th century. In contrast, many European countries defaulted on external debt from 1300 to 1800: Austria (once), England (twice), France (eight times), Prussia (once), Portugal (once), and Spain (six times.) Military or political failures were almost always involved. Defaults since 1800 are shown in Table 1.

### The power shift of 1914

One of the clearest examples of the close association between military, economic and financial power came after 1914. Henry Lee Higginson – an investment banker – wrote a letter to President Wilson less than three weeks after World War I broke out, a time when most European stock exchanges had been closed to prevent panic selling, and European investors, as a consequence, liquidated their major American investments on a large scale: “In 1914 the United States was a debtor nation with a

history of financial crises. Failure to meet its foreign obligations could sink American dreams of world monetary leadership. If it passes the test, however, the United States could jump to the head of the class.” Higginson saw the opportunity: “England has been the exchange place of the world, because of living up to every engagement, and because the power grew with the business. Today we can take this place if we choose; but courage, willingness to part with what we do not need at once, real character, and the living up to our debts promptly will give us the power; and nothing else will. I repeat that it is our chance to take first place.”

So did US Treasury Secretary William G. McAdoo, who conducted an extraordinary and ultimately successful campaign “to defend American financial honor.” But it was not easy. The New York Stock Exchange was closed for four months to stop foreign liquidation. There were massive gold outflows from the USA. Bank runs had to be prevented by liquidity provision through the Treasury (the Federal Reserve had not yet been fully incorporated), and New York, itself on the brink of bankruptcy, had to be rescued (perhaps the first example of “too big to fail”). Equally, however, the Treasury Secretary knew that these could only be temporary measures, and as part of the campaign to restore normality he actively promoted US agricultural exports to “offset European sales of securities.” In the end, America's financial reputation was enhanced substantially relative to the old world countries of Europe.

That said, the shift from British to American dominance in finance, and the replacement of sterling by the dollar as the world's principal reserve currency, was a very long drawn out affair, with many twists and turns, including the most severe deflationary episode in US history and the near total collapse of the banking system in the 1930s. It was really only after World War II, which left the USA as the undisputed military and economic hegemon, that sterling's reserve currency status went into its final and irreversible decline. In effect, the goal that Higginson so clearly articulated in 1914 was only achieved decades later.

One final point is worth making. Despite the terrible impact of the World Wars on Britain's financial and economic status, the inflation-adjusted total return on UK government bonds since 1919 has been almost identical – though more volatile – than that on US government bonds. By contrast, government bondholders were effectively wiped out by hyperinflation in Germany (twice) and France (once) as a direct or indirect result of war.

### Size matters

Since 1800, defaults in rich countries have occurred, but generally not at the highest level of government. Smaller government entities lack the weapons countries have historically used during debt crises, and they are more vulnerable to speculative attack or loss of confidence in the face of >

Table 1

### Sovereign defaults since 1800

Source: Reinhart & Rogoff (2009)

	Share of years (%) in default since 1800	Number of defaults
Australia	0	0
France	0	0
United Kingdom*	0	0
United States*	0	0
Canada	0	0
South Korea	0	0
Italy	3.4	1
South Africa	5.2	3
Japan	5.3	1
Portugal	10.6	6
India	11.7	3
China	13	2
Germany	13	8
Turkey	15.5	6
Indonesia	15.5	4
Spain	23.7	13
Brazil	25.4	9
Mexico	44.6	8
Greece	50.6	5

\* The abrogation of the gold standard in the USA in 1933 and the “voluntary” coupon reduction on UK government bonds in 1932 constitute quasi-defaults



## Some questions and answers regarding sovereign debt and default

### **Q1: Is high government debt really such a serious problem?**

Yes. (1) It constrains traditional counter-cyclical policy; (2) It limits public spending on infrastructure, education, etc; (3) It can damage confidence and “crowd out” private investment, perhaps due to fears of future tax rises. (Historically, debt above 90% of GDP has disproportionately slowed growth!); (4) It raises the risk of default and thus of broader financial crises; (5) It indicates a failure of society to resolve distributional issues.

### **Q2: So is there a clear point at which debt is “too high” and becomes unsustainable?**

There is no absolute level. High private savings, strong foreign assets, a broad tax base and effective tax system, domestic or foreign investors biased toward holding government paper, government access to natural resources or other assets all help sustain higher debt levels – and conversely. Some of the Eurozone countries rank low on such criteria, while some major debtors such as Japan rank high.

### **Q3: What is the role of the central bank in sustaining debt?**

Own (or other “friendly”) central banks can play a key role in the shortterm if they are willing to create high-powered money with which to purchase debt and offset a “run” on the sovereign or the banking system. The major central banks demonstrated this during the financial crisis. Conversely, initial doubts regarding the willingness of the ECB to support Eurozone debt deepened the 2010 crisis.

### **Q4: But can central banks permanently “solve” the debt problem?**

No. The central bank could, of course, buy up very large amounts of debt, if not all. However, that would still cause a financial crisis, not due to outright government default but as a result of (hyper)inflation. The only longer-term solution is for the government to cut spending and raise taxes as much as needed to stabilize debt burdens.

### **Q5: Does the European stability fund (ESFS, ESM) preclude defaults?**

No. The EU agreements and proposals do not foresee unlimited support, and as of 2013 will explicitly allow for potential default on newly issued sovereign and, very likely, senior bank debt. Moreover, given their high and possibly unsustainable existing debt, and limited support from stronger countries, Greece and perhaps Portugal and Ireland may eventually have to restructure their debts. That is less likely in larger countries, including Spain.

### **Q6: Would default within the EMU imply a break-up of the euro?**

No. For EMU members, default though unpleasant, is we believe less traumatic than leaving the euro, which anyway implies default. A strong country leaving the euro would inflict severe problems on its own banks and cause many other problems. Leaving the EMU is utterly different from leaving a fixed peg since the original currencies have ceased to exist legally. See page 28 ff.

### **Q7: Do we also need to worry seriously about defaults by larger borrowers such as the United States?**

Probably not. Larger sovereigns have greater means to maintain solvency (see questions 2 and 3) and a strong political incentive to do so (see page 14 ff.) That said increasing stress in these markets cannot be excluded.

### **Q8: What are the most promising ways of cutting deficits and debt?**

Cutting expenditure seems more effective than raising taxes. See page 11. Reforms of pension, unemployment, and disability which improve incentives to work are best. Measures to restrain health-care spending will be needed. See page 46 ff. Cutting infrastructure and education spending is counterproductive.

### **Q9: What does all this mean for investors?**

So long as stresses are confined to smaller European sovereigns – our base case – a globally diversified equity, commodity, real estate and corporate bond portfolio benefiting from global growth should only be affected temporarily, though their bonds and some financial institutions are at risk, and the euro could see bouts of weakness. If doubts over the debts of larger sovereigns in Europe or beyond were to arise, global equities and other risk assets could, however, suffer severely. A more defensive portfolio with a higher allocation to sovereign or supra bonds from genuinely sound issuers, hard currencies and gold would then be warranted.

negative shocks to revenue. Arguably this is a relevant precedent today for peripheral Eurozone countries, though size is certainly not the only factor.

In US history, default incidence is higher for lower, less powerful levels of government. Federal defaults have only occurred twice, both under extreme circumstances (following the War of Independence and after abandoning the Gold Standard in 1933). But there have been two major waves of state defaults, not including the Great Depression. Defaults on general obligation municipal bonds have been more common, and defaults on municipal revenue bonds are still so. In 1841 and 1842, Florida, Mississippi, Arkansas, Indiana, Illinois, Maryland, Michigan, Pennsylvania, and Louisiana defaulted on interest payments. Alabama, New York, Ohio, and Tennessee almost defaulted. Most of the debt had been raised to build canals and railroads, supposedly to bring fees and dividends. Optimistic states lowered property taxes, but revenues collapsed during the depression and deflation of the late 1830s. The major depression and deflation of the 1870s also caused a huge wave of defaults. Many states and local governments defaulted from 1873 to 1884. West Virginia did not settle its debts from this period until 1919.

There was no US central bank in the 1840s or 1870s. The Treasury performed functions now fulfilled by the Fed, but excluding bailouts or discretionary monetary policy. In the 1870s, the USA was not on the gold standard, so greenbacks could have been printed to raise inflation and help those crippled by debt. In practice, though, the Treasury followed a tight money policy in order to return the economy to the gold standard. In fact, interest on Treasury debt was being paid in gold, even when this was probably not legally necessary. So the national government had no mechanism to help states that could not pay their creditors. States without access to the printing presses are not sovereign in the strong sense.

For most bigger countries, the ability to use monetary policy and exchange rate flexibility to preserve fiscal solvency is an important advantage. It keeps default expectations low, lowering average borrowing costs over time. But bondholders are all too aware of the temptation to abuse that privilege – especially in the face of severe economic or political shocks which threaten to undermine government finances – so that weapon is only powerful if rarely used.

### Inflationary and deflationary shocks

Waves of sovereign defaults tend to cluster around abrupt changes in global capital flows, spikes in global real interest rates, or commodity price swings that sharply alter the terms of trade. Major wars – and the recovery from them – typically produced such “sudden changes in the channels of trade” as David Ricardo put it in 1817. But so did banking panics and “depressions” – periods when resource utilization remained low and unemployment high after a particularly serious financial crisis.

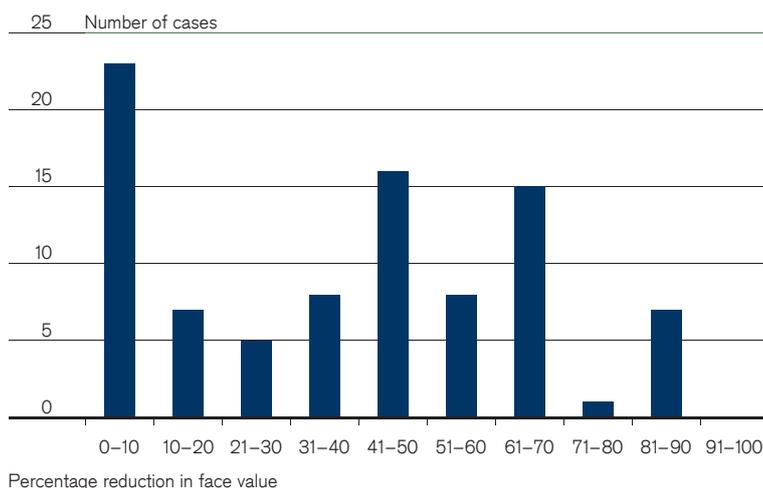
As one might expect, major wars are almost always inflationary, while depressions and banking panics highlight the opposite risk. Germany’s famous hyperinflation in 1923–1924, for example, stemmed from its inability to repay reparations from World War I, though the country only defaulted after Hitler came to power in 1933. The Young Plan of 1929 to sharply reduce the burden of war reparations had been overtaken by events – the Wall Street Crash and the Smoot-Hawley Bill, which pushed German unemployment to 30%–40%. Here is an example of bondholders being wiped out by a combination of debasement (a war-related shock) and default (the interaction between domestic politics and depression).

The French case was somewhat different. Adjusting for inflation, French bonds were a poor investment for much of the 20th century: Since 1900, they have returned around minus 2% per annum in real terms, compared to about plus 2% per annum for the USA and UK, though in contrast to previous centuries not because of French default. Virtually all the damage was done between 1936, when the French finally left the gold standard to which they were so emotionally and analytically committed, and the aftermath of World War II. It was the inflation of the war and immediate post-war years that did the most damage of all. During the Nazi occupation, French perpetuals had traded near 100! This was an enforced confiscation of wealth that was in some ways more insidious than explicit default, and made possible in part by restrictions on international capital flows.

In most developed countries, these restrictions remained substantially in place from World War II to the early 1980s, neutering the so-called “bond market vigilantes.” Together with the more corporatist and neo-Keynesian orthodoxy of the time, and the effects on the global supply of reserves

**Figure 1**  
**“Haircuts” in sovereign defaults since 1989**

Source: Benjamin & Wright





(US dollars) of the Vietnam War and Great Society program, this conspired to produce a much higher rate of global inflation than had been common in peacetime during the 19th century. So bondholders generally fared poorly.

Obviously, technical default is less likely in a world of floating fiat currencies, but 19th and 20th century history still underlines the importance of deflationary or inflationary shocks in triggering default, not just debasement. For example, there were significant clusters of (smaller) sovereign or local government defaults, and/or devaluations around the Napoleonic Wars in the early 19th century, the crises of the late 1830s and 1857, and even more after the (global) financial crisis and “depressions” of the later 1870s and the 1890s. As already noted, World Wars I and II and the Great Depression illustrate the theme even more graphically.

Several former Spanish colonies also have a history of serial default or debasement, including in the post-World War II period. Many of these countries were highly dependent on volatile commodity exports, which encouraged politically regulated domestic monopolies as well as high and rising external tariffs. When external shocks hit, clusters

of default or devaluation followed. The actual losses (“haircuts”) to investors are shown in Figure 1.

Perhaps the key lesson is that the true likelihood of default depends on the particular structure of an individual economy as well as that country’s position in the world economy, and the extent of its geopolitical power. The economic aspect of that power is easily summarized: A government that can borrow is much more powerful than one that cannot. In the first half of the 17th century, in the time of the Thirty Years War, aggressive French foreign policy and extravagance of the royal court led to substantial debt. According to Sidney Homer: “At this time, the term ‘partisans’ was coined: people who had parties, money transactions with the government, and thus became its unconditional adherents.”

Eventually, sovereign defaults wiped out France’s Florentine bankers, but for a time the holders of the debt had France’s interest squarely in mind. They knew that the collapse of a great power was “unthinkable” and in no one’s interest. So they kept lending, until it all came apart. We expect America’s partisans to do the same, while constantly nagging the USA to put its fiscal house in order.

# The US fiscal challenges

The longer-run fiscal issue for pretty much the entire planet is the aging of the human population. This is absolutely unprecedented in our history as a species.

**Interview with Dr. Neal Soss**, Chief Economist, Credit Suisse Investment Banking

The United States is still quite far from reaching an upper bound for government debt. That said, the promises made by entitlement programs, especially medical care, are clearly not sustainable, and in contrast to Europe, there are few signs that their reduction is being tackled. Moreover, the ever greater role played by government institutions in asset markets, especially the Federal Reserve, risks undermining the efficient allocation of capital and raises concerns over investment returns available to aging savers.

**Let us begin with the shorter-term fiscal outlook. What are your expectations for the overall deficit and its impact on the economy over the next year or so, now that the Bush tax cuts have been extended?**

The starting point is to recognize that in a very weak employment environment as we are still experiencing in the USA the economic opportunity and political ability for taxing labor is very limited indeed. And the Congressional midterm elections have of course strengthened those opposed to tax hikes on capital. President Obama has had to abandon his plan to let the Bush tax cuts on upper income individuals and families expire. Plans to raise the tax rate on capital gains and dividend income have also been dropped. On top of that, the payroll tax on social security is being reduced and other tax incentives are being added.

So while we had previously assumed that federal and state measures would imply a fairly significant negative fiscal shock of about 2% of GDP, these

changes mean that overall fiscal policy will be somewhat expansionary. That's the case even though we'll get about a USD 150 billion negative fiscal shock as last year's stimulus program runs out in 2011 plus about USD 125 billion of fiscal restraint coming from the state and local governments. But that will now be offset by the federal government. So with the private sector picking up some steam and the decisions on tax policy adding to confidence, our short-term economic outlook has improved quite a bit. We've raised our growth forecast for 2011 to 2.7%.

**Where do you come down in the debate over the effectiveness of fiscal stimulus?**

I don't think that the stimulus bill, regrettably, was sufficiently about stimulus. An awful lot of the initial rounds of spending under that legislation were supplements to a variety of federal, state or local transfer payment programs which probably did not have very much influence on economic growth. In fact, some of the federal funds were provided under the condition that states and municipalities maintain expenditures. That prevented economic shrinkage in the short run, but these expenditures are unsustainable and have therefore only intensified the longer-term fiscal problems at the state and local level. In terms of actual stimulus, it is only recently that we seem to be getting some infrastructure and other types of spending that hold some promise of improving the functioning of the economy. This kind of spending can create profitable opportunities for the private

sector as well. I am not sure we're getting a lot of it, but such fiscal stimulus can "crowd in" rather than "crowd out" private spending.

**Where do you see the deficit heading in the next couple of years, and how much do you worry about the deficits and the build-up of debt?**

We are talking about continuing deficits in the neighborhood of USD 1 trillion to USD 1.5 trillion per annum. In fiscal year 2011, the deficit will again be close to 9% of GDP. With our USD 15 trillion economy still growing quite slowly in nominal terms, these are very substantial fiscal deficits at the federal level. The local governments tend not to have deficits because they have to take more prompt corrective action in case of any shortfalls of revenues or excess spending.

As regards worries, the key point is to look at consolidated balance sheets rather than the government in isolation. The private sector is still deleveraging, so the total volume of USD-denominated debt is probably still shrinking. So debt sustainability is not an issue at this point. In fact it is arguable that America got into the subprime mortgage mess because we had budget surpluses in the late 1990s and those budget surpluses in effect created a vacuum that was filled by the private sector issuing mortgage debt.

**What is your assessment regarding long-term structural issues such as pension and health-related spending, and do you believe the USA is on the way to resolving them?**

I think it is pretty clear that the longer-run fiscal issue for pretty much the entire planet is the aging of the human population. This is absolutely unprecedented in our history as a species. Everything else besides this is really second order. The economy is simply not large enough to honor all the promises that were made. Medical care is clearly a more difficult fiscal issue to resolve than social security, simply because the contingent liability for medical care is so much subject to technological innovation of various kinds. These innovations have enormously extended life at older ages – and that's a blessing – but the cost is very large, especially because people live longer while suffering intense chronic illnesses that cost a lot to be treated.

The health-care legislation has not really done much to solve the problem. You may have a law that says you're



going to cut physicians' fees by 10% per year for the next ten years, and the accounting convention is to assume that this will happen. In reality, we always have laws of that sort, but we don't actually allow them to come into effect. My sense is that Europe is beginning to cut back the role of government in society –

you read about cuts in civil service wages in some countries, and an increase in the retirement age in others – but the USA is still going in the opposite direction. We'll go that route eventually, but not now.

#### **Does this mean the USA is, after all, heading for a debt crisis?**

I think it is important to realize that because the US dollar is a reserve currency, there is an extra degree of freedom. It is possible to abuse such freedom, but I think there is no evidence that abuse has occurred so far, and of course the market prices for government debt and the dollar tell you that it has not happened yet. Also, the USA has very flexible financial institutions, including in particular the Federal Reserve, and this makes it easier to manage the debt issue than in the European Union. One could easily imagine the EU developing more flexible institutions and it looks to me that the Greek and Irish crisis has forced Europe to take a major step in that direction, and I must say I personally welcome this step. So I think it's premature to worry about a US debt crisis.

To the degree that I fear financial instability, it comes more from the low

yields and their effects on the business models in the financial sector. Suppose you are an insurance company which has promised your policyholders a return of 5% and the prevailing interest rates don't permit you to earn 5%. Now today that's not a critical issue yet because you have old securities from the past that have higher yields. But those securities will be called or will mature, and if they keep getting replaced with new securities at lower yields, how would you meet your liabilities?

#### **Do you think the Fed's move to QE2 is a step in the direction of undermining trust in US government paper?**

I think the Fed's asset holdings are a real issue from the perspective of the financial system's model because secondary market volume becomes less and less available the more the central bank is holding the underlying assets. I think that has implications for price discovery and all the other functions that financial markets are supposed to perform. I am far more worried about this than about the Fed's large balance sheet leading to inflation.

## The proposals of the US-Presidential Commission

The National Commission on Fiscal Responsibility and Reform was created by US President Barack Obama in February 2010. The commission was charged with identifying policies to improve the fiscal situation in the medium term, and to achieve fiscal sustainability over the long run. Specifically, the commission was to propose recommendations designed to balance the budget, excluding interest payments on the debt, by 2015. It was composed of eighteen members, with four independent members, seven Republican and seven Democrat members of Congress.

The commission published its final report on December 1, 2010. The proposals foresee a reduction in the federal deficit from 6.0% of GDP in 2012 to 1.2% in 2020. The bulk, i.e. about 70% of the reduction in the deficit, would stem from lower spending, while revenue increases would play a smaller role. Nevertheless, revenue as a share

of GDP would reach 21% by 2025, the highest level ever recorded in the history of the United States. On the expenditure side, the major element would be a cap on discretionary spending, which should generate around 75% of the total reduction in outlays (USD 1,660 billion by 2020). Limits on social security and health-care spending, arguably the more important spending categories, as they are expected to account for more than half of total noninterest spending by 2020, are rather modest at first sight. Health care spending would fall by around USD 340 billion until 2020, and social security spending by USD 220 billion. However, the proposals would eliminate the pension deficit by 2050 through a combination of lower benefits, a gradual increase in the retirement age to 69 by 2075, and an expansion of the tax base for social security tax. If the commission's recommendations were heeded, federal debt held by the public

would be projected to fall to 60% by 2023 and to 40% by 2035. Note that the single most important reform in health-care spending is a measure we propose in the article on page 46 i.e. to increase cost-sharing by consumers.

Fourteen of the eighteen members on the commission would have had to support the proposal for it to be sent to Congress as a legislative proposal. However, only eleven members did so. Like elsewhere, US politicians have little to gain from voting for spending cuts or tax hikes. Moreover, in a split Congress, it will be especially easy to blame the other side for a failure to control the deficit and debt. However, eventually politicians will, of course, need to tackle the spiraling debt. At that point, the commission's proposals may provide the needed blueprint for action.

**Marcel Thieliant,**  
Credit Suisse Private Banking

# Sovereigns, banks and the vicious circle of funding

The collapse of trust between banks has required governments to act as their guarantors. But as the solvency of “peripheral” European governments came into question, this guarantee for banks lost its value, weakening the banks and further increasing the exposure of sovereigns. “Core” Europe has responded with a patchwork of support measures to break this vicious circle, but risks remain.

**Daniel Davies**, Research Analyst, Credit Suisse Investment Banking

The structure of the post-Lehman global banking system is the crucial background to understanding the way in which the sovereign debt crisis developed in Europe. To put it simply, pre-Lehman, the interbank system had operated on a simple rule – that the senior obligations of a major globally active bank were “money-good,” i.e. free from default risk in all circumstances. Although this was clearly a result of moral hazard in the system (and contributed to the failure of the credit market to differentiate between safe and risky banks), it did provide a basis, albeit vulnerable, on which the global financial system could work. The collapse of interbank lending immediately after the Lehman bankruptcy was a result of the breakdown of this implicit understanding, and its replacement by a new rule which went: “Lend only to counterparties whose credit has been specifically analyzed and established beyond question!” However, this rule was not only impractical from a logistical point of view, but was plainly impossible to put into operation because markets now assessed the creditworthiness of banks themselves by their ability to roll over funding, which therefore led to a collapse

of the interbank market. Taking away the basis for the fundamental operating assumptions of the system was akin to establishing a “work to rule” on the part of interbank lenders.

## **When sovereign guarantees come into question**

Many of the policy actions carried out since the Q3 2008 crisis can be seen as having the aim of building a sufficient degree of confidence on the part of major financial players that the senior obligations of major banks were, once again, money-good. The most obvious way in which policymakers aimed to reestablish “confidence” in the interbank market was through formal or informal guarantees of the systemically important parts of the banking system (with or without nationalization of the banks themselves). However, this raised a new set of problems. If the liabilities of the banking system had to be regarded as contingent liabilities of the sovereign, this could radically change the market’s assessment of the sovereign’s own creditworthi-

ness. In states with poor domestic debt dynamics to begin with (Greece), large ratios of banking system liabilities to GDP (Spain) or both (Ireland), this drew the sovereigns and banks together into a vicious circle in which the perceived problems with the banks increased the market's assessment of the contingent liability to the sovereign, which in turn undermined confidence in the sovereign's ability to support the banks (see Figure 1.) This had toxic effects on the ability of sovereigns to borrow and on the terms on which they were able to do so, which is discussed elsewhere in this publication. Once more, an implicit assumption of risklessness had to be abandoned: All over Europe, investors who had spent their entire careers as government bond fund managers suddenly discovered that they had a credit portfolio and did not like it. At the level of the peripheral European sovereigns, once more, a fundamental implicit assumption about credit quality had been driven out of the system, with the result that the system itself collapsed.

### When domestic currency becomes foreign

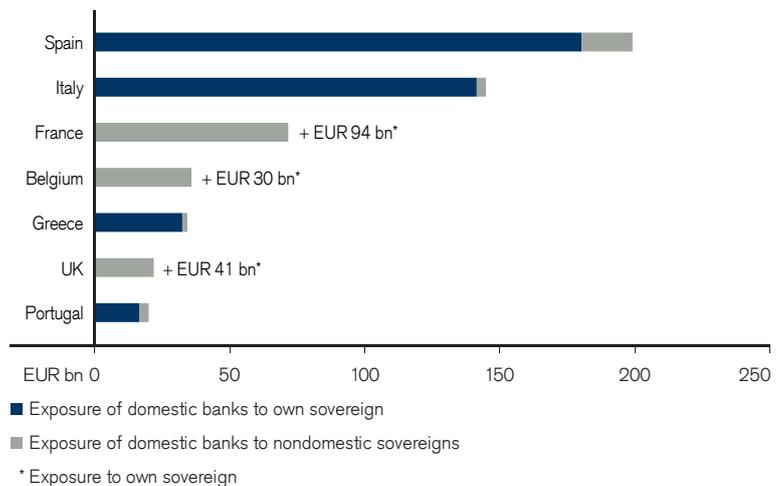
The European Central Bank (ECB) has been faced with a serious policy dilemma as a result of its need to finance peripheral banking systems under the provisional post-Lehman arrangements. It has been required to substantially ease its collateral terms, and to make a special exception for euro-area sovereign debt in its normal credit-rating requirements. This dilemma has arisen specifically because, for purposes of credit analysis, Eurozone governments are effectively foreign currency borrowers even if they borrow euros; they cannot print these, and so their obligations cannot be assumed to be money-good under all circumstances in their "domestic" currency.

This dilemma does not appear to be susceptible to a simple technical or institutional fix; it is intrinsic to the political design of the euro. If the ECB were to refuse to take a peripheral sovereign's government bonds as collateral, then, via the sovereign/bank nexus described above, it would effectively be condemning that sovereign to default and its banking system to collapse. If the ECB had the authority to act as lender of last resort, it could make emergency loans to peripheral banks on a direct, individual and selective basis, rather than providing emergency finance indiscriminately through its collateral rules. But this is not the case. The only way out of the current state is for coordinated action between the ECB, the European Financial Stability Facility (EFSF), and the solvent European states. The fiscal authorities of the latter provide the long-term capital-at-risk financing to protect the European second-tier banking system if it has a solvency problem, and the ECB covers short-term liquidity problems. The vicious circle will only be broken once both the sovereign and the financial sector have regained the confidence of markets.

Figure 1

### Exposure of banks in selected countries to sovereign debt of Greece, Ireland, Italy, Portugal and Spain

Source: CEBS, July 2010



### On the way to cutting the vicious circle – hopefully

The transition from the pre-Lehman "always money-good" paradigm to a new one based on risk-sharing within the financial system will over time help provide one of the legs of the solution. The innovation of contingent-convertible capital and bail-in bonds sets out an objective framework where creditors of financial institutions can be sure ahead of time about the precise circumstances and extent to which their money is at risk. Although short-term wholesale financing may still need to be lent and borrowed under the old money-good paradigm in order to maintain stability in short-term markets, the new Basel III international regulatory architecture aims to reduce and rebalance the reliance of the banking sector on short-term wholesale funds: implementing rules such as the "Net Stable Funding Ratio" requirement will, over time, lead to an extension of funding terms. Widespread use of (domestic) bail-in and contingent capital, which has recently also been endorsed by the European Commission, will help to make explicit the distinction between the working and operating credit of the banking system as a whole, and "at-risk" credit provided to individual banks as companies.

As banks are able to rely more on this type of long-term funding, concerns over the solvency of sovereigns should abate as well. However, given that the banks in weak sovereigns tend to be weak – and vice versa – this process may take an extended period of time to run its course. Moreover, if the vicious funding circle were to begin to affect some of the core countries in Europe rather than "just" the periphery, the backstop provided by the sovereigns via the EFSF would break down and the entire stabilization burden would rest upon the ECB. This is not our central case, but the risks should be kept in mind.

# European banking after the crisis: The winners take it all

The European debt crisis has compounded the fallout from the financial crisis, increasing the pressure on the banking system to transform. Weaker banks will remain under pressure to consolidate. Stronger national champions should emerge in retail and corporate banking. While regulatory constraints on some activities will create opportunities for new competitors, the large banks will nevertheless be strengthened in investment banking. Growth in emerging markets will continue to partly offset the constraints in Europe.

**Christine Schmid**, Research Analyst, Credit Suisse Private Banking

Banks in the peripheral European economies (Ireland, Greece and partially Spain) have been adversely affected by a combination of recession and a burst real estate bubble, higher nonperforming loans and impairments, potential losses on sovereign bond holdings, an outlook for muted loan growth due to a weak economic recovery, and the potential for government influence on pricing to

limit their profitability. For the next years, these banking markets are likely to be characterized by ongoing consolidation in order to achieve sufficient economies of scale and efficiency gains to withstand these pressures.

At the same time, banks will still have considerable funding needs in the years to come (see Figure 1), even taking retained earnings and some deleveraging into account. The peak for European banks is expected in 2012; listed banks in the peripheral economies alone will require up to an estimated EUR 200 billion in 2011. Due to their strong reliance on short-term funding from the European Central Bank, peripheral European banks also face increasing duration mismatches in their asset and liability management. Funded by short-dated liabilities and lending with increased duration initially helps margins, but poses a major problem for profitability once ECB funds are withdrawn or rates start to rise.

## Regulatory pressures to favor national champions

The regulatory changes that have been agreed upon globally add to the pressure on banks everywhere. The Irish crisis must have reinforced the view of regulators and politicians that strict regulation is the key to ensuring the long-term stability of the banking system and the sovereign combined. In reality, however, the pace of implementation of these changes will differ considerably between

**Table 1**

### Significant European and US banking concentration (selected institutions)

Source: Credit Suisse

Banks that show a material government stake but are still listed: Lloyds, RBS, ING, KBC, Dexia, Commerzbank, Bank of Ireland, Allied Irish Bank.

Original institution	Acquiring institution
Northern Rock	Government
Bradford and Bingley	Government
HBOS	Lloyds
Alliance and Leicester	Santander
Abbey National	Santander
Fortis	BNP Paribas, government
ABN Amro	RBS, Santander, government
Deutsche Postbank	Deutsche Bank
Hypo Real Estate	Government
Depfa	Hypo Real Estate → government
Anglo Irish Bank	Government
Various Cajas	Government

locations. In financially weaker regions, neither the private sector nor cash-strapped sovereigns will be willing to provide added bank capital, so that regulatory forbearance will be applied wherever possible. The opposite case is where the economy is stronger, sovereign debt is not at risk, and the banking system is robust – i.e. major Swiss and other selected banks across Europe. Innovative capital market funding schemes for banks – such as contingent convertibles – can be used here and will add to their capital strength. This will, in turn, much improve their chances of growing a strong, stable deposit franchise.

In view of the vicious funding cycle experienced in the past years, whereby weak banks had to be rescued by sovereigns whose weakness, in turn, undermined the banks (see previous article), it is clearly in the interest of governments to have strong banks. We believe that this implies increased governmental protection for national universal banks. These will not only be able to support small and medium-sized enterprises with lending, but also large corporations and, in the extreme case, the sovereign itself. Effectively, we are likely to see new domestic oligopolies arising in European retail and corporate banking.

Against all regulatory odds, the banking sector is already significantly more concentrated today than it was before the financial crisis, with a number of banks having disappeared from the European landscape through (forced) takeovers, mergers or divestments (see Table 1). As many non-listed domestic institutions will struggle to adhere to stricter Basel III capital rules, the sector is likely to become even more concentrated. The impact is already visible in better pricing power and margins in France, Germany and most obviously in the UK. Given economies of scale in the retail area, this trend will be reinforced. At the same time, a more concentrated market could be interesting for small competing organic growth entrants. The overall picture is one of increasing differentiation between the strong and the weak.

### Limits to risk-taking support concentration in investment banking

While the impact of the tougher Basel III capital rules is to some extent being mitigated by European banks (in fact US institutions may not be required to adopt them), the environment for investment banking is nevertheless likely to remain tough. Business activities such as securitization will suffer for longer. With corporate clients holding large cash balances, their demand for issuance will be limited until the economic and market recovery has progressed much further. Access to capital markets and riskmanagement will be important in this segment as well. Smaller financial institutions are likely to find it difficult to compete. Hedge funds are currently benefitting from a less regulated environment. This highly flexible subsector of the financial

industry is attracting key talent and is very well positioned to gain further market share in the investment and trading sectors unless regulation becomes harder.

On the private banking and asset management side, deleveraging and aging in Europe and the USA is likely to limit the risk tolerance of households and to continue biasing their asset allocations toward asset preservation, thus resulting in reduced margins in this segment. If a sovereign were to default, this would of course damage the asset base of savers, not only in the respective country but other countries as well, and possibly further increase risk aversion.

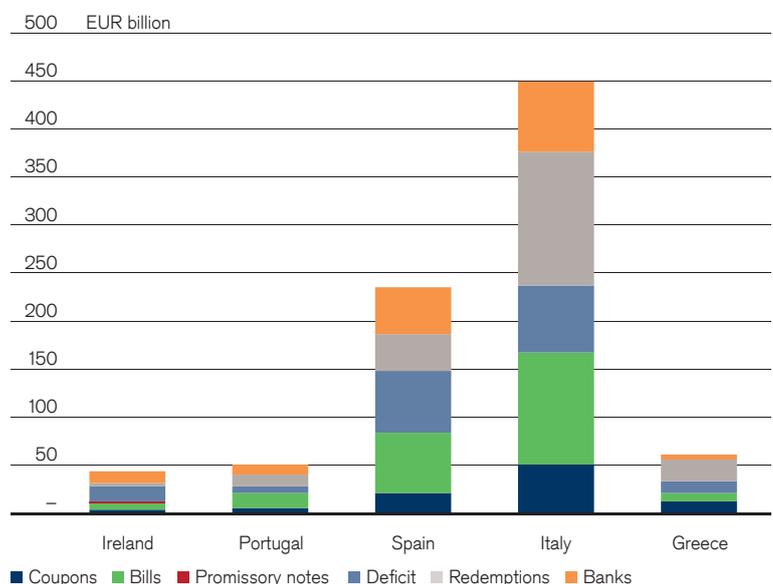
### Emerging market growth as an offset

An important offset to these constraining developments could come from the continued stronger than expected economic growth and wealth creation in the emerging markets. On the one hand, emerging market banks may selectively look to acquire investment or corporate banking know-how, as well as private banking franchises in Europe. Offering credit lines for funding-strapped European banks that provide access to key strategic assets such as a branch networks in Africa or shipping routes could be of interest. On the other hand, most of the large international European houses are already present in emerging markets via corporate banking, investment banking and wealth management. The sheer size and wealth generated in these regions should allow a broadening of the private banking offer from pure high net worth individuals to classic private banking client offerings. Last but not least, innovation in banking – such as mobile technology – in which emerging markets have partly taken the lead, could add to the transformation of European banking.

Figure 1

### European bank funding needs (2011)

Source: Bloomberg



# Leaving the EMU is just an expensive way to default

The euro's construction is more robust than generally understood. Unlike the ERM or Hong Kong's currency board, the euro replaces currencies that no longer exist legally, and is embedded in private sector contracts. If a country left the euro, its companies would face potentially dire balance sheet mismatches, and lawsuits beyond the reach of its legislature. The banking system would be undermined by destructive capital flows. A controlled government debt restructuring and/or banking default would likely be less adverse than leaving the euro, and is therefore more probable.

**William Porter**, Head of Credit Strategy, Credit Suisse Investment Bank

The ongoing European debt crisis has given rise to speculation that one or more countries may eventually leave the euro. We believe this is most unlikely. As we argued in a more extensive article last year,<sup>1</sup> we believe it is important to restate that this is most unlikely despite continuing turmoil over the last year, especially in Ireland and Portugal. The euro is a legal unit of denomination in private contracts within and beyond the Eurozone. Redenomination of these obligations in a new (or former) national currency is unlikely to be upheld by foreign courts, implying severe commercial disruption. For similar reasons, banking systems in and outside the leaving country would face possibly destructive balance sheet mismatches, as assets and liabilities previously in euro suddenly diverge in value. Introducing a new currency to circulate in parallel with the euro could be attempted, but for different reasons this is unlikely to work. We conclude that despite market doubts, the European Economic and Monetary Union (EMU) is in fact rather a stable construct.

All European Union (EU) members have a right to negotiate departure from the EU under the Lisbon treaty. EMU members also appear to have the theoretical power to "leave the EMU," either by renegotiating their relationship with the EU or by

negotiated or unilateral exit from the EU. The European Central Bank (ECB) expressed its opinion in a December 2009 paper: "Withdrawal and Expulsion from the EU and EMU, Some Reflections". It concluded that leaving the EMU and the EU were inseparable and pointed to the virtual certainty that a country leaving the EMU would lose its places at EU decision-making bodies such as the ECB Governing Council. We agree, and see this as a powerful disincentive. But it is not just political penalties that would be faced by a country leaving the EMU. There are other, graver, risks.

## The old currency is irretrievable

Currencies are legal constructs. The currency of Germany or of Greece is what the respective Parliament says it is, as we saw in January 1999 and 2001 when these countries adopted the euro. The universally recognized concept of "lex monetae" refers to the fact that this precedent is respected by all other jurisdictions (each state exercises sovereign power over its own currency and would not try to legislate over another country's money).

But the euro is unique among major currencies: Its borders do not coincide with those of a sovereign jurisdiction. While the sovereignty of a "leaving" nation is absolute under its own law, once it has adopted the euro, it no longer owns its currency

<sup>1</sup> This article is based on a more extensive publication with the same title published on 15 March 2010.



outright. The precedent set by the "leaving" country's laws will be subordinate to another jurisdiction's own *lex monetae* as long as the euro is still in use in that jurisdiction. So, for example, no decision taken by a "leaving" Germany will affect the status of the euro in French courts. The normal principle of *lex monetae*, which allows a state to control its currency globally, is overridden. This is new to EMU member states and therefore causes confusion.

Let us say Germany "leaves the EMU" today. The German Parliament passes a law reintroducing the deutsch mark at the legal parity of DEM 1.95583 to EUR 1. Pending the reissue of deutsch mark notes and coins, Bundesbank-issued euro notes and German-minted euro coins are to be used. Existing euro debts are to be redenominated into deutsch marks. Domestically, this causes minimum fuss and in our view is quite manageable. But internationally, things are not that simple.

French-law contracts, for example, between French parties and private-sector German counterparts, will be enforceable in euro in the French courts. French courts will see even surviving references to the (old) deutsch mark in French law documents as references to the euro (with an exchange rate of 1 to 1.95583), since this is enshrined in French law. Laws passed by the German Parliament which deem references to euro to be references to "new" deutsch marks (even if at the original exchange rate of 1.95583) can therefore have no impact under French law. Nor can any attempt to deem references to "old" marks as being references to "new" marks.

The normal precedent of *lex monetae* is subordinate to the fact that French courts will not recognize the attempt of any foreign power to legislate over the domestic currency of France, still, for these purposes, most definitely a state with monetary sovereignty. Any country "leaving" the EMU can only regain control of transactions under its own law. The key to "currency risk" under the EMU is therefore the jurisdiction of the contract, not the nationality of any of the counterparties or the "original" currency.

The position under other jurisdictions is more complex, and confusion is likely, there being no precedent. But we believe that, under English law, whether the UK is in the EMU or not, redenomination would not be recognized either. Given the role of English law in international contracts, this is a major obstacle to redenomination. We would expect companies in a country leaving the euro – indeed the state – to find that euro contracts originally subject to English law remain in euro despite redenomination. Note that the loans to Greece from the European Commission and the euro member states, as well as the EFSF Framework Agreement were made under English law, subject to adjudication by the European Court of Justice! In sum: Once the EMU has been entered, the status quo ante can never be regained. Full jurisdiction over the entering country's currency has been lost and the old currency is gone for good.

### **Redenominating euro into a new currency would cause major disequilibria**

Although a "leaving" country cannot reintroduce its old currency, in theory it might have three other alternatives, and all members acting together have two additional ones:

1. One country could redenominate all existing domestic euro obligations to a new currency. But, as we will show, this creates destabilizing legal and balance sheet problems similar to attempting to reintroduce the old currency.
2. Introduce a new currency to circulate in parallel with the euro.
3. Adopt a different major currency: almost certainly the dollar.
4. Dissolve the entire EMU project by unanimous consent with existing euro being exchangeable into a combination of new national currencies.
5. Split the EMU into two blocs, with existing euro exchangeable into a combination of the two new units. This and option (4) are theoretically feasible, and avoid the legal and balance sheet problems, but are enormous projects of the order of the EMU itself.

Looking at option (1), the "leaving" currency will be either strong or weak, otherwise why would it bother. Assume it is strong, though the argument is broadly symmetrical. Recall that it is the jurisdiction of the contract that dictates its "currency" post leaving. All contracts in the law of the "leaving" country give rise to a strong-currency contract, while those in the law of the remaining EMU members remain in weak euro. Any mismatch of contract jurisdictions will lead to a windfall gain and loss. The effects of this are highly unpredictable but may well work against the overall interests of the "leaving" country whether it is "strong" or "weak." A strong "leaving" currency is likely to be associated with a net foreign asset position, much of which may be denominated in weakening euro. A weak "leaving" currency would likely have debts denominated in stronger euro. Both lead to loss-making mismatches for many domestic and foreign citizens. Chaos and randomly distributed financial hardship are guaranteed. The "leaving" government would no doubt attempt redistribution, but most likely would be doing so within a shrunken pot.

As long as the EMU exists, the European System of Central Banks (ESCB) is required to provide limitless facilities to the market to balance flows between banks. If investors fear euro break-up, they would borrow from commercial banks in weak countries and deposit in banks of strong countries. The ESCB would balance this by lending to the weak-country central banks. In normal times, this is a stabilizing force. However, if a crisis spiraled out of control, the scale of flows from weak to strong countries would grow very rapidly, the central bank



of the weak country would likely have to impose limits on capital exports and as the crisis reached a crescendo, the stronger central banks might cut off the weaker one from access to their euro funding. This could trigger a collapse of the weak-country financial system, while most likely damaging its counterparts as well.

### **Creation of new parallel currencies or a full-blown split are remote possibilities**

What about the other options for break-up? The introduction of a new parallel currency alongside the existing euro avoids these problems, but brings difficulties of its own. If a weak country does this, by introducing a new weaker unit, it may be able to improve industrial competitiveness at least for a while, but would immediately raise its government debt to GDP ratio since its old debt would still be in strong euro. In the opposite case, a strong country, or group of countries, would introduce a new strong currency that circulated in parallel with a weak euro and gradually took over. This would potentially reduce government debt to GDP ratios, since existing debt would stay denominated in weak euro. But it would penalize both individuals and institutions, such as pension funds and banks, which had held that debt and now found it devalued relative to the general level of wages and prices, and this could be destabilizing.

Another distant theoretical possibility is that all the members together could agree to break the system into a series of new national currencies, with existing euros exchangeable into a basket of all the new units. Or they could agree to create a North and South European pair of currencies, again

with existing euro exchangeable into a combination of the two new units. In the latter case, the ECB could act as central bank to both sets of national central banks, and this is perhaps the theoretically best outcome if break-up had to happen. However, neither of these scenarios seem to be a serious possibility, since they would be a major legal and logistical exercise, probably taking years, and certainly not achievable in the short time frame of a market panic. And, as we pointed out in 2008, who wants to tell “Frau Schmidt” that she now owns 0.4 “latinos” and 0.6 “duros” for each euro she had in her account? As bad, 60% of the debt of “latino” earners will be in duros, causing likely distress.

### **There are other ways to default**

Leaving the EMU implies general default, in our view, but the opposite does not hold. A country can default on or restructure its sovereign debt without leaving the euro. A measure of international co-operation is to be expected and this is likely to be much less destructive for a country’s banks and companies than both leaving and defaulting.

Meanwhile, sovereign CDS spreads are likely to reflect both a premium for a new potential currency (even if its introduction is highly unlikely) as well as a genuine default premium. For practical purposes the distinction is probably irrelevant. For sovereign CDS, premiums tend to rise in countries where, in the market’s judgment, EMU departure would be a good idea. We have argued that leaving the EMU is not a possible solution, but it can sometimes be a fear. The euro area has not yet found a sustainable long-term equilibrium, which means that crises are, as we like to say, “baked in the cake.”



# Euro reform: Future discipline more likely, but current debts still unresolved

Under severe pressure from the 2010 debt crisis, Eurozone governments agreed on a two-pronged reform which seeks to enhance fiscal rectitude by drawing on the disciplining role of market forces, in combination with a permanent (though conditional) support fund for sovereigns threatened by insolvency. This setup should help reduce the euro's long-term vulnerability. But investor uncertainty will remain elevated until there is agreement on how to deal with the existing obligations of high-debt countries.

**Oliver Adler**, Head of Global Economics & Real Estate Research, Credit Suisse Private Banking

**Valérie Plagnol**, Global Economics Analyst, Credit Suisse Private Banking

**Giovanni Zanni**, European Economics Analyst, Credit Suisse Investment Banking

## What went wrong at the start

In the years following the 1999 launch of the common currency, “peripheral” euro countries benefited from a highly favorable backdrop. The convergence of interest rates combined with wage catch-up boosted their growth for a number of years. A burst of private construction spending financed by, in some cases, inadequately regulated banks added to the boom in Ireland, Spain and elsewhere. High growth meant that governments could run loose fiscal policies and still maintain or even significantly reduce their public debt-to-GDP ratios. The Greek and Portuguese debt ratios were more or less stable, while those in Spain and Ireland dropped sharply. That said, the seeming discipline of the latter governments was offset by a significant increase in private sector debt. The overall result was a trend deterioration of the external balances of the peripheral European countries (see Figure 1) and a significant loss of competitiveness versus the core countries, above all Germany. This macroeconomic constellation, combined with lax credit conditions

that were enhanced by the high quality rating ascribed to peripheral sovereign bonds by rating agencies and the ECB, were the ultimate cause of the crisis that followed.

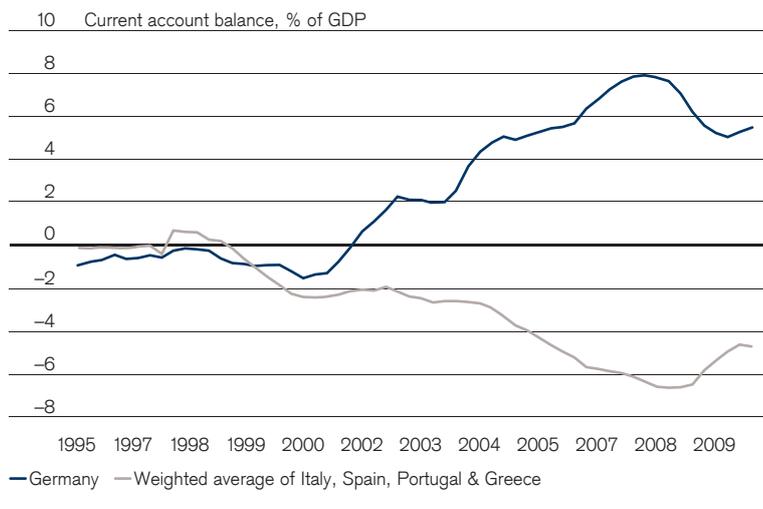
## Inadequacy and non-adherence to the Stability and Growth Pact

The institutional framework within the Eurozone which, in the form of the (in)famous Stability and Growth Pact, focused exclusively on narrow fiscal indicators rather than overall economic balance and tighter policy coordination, was ill-equipped to deal with the broader imbalances within a monetary union. Moreover, the fiscal criteria were vague and essentially unenforceable. While the debt ratio was not to exceed 60%, a number of countries with far higher debt ratios were admitted to the euro under the provision that the debt ratio should be on a “decreasing trend” and approach the reference value at a “satisfactory pace.” In the same vein, the Excessive Deficit Procedure outlined in the treaty, according to which a country which had not brought

Figure 1

## External balances of euro members

Source: Datastream, Eurostat, Credit Suisse



its deficit below the 3% reference value would have to pay a fine, included exemptions for “exceptional circumstances.” Finally, although initiated and supervised by the European Commission, this procedure could only be enforced with the formal approval of the finance ministers of all member states. Not surprisingly, when both Germany and France were in breach of the 3% limit in 2003 and 2004, no action was taken, and worse, the rules were relaxed. The fact that markets willingly ignored the risks emanating from increasing imbalances could only add to the complacency of politicians.

### Permanent, though conditional, support for crisis mitigation ...

In the wake of the Greek crisis, the need for reform on a variety of fronts has become very apparent. Most importantly, a mechanism to provide funding to governments in the case of a crisis has been set up. This is a major change, because while balance of payments support is foreseen in Article 143 of the Lisbon Treaty, it was presumed not to apply to countries sharing the same currency. The assumption was that there are no balance of payments issues in these countries and, moreover, that the “no-bailout clause” ruled out any support. As a first and temporary measure, the European Financial Stability Facility (EFSF) was set up in May 2010 to provide support for countries jointly with the IMF and other European bodies, under strict conditionality regarding fiscal targets and broader reforms.

It became clear soon after the EFSF was established that this temporary facility would need to be replaced by a permanent mechanism once it expired in 2013. The European summit of heads of states subsequently approved the setting up of the European Stability Mechanism (ESM) in mid-December 2010. For this purpose a paragraph is to be added to Article 136 of the Lisbon Treaty as of 2013,



which while qualifying the no-bailout clause, is minor enough to avoid difficult national referenda and stringent enough to enforce fiscal discipline and, more specifically, forestall any challenges before the German constitutional court. The text that was agreed upon runs as follows: “The Member States whose currency is the euro may establish a stability mechanism to be activated if indispensable to safeguard the stability of the euro area as a whole. [But t]he granting of any required financial assistance under the mechanism will be made subject to strict conditionality.” While a broad framework has thus been agreed, many details of the new process remain unclear at the time of writing.

### ... while garnering markets to enforce fiscal discipline

Germany and other countries likely to be providing the bulk of any future financial support insisted that a permanent “crisis resolution framework” form the counterpart of the financial support mechanism. The key here is to establish the option of a potential restructuring of sovereign debt in which investors would have to share the cost. By explicitly exposing investors to such a risk, market vigilance is likely to increase and should thereby help enforce fiscal discipline. Rating agencies will as a consequence be freer to downgrade sovereigns, and the potential for a decline in the collateral value of bonds would reduce seemingly riskless arbitrage between bonds of various sovereigns.

To allow “controlled” restructuring, collective action clauses are to be introduced into debt contracts. These will enable a qualified majority of bondholders to approve any change in the terms of a bond. That said, the new regime will only apply to debt issued after 2013, implying that a critical mass of sovereign debt would fall under its provisions only after, say, 2018, when sufficient debt



has been rolled over or newly issued. It thus leaves open the issue of a potential restructuring of existing, “old” debt (see below).

Another issue which has not been fully resolved is whether debt renegotiations should be triggered automatically, say when a certain debt limit has been reached, or on a case-by-case basis. In the latter situation, the question arises as to which institution would trigger the process. If initiating the resolution mechanism is up to political negotiation, the role of markets in imposing discipline would, of course, be weakened. At the same time, a fully automatic process may simply not be feasible in practice. It seems likely that the European Commission, the ECB as well as the IMF would be involved both in triggering and negotiating the details of any restructuring (e.g. debt standstills, maturity extension, interest rate cuts, or outright write-downs and haircuts) as well as the conditions for the provision of financial support, as has been the case in the 2010 crisis.

### **Preemption more effective than punishment**

Whichever of these approaches is chosen, it seems to us that drawing on markets to help impose discipline should be more successful than the Stability and Growth Pact, even if the latter were strengthened. It seems unrealistic, for example, to suppose that a system of automatic fines for governments breaching the Maastricht limits, as had initially been demanded by Germany and other countries,<sup>1</sup> would really have a disciplining effect. How should a government that is already in fiscal trouble be expected to additionally pay fines? For the coming years, the

great majority of Eurozone countries will anyway be in breach of the rules, so their relevance is quite limited at this point. In fact, the deadline for achieving the fiscal targets has been explicitly extended for Greece and Ireland. Other forms of “punishment,” such as withdrawing a country’s voting rights in the EU Council, might have more “teeth” but are probably not compatible with the EU Treaties, and have also been rejected.

In general, crisis preemption seems a better approach than punishment after the “sins” have been committed. While limits for deficits and debts are probably needed, corrective measures should set in well before these limits have been reached. Broadening the scope of fiscal and economic indicators subject to Commission surveillance, and the requirement that member states’ budget plans are assessed by the European Commission and the ECOFIN before they are submitted for national parliamentary ratification (the so-called European Semester) are steps in the right direction. But broader reforms are needed, which reduce the vulnerability of countries to shocks while enhancing their competitiveness and growth. Into the former category belongs the establishment of a European Systemic Risk Mechanism. It is a first step toward integrated banking supervision. That said, deposit insurance and wind-down mechanisms for systemically relevant banks remain national. Expanding the ECB’s powers could also help achieve financial stability. The proposal to allow governments whose debts are well within the Maastricht criteria limited access to a jointly guaranteed E-bond market could eventually reduce the Eurozone’s vulnerability to shocks as well. Equally important are broader reforms that address inefficiencies in the markets for goods and services, labor and capital. Under the pressure of the crisis, a number of reforms have been initiated, especially in the peripheral economies, but much remains to be done.

<sup>1</sup> The majority of Eurozone governments have rejected the proposal to introduce automatic fines for member states in breach of the Maastricht fiscal rules. The slightly weaker mechanism by which sanctions would be imposed automatically unless a qualified majority of countries opposed this (reverse vote procedure) has, so far, found limited support but remains under discussion.

### Clarity on existing debt is the pressing issue

While a lack of fiscal discipline was a problem in the past, and could be so again in the future, it does not appear to us to be the key issue for the medium term, at least not as regards the peripheral European countries: Greece and Ireland are already under strict multiyear fiscal adjustment programs in connection with their financial support packages, while Spain and Portugal have launched substantive fiscal adjustment programs and other reforms as a result of severe market – as well as peer – pressure.

The key concern for investors in the coming year or two is, rather, what happens to existing debt? As discussed in the article on page 6 and in the country fiscal profiles on pages 62 ff, the debt levels of a number of countries, most clearly Greece, will be too high to be serviced through government revenues for a number of years. In such a situation, it also seems most unlikely that these governments will be able to re-access capital markets to borrow additional funds. This leaves three options: a) an extension of “temporary” support programs; b) debt forgiveness by means of a fiscal transfer from the “rich” countries; and c) debt restructuring. So long as the last option remains in play, markets will remain very nervous. The reason is that while debt restructuring,

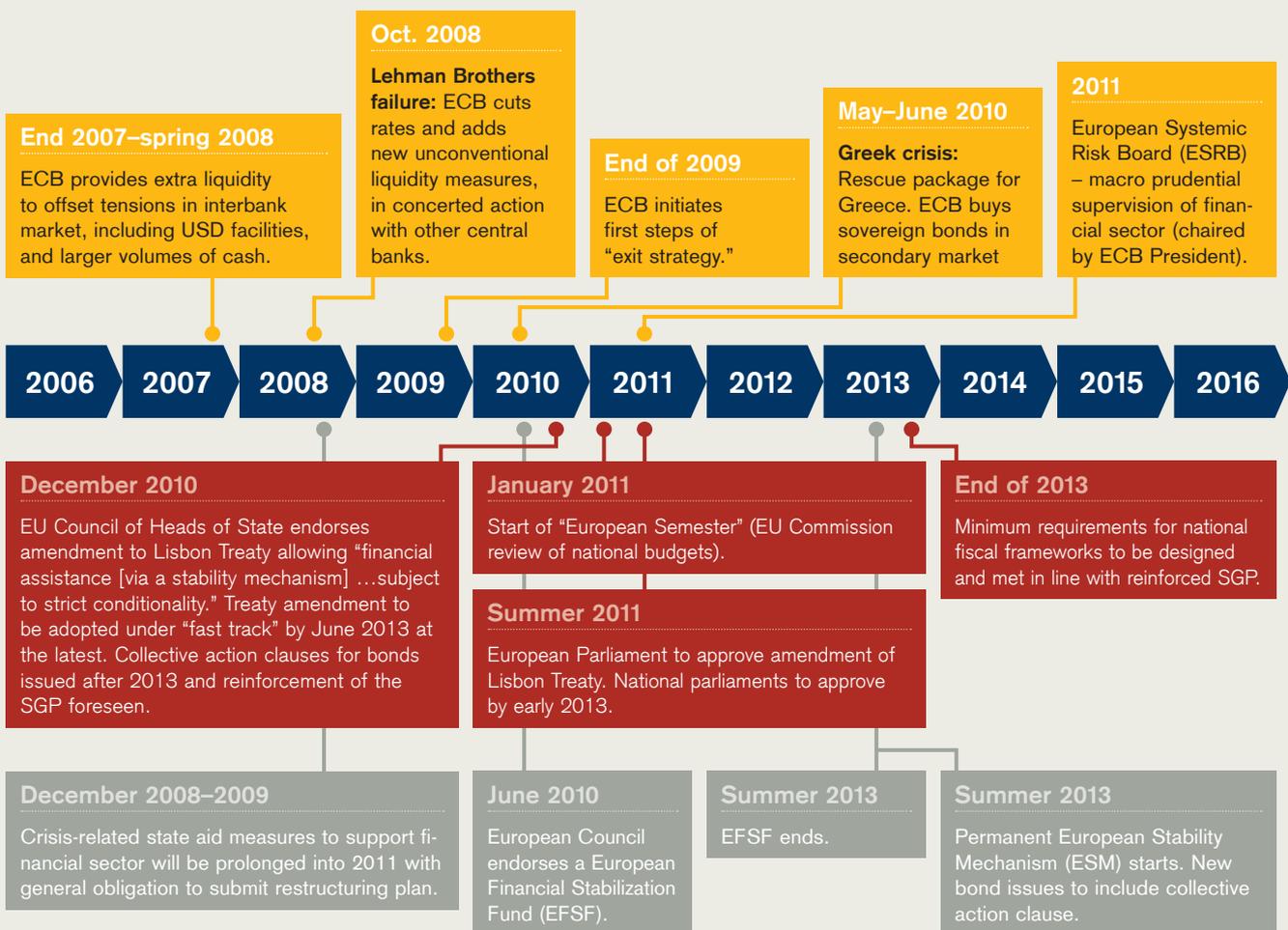
if very well prepared, might work in the case of small countries, such as Greece or Portugal, it might be very destabilizing in the case of a large country, such as Spain, where the debt level is far higher in absolute terms and whose banking system is closely intertwined with the rest of Europe and the globe. Through its impact on savers of all kind, and not least pensioners, default could also have highly negative political consequences.<sup>2</sup> Assuring markets on these debts and excluding the default option would substantially alleviate market pressures on all highly indebted countries, ease their access to capital markets and defuse the crisis.

While we believe that a fiscal transfer via an enhanced support fund – combined with strict fiscal adjustment programs – would be the most effective way to overcome the crisis once debt has become unsustainable, we disagree with those who claim that the survival of the euro is contingent on the establishment of a full-fledged fiscal union. Cross-country fiscal transfers are needed in crisis situations but permanent transfers to peripheral Europe are not, in our view, the key to achieving sustainable economic growth and fiscal balance, the lack of which lies at the heart of the crisis.

<sup>2</sup> Lorenzo Bini-Smaghi. “Europe cannot default itself to health.” Financial Times, 17 December 2010.

## The evolution of euro area governance





# Mediterranean renewal

Revitalizing the Mediterranean economies is one of the keys to resolving the Eurozone debt crisis. The crisis has already triggered reforms to labor and goods/services markets in Greece, Portugal and Spain. More productive investment is also needed, not least in infrastructure, which has been lagging strongly relative to more dynamic European regions, such as Scandinavia. The EU aims to promote such projects, including intermodal freight links combining dedicated ferries linked to road and rail routes, via the Euromed Transport project 2003–2009. Such investment could help restore the historic role of the Mediterranean as one of the hubs of Europe's economy, providing links to Northern Africa, the Middle East and Central Asia. This annotated map lists some of the most crucial existing infrastructure as well as investments that are either already planned or have, at times, been under discussion.

## European high-speed rail

In the 1980s and 1990s, most of the improvement in Europe's high-speed rail lines was focused on domestic networks. Since then, a number of cross-border lines have been developed. The European Union has declared building a trans-European high-speed rail system a major goal, and provides some of the funding. It also expects liberalization to foster competition and quality after 2011. Of countries affected by the debt crisis, only Spain is currently "plugged in" to a cross-border high-speed railway network (and only by use of conventional routes). Adding links to other countries could markedly boost Mediterranean development.

**Oliver Adler**, Credit Suisse Private Banking

## Straits of Gibraltar crossing

Linking Europe and Africa with a Gibraltar Straits crossing could provide a major boost to regional trade and development, but the engineering is challenging. A 14 kilometer bridge project includes a 5000-meter span which would by far exceed the longest current suspension bridge. While far longer, construction of a 40 kilometer undersea rail tunnel looks more feasible and likely despite the challenges posed by the sea-depth and geology, in particular the Azores-Gibraltar Transform Fault, which bisects the Straits and where severe earthquakes have occurred. Current plans are based on an initial capacity of nine million passengers.

**Oliver Adler**, Credit Suisse Private Banking

## Port of Algeciras

The Port of Algeciras Bay is Spain's number one port. It is positioned at the crossroads of major global cargo shipping routes and acts as a Western Mediterranean "hub" for container transshipment. With a record 74.5 million total throughput and the handling of 3.3 million twenty-foot equivalent units in 2008 the port reached a preliminary peak in volume. Further expansion of the Port of Algeciras Bay would boost its strategic role.

**Oliver Adler**, Credit Suisse Private Banking

## Genoa–Rotterdam rail freight link

The Port of Genoa is ideally located to access and serve consumers in central Europe. To improve the connection of rail and sea transport infrastructure but also to add to transport capacity and to complement inland water navigation, the EU and the Italian government have approved a project, which aims to build a rail link between the ports of Genoa and Rotterdam.

**Thomas Herrmann**, Credit Suisse Private Banking



PHOTO: KEYSTONE/EPA

## Port of Piraeus

Port of Piraeus in Greece has a strategically important position near the Straits of Bosphorus, providing a way into the Black Sea region, Central Asia and Russia. For cargo it is already the largest port in the eastern Mediterranean but only number 47 worldwide. As part of a wider strategic initiative, China will support an upgrade of port facilities. A new pier is planned and the volume of cargo the port can handle is intended to be tripled. Cosco Pacific of China, the group's terminal operating subsidiary, will take over operations. The USD 4.2 billion contract includes a 35-year lease to operate two of the three container berths at the port. The enhanced port will contribute to a network of ports, logistics centers and railways to distribute Chinese products across Europe, essentially creating a modern version of the Silk Road.

**Thomas Herrmann**, Credit Suisse Private Banking

## Rail links Europe–China?

China is already in the process of building one of the most extensive high-speed rail networks on the planet. It is continuously expanding the network domestically, with the aim of connecting all the major cities. Chinese officials have hinted at plans to go beyond Chinese borders and to even connect its network to Europe. Several possible routes have been mentioned. One result could be a high-speed route from Beijing all the way to London (8,100 kilometers linear distance) with travel time intended to ultimately be as short as two days. Another plan mentioned by officials would be to create an intra-Asian link to Vietnam, Thailand, Burma and Malaysia. The high-speed railway expansion plans could result in one of the largest infrastructure projects in history.

**Thomas Herrmann**, Credit Suisse Private Banking



PHOTO: ISTOCKPHOTO.COM

## Suez Canal

Opened already in 1869, the Suez Canal is, of course, not new. But this artificial waterway is a key trade link for southern Europe. It links the Mediterranean and the Red sea and provides a crucial shortcut for ship traffic between Europe and Asia, in particular. At about 193 kilometers in length, it offers a convenient connection compared to the alternative detour around the Cape of Good Hope. The Canal can accommodate ships as large as 210,000 tons fully loaded. Since it is a sea level waterway and no locks interrupt traffic, the transit time only averages about 15 hours.

**Thomas Herrmann**, Credit Suisse Private Banking

## Mediterranean gas pipeline networks

Apart from liquefied natural gas projects, which enable seaborne transportation of gas over long distances, the natural gas pipeline network is also growing. Especially the expansion of the link between the African continent and Europe is progressing. The gas pipeline between Libya and Sicily (Italy) was opened in 2004 and is 540 kilometers in length. The "Galsi" Pipeline, which will link Annaba (Algeria) with Sardinia (Italy), will be finished in the coming years. Last year, initial agreements were reached on the Turkey–Greece–Italy natural gas pipeline to connect the Caspian region to Europe.

**Thomas Herrmann**, Credit Suisse Private Banking

# An “EM-ERM” to support global rebalancing?

Tackling the debt problem in the developed countries would be helped by a smooth rebalancing toward stronger consumption growth in emerging countries. Co-operation among emerging countries to allow their currencies to appreciate in blocs could support this process, while easing many of the current tensions in currency policy. We provide a methodology for defining emerging currency blocs, based on the similarity of trade patterns.

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Fostering economic growth lies at the heart of solving the indebtedness crisis in the developed world, not as an alternative to significant deficit cuts, but as a way of making them more palatable and reducing their required size. This means that, alongside micro-economic measures to boost productivity in private and public sectors, monetary policy must remain very stimulative. This monetary stimulus can operate through domestic channels or via a lower nominal exchange rate. But attempts by the USA, Europe or Japan to devalue against one another can do little more than shunt the problem around the world, given that all suffer potential domestic demand shortfalls.

A more constructive approach would be a sustained trend depreciation of the USD, EUR, GBP and JPY against emerging currencies. Cyclically, this would boost demand in the developed countries while dampening it in emerging countries, an increasing number of which are currently at risk of overheating. Structurally, it would help to reduce the great US external deficit, while facilitating a structural shift from export-led growth toward domestic demand in the emerging markets. Rising household consumption is a natural aspect of economic development, which can also help the global economy to prosper.<sup>1</sup>

## The need for intra-emerging market coordination

Exchange rate policies in emerging countries have seen various phases in the last two decades. After the 1997–98 Asian crisis, a policy of undervaluation and export focus became popular, generating current account surpluses and large foreign exchange reserves. Once financial strength had been re-established in the mid-2000s, many emerging countries accepted some trend nominal revaluation, but the Lehman crisis interrupted this trend. While it has since resumed in many countries, the pace of appreciation has diverged very

Table 1

### Degree of trade overlap with countries grouped by region

Source: UNCTAD, Credit Suisse

Region	Africa	Americas	Asia	Europe	Oceania
Number of emerging markets	54	38	45	17	18
Share of total EM trade	8.1%	14.7%	61.9%	15.1%	0.2%
Markets in group with significant import and export correlations	20.2%	25.1%	16.6%	77.9%	0.0%
Average export correlation	19.0%	23.8%	15.3%	62.9%	4.4%
Average import correlation	44.6%	59.6%	33.4%	78.5%	29.3%

<sup>1</sup> Our recently published “Credit Suisse Emerging Consumer Survey” highlights the rapid growth in discretionary spending across emerging countries from China to Indonesia and Saudi Arabia.



substantially between emerging markets, thus leading to significant tensions.

These tensions often appear as a conflict between developed and emerging countries, but we believe the balance among emerging countries is just as important. Indeed, we think that addressing the latter issue may make the former much easier to solve. In the upswing of the economic cycle, there tends to be an incentive for emerging countries to gain a competitive advantage by revaluing later than their peers and, in the downswing, there is an incentive to devalue early. The result can be that all of them end up revaluing too little. This is an example of the well-known “Prisoner’s Dilemma” in which the parties would be better off if they acted together, but end up with the suboptimal outcome because they lack a mechanism to enforce collaboration.

This suggests the need for a coherent co-ordination mechanism, formal or informal, for long-term trend nominal appreciation by emerging countries. This mechanism should have several features: It needs to limit phases of large loss of competitiveness among peers. It should allow for temporary suspension or limited reversal of the trend appreciation, en bloc, if needed at certain stages of the cycle. And it should be able to take account of specific shocks to individual economies, good or bad.

How can co-operative and flexible appreciation be achieved? At one extreme, we could imagine a formal “Exchange Rate Mechanism (ERM)” for emerging currencies, modeled broadly along the lines of that in Europe during the 1990s. At the other extreme, there could simply be a very general agreement to discuss exchange rates under the umbrella of the IMF or other organizations, but without any formal commitments. The most practical might be a fairly small group of countries working together, with others perhaps grouped more loosely around this central core.

Whatever the exact structure, the aim would be for participating currencies to track one another within a certain band, and for the group as a whole to follow a very gradual trend appreciation against the major developed currencies. It might be beneficial to have not one, but two such groups of emerging currencies, one for countries mainly dependent on manufactured trade, the other for those with more commodity exports.

To show how this might work, we looked for groups of emerging market countries that might be grouped together based on the degree of overlap in their trade with third parties. These countries have the greatest temptation to devalue against one another, or to delay revaluing – and hence the greatest benefit from co-ordination. Hence, for

Table 2

### Average correlation of imports and exports for major emerging markets in 2007

Source: UNCTAD, Credit Suisse

	China	India	Indonesia	Korea	Mexico	Russia	South Africa	Turkey
Brazil	45.8%**	45.7%**	25.6%	36.7%	46.1%**	36.3%	59.8%**	46.6%*
China		53.2%**	42.2%**	79.6%**	48.6%**	26.7%	49.8%**	50.8%**
India			48.5%**	52.9%	25.4%	29.5%	62.8%**	55.5%**
Indonesia				44.0%	16.7%	18.9%	35.7%	23.9%
Korea					40.2%**	19.0%	45.7%*	37.3%**
Mexico						17.7%	28.5%	15.0%
Russia							54.9%	49.1%
S. Africa								66.8%**

\* Both import and export correlations significant at the 0.5% level \*\* Both import and export correlations significant at the 0.1% level

Table 3

### Correlations between the eight major emerging countries and smaller ones

Source: UNCTAD, Credit Suisse

	China	Brazil	India	Russia	Mexico	South Korea	Turkey	Indonesia	South Africa
Number of EMs significantly correlated with country	30	40	33	18	11	11	31	22	37
Number of EMs in group correlated only with specific EM	0	17	2	14	0	0	3	8	7
Exports of group divided by total EM exports	63.3%	50.7%	48.8%	16.0%	46.7%	51.0%	52.9%	47.2%	52.4%
Markets in group with significant import and export correlations	52.4%	32.2%	52.5%	53.6%	67.3%	74.5%	68.4%	42.4%	46.4%

example, China and Korea have very similar trade patterns with the rest of the world, measured across both product types and destination. Less obviously, it turns out that the trade patterns of Turkey and South Africa are also similar to one another. Our methodology, which uses data from 92 emerging countries, is described below.

### Regional versus global groupings

Table 1 summarizes trade correlations within regions, as well as the share of trade of each region. The main result is that regional trade correlations are moderate in most cases, and especially low in Asia, which has the highest share of global trade. Hence, strict regional groupings are unlikely to be optimal. The only exception is emerging Europe, where correlations are high.

Moving from a regional to a global focus, Table 2 looks at bilateral correlations among eight major emerging countries. First, and not so surprisingly, China's trade is significantly related to most of the other major emerging market countries. This means that many of these countries can potentially pair with China, especially those that have a bias toward manufacturing exports such as Turkey (Figure 4). Second, not all these countries show strong pairwise correlations. For example, Mexico does not relate well with South Africa or some of the Asian economies. Korea does not correlate strongly with Brazil, which exports a good deal of nonfuel primary commodities (Figure 2).

Third, Russia has a relatively low degree of trade correlation with the other seven countries. Moreover, when we look at trade correlations between each of the eight large countries and smaller ones, we find that countries related to Russia in terms of trade are generally not significantly related to other major emerging markets. Table 3 shows that 14 out of 18 smaller countries correlated to Russia are not significantly correlated with any of the other majors. This is a result of Russia's strong bias toward fuel-related exports (Figure 1). Russia might thus form its own group with smaller countries, but not with the other seven major countries.

Figure 1

### Russian exports by destination and product type

Source: UNCTAD, Credit Suisse

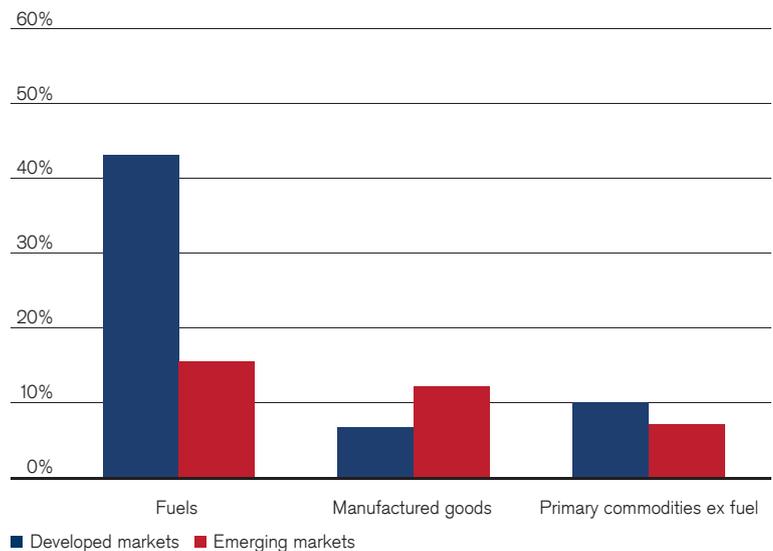
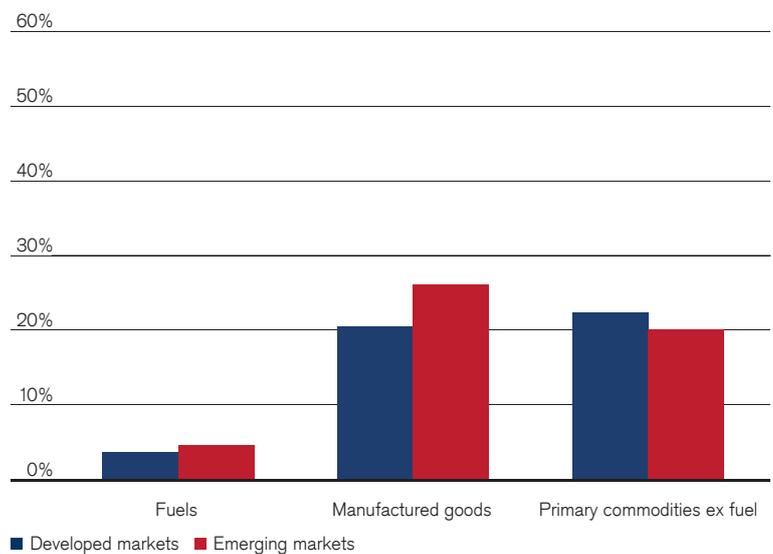


Figure 2

### Brazilian exports by destination and product type

Source: UNCTAD, Credit Suisse



## Methodology for calculating trade correlations

The UNCTADSTAT database provides a breakdown of merchandise trade (imports and exports) for each country by destination and product type. We use the year 2007 for our analysis, as the collapse in global trade in 2008 could distort the results. For each country, we compute the share of imports and exports by region (also distinguishing between developed and emerging

markets) and product type (nine product groups). We then compute the correlation coefficient and the significance level of export patterns between all country pairs in the database. We use a two-tail test with a 0.5% p-value (the t-value cutoff point is equivalent to a 0.25% one-tailed test) as the cutoff point to find a significant export or import relationship between countries.

We repeat the same exercise for imports. We look at both the type and the destination of exports as well as the type and source of imports. This also helps distinguish between countries with manufacturing or commodity supply-chain linkages. Here currency fluctuations can be disruptive, especially for manufactures given that many commodities are priced in dollar terms.

Figure 3

### Chinese exports by destination and product type

Source: UNCTAD, Credit Suisse

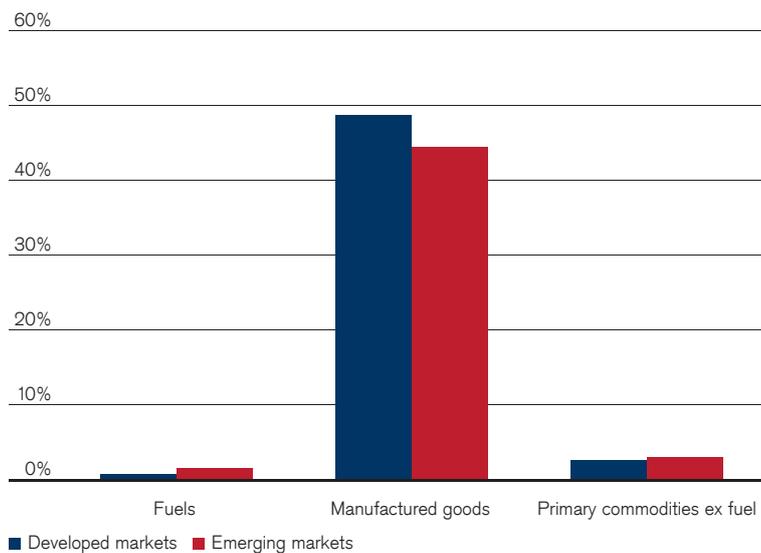
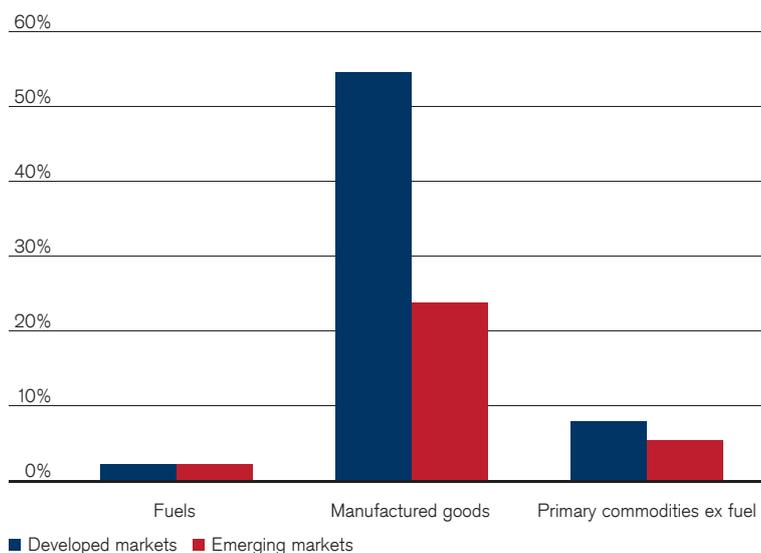


Figure 4

### Turkish exports by destination and product type

Source: UNCTAD, Credit Suisse



Based on this analysis, there are at least four combinations of countries that could form exchange rate blocs. The first simply puts all 92 emerging countries into one large single bloc. The second has two blocs, consisting of 16 countries centered on Russia, with the other 76 countries all grouped together in another bloc. In the third, we retain the Russian bloc of 16 nations, but combine it with a China-centric bloc of 30 countries, leaving the remaining 46 countries without membership of any bloc. Finally, the fourth arrangement envisages four blocs, centered on Russia, China, Brazil and Turkey. This covers a total of 73 countries and thus leaves 19 outside the bloc system, but still covers some 85% of emerging country trade. In all cases, we determine the membership based only on trade correlations rather than region. However, because in the fourth case we aim for a higher correlation than in the others, a degree of regional coherence is obtained. The cases are described in detail in box on page 43.

These four scenarios demonstrate a trade-off. Having a larger number of smaller blocs would ensure a better fit among members of each bloc. This is indicated by the higher correlation figures in the scenarios with larger numbers of smaller blocs. That should make it easier to ensure collaboration and cohesion within each bloc. On the other hand, having lots of blocs would defeat the whole purpose by leaving more possibilities for competitive devaluations of one bloc against the other. The same problem arises when large numbers of countries are left completely outside the bloc system.

#### Choosing a coherent structure for emerging currency blocs

We tentatively conclude that Scenario 4 is the most promising, with Scenario 2 also being a possibility. Scenario 4 has the advantage of having relatively coherent trade and regional membership within each of its blocs, especially those based around China, Russia and Turkey. This makes it more likely that co-ordination can be achieved within those blocs. On the other hand, this scenario does involve four blocs, so that there would be a need for some form of co-ordination between them.

The alternative approach would be based on Scenario 2. With only two blocs (each with very different trade patterns, one focused more on manufactures, one more on energy), there is less risk of competitive currency moves between the blocs, but the problem is that one of the blocs may be too large and lacking in coherence to easily hold together.

Under any of the scenarios, responsible leadership is crucial. If a bloc leader pursues self-serving policies at the expense of other members (e.g. using inflationary policies after a country-specific macroeconomic shock), the system can become unstable. Thus the leader must have a transparent, stable and credible monetary policy, while the system must be kept flexible through occasional rebalancing of exchange rates within each bloc.

## Four scenarios for emerging currency blocs

**Scenario 1:** If any emerging market has both exports and imports similar to Russia, Brazil, China, India, Indonesia, South Africa, South Korea or Turkey, it is included in the group. A total of 92 emerging economies are significantly related with at least one of those economies, and together they account for almost 96% of emerging market total exports. However, the correlation of trade patterns among them is not strong, with only 17.4% of all the possible country pairs showing significant correlations for both exports and imports.

**Scenario 2:** The correlations are improved if we introduce a separate bloc for countries highly correlated with Russia (making a bloc of 16 nations), putting all the remaining 76 countries into another large bloc. We favor this setup over the first one, but an important drawback is that the remaining bloc is still relatively disjointed.

**Scenario 3:** This is in some ways similar to Scenario 2 in that the Russian bloc is retained, while the remaining bloc is shrunk to include only countries that are significantly related to China. In contrast to Scenario 2, this gives two relatively coherent blocs, but excludes 46 of the 92 countries, and they account for about 20% of emerging country exports.

**Scenario 4:** Under this setup, we envisage four blocs, each dominated by a large emerging economy. Only economies whose trade patterns are highly correlated with these four “hegemonic economies” are included in each bloc. There are various ways to do this: In the example that we present here, four large emerging economies (China, Russia, Brazil and Turkey) would be the leaders of their respective blocs. This setup ensures greater cohesion within blocs, and also covers 73 emerging countries (accounting for almost 85% of emerging nation exports). The four blocs are defined on the basis of trade correlations rather than region, but simply by aiming for a higher trade correlation level than in the other scenarios, a degree of regional coherence is obtained.

### Scenario 1: EM-8 & Russia

	EM-8 & Russia
Number of economies	92
Share of EM exports	95.6%
Markets in group significantly correlated	17.4%
Average export correlation	16.9%
Average import correlation	39.7%

### Scenario 2: EM-8, Russia

	EM-8	Russia	Total
Number of economies	76	16	92
Share of EM exports	82.7%	12.9%	95.6%
Economy pairs significantly correlated	20.2%	55.8%	
Average export correlation	19.8%	47.4%	33.6%
Average import correlation	38.9%	52.9%	45.9%

### Scenario 3: China, Russia

	China	Russia	Total
Number of economies	30	16	46
Share of EM exports	66.3%	12.9%	79.2%
Economy pairs significantly correlated	52.4%	55.8%	
Average export correlation	43.8%	47.4%	45.6%
Average import correlation	47.2%	52.9%	50.0%

### Scenario 4: China, Brazil, Turkey, Russia

	China	Russia	Brazil	Turkey	Total
Number of economies	14	16	25	18	73
Share of EM exports	49.9%	15.3%	8.9%	10.5%	84.6%
Economy pairs significantly correlated	59.3%	55.8%	35.7%	97.4%	
Average export correlation	47.0%	47.4%	30.6%	73.9%	49.7%
Average import correlation	54.2%	52.9%	42.7%	86.5%	59.0%

The results show that China's bloc dominates the others in terms of total exports, with China itself accounting for almost half of the group's total exports. The bloc is quite consistent, with almost 60% of country pairs showing significant correlations. The bloc with Brazil at its core, which includes Latin American and some African economies, is the most populous, but least coherent under this setup as it includes a

large number of countries that are significantly correlated with Brazil, but not with each other. Yet the bloc is still more coherent than the broad bloc proposed in Scenario 2. Interestingly, Russia's group excludes some fuel exporters from the Middle East such as Saudi Arabia, the UAE and Kuwait, which are more related to Indonesia. Part of the reason is that their fuel exports are mostly directed to Asian markets.

# Reforming age-related public entitlements

In “Country Indebtedness – Part I,” we showed how aging populations will drive up public pension and health-care expenditure in coming years, unless significant policy reforms stem their rise. In this article, we provide a more detailed analysis of the factors that are driving costs, and of the levers that can be applied to dampen and reverse this trend. The key conclusion is that the adjustments required to stabilize pension-related spending are fairly straightforward, while controlling health-related spending is more problematic. In both cases, achieving the social and political consensus for change will be the most challenging issue.

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Pension and health-care related spending already today accounts for between 10% and 20% of GDP (see Figure 1), and between 24% and 47% of total government expenditure. The latter share has risen from an average of 22% in 1980 to a current average of 30% in the OECD countries. Based largely on demographic assumptions, the OECD and other organizations make projections as to the future evolution of these numbers. On current assumptions, total expenditure would be close to double in many countries relative to GDP, with the larger share generally taken up by pension spending.

The main contributor to the projected increase in the ratio of pensions to GDP is the rising old-age dependency ratio, i.e. the number of people 65 years and older (times 100) divided by people of working age (15–64 years). According to the United Nations, this ratio is projected to rise from 10 in 1990 to 14 in 2020 for the world as a whole, and to 29 for the advanced countries. If these projections were to become reality, future government budgets would be dominated by such expenditures, and either taxes on the working population or debt would need to rise enormously to

fund them. Neither seems sustainable. Significant changes in pension and health-care schemes will thus be needed.

## Levers for stabilizing pension spending

Luckily there are a range of policies (levers) that would enable aging countries to avoid such an unsustainable outcome, notwithstanding the rapid pace of aging that they are in the midst of. Apart from longevity itself, two important policy-based parameters are the primary determinants of the evolution of pension spending. The first is the level of pensions relative to earnings. The second is the retirement age. Figure 2 shows these two factors for a selection of countries. As indicated by the red arrow, the lower the effective retirement age and the higher the ratio of pensions to earnings, the greater is the “generosity” of the pension.

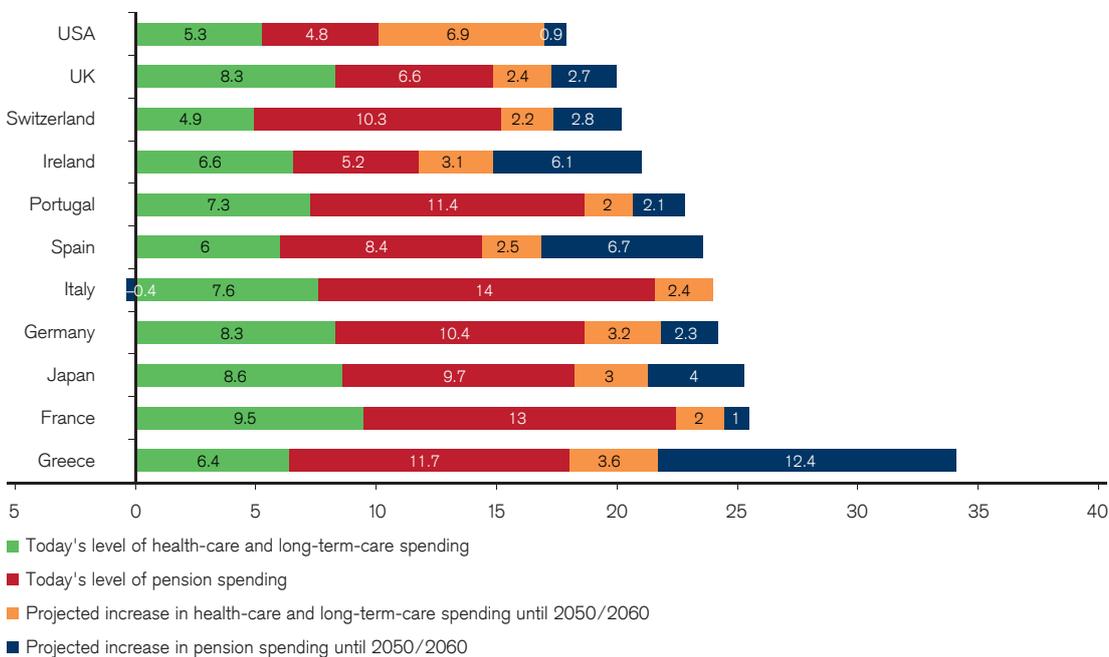
The level of pensions relative to earnings is itself determined by a number of other factors. In most countries, pensions are based on lifetime earnings. Alternative calculation bases are the salary in the final year or the last five years of employment. Spain and Greece, which are among the countries



Figure 1

### Current and projected public pension and health-care spending (% of GDP)

Source: European Commission 2009, Congressional Budget Office 2009, Federal Finance Administration 2008, Japanese Journal of Social Security Policy 2009



For Switzerland, the USA and Japan, the projections are until 2050; for the rest of the countries the projections are until 2060.

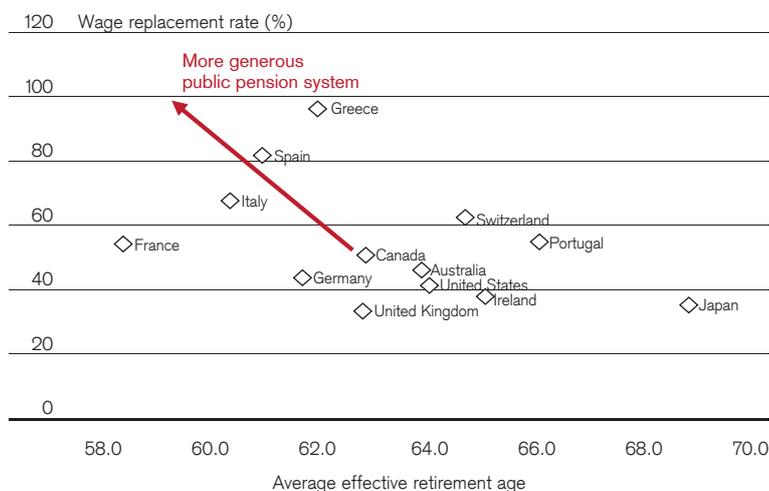
For Switzerland, pension spending constitutes old age/disability insurance spending.

For the USA, health-care and long-term-care spending constitute total Medicare and total Medicaid spending.

Today's figures refer to 2005 for Switzerland, 2009 for the USA, 2010 for Japan and 2007 for the rest of the countries.

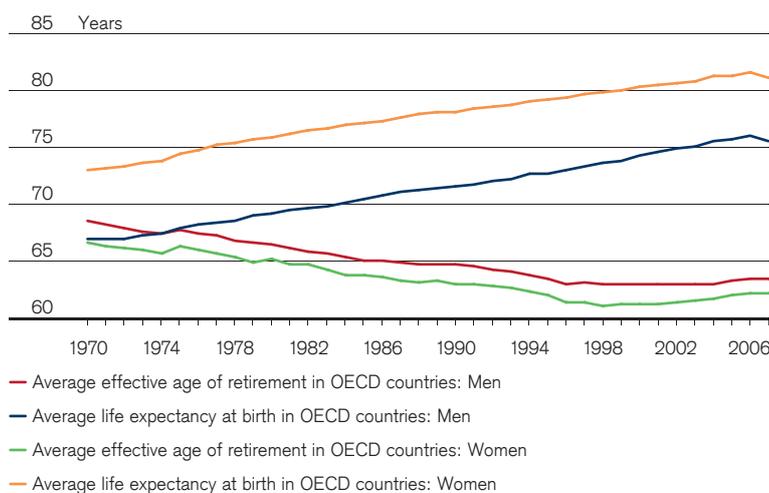
**Figure 2**  
**The two policy-determined parameters driving pension spending**

Source: OECD, Credit Suisse



**Figure 3**  
**Rising life expectancy clashing with declining effective retirement age**

Source: OECD, Credit Suisse



that up until the recent crisis were expected to see the largest increase in pension spending, used to base pension claims on the wages earned during the final years of employment, which tend to be higher. The so-called accrual rate also varies strongly between countries. Pension claims increased by 3.0% of annual earnings in Spain and by 2.6% in Greece with every year worked, while it was only 0.6% in Japan. However, as part of the pension reform passed by the Greek parliament in July 2010, Greek pensions will now also be based on lifetime earnings, and pension claims will only rise by 0.8%–1.5% of earnings for every year worked. The Spanish government is planning similar changes in the upcoming pension reform, which are still under discussion at the time of writing.

The manner by which accrued pension claims are indexed to reflect changes in the cost of living also has a major impact. In most countries, accrued claims are indexed to average wage incomes, which implies that pensioners also participate in productivity gains and growth of the economy after their retirement. If the consumer price index is used instead, that is not the case. According to OECD calculations, a switch from the first to the second method could result in individual pensions whose sum is 40% lower in real terms. Some countries, e.g. France, Spain and Belgium already follow this practice.

The second factor affecting pension spending is the effective retirement age.<sup>1</sup> Due to early-retirement schemes and other policies, the effective age at which workers retire differs in most countries from the legal age of retirement.<sup>2</sup> In most countries, the effective retirement age is below the legal age, but in a few countries, notably Japan and Switzerland, it is above the legal age.

The effective age of retirement in OECD countries fell continuously until the early 1990s, and has only recently started to rise again. But it remains far below the levels seen a few decades ago, even though life expectancy (both at birth and at age 65) has risen significantly as shown in Figures 3 and 4. Figure 5 shows that pension reforms enacted so far are insufficient to limit the effects of a further increase in life expectancy, as life expectancy beyond the retirement age is projected to increase further. One practical solution is to link officially recommended retirement ages to life expectancy.

We have estimated by how much pension spending would decline if the effective retirement age were raised to the level of Korea, which at 71 years is the highest effective retirement age among

<sup>1</sup> The average effective age of retirement is defined as the average age of exit from the labor force during a five-year period. Labor force (net) exits are estimated by taking the difference in the participation rate for each five-year age group (40 and over) at the beginning of the period and the rate for the corresponding age group aged five years older at the end of the period.

<sup>2</sup> The official age corresponds to the age at which a pension can be received irrespective of whether a worker has a long insurance record of years of contributions.

advanced countries, and if the replacement rate fell to the UK level (33.5%). It should be noted that these estimates are based on today's population structure, which understates the future impact of a higher retirement age, as the share of the population above current retirement ages will rise in coming years. The result is that most countries could see drastic reductions in pension spending, but the potential is more limited in faster-aging countries like Germany and Japan (see Figure 5).

Since the effective retirement age is below the legal age of retirement in most European countries, raising the legal age alone will not suffice. Figure 6 shows the economic activity rates at older ages in the OECD countries. Countries such as France, Greece, Spain and Italy have very low economic activity rates post 60 years.

Raising the age at which early retirement is possible or reducing the pension claims in the case of early retirement is therefore necessary. Conversely, working beyond the official retirement age should be adequately reflected in higher future pension claims in order to increase work incentives. According to OECD calculations, pensions would have to rise by 5.5% for one additional year worked at age 55 to be actuarially equivalent, at the current life expectancy. By the age of 69, an extra year worked would have to be compensated by an increase in the value of pensions by 8.5%. If a system of actuarially equivalent pension claims were introduced, one could do away with the official retirement age altogether.

Currently, such incentives are generally absent or even negative. For example, in the USA the Earned Income Tax Credit, which constitutes the most important form of income support for low-income workers, is not available to workers above 65 years unless they reside with a related child. In Australia, pensions are still means-tested, so working beyond the official retirement age decreases pension claims. On the positive side, the Senior Citizen Freedom to Work Act which was passed in the USA in 2000, removed such earnings tests for the receipt of social security. Moreover, a bill that was introduced in the Senate in 2009 aims to diminish the barriers to part-time work for older workers, such as loss of health coverage and decreased pension benefits. Lower pensions relative to earnings rates would also, of course, decrease the attractiveness of retiring. Changes to the rules on unemployment and disability benefits could also boost the supply of labor and reduce costs. In many countries, older workers can receive unemployment benefits without being obliged to look for work.

Raising employment across all segments of the labor force would more generally raise contributions to retirement systems and ease financial pressures. Measures range from raising the employment rate for younger workers to increasing the labor force through more immigration. In several European countries, there also remains ample scope to close

Figure 4

### Average life expectancy after pension eligibility age

Source: OECD, Credit Suisse.

Note: Pension eligibility age is defined as the earliest age at which full pension benefits can be claimed.



Figure 5

### Impact of our reform proposals on pension spending

Source: OECD, Credit Suisse

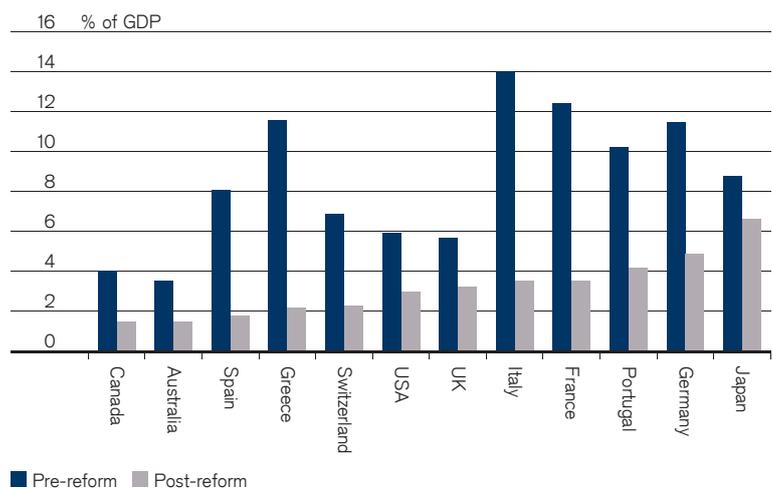
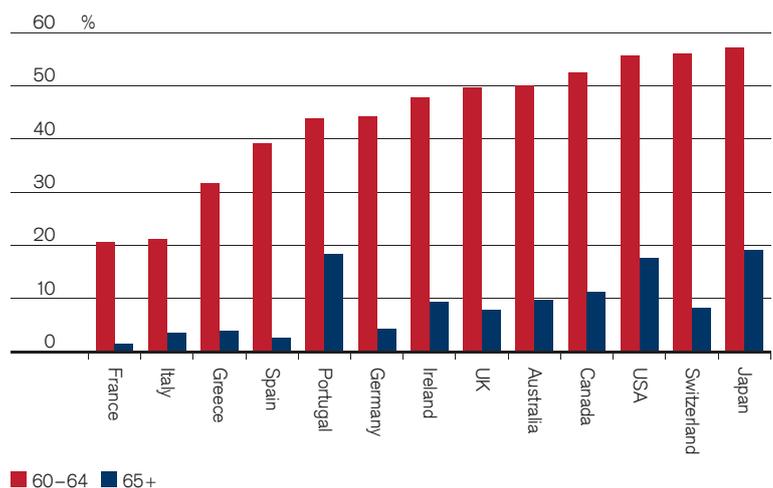


Figure 6

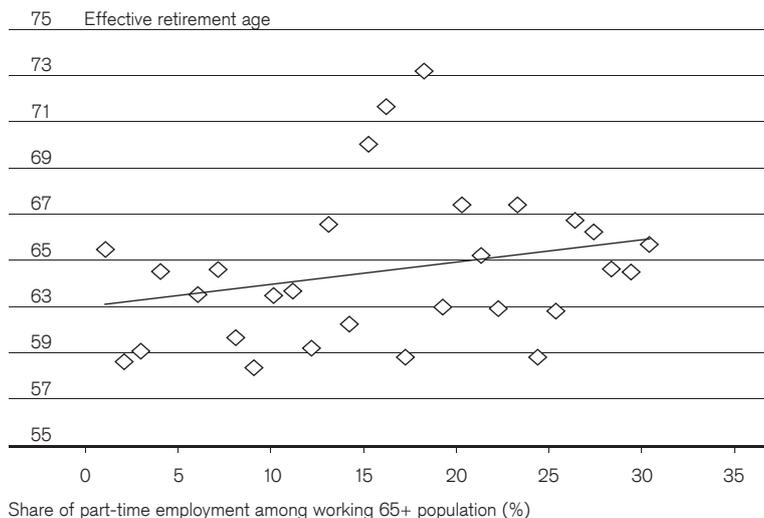
### Economic activity rates (men and women combined)

Source: ILO, Credit Suisse



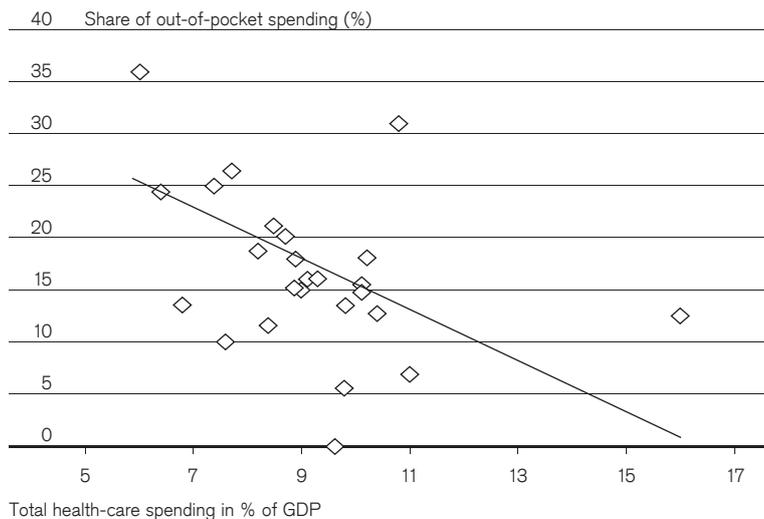
**Figure 7**  
**More part-time work encourages longer working life**

Source: OECD, Credit Suisse



**Figure 8**  
**Higher out-of-pocket expenditure cuts overall costs**

Source: OECD, Credit Suisse



the gap between male and female labor participation rates. The gap between male and female economic activity rates ranges from 10.1% in Canada and 11.6% in France to 22% in Greece and Italy, and 23.5% in Japan in 2010. Policies to increase female labor force participation rates, such as tax deductions for expenditures on childcare facilities or the spreading of technology to work from home, need to be adopted.

Finally, companies should be encouraged to offer flexible working schemes for older workers, including part-time work (see Figure 7). Higher wages for older workers also discourage their continued employment. In Japan or Korea, where retirement ages are very high and seniority wages are widespread, older workers are often rehired on temporary contracts or in part-time work at substantially lower wages.

**Health care: Capping costs more complex**

Aging-related public sector health-care spending is the second huge challenge for government finances. Aging itself is a key driver of these costs. Moreover, as people grow old, health expenditures are not only incurred on very evident physical ailments, but also on not-so-evident mental problems. Increased longevity of the kind that we have never experienced before is likely also to translate into unprecedented expenditures related to mental health. The ability for retired workers to work part-time would probably help contain these costs to some extent as working gives a direction in life.

However, aging itself is by no means the only factor driving costs. For while people get older, they also stay healthy for longer. Demand for health services seems to rise nevertheless. A key factor is the advance in medical “technology.” According to the OECD, about one-third of the yearly increase in health-care expenditures per capita over the past decades can be assigned to technological development. In addition, the number of computed axial tomography scanners and magnetic resonance imaging units has risen rapidly over the past 15 years, and there are some signs of overuse.

Still, new medical technologies need not necessarily drive up health-care costs. If they enable the provision of current medical services at lower cost, they can even reduce spending. One example is telemedicine, which is the use of information technology to deliver health-care services to patients in a different physical location than the provider. According to the US Department of Veterans Affairs, this technology has helped to lower the number of bed days in care by 25% and the number of hospital admissions by 19% among veteran patients with chronic conditions.

**Supply- versus demand-side measures**

More generally, the health-care issue can be tackled from the supply side or the demand side. On the supply side, more competition or price controls



can help. Restrictions on prices or wages are difficult to maintain in the long run, however, as charges need to reflect input prices, and limits on wages will likely lead to a lack of qualified medical personnel. The experience with greater competition in the medical profession has also been rather mixed.

We think that the problem of rising health-care costs has more to do with the uncontrolled rise in demand rather than supply-side inefficiencies. The key question is how consumption of medical services can be dampened while making sure that not only high-income patients will be able to benefit from technological advances. One approach is volume rationing, e.g. via budget caps which simply limit the amount of funds available to public sector medical service providers.

The alternative is to charge more to the consumer of medical services. Countries differ considerably regarding the share of expenditures covered directly by individuals rather than by the public sector. On average, public health-care spending accounts for 73% of total health-care spending in the OECD, but it is only 59% in Switzerland and only 45% in the United States. Private spending can again be broken down into spending by private health insurance schemes and into “out-of-pocket” spending. The latter is an important variable of aggregate health-care

spending: In countries where consumers have to pay a higher share of health-care expenditure out-of-pocket, aggregate health-care spending is lower (Figure 8). The idea here is to make health-care users aware of the costs, which could in fact also be achieved by making people pay up front and then partially or fully reimbursing them. It also encourages people to take better care of their health.

That said, there are obvious and serious equity concerns which need to be addressed. Cutting access to high-quality medical services and pharmaceuticals for low-income households or persons suffering from chronic illness is not a socially acceptable answer. Mechanisms will need to be found to exempt vulnerable groups from significant cost sharing, while at the same time assuring that public sector health expenditures remain in check.

Finally, more countries should also reimburse pharmaceuticals on the basis of generic prices, and some (Germany, USA) should start regulating producer prices for pharmaceuticals.

## Conclusions

We are relatively sanguine about the ability of governments to stem the expected rise in pension spending. The instruments are on the table, it is just a matter of political will to implement them. As

we advocated in “The Demographic Manifesto” (Credit Suisse Research 2000), older countries can adopt a mix of policies that include: 1. later and more flexible retirement (accompanied with abolition of mandatory retirement); 2. measures to increase female labor force participation; or 3. selective immigration. The key challenge is to raise the effective retirement age and increase labor force participation. Our rough calculations above suggest that a combination of an increased effective retirement age and somewhat reduced pension benefits (which lowers the replacement rate) could stabilize or even reduce the current ratio of pension expenditure to GDP and certainly avoid the currently projected increases.

Unfortunately, as is often the case with large fiscal adjustments, it tends to take a fiscal crisis before serious reform steps occur. However, as recent experience shows, when such steps are taken, they can be radical and effective. For example, the IMF estimates that the recent pension reform in Greece will reduce the expected rise in pension spending until 2060 from 12.5% of GDP to 4%–6%. Moreover, Greek legislation contains a safeguard clause to ensure that the final target of limiting the increase to 2.5% will be reached.

Stemming the rise in health-care spending will be more difficult. Technology can both raise and lower costs. The overall volume of services financed by the public sector might be reduced or the list of services covered could be limited. We also think higher out-of-pocket expenditures can help. That said, advancing societies will want to make sure that vulnerable groups will still be able to benefit from technical progress in medical care.

Finally, policy reform needs to be holistic across health, pensions, employment, education and taxes to lower costs. Unsustainable promises need to be tackled by policy reforms that reflect the current realities rather than the past. The renegotiation of pensions, health and long-term care benefits for people who are yet to retire, while unpopular, is essential to avoid intergenerational conflicts in the aging developed world. The future cost burdens of aging have to be borne by both the public and the private sector and at the same time be shared across generations in a manner that is as fair as possible. Reforms, we believe, can have substantial beneficial feedback effects if they combine to encourage greater participation in the economy and thus contribute to the lowering of the deleterious build up of publicsector debt.



# How high are unfunded liabilities?

The “fiscal imbalance” is the gap between the sum of the present value of future government spending and the current level of government debt, and the present value of future government revenues. So, how much money would the government need to have in the bank now to pay for all future budget shortfalls? Gokhale (2009)<sup>1</sup> estimates that Greece, for example, would need 875% of current GDP in the bank now to pay for future budget shortfalls. Some analyses only show the present value of certain spending categories, often health-care and pension spending, without taking revenues into account. For example, the IMF estimates that the present value of US aging-related spending is around 500% of GDP. A second approach is to calculate the so-called fiscal gap. This measures by how much the government would have to raise taxes or cut spending now in order to ensure that future revenues will be sufficient to cover future expenditure. According to Gokhale, the Greek government would have to cut spending or raise taxes by 12.8% of the future value of GDP in order to close future budget shortfalls.

The time horizon for these estimates is very important. For example, the IMF calculates that the fiscal gap for the USA more than doubles if one moves from a 50-year time horizon to an indefinite horizon. The discount rate applied is also crucial. Doubling the discount rate from 3% to 6% lowers the US fiscal gap from around 14% of all future GDP to 8%, according to the IMF.

Unfortunately, up-to-date measures of the fiscal imbalance or the fiscal gap are not available for a wide range of countries. Gokhale’s estimates are only available for European countries, and are based on 2004. It is likely that the ranking has changed in the meantime. For example, fiscal discipline deteriorated markedly in Ireland and Spain after 2004. Temporary budgetary shortfalls do not, however, have a very strong effect on the long-term picture, unless one uses a high discount rate. Calculations by the IMF for the USA suggest, for example, that excluding the financial crisis years would only lower the fiscal

Figure 1

## Greece has by far the largest “fiscal imbalance”

Source: Gokhale, Credit Suisse

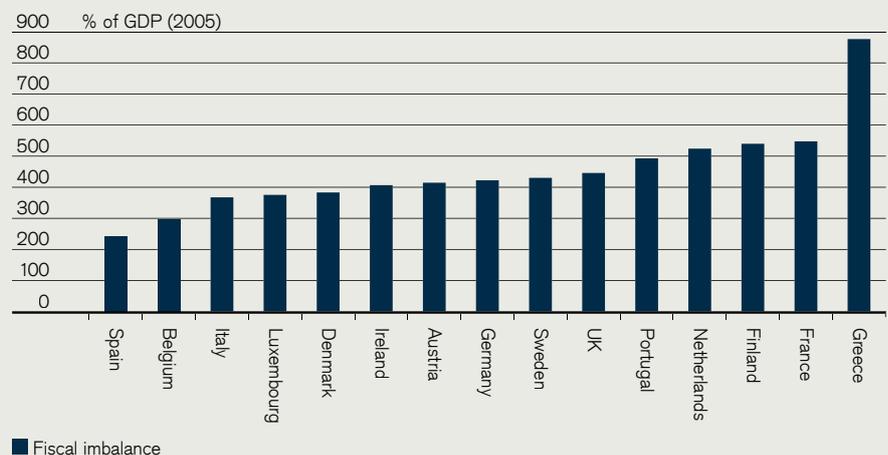
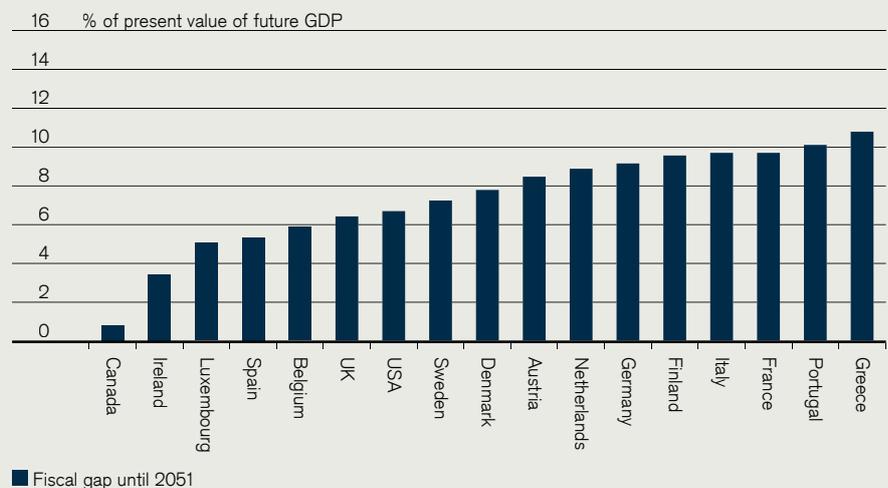


Figure 2

## “Fiscal gap” differences less pronounced

Source: IMF, PBO, Gokhale, Credit Suisse. Estimates for the US and for Canada are until 2060.



gap by 0.1% of all future GDP (assuming a discount rate of 3%).

Figure 1 shows Gokhale’s estimates of the fiscal imbalance, which are based on an infinite time horizon. We also show his estimates for the fiscal gap (see Figure 2), which are based on a time horizon until 2051, and we include the IMF’s estimate of the US fiscal gap until 2060. For Canada, we use estimates from the Parliamentary Budget Office, also until 2060. Under the IMF scenario, the US federal deficit would reach around 90% of GDP by 2080, principally reflecting large interest pay-

ments as the government debt-to-GDP ratio would surpass 1000% of GDP. Such deficits and debt levels are of course clearly unsustainable, suggesting that policies will need to change. Reinforcing this message is probably the main the value of such calculations.

**Marcel Thieliant,**  
Credit Suisse Private Banking

<sup>1</sup> Jagadeesh Gokhale, “Measuring the Unfunded Obligations of European Countries,” National Center For Policy Analysis, Policy Report No. 319, January 2009.

# Emerging market debt: A differentiated view

The fiscal performance of most of the large emerging markets (EMs) has been far better than for advanced countries both before and especially since the financial crisis, and projections suggest this will remain so. The trend toward higher credit ratings is thus likely to persist. That said, the performance differences between EMs remain significant. Success is not innate but the result of the pursuit of the right policies.

**Paul Fage**, Head of EMEA Strategy, Credit Suisse Investment Banking

**Bernhard Obenhuber**, Emerging Market Fixed Income Strategist, Credit Suisse Private Banking

There has been a dramatic difference in fiscal performance between emerging and developed economies from just before the credit crisis up to the present. The IMF estimates that the debt-to-GDP ratio for EM governments in the G20 will have fallen by 0.2 percentage points between end-2007 and end-2010, while that for the developed countries has risen by 26.0 percentage points in the same period. And as shown in Figure 1, according to IMF forecasts, this superior performance is likely to continue over the coming years.

While one might be tempted to ascribe this superior performance to structural advantages of EMs, such as more favorable demographic trends, the key in our view has been the much improved macro and micro policies. The policy reforms themselves were a response to the series of economic and debt crises that afflicted many of these countries in the 1980s, 1990s and early 2000s. The changes ranged from tighter fiscal and monetary

policies to strenuous efforts to reduce external vulnerability through tighter controls on capital flows and currencies and a buildup of foreign exchange reserves, to tougher capital requirements and lending limits for domestic banks. The rewards for these efforts were a continued trend improvement in the rating of EM sovereign debt (see Figure 2) with some, such as South Korea and Israel, graduating to advanced country status, and a stellar performance of EM bonds (as well as equities) over the past years, interrupted only very briefly at the start of the financial crisis.

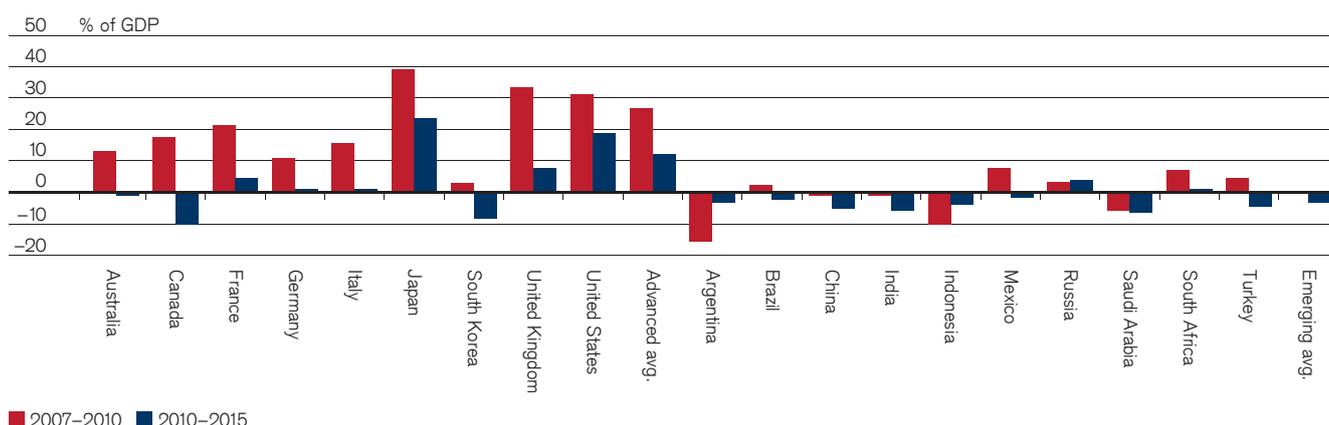
## Not everyone is a winner

That said, there has been considerable dispersion in both the economic and credit performance of developing countries. As regards economic development, the truly successful countries have, so far, been the exception. Figure 3 shows the GDP per

Figure 1

## Change in ratio of government debt to GDP for G20

Sources: "The State of Public Finances Cross-Country Fiscal Monitor: November 2009", Fiscal Affairs Department, IMF; Credit Suisse



capita of 180 countries in the year 1980 and the average annual growth rate of the GDP per capita ever since. The green area highlights countries that have been able to post the highest gains in per capita wealth – the successful countries that merit the label emerging markets. In contrast, the red area shows countries with low or even negative growth rates of GDP per capita.

While the bulk of “underperformers” can be found in the low-income segment, there are also several countries that started from relatively high income levels but experienced negative growth rates. This includes small countries like Gabon and Serbia, but also many former members of the Soviet Union, such as Ukraine and the Russian Federation itself. In 1989, Russia had a GDP per capita of USD 13,071 that declined toward USD 7,331 in 1998. It took another decade to reach the starting level again. Compared to the prime example of successful development in the past decades, South Korea, which increased its GDP per capita from approximately USD 5,500 (or 21% of the level of the United States) in 1980 to almost USD 25,500 (60% of US per capita GDP) in 2009, even strong performers like Brazil have lagged enormously. Far more negative is the case of Venezuela, which in 1977 was rated AAA by S&P only to drop to a speculative grade rating (i.e. BB-) three decades later, despite what seemed to be good starting conditions for economic development.

### Contingent liabilities as a risk factor

One of the lessons of the financial and Eurozone debt crises has been that explicit government debt is not the only factor determining a country’s credit vulnerability. Many countries – EM and developed countries alike – entered the global downturn with a stock of government debt that was regarded as manageable by the markets and past experience. Russia is the prime EM example. With a general government debt-to-GDP ratio of below 10% in 2009 and a stock of external debt of USD 37 billion that compared to USD 425 billion of foreign currency reserves, one might have expected the country’s credit risk to be very low. However, Russian credit spreads experienced one of the sharpest widenings in 2009, rising from 1.7% in January 2008 to over 7.4% in November of the same years and still remain far higher than before the financial crisis.

The key reason was the entanglement of the government in private companies (i.e. energy companies or financials) which had borrowed heavily abroad. In fact, while the ratio of government debt to foreign exchange reserves amounted to only 7.9%, this ratio deteriorated sharply to 68% when taking private sector foreign debt into account. The situation was made even worse due to the private sector’s heavy reliance on short-term funding. In other words, the private sector had piggybacked on the strong sovereign balance sheet while global credit markets were wide open, but the government

Figure 2

### Average rating of EM sovereigns

Unweighted average of the S&P and Moody’s ratings for a group of 31 EM countries  
Source: S&P, Moody’s, Credit Suisse

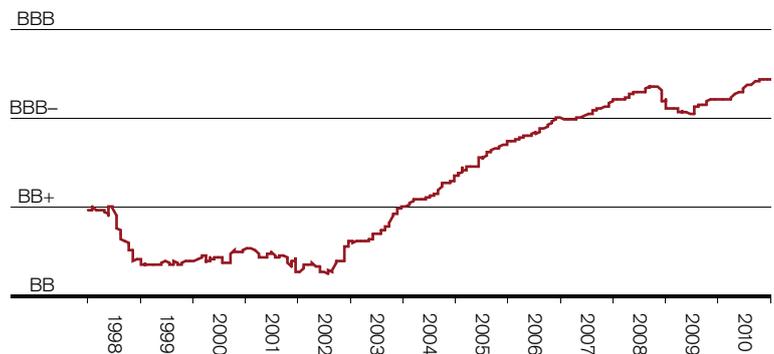
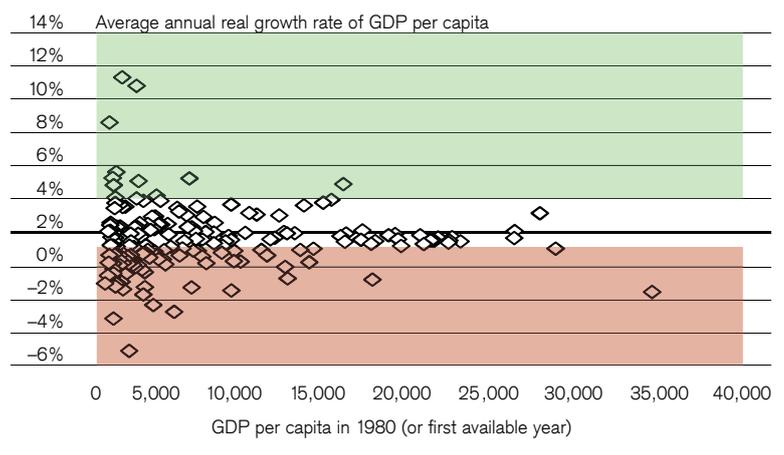


Figure 3

### Few developing countries have so far “emerged”

GDP per capita in 1980\* versus average annual growth rate of GDP per capita (1980–2009)  
\* or when first data was available

Source: IMF, Credit Suisse



then was forced to take on these liabilities when the crisis hit. A similar situation occurred in Ukraine and Bulgaria – and was the cause of the crisis in Ireland.

### Differentiated analysis needed in all cases

The basic conclusion is that a differentiated analysis of credit risks continues to be called for regarding EMs just as for advanced countries. While the growth potential is greater in most EMs, many of these countries have not yet realized that potential. Hence, their ability to sustain debt remains limited. Conversely, the reason EMs have avoided debt-related problems in the past years was not because of their better growth potential but because of better macro and micro policies which, in turn, very likely boosted their growth. Just as elsewhere, a key focus of credit analysis should therefore be on the quality of economic policies. Second, and related, just as is the case for advanced countries, government debt should not be analyzed in isolation but in the context of a country’s overall balance sheet.



# Improving guidance for sovereign credit investors

Unforeseen credit events during the financial crisis of 2008–09 as well as the Eurozone debt crisis of 2010 have challenged rating agencies as well as credit experts within the banking industry to enhance their analytical “toolbox” in order to improve their guidance for investors. This article presents summaries of two recent studies by Credit Suisse experts whose goal is to contribute to that effort.



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**Jonathan Wilmot**, Chief Global Strategist, Credit Suisse Investment Banking (part 1)  
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Assessing the risk of default is a complex matter. It involves evaluating both the ability and willingness of a sovereign bond issuer to service its present and future obligations in full and on time. In addition to the analysis of the “pure” finances of a country, an in-depth analysis of the domestic political situation and the government’s intentions and attitude toward fiscal discipline and its creditors is required. Moreover, such “soft factors” will feed back into economic performance and the fiscal situation and will thus ultimately be decisive for the sovereign’s payment capacity.

Rating agencies, which have arguably refined the process of sovereign credit analysis the most, typically derive their rating through a multistep process, which weighs many quantitative and qualitative fac-

tors. One of the disadvantages of such a complex process may, however, be that it is difficult for market participants to replicate. There will always remain a fairly significant subjective element in the final assessment of the default probability (S&P and Fitch) or the expected loss (Moody’s), respectively.

The following two contributions to sovereign risk analysis try to reduce the subjective element as far as possible. The first section presents a scoring approach to credit risk, which covers a number of qualitative factors together with the more standard quantitative measures. The second presents an outline of an enhanced quantitative approach, which exploits the way financial markets process both credit as well as macroeconomic data to price credit risk.

## Part 1: A scoring approach to determining default risk<sup>1</sup>

To many market participants, Greece and Ireland were the canary in the coal mine. Portugal and Spain are next, and France, the UK, the USA, and Japan will eventually face severe difficulties as well, it is argued. This is likely to be an error of induction. History suggests that countries with floating currencies, independent central banks and domestic currency debt have negligible default risk. Other bad outcomes – particularly inflation – are possible, but will exhibit a different time path and affect bondholders quite differently than outright default.

Meanwhile, two countries with identical debt-to-GDP ratios, interest payments, GDP growth and current account balances can have completely dif-

ferent debt dynamics, depending on factors ranging from political flexibility to reserve currency status, to entitlement programs or government guarantees of private debt. Assessing the true risk to bondholders thus implies a need to blend a broad group of (interrelated) factors in a disciplined way. A framework is needed that allows investors to distinguish between countries with superficially similar debt or deficit ratios.

### The framework

Very often debt sustainability is reduced to a few key ratios (debt and deficit levels), but these need to be supplemented by other factors to better capture credit risk. Some of these we call cyclical factors. They include the maturity of debt, the size of

Figure 1

## Sovereign debt scorecard

Source: Credit Suisse

Structural						Score	Weight?
Country type	Reserve 5	Large creditor 4	Small creditor 3	Large debtor 2	Small debtor 1		1
Trilemma (give up which?)			Fixed FX 3	Open flows 2	Independent policy 1		1
Inflation sensitivity	<2% 5	2–4% steady 4	2–4% volatile 3	>4% steady 2	>4% volatile 1		1
Terms of trade risk	Low 5	4	Moderate 3	2	High 1		0.75
Potential captive savers?	Many 5	4	Some 3	2	None 1		1
Subtotal						0	
Cyclical							
Gross debt to GDP	<50% 5	50–75% 4	75–90% 3	90–110% 2	>110% 1		1.25
Fin. asset cushion	>100% 5	75–100% 4	50–75% 3	25–50% 2	<25% 1		1.25
Interest burden/potential growth	<.7 5	.7–.9 4	.9–1 3	1–1.25 2	>1.25 1		1.25
Rate volume	Low 5	4	Moderate 3	2	High 1		1
Hidden ST liabilities	Low 5	4	Moderate 3	2	High 1		1
Foreign FX debt	None 5	4	Small 3	2	Significant 1		0
Underlying primary balance	>2% 5	0–2% 4	(2)–0% 3	(5)–(2)% 2	<(5%) 1		1.25
Average maturity of debt	>10 5	8–10 4	6–8 3	4–6 2	<4 1		0.25
Government revenue to GDP	<35 5	35–40 4	40–45 3	45–50 2	>50 1		0.25
Gold reserves to GDP	>4% 5	3–4% 4	2–3% 3	1–2% 2	0–1% 1		0.25
Subtotal						0	
Long-term dynamics							
Contingent liabilities	Low 5	Moderate unlikely 4	Moderate likely 3	High unlikely 2	High likely 1		1
Entitlement liabilities	Low 5	4	Moderate 3	2	High 1		1.25
Political flexibility	High 5	4	Moderate 3	2	Low 1		0.75
Subtotal						0	
Short term + structural						0	
Overall						0	

(liquid) government assets and the potential to raise tax revenue. But beyond that there are several other key variables of a more structural nature (e.g. reserve currency status, country size, vulnerability to terms of trade or interest rate shocks), which determine a sovereign's risk of defaulting. Other important but hard-to-value factors include the generosity of entitlement promises, the size of deposit insurance or other financial sector guarantees/subsidies. Finally, political flexibility may be the key to debt sustainability: Where the political system is able to move decisively in the face of fiscal strains or shocks, seemingly inexorable outcomes can be changed. That said, there may be shocks so severe as to overwhelm even highly flexible economies and political systems. Not surprisingly, war is therefore by far the most common cause of past sovereign defaults (see article on page 6).

Our scorecard (see Figure 1) assigns a score of 1 to 5 for each specific factor, and a weight for each factor, then sums the total weighted score to arrive at a final index number. Using inputs from analysts on different teams within fixed income research, we scored each country. Note that both the scores and weights are subjective, not definitive.

Our attempt at scoring yields the following conclusions about relative debt sustainability:

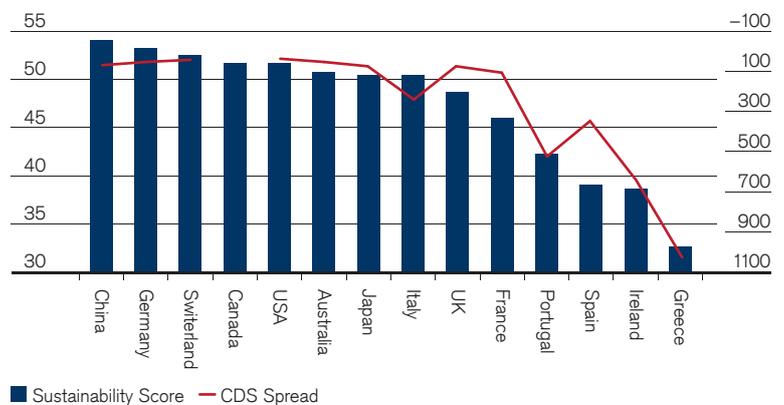
- The first tier of sovereign debt includes the liabilities of China, Germany, Switzerland, Australia and Canada. More controversially, it also includes the USA, Italy and Japan. In our view, these countries have negligible default risk. These countries may (and probably do) have some unsustainable liabilities, but for most this implies much longer-term risks of inflation (indirect default) if action is not taken to cap or reduce long-term entitlement commitments.
- The second tier includes the UK and arguably France. Credit risk remains very low for these two, but structural factors suggest slightly greater risks of debt sustainability issues. For the UK, these are most likely to show up in higher inflation risks, for France, the main concern is public sector rigidities and entitlements. Given its membership in EMU, France is unlikely to evade these by means of inflation.
- The third tier includes Greece, Portugal, Spain and Ireland. For these four, the risks of actual default are significantly greater, unless and until rules for a more explicit fiscal and political union within the Eurozone are worked out. This process has now begun in a classic process of crisis-led reform.
- Note that the Eurozone GDP-weighted average score is similar to the UK score. Moreover, all countries in our sample – no matter what their debt level – would be perfectly creditworthy if primary budget surpluses were the norm.

Figure 2 compares our scores with the structure of credit default swaps (CDS) spreads and very loosely suggests the ranking of CDS spreads makes sense, except that France trades at a premium (i.e. default risk is apparently underpriced). In the case of Ire-

Figure 2

## Sovereign debt sustainability scores vs. 5-year CDS spreads

Source: Bloomberg, Credit Suisse  
Note: Maximum score is ...



land, Portugal and Spain, CDS spreads also underpriced default risk as measured by our scores until the summer of 2010, but they have since caught up. Interestingly, the EMU average score is close to that of the UK. These scores are also shown in the more detailed country analyses on pages 62 ff.

## Part 2: A multifactor approach to assessing fair value<sup>2</sup>

As shown in the preceding section, there is a close correlation between the results of a well-designed scoring model and the market assessment of default risk as reflected, for instance in CDS. However, as also noted, the derivation of such scores involves a considerable amount of subjective assessment, both regarding the choice of factors and the weighting of the various quantitative and qualitative measures used. Moreover, while scoring models derive the relative ranking of the analyzed entities, they do not provide a quantitative assessment regarding the correct valuation of the respective bonds. The same goes for the ratings provided by the rating agencies. In contrast, the second approach described here takes as its starting point the assessment of credit risk by the financial markets and assumes that "on average" market prices reflect the multiple determinants of default risk.

## Estimation of fair value yields

Debt levels that individual sovereigns can afford vary broadly across issuers, suggesting that traditional measures of public indebtedness alone (e.g. general government gross or net debt-to-GDP ratios) do not determine the market price of sovereign

<sup>1</sup> For more details see, "Sovereign Risk: Beyond The Numbers," Credit Suisse Investment Bank, May 2010.

<sup>2</sup> For more details, see CS Investment Idea, "Assessing the Credit Quality of Sovereign Debt: Analysis and recommendations," of 16 July 2010.

debt. Debt affordability (measured e.g. as interest payments to total government revenues) and debt sustainability are likely to be more important. The former shows whether a sovereign debtor can source enough funds from its economy to service its outstanding debt and is closely observed by rating agencies, while over a long-term horizon, debt sustainability, i.e. a country's debt-bearing capacity, is likely to dominate. The latter is principally determined by long-term macroeconomic performance.

A fair value model for sovereign yields thus needs to unify credit measures with macroeconomic fundamentals, in our view. Above all, it must incorporate the current fiscal situation as well as the fiscal adjustment capacity and flexibility of the analyzed country. The most important macroeconomic variables determining the latter are likely to be real GDP growth and consumer price inflation. The current account balance as a proxy for the ability of a country to generate savings is similarly important in defining the current and future credit status of the economy. The fiscal adjustment capacity also depends on the ability of the government to cut spending or raise taxes. Additionally, there may be structural differences between countries that go beyond simple sovereign credit measures or macroeconomic variables. These may include: 1. the origin of demand for sovereign bonds (domestic or foreign); 2. the strength of the domestic banking sector (which may determine how much government debt can be absorbed domestically); or 3. the status of the central bank (does a country have its own central bank which may or may not back up a sovereign by printing money?).

In order to take account of all of the above considerations while having at hand only a limited sample of annual data, we have specified our fair value

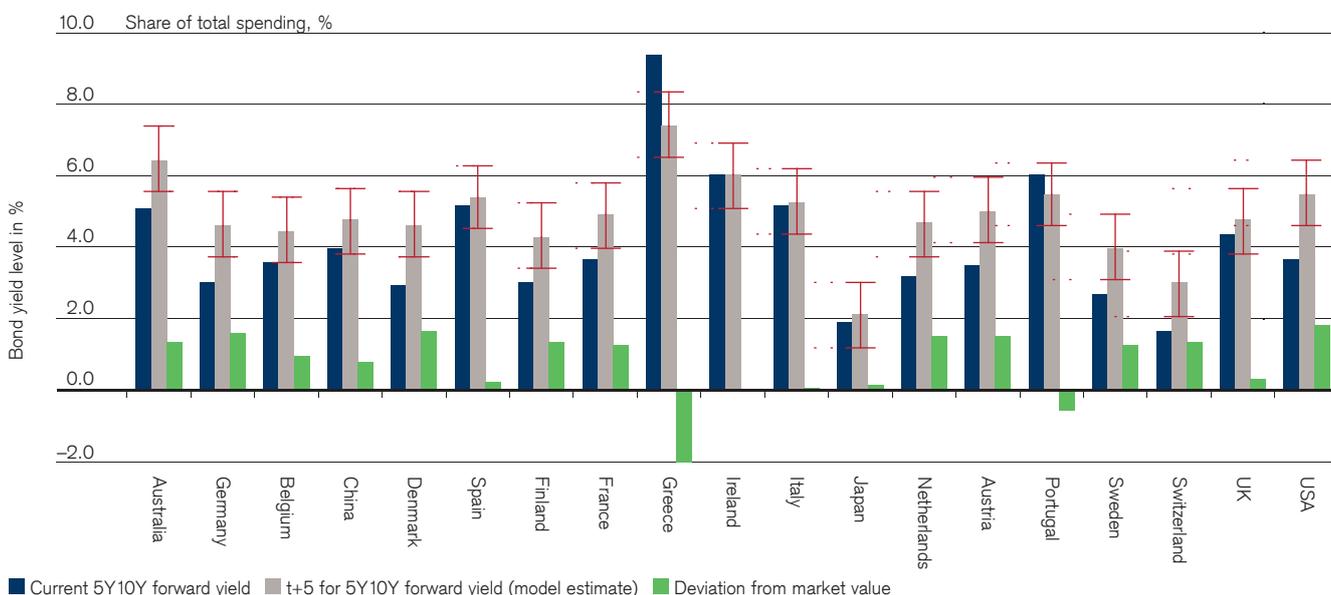
model in a panel regression framework with fixed effects. The latter are to reflect the individual sovereign specifics described above. To eliminate short-term monetary policy effects and only concentrate on what we consider a good proxy of sovereign risk premia, we have chosen as our measure of required compensation for credit risk the difference between ten-year government bond yields and the respective central bank rate. The sensitivity analysis of the model reveals that this credit risk variable increases with 1. increasing inflation; 2. decreasing economic growth; 3. deteriorating sovereign credit measures (e.g. increasing distress ratio); 4. historically high tax burdens; 5. historically high current account deficits.

Based on this setup, we derived a fair-value ten-year bond yield in five years' time for a selected number of countries. We found that most of the sovereign credit information is priced into bond markets – for countries including Spain, Portugal, Ireland and Italy, the deviations from our fair value estimates were inside our confidence interval of +/-1.5 standard deviations (see Figure 3). On the other hand, Greece, Switzerland, Germany, France, Austria, Australia and the USA lay outside this range, suggesting that markets were possibly overpricing or underpricing the bonds of these sovereigns.

Like other models, our econometric approach will have difficulties providing accurate forecasts for credit spreads whenever the market sensitivity to both credit data changes radically. Hence, the relationships of spreads and determining factors need to be re-estimated from time to time. However, by including a broad set of historical experiences across a number of countries, including some that have experienced credit stress, it should help support credit analysts in providing guidance to investors.

**Figure 3**  
**Sovereign bond premia: Market and model forecasts\***

Source: Bloomberg, Credit Suisse  
\* This chart reflects data from early July 2010.





# Guide to country fiscal profiles

The Euro fiscal crisis suggests that investors should monitor fiscal developments carefully. The preceding pages look at key drivers of debt from a top-down perspective; the following pages provide country details, including the countries' debt sustainability scores as illustrated on page 59.

**Oliver Adler**, Head of Global Economics & Real Estate Research, Credit Suisse Private Banking  
**Marcel Thieliant**, Research Analyst, Credit Suisse Private Banking

The following pages provide an analysis and outlook for the fiscal situation in selected countries. How debt will evolve over the coming years will depend both on political decisions regarding taxation and spending, as well as on the economic growth and the financial environment, especially the interest costs that governments will face. Given the complex interactions between all these variables, the precise outcome is not possible to forecast with any precision. We have therefore generated a number of scenarios for the evolution of gross government debt as a percentage of GDP over the next ten years. These are derived using the formula that encompasses the basic drivers of a country's debt ratio:

$$\Delta d_t = d_{t-1} * (i_t - y_t) - pb_t + sf$$

Here  $d$  is the debt-to-GDP ratio;  $i$  the average interest rate paid on the debt;  $y$  is nominal GDP growth;  $pb$  is the government primary balance (i.e. the deficit less interest payments, as a percentage of GDP); and  $sf$  is the so-called stock-flow adjustment (to take into account the items that affect the debt but not the deficit, e.g. bank rescue packages and privatizations).

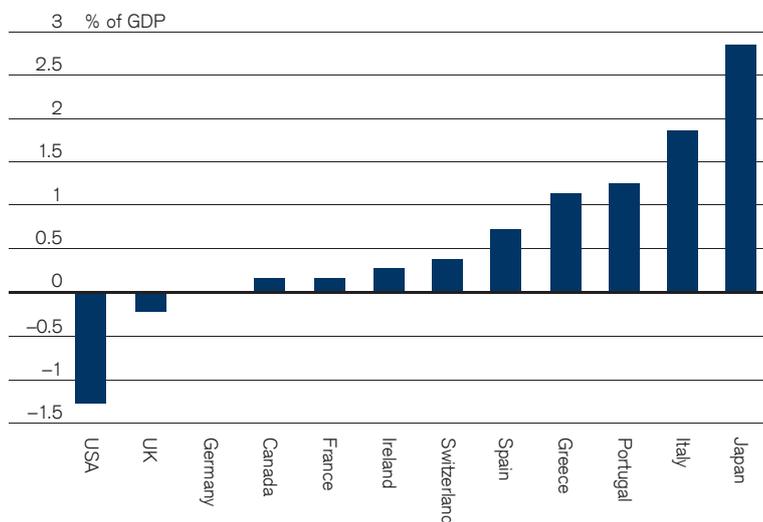
If we exclude stock-flow adjustments that have only a one-off impact on the debt level, we can see that the debt ratio stabilizes (i.e.  $\Delta d_t = 0$ ) when  $pb_t = d_{t-1}(i_t - y_t)$ . In other words, the country needs a primary surplus whenever the interest rate exceeds the rate of nominal GDP growth. Moreover, the larger the initial debt ratio, the larger the primary surplus required. Figure 1 shows the primary balance that is needed to stabilize the debt/GDP ratio. For example, while nominal interest rates are low in Japan, potential nominal GDP growth is even lower due to persistent deflation. Given its high debt level, the country therefore needs a considerable budget surplus to stabilize the debt-to-GDP ratio.

The central scenario for government debt ratios is based on Credit Suisse forecasts for growth, inflation, interest rates and government deficits. In the country pages that follow, this scenario is shown together with a "bestcase" and "worstcase." In the best case (worst case), the assumptions are that real GDP growth is 2% stronger (weaker) than in the central scenario, while inflation is 1% higher (lower). Similarly, the primary balance is varied by +/-1% relative to the central scenario. The debt scenarios are shown in the first chart on each of the following pages.

Figure 1

## Required primary balance to stabilize debt-to-GDP ratio

Source: Datastream, Bloomberg, Credit Suisse



■ Required primary balance to stabilize debt-to-GDP ratio



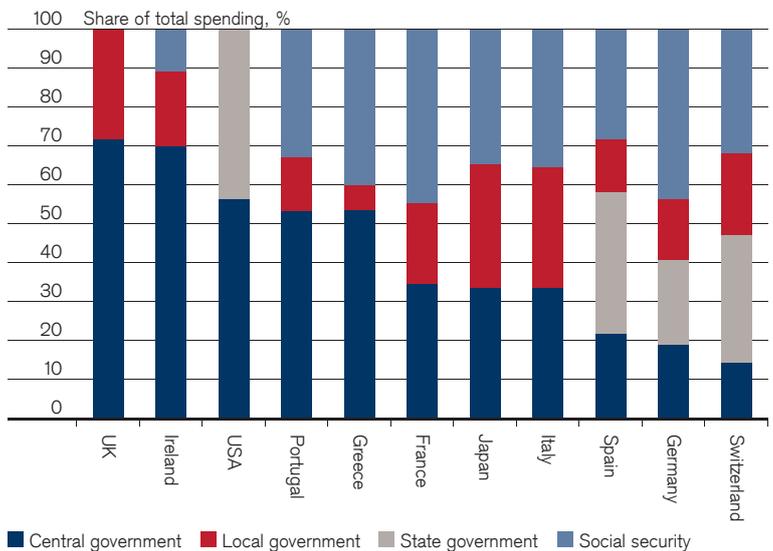
PHOTO: ISTOCKPHOTO.COM

The second chart shows the development of the respective country's budget balance. In most countries, fiscal data on a monthly basis is only available for the central government, even though the share of spending of other public entities can be sizable (see Figure 2), so these numbers need to be interpreted with caution. It should also be noted that these figures are on a cash basis, while the deficit ratios are commonly reported on an accrual basis. Ireland is a good example: The government's deficit on a cash basis is smaller in 2010 than in 2009, even though its deficit on an accrual basis has surged from 14.4% to 32% of GDP. The reason is that the cost of bank recapitalization will be spread out over the coming years via promissory notes, with no effect on the 2010 cash deficit. Notwithstanding these qualifications, the following pages should provide a rough guide as to the fiscal prospects of some of the main countries subject to market scrutiny, now or in the future.

**Figure 2**

**Share of spending by level of government**

Source: OECD, Credit Suisse





## France Sustainability score: 46 / 85.5

French public finances are shaped by extremely high levels of transfer spending and wages. Social security reforms will be necessary in the coming years to stem a projected further rise in public spending.

France has always been the country of "Étatisme." At 56% of GDP, the country has one of the highest shares of public spending among advanced countries. The structure of this spending is debatable: At slightly above 3% of GDP, public investment spending is not high by international standards. The bulk of spending is redistribution – transfer spending accounts for 35% of GDP, while compensation of public service employees also accounts for a sizable 13% of GDP.

This is unlikely to change going forward. Public pension spending already ranks among the highest in the OECD at 13% of GDP, and the European Commission projects a further increase to 15.4% by 2060. A rapid increase in the number of old people, combined with the lowest effective retirement age of the OECD countries at 58.7, plays a role.

Even though the tax burden is already high, the government is planning to raise taxes in the 2011 budget by cutting back on a wide range of tax exemptions. This is expected to increase revenues by 0.7% of GDP. The expiration of fiscal stimulus measures should provide another 0.6%. The remainder of the planned reduction in the 2011 deficit from 7.7% to 6.0%

### Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	1.9
General government budget deficit, % of GDP, 2010	-8
Cyclically adjusted general government budget deficit, % of GDP, 2010	-5.5
Gross government debt, % of GDP, 2010	84.2
Net government debt, % of GDP, 2010	57.2
Interest payments/government revenues, in %, 2010	6.2
Government spending, in % of GDP, 2010	55.8
Government revenues, in % of GDP	47.6
Share of government debt held by foreigners, %	57.4
Average maturity of government debt in years	6
Share of inflation-linked debt, %	15
Rating (Standard & Poor's, Moody's, Fitch)	AAA, Aaa, AAA

of GDP stems from lower expenditures. Central government spending, excluding pension spending and debt servicing, will be frozen in value until 2013, and the same holds for transfers to the regional governments, which accounted for 4.4% of GDP in 2010. Notably, this adjustment has been called "unprecedented" by the French government.

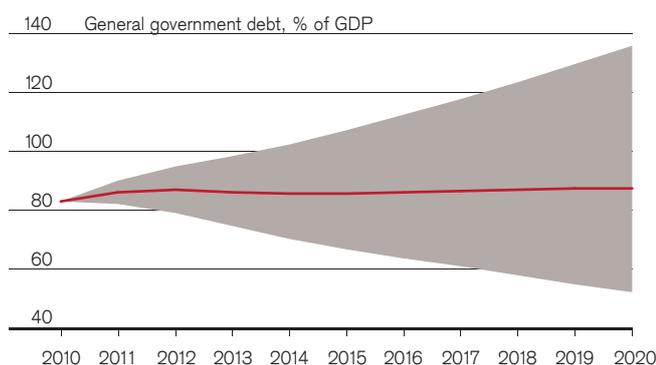
However, we do not expect further spending cuts as the upcoming presidential campaign – likely to pick up steam by the summer – will place the government under further pressure.

With regard to France's overly generous pension system, the government plans to increase the legal age of retirement from 60 to 62 by 2018, and to increase the age at which a full pension is granted from 65 to 67. Overall, we think the social security system will have to be reformed further to ensure the sustainability of public finances. At current levels, there is not much room to finance higher expenditure through higher taxes.

**Valérie Plagnol,**  
Credit Suisse Private Banking

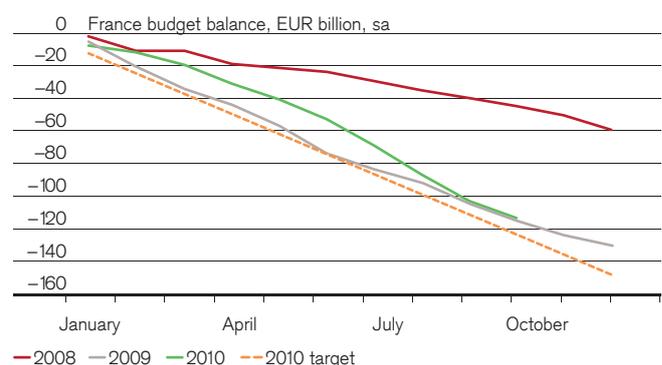
### Government debt trajectory

Source: Credit Suisse



### Budget balance development

Source: Datastream, French Ministry of Finance, Credit Suisse





# Germany Sustainability score: 53.25 / 85.5

The strong economic recovery in Germany implies that public finances are in better shape than expected. Going forward, the constitutional debt brake should ensure a further decline in the budget deficit.

Germany entered the recession with relatively strong public finances, having recorded a slight budget surplus in 2007, and a moderate debt level of slightly below 70% of GDP. Of course the recession left its mark on the deficit, and Germany also implemented one of the larger stimulus programs in Europe, with discretionary spending of 1.5% of GDP in 2009 and 2.0% in 2010, according to IMF estimates.

The government had expected the deficit to almost double from 3.2% in 2010 to 5.5% in 2011. But the strong economic recovery – with growth in 2010 more than twice as high as expected by the government – implies that the deficit will probably be significantly smaller than projected. In July 2010, the government revised its estimate to 4.5% of GDP, but we think it could be even smaller at around 3.5% of GDP.

The same holds for the level of debt, which the government had expected to continue rising moderately until 2013 to reach 82% of GDP. However, it now seems more likely that it will already stabilize next year. Even though public finances are in fairly good shape, the government still presented a consolidation package in June which foresees a reduction in the structural deficit by 1.1% of GDP by 2014. The measures

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	2.7
General government budget deficit, % of GDP, 2010	-4.5
Cyclically adjusted general government budget deficit, % of GDP, 2010	-3.5
Gross government debt, % of GDP, 2010	75.7
Net government debt, % of GDP, 2010	52.7
Interest payments/government revenues, in %, 2010	6.5
Government spending, in % of GDP, 2010	48.2
Government revenues, in % of GDP	42.5
Share of government debt held by foreigners, %	50.3
Average maturity of government debt in years	5
Share of inflation-linked debt, %	2.3
Rating (Standard & Poor's, Moody's, Fitch)	AAA, Aaa, AAA

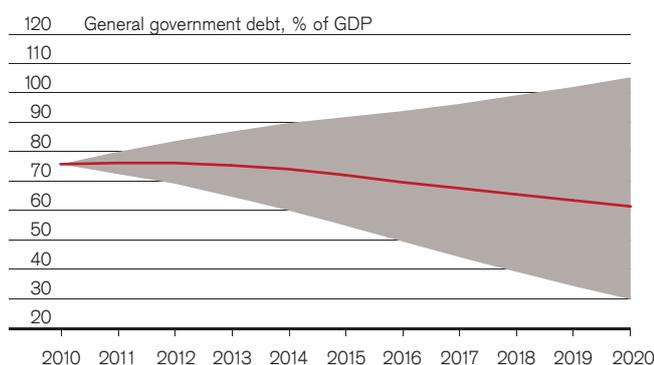
will be phased in gradually, with the largest impact in 2011.

Going forward, the government is obliged by a new constitutional “debt brake” to lower the structural deficit to 0.35% by 2016 at the federal level and by 2020 at the state level. The structural deficit was projected at 4.5% in 2010, so more needs to be done. But we are confident that the target will be met.

**Marcel Thieliant,**  
Credit Suisse Private Banking

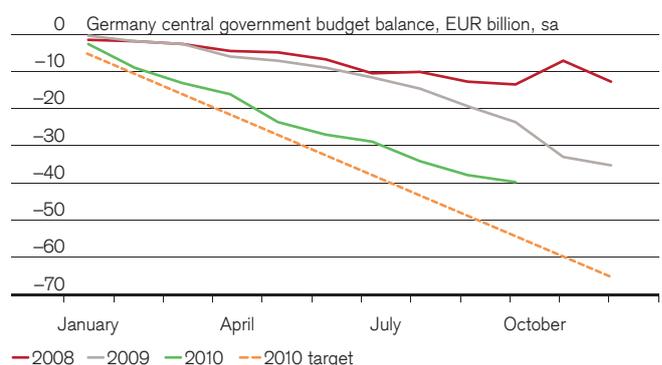
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: German Ministry of Finance, Credit Suisse





## Greece Sustainability score: 32.75 / 85.5

Greece has made remarkable progress in reducing its outsized budget deficit, but debt will peak at very high levels, and the risk of debt restructuring remains high.

Greece has been running large budget deficits for several years. Before the crisis, this did not result in an increase of the debt ratio, as nominal GDP growth was strong due to its catching up with the rest of the euro area in terms of productivity, and due to high inflation. But things changed when the global recession started.

The turning point for Greece occurred in October 2009 when the newly elected government revised up its estimate for the 2009 deficit from 6% of GDP to 12.7%. Since then, these numbers have been revised higher several times, with the latest estimate at 15.4%. Significant bond redemptions in April and May 2010 helped trigger skepticism among investors and resulted in a sharp increase in borrowing costs. Greece finally received a EUR 110 billion rescue package from the EU/IMF in early May in return for strict austerity measures.

These measures include a 4% rise in value-added tax, the abolishment of the 13th and 14th monthly wage for public sector workers, the elimination of the 13th and 14th monthly pension payment, and the replacement of only every fifth retiring public sector worker, among many others. The government has also passed one of the most radical pension reforms ever, which should

### Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	-2.5
General government budget deficit, % of GDP, 2010	-8.1
Cyclically adjusted general government budget deficit, % of GDP, 2010	-4.2
Gross government debt, % of GDP, 2010	140.2
Net government debt, % of GDP, 2010	97.8
Interest payments/government revenues, in %, 2010	15
Government spending, in % of GDP, 2010	50.5
Government revenues, in % of GDP	40
Share of government debt held by foreigners, %	80.2
Average maturity of government debt in years	8
Share of inflation-linked debt, %	7.3
Rating (Standard & Poor's, Moody's, Fitch)	BB+, Ba1, BBB-

slow the projected rise in pension spending until 2050 from 12.5% of GDP to 4%–6%.

The progress in reducing the deficit is impressive. The deficit should fall to 9.4% of GDP this year after 15.4% last year. The primary deficit should be in surplus from 2012 onward, and the level of debt should start falling thereafter.

But the cost of the consolidation is high. GDP should have fallen by almost 4% in 2010, and should continue shrinking sharply in 2011. Government debt will peak at very high levels, and

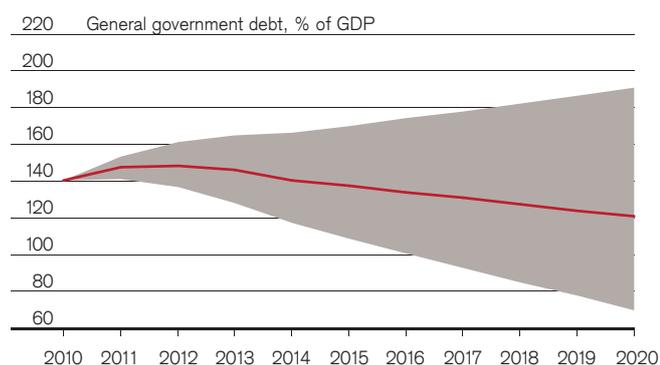
the interest burden could reach around 8% of GDP in 2015. The risk of a restructuring therefore remains high.

The EU/IMF program foresees a resumption of long-term bond issuance already in Q1 2012, but we are skeptical whether this will be possible. An extension of the program therefore seems likely, in our view, and comments by the IMF suggest that this will indeed happen if Greece is unable to return to markets during the program.

**Marcel Thieliant,**  
Credit Suisse Private Banking

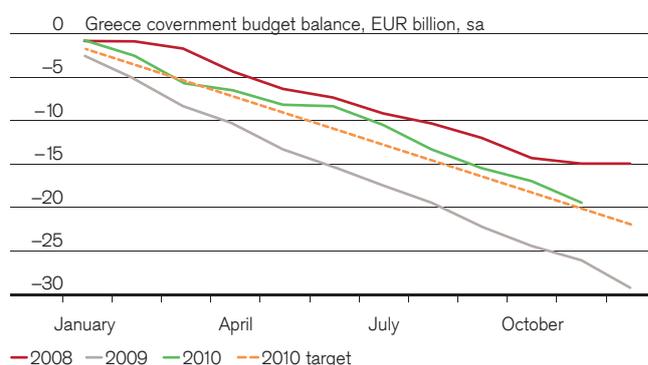
### Government debt trajectory

Source: Credit Suisse



### Budget balance development

Source: Datastream, Greek Ministry of Finance, Credit Suisse





# Ireland Sustainability score: 38.75 / 85.5

Ireland received a EUR 85 billion rescue package in 2010, and is front-loading its fiscal adjustment. While this could slow the recovery further, medium-term growth prospects are good and the government could make a profit on the loans it took over from the banks.

During the boom years, Ireland was considered a prime example of fiscal rectitude. The government was running budget surpluses, and government debt levels were very low by international standards.

However, the housing boom artificially boosted tax revenues, especially stamp duty. According to IMF estimates, Ireland had a structural budget deficit of 7% in 2007, at the height of the construction boom.

With the bursting of the housing bubble, the underlying weakness of public finances became apparent. GDP has fallen a cumulative 14% since its peak. In 2009, the government recorded a deficit of 14.3% of GDP.

Part of the deterioration reflects the need to recapitalize Ireland's struggling banking sector. The government has set up a "bad bank" to take off troubled loans from banks' balance sheets. Haircuts have been above 70% for some banks, resulting in large capital needs. In 2010, bank recapitalization costs should reach 20% of GDP, resulting in a headline deficit of 32%.

Since these additional capital injections will be done via promissory notes to be drawn down over the next 10–15 years, they have no impact on the 2010 cash deficit, which is better than in

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	1.5
General government budget deficit, % of GDP, 2010	-12.2
Cyclically adjusted general government budget deficit, % of GDP, 2010	-7.3
Gross government debt, % of GDP, 2010	97.4
Net government debt, % of GDP, 2010	39.9
Interest payments/government revenues, in %, 2010	9.1
Government spending, in % of GDP, 2010	46.6
Government revenues, in % of GDP	34.5
Share of government debt held by foreigners, %	71.8
Average maturity of government debt in years	6
Share of inflation-linked debt, %	0
Rating (Standard & Poor's, Moody's, Fitch)	A-, Aa2, A+

2009. Moreover, it is possible that the haircuts on the loans transferred to NAMA were too high, so the government could make a profit on them.

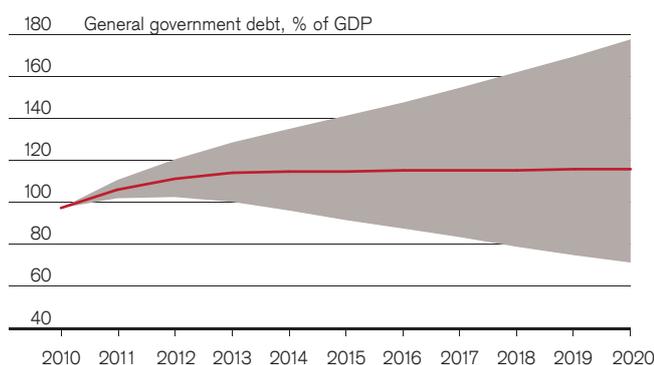
With bond yields rising sharply at the end of October 2010, the Irish government officially requested help from the EU/IMF in the middle of November, and will receive a EUR 85 billion rescue package. The government also speeded up its fiscal adjustment, with a front-loading of the EUR 15 billion consolidation program. In 2011, the government intends to save EUR 6 billion, or around 4% of GDP. These measures could slow the

recovery further, and political uncertainty remains high as there will be early elections. However, medium-term growth prospects are good. The country's low corporate tax rate, which will be maintained under the rescue package, should continue to attract foreign investment. Much of the rise in unit labor costs during the boom years has already been reversed, and Ireland should benefit from its strong international trade links going forward.

**Marcel Thieliant,**  
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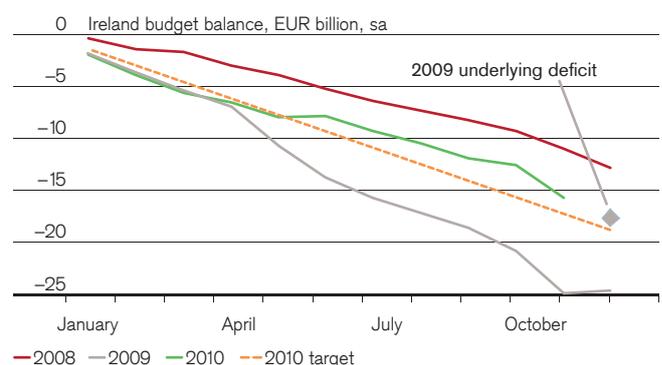
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: Datastream, Irish Ministry of Finance, Credit Suisse





## Italy Sustainability score: 50.5 / 85.5

Italy remains one of the countries with the highest debt levels, even though others are catching up quickly. The government has been running primary surpluses in recent years, which has helped to stabilize debt. Recent slippages in the budget need to be monitored.

Since the beginning of the nineties, Italy has been among the advanced countries with the highest debt levels. As potential growth is among the lowest worldwide, the government had been running primary surpluses ahead of the crisis, which contributed to the stabilization of the debt level. Even during the recession, the government's primary balance was only slightly in the red. Nevertheless, the debt-to-GDP ratio is now around 20% above its pre-crisis level.

As a result, the government announced some consolidation measures in late May 2010, mainly focusing on public spending cuts aimed at reducing the deficit by 0.8% of GDP in both 2011 and 2012.

The latest budget deficit figures show some signs of slippage relative to the government's targets. This holds for the monthly central government cash deficit as well as the quarterly general government deficit on an accrual basis. The government had expected a deficit of 5.3% in 2010, while the figures for Q2 showed a larger number of 6.3%, according to our seasonal adjustment.

This is certainly not dramatic, but needs to be monitored closely. Medium-term growth prospects are not particularly encouraging for Italy, given a stagnating labor force and the need to regain

### Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	1.4
General government budget deficit, % of GDP, 2010	-5.1
Cyclically adjusted general government budget deficit, % of GDP, 2010	-2.3
Gross government debt, % of GDP, 2010	118.9
Net government debt, % of GDP, 2010	104.1
Interest payments/government revenues, in %, 2010	10.3
Government spending, in % of GDP, 2010	51.1
Government revenues, in % of GDP	46
Share of government debt held by foreigners, %	38.9
Average maturity of government debt in years	7
Share of inflation-linked debt, %	6.2
Rating (Standard & Poor's, Moody's, Fitch)	A+, Aa2, AA-

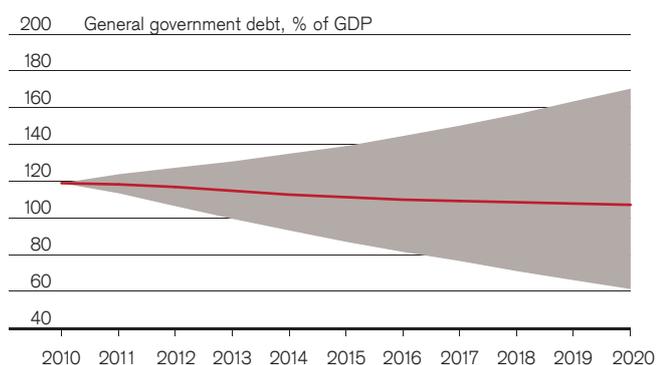
lost competitiveness. The government will have to do more to bring debt levels to more sustainable levels.

**Marcel Thieliant,**

Credit Suisse Private Banking

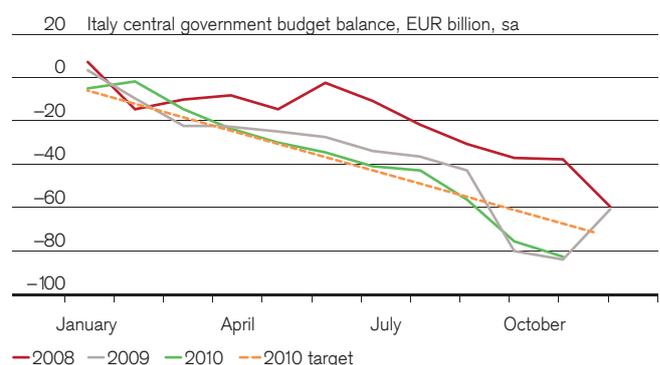
### Government debt trajectory

Source: Credit Suisse



### Budget balance development

Source: Datastream, Italian Ministry of Finance, Credit Suisse





# Japan Sustainability score: 50.5 / 85.5

Over the past two decades, Japan has accumulated the highest debt-to-GDP ratio in the developed world. While the near-term risk that the fiscal situation may get out of control is limited, there is considerable need for fiscal consolidation.

In response to the economic crisis, Japan's government has launched a series of stimulus programs. Since mid-2008 fiscal stimulus spending has totaled roughly 8.1% of GDP. But already before the last recession, Japan had made a continuous effort to kick-start the economy and to resist deflation pressures. Between the early 1990s and the past recession, Japan's stimulus spending exceeded USD 6 trillion and was thus higher than its total GDP.

Some factors suggest that Japan's situation is less of a near-term risk compared to some of the troubled European countries. One difference is that more than 90% of public debt is held by domestic investors, who have traditionally been relatively loyal. It can also be argued that Japan's net debt is notably lower than its gross debt since roughly 50% of government bonds are held by government institutions. Moreover, Japan has relatively low debt servicing costs due to the low interest rate. And, as a result of the high private-sector savings rates, Japan has actually become the world's largest creditor.

However, the outlook is considerably more challenging, also from a structural point of view. The household saving rate has already declined substantially, and an aging population suggests that an

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	1.4
General government budget deficit, % of GDP, 2010	-9.6
Cyclically adjusted general government budget deficit, % of GDP, 2010	-6.4
Gross government debt, % of GDP, 2010	227.1
Net government debt, % of GDP, 2010	114.9
Interest payments/government revenues, in %, 2010	9.8
Government spending, in % of GDP, 2010	39.6
Government revenues, in % of GDP	29.8
Share of government debt held by foreigners, %	5.4
Average maturity of government debt in years	5
Share of inflation-linked debt, %	0.6
Rating (Standard & Poor's, Moody's, Fitch)	AA, Aaa, AA

increasingly larger share of inhabitants will start to dissave going forward. Japan is also expected to be the country with the highest old-age dependency ratio by 2020 and already today has limited scope for adjustments in its pension system.

Prime Minister Naoto Kan confirmed in June 2010 that repairing the country's finances is the government's biggest issue. The government intends to limit general account spending (excluding debt-servicing costs) to JPY 71 trillion in the three years following fiscal year 2011-12. However, a nominal cap

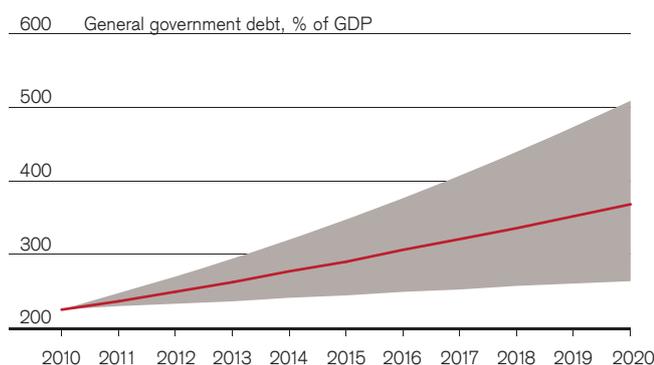
on spending will not lead to a lower deficit in an economy that is not growing in nominal terms.

The government envisages a balanced budget by the end of the decade. But the measures announced so far remain insufficient to reduce Japan's debt burden, and further consolidation efforts will be required in the future.

**Fabian Heller,**  
Credit Suisse Private Banking

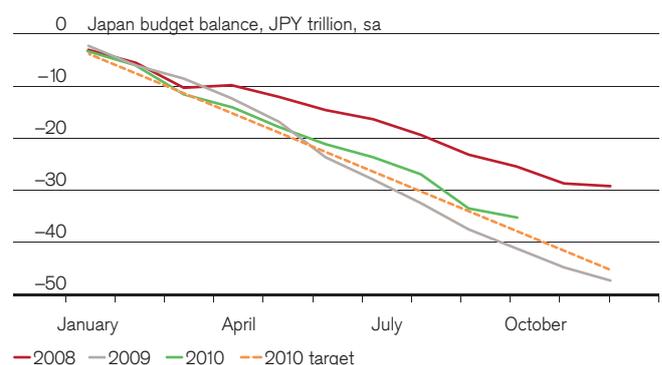
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: Datastream, Credit Suisse





# Portugal Sustainability score: 42.25 / 85.5

Portugal is possibly the structurally weakest economy in the euro area. It combines a large current account deficit, weak competitiveness and sluggish growth prospects. Restoring public finances will not be possible without adjusting these macroeconomic imbalances.

From a purely fiscal perspective, Portugal is not that bad off. In 2010, its budget deficit should amount to 8.8% of GDP, roughly in line with the average among advanced countries. Its government debt ratio, at 86.6% of GDP, is even slightly below the average of 97.8%.

But a closer look reveals significant macroeconomic imbalances. Gross savings, at 8.8% of GDP, are the second-lowest in the European Union. As a result, the country has been running an average current account deficit of around 10% of GDP over the past decade. A steady rise in unit labor costs has played a role. At the same time, productivity remains stuck at around 60% of the euro-area average, with little improvement over the past decade. Restoring public finances without fixing these structural issues will be difficult.

At least the government has made a start toward more stringent fiscal consolidation in the 2011 budget. Revenues are to be raised by 1% of GDP through a value-added tax (VAT) increase from 21% to 23% (VAT was already boosted by 1% in July), a reduction in tax allowances and a tax on the financial sector. Expenditures are to be cut by 2% of GDP. Measures include a 5% reduction in wage costs by pro-

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	0.5
General government budget deficit, % of GDP, 2010	-8.8
Cyclically adjusted general government budget deficit, % of GDP, 2010	-5.7
Gross government debt, % of GDP, 2010	82.8
Net government debt, % of GDP, 2010	64.3
Interest payments/government revenues, in %, 2010	7.1
Government spending, in % of GDP, 2010	49.1
Government revenues, in % of GDP	40.3
Share of government debt held by foreigners, %	74.9
Average maturity of government debt in years	7
Share of inflation-linked debt, %	0
Rating (Standard & Poor's, Moody's, Fitch)	A-, A1, AA-

gressively cutting wages for those people earning more than EUR 1,500 per month and a freeze in pensions, among other things. As a result, the deficit is expected to fall from 7.3% of GDP in 2010 to 4.6% in 2011.

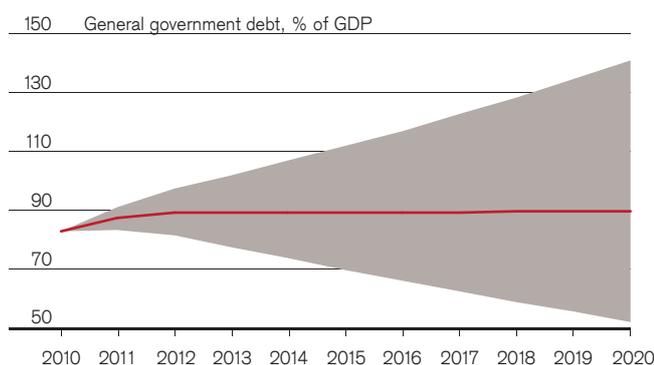
Achieving this target will be difficult, however. So far, the deficit shows no signs of improvement. The government took some questionable measures to ensure that the 2010 target will be reached, including a transfer of formerly state-owned Portugal Telecom's pension plans to the state. But these measures are clearly one-offs.

The government does not have a majority in parliament. Consequently while it passed the 2011 budget in November, its ability to implement the far-reaching structural reforms necessary to boost the country's growth potential is limited.

**Marcel Thieliant,**  
Credit Suisse Private Banking

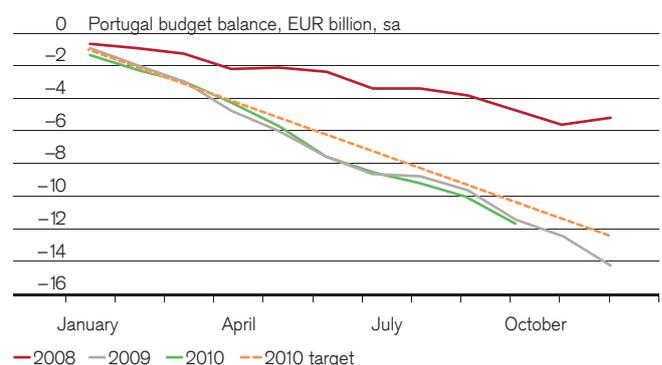
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: Datastream, Portugese Ministry of Finance, Credit Suisse





# Spain Sustainability score: 39 / 85.5

The Spanish economy is still suffering from the aftermath of a burst housing bubble, which led to a sharp rise in external deficits and a deterioration of the country's competitiveness.

The Spanish economy was thriving prior to the recent recession, largely due to a housing boom, which was financed to a large extent by foreign borrowing. Both growth and inflation were much higher than in the euro area on average, resulting in a boost to tax revenues. The government therefore managed to create budget surpluses ahead of the crisis and government debt was low.

When the bubble burst, the government initially responded with one of the largest fiscal stimulus packages among advanced countries, which contributed to a sharp increase in the public deficit.

As the deficit reached one of the highest levels in the euro area last year, markets became concerned and demanded higher risk premiums. The Spanish government responded with a drastic consolidation package, comprising significant cuts in public sector wages, a near-freeze in public-sector hiring and a 2% increase in value-added taxes from July 2010 onward. The central government deficit has declined considerably as a consequence.

This should be offset to some extent by a further widening of deficits at the local level. Already in 2009, regions and municipalities contributed 2.5% of GDP to the deficit, and this number is expected to rise to almost 2.9% in

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	0.8
General government budget deficit, % of GDP, 2010	-10.4
Cyclically adjusted general government budget deficit, % of GDP, 2010	-6.2
Gross government debt, % of GDP, 2010	64.4
Net government debt, % of GDP, 2010	44.3
Interest payments/government revenues, in %, 2010	7
Government spending, in % of GDP, 2010	46
Government revenues, in % of GDP	35.6
Share of government debt held by foreigners, %	42.8
Average maturity of government debt in years	6
Share of inflation-linked debt, %	0.8
Rating (Standard & Poor's, Moody's, Fitch)	AA, Aa1, AA+

2010. The collaboration of local and regional government is crucial, as the central government accounts for less than a quarter of total public spending. In our view, the government has sufficient tools at its disposal to ensure this collaboration, for example by withholding transfers.

The banking sector remains a risk. According to our calculations, the savings banks need another EUR 15–20 billion of capital (around 2%), which could rise to EUR 70 billion (around 7%) in a stress case. We believe that the government could handle these costs, but markets

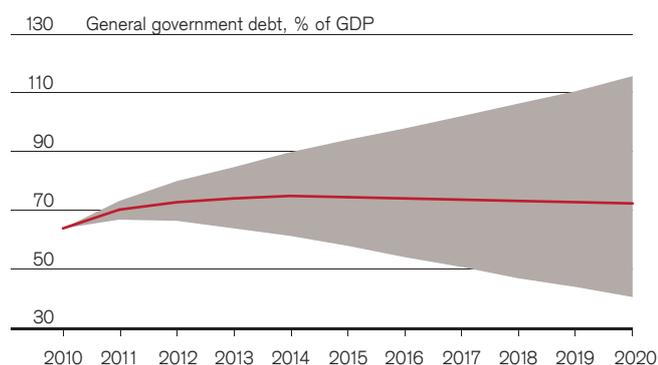
remain skeptical. It is therefore possible that Spain may need EFSF assistance to recapitalize the savings banks.

In addition, internal devaluation is needed to regain lost competitiveness. This process has now started, and wage growth has fallen sharply, which will likely result in continued weakness in private consumption. The road ahead will therefore remain bumpy.

**Marcel Thieliant,**  
Credit Suisse Private Banking

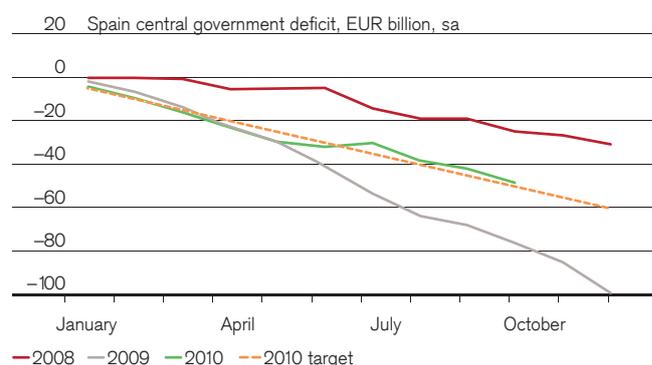
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: Datastream, Spanish Ministry of Finance, Credit Suisse





# Switzerland Sustainability score: 52.5 / 85.5

Switzerland's debt situation looks comparatively comfortable. The debt-to-GDP ratio of just below 40% is one of the lowest in the industrialized world and, given the outlook for a deficit ratio of below 1%, fiscal stability should continue to prevail.

After debt levels peaked at roughly 55% of GDP in 2003, Switzerland reduced its overall government debt to just below 40% by 2009. A budget surplus was recorded in five consecutive years and, even during the crisis, government finances remained in a better shape than initially feared. In 2009, the surplus still amounted to some 0.4% of GDP, particularly as tax inflows from the previous year were still high.

In addition, government support measures during the crisis remained very limited in size when compared to other economies. The Swiss Federal Council presented three economic packages between November 2008 and June 2009, comprising roughly CHF 2.3 billion or 0.4% of GDP. The introduced measures were targeted to areas such as infrastructure spending, export promotion and labor market support.

With regard to the 2010 budget, the federal government revised its projections upward in November and now expects a surplus of CHF 1.4 billion. This exceeds the initial budget projection by CHF 3.4 billion. However, when the deficits from the cantons and a negative contribution from social insurance are taken into account, we expect an overall deficit of roughly -0.9% of GDP. For 2011, the overall deficit is also likely

## Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	1.2
General government budget deficit, % of GDP, 2010	-1
Cyclically adjusted general government budget deficit, % of GDP, 2010	0.0
Gross government debt, % of GDP, 2010	39.8
Net government debt, % of GDP, 2010	6.2
Interest payments/government revenues, in %, 2010	6.1
Government spending, in % of GDP, 2010	36.7
Government revenues, in % of GDP	35.6
Share of government debt held by foreigners, %	n/a
Average maturity of government debt in years	6
Share of inflation-linked debt, %	0
Rating (Standard & Poor's, Moody's, Fitch)	AAA, Aaa, AAA

to be just below 1% and the outlook for government finances thus remains comparatively favorable.

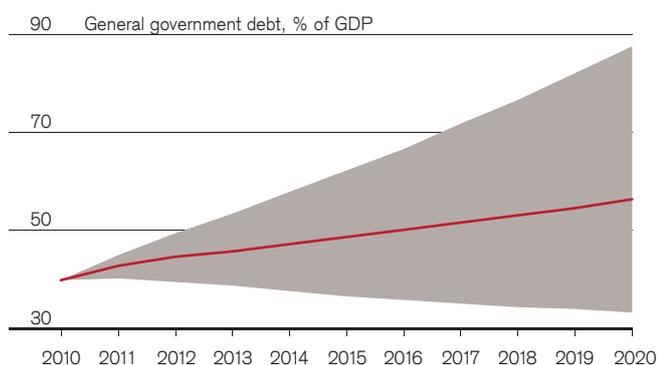
Although the fiscal situation does not signal a need for any major austerity measures, the Swiss Federal Council also presented a fiscal consolidation plan this year aimed at reducing spending by roughly CHF 1.6 billion per year in both 2012 and 2013. Among other things, the plan includes reductions in infrastructure spending (to compensate for the spending increases during the crisis), as well as budget cuts in the public sector. The consolidation efforts

will primarily focus on the expenditure side and (with the exception of a tobacco tax increase) there are no measures planned on the income side. In the longer term, containing entitlement spending remains a challenge for Switzerland as well.

**Fabian Heller,**  
Credit Suisse Private Banking

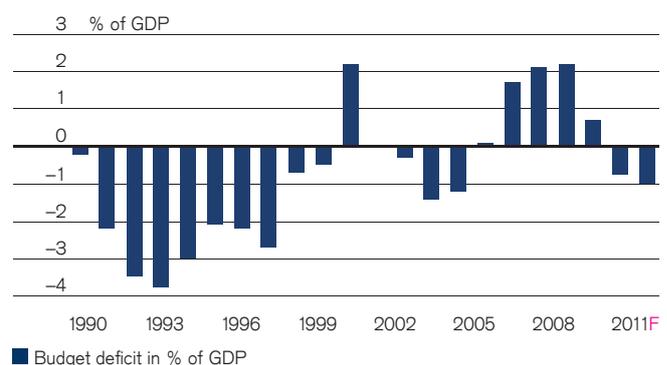
## Government debt trajectory

Source: Credit Suisse



## Budget balance development

Source: Datastream, Credit Suisse





## UK Sustainability score: 48.75 / 85.5

The new government's measures to reduce the deficit and stabilize debt appear to be working, for now. A continued solid recovery should support fiscal consolidation.

UK public finances deteriorated dramatically during the recession, with public sector net debt rising to 60.8% of GDP in 2010–11 from 36.5% of GDP in 2007–08. The sharp rise was due to both a significant increase in the deficit – to over 11% of GDP last year – and a substantial capital injection into the banking sector.

Following the election of a new government in mid-2010, a number of measures have been taken to stabilize the debt ratio. The most important institutional change has been the creation of the independent Office for Budget Responsibility (OBR), which now produces the forecasts for public finances and judges whether the government is likely to meet its fiscal objectives.

The government's main fiscal target is to bring the cyclically adjusted current budget into balance within a five-year period. To do this, it has embarked on an aggressive multiyear fiscal consolidation program involving both tax increases and spending cuts. In the latest OBR forecasts, the deficit is expected to fall to 1.9% of GDP in 2014–15, with the net debt ratio peaking just short of 70% of GDP in 2014.

So far, the progress looks good. Fiscal policy has already been tightened this year, with tax increases and some spend-

### Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	2.5
General government budget deficit, % of GDP, 2010	-11.4
Cyclically adjusted general government budget deficit, % of GDP, 2010	-8.1
Gross government debt, % of GDP, 2010	77.8
Net government debt, % of GDP, 2010	53.5
Interest payments/government revenues, in %, 2010	6.9
Government spending, in % of GDP, 2010	47.5
Government revenues, in % of GDP, 2010	36.1
Share of government debt held by foreigners, %	31
Average maturity of government debt in years	14
Share of inflation-linked debt, %	24
Rating (Standard & Poor's, Moody's, Fitch)	AAA, Aaa, AAA

ing cuts, but there is little evidence of a negative impact on growth. On a monthly basis, the 2010 deficit is running below 2009 rates and is likely to come in around 10% of GDP. Tax receipts are growing faster than expected, suggesting that the recovery is making a positive contribution to public finances.

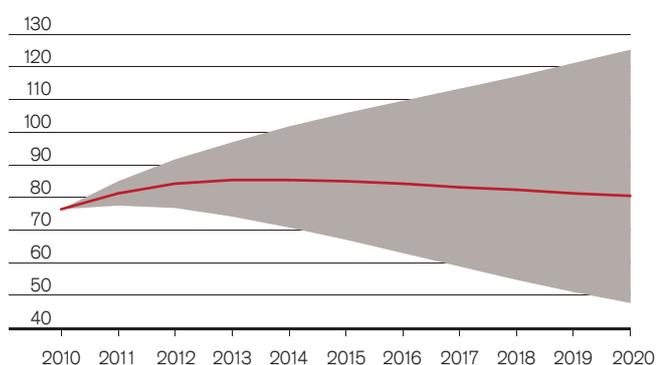
The main uncertainty over the direction of the government deficit will be the strength of the current recovery, but cyclical indicators suggest strong momentum going into 2011. All in all, the economy looks well set to withstand the headwinds of tighter fiscal policy.

The government should also find it relatively easy to fund itself. Bond (gilt) yields remain low, which should contain the government's interest burden, especially as the maturity of UK government debt is particularly long. Demand for gilts remains strong. Domestically, banks are under regulatory pressure to raise their holdings. And, since the onset of the peripheral debt crisis in Europe, foreign purchases of gilts have been extremely strong.

**Neville Hill,**  
Credit Suisse Investment Banking

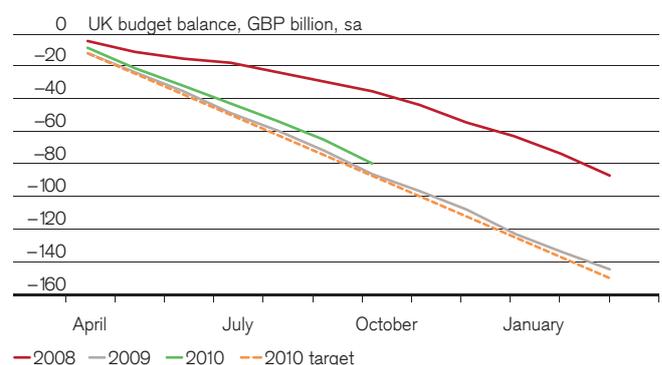
### Government debt trajectory

Source: Credit Suisse



### Budget balance development

Source: Datastream, Credit Suisse





## USA Sustainability score: 51.75 / 85.5

In contrast to Europe, US fiscal policy remains on an expansionary path with high deficits and rising debt. Serious consolidation prior to the 2012 presidential elections is unlikely. Eventually, entitlement spending must be tackled.

Deficits in recent years have been extraordinary by peacetime standards. They are likely to stay that way for at least another year or two. The White House tax agreement with Congress, which links a two-year extension of all Bush-era income tax rates to a one-year cut in payroll taxes, an extension of unemployment benefits and temporary business tax relief, should lead to a deficit of 8.9% of GDP in 2011, higher than our earlier estimate of 7.6%.

After 2011, the deficit should narrow somewhat from recent levels, assuming continued economic expansion. A divided Congress and the public backlash against "stimulus" measures suggest that major new spending programs are unlikely. We expect a 2012 budget gap of 6.3% of GDP. Deficits are on track to return toward the 4%–5% range of GDP through 2015. By the second half of the decade, however, the trend could start to worsen again unless there is a major course correction in spending or tax policy. At that point, escalating entitlement spending and higher interest costs would exert more noticeable pressure on the fiscal situation.

The Administration has hinted publicly that fundamental tax and budget reforms may be on the agenda before the 2012 presidential elections. The Simpson-

### Selected public finance indicators

Source: IMF, OECD, Moody's, European Commission, Bloomberg, Credit Suisse

GDP growth, 2011E	3.3
General government budget deficit, % of GDP, 2010	-11.1
Cyclically adjusted general government budget deficit, % of GDP, 2010	-9.0
Gross government debt, % of GDP, 2010	92.6
Net government debt, % of GDP, 2010	66.6
Interest payments/government revenues, in %, 2010	7.0
Government spending, in % of GDP, 2010	41.6
Government revenues, in % of GDP	30.9
Share of government debt held by foreigners, %	37.2
Average maturity of government debt in years	4.0
Share of inflation-linked debt, %	10.0
Rating (Standard & Poor's, Moody's, Fitch)	AAA, Aaa, AAA

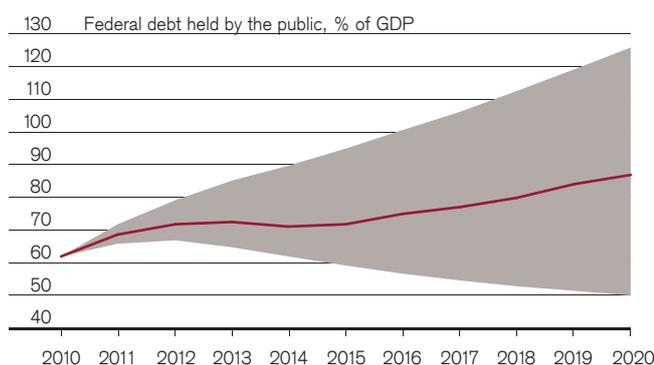
Bowles fiscal commission recommendations, which called for a lowering of marginal tax rates (while at the same time closing many loopholes) and significant spending restraints, could serve as a blueprint. But the commission's proposals are politically contentious and face an uphill battle in a polarized Congress. Without action on the tax front, another heated battle over rates is all but assured in election-year 2012, as the latest compromise only extends marginal tax rates for two years. Before the Great Recession jolted federal finances, federal debt held by the public as a share of GDP

was 36% in 2007. It will likely reach 87% by 2020. While long-run estimates are unreliable, the current path takes the debt ratio to 150% by 2030. The driving forces behind this explosion in debt are plain to see. Almost USD 20 trillion of the USD 45.8 trillion of projected spending over the next decade involves three programs – Social Security, Medicare (health insurance for those 65 and over) and Medicaid (health insurance for the poor and disabled).

**Jay Feldman,**  
Credit Suisse Investment Banking

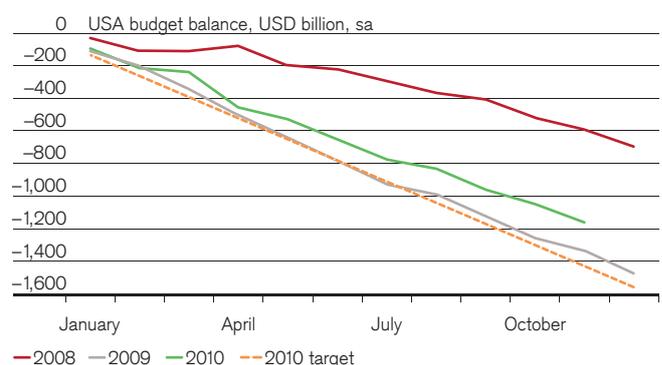
### Government debt trajectory

Source: Credit Suisse



### Budget balance development

Source: US Treasury, Credit Suisse



Turgot

inutile

A Compiègne le 24 Août 1774.

Sire

### A call for fiscal discipline

In this letter to King Louis XVI of France, written in August 1774, Anne-Robert-Jacques Turgot, the newly appointed finance minister, proposes three principles by which to achieve a recovery of the French national finances:

- No national bankruptcy
- No further increase in taxes
- No new loans

En sortant du cabinet de votre Majesté,  
encore plein du trouble ou me jette l'immensité du  
fardeau qu'elle m'impose, agité par tous les  
sentimens qu'excite en moi la bonté touchante  
avec laquelle elle a daigné me rassurer, je me  
hâte de mettre à ses pieds ma respectueuse  
reconnoissance et le devouement de ma vie entière



**Anne-Robert-Jacques Turgot**  
**Baron de l'Aulne (1727–1781)**

## Fiscal balance necessary, but not sufficient, for a strong economy

The debate between those who argue that imposing fiscal discipline will damage an economy and those who suggest that balanced budgets are, to the contrary, a key requirement for a vibrant economy is not a new one. Jacques Turgot (1721–1781) clearly belonged to the proponents of fiscal discipline. He recognized that high debt was a major threat, and that raising taxes was not a true solution to the budget problem.

At the time Turgot was appointed as finance minister by King Louis XVI in 1774, France was ridden with debt. The “ancien regime” meant that the burden of taxes weighed solely on the “Tiers Etat” (i.e. the normal citizens, rather than the nobility), and was thus a major disincentive to economic activity. In his letter to the King (a facsimile of which is shown overleaf), Turgot argues with great clarity that, if the economy is to thrive, public finances must be balanced and that this must, moreover, be achieved without resorting to the usual “tricks” of ever-increasing taxes, continued borrowing or default and bankruptcy. Instead, Turgot emphasizes that spending must be reduced substantially and kept below revenues for a prolonged period. He also argues that it is most effective to cut public spending across the board, rather than selectively, and that expenditures should be strictly controlled by the finance minister. Both prescriptions suggest that Turgot knew that one of the keys to successful fiscal consolidation is to reign in special interests.

Turgot also knew that balancing the budget is a precondition, but not an ultimate solution to revitalizing the economy. A prominent representative of the economic and philosophical school of the Physiocrats, whose motto was the famous “laissez-faire, laissez-passer,” Turgot believed that freedom of trade, especially in grains, as well as in industry, in combination with fiscal reform was the key to economic health. Turgot’s letter



**Louis XVI**

calls for a commitment to sound public finances as a prerequisite for any kind of reform, but his letter is also a clarion call for freeing up markets and reducing abuses by the privileged classes.

During his tenure, Turgot indeed succeeded in reducing the deficit by cutting spending and by initiating some changes in the tax system, which made it both fairer and less burdensome. Both actions contributed to a significant reduction in France’s borrowing costs. By 1776, Dutch bankers were once again willing to provide credit to France at the fairly low rate of 4%.

Like many reformers, Turgot faced serious opposition and was not able to hold on to power for long. He was dismissed just two years after being appointed. While the immediate circumstances of his dismissal are not known, it is clear that his reforms were strongly opposed by influential courtiers surrounding the king and queen. He was also blamed for the rising grain prices that resulted from the poor harvest of 1774 and which led to a series of revolts. Following Turgot’s dismissal, French public finances once again deteriorated. By the spring of 1789, funds were so short that King Louis XVI was forced to summon the “Etats généraux” (Estates-General), which was one of the main catalysts of the French Revolution.

Although written more than 200 years ago, Turgot’s arguments remain highly relevant today. While his answers to the debt problem sound ever so straightforward, they still capture the essence of the issue: governments cannot persistently spend more than the funds they raise. If they do, the economic – and ultimately political – consequences will be severe. But balancing the budget is not enough: As Turgot knew, and as we argue in our Debt Manifesto, the key is ultimately to find ways to revitalize the economy.

# Imprint

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