



# Deleveraging and global growth

A call for coordinated macroeconomic policies

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*Paper based on the Asia Europe Economic Forum conference of  
21-22 January 2013*

# DELEVERAGING AND GLOBAL GROWTH

Paper based on the AEEF conference of 21-22 January 2013\*

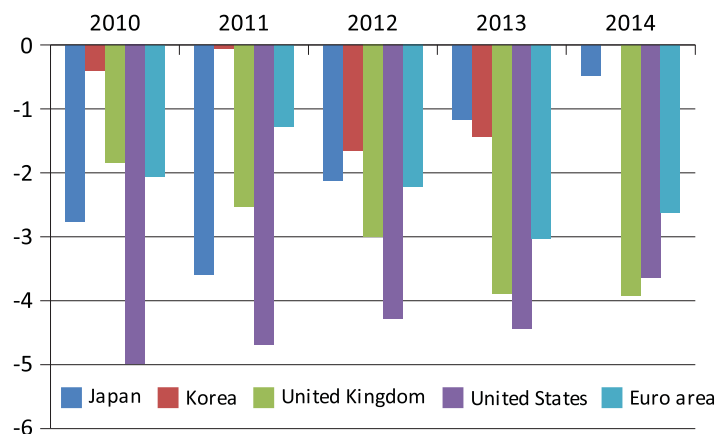
**RISING STOCK MARKETS** on both sides of the Atlantic and decreasing spreads on sovereign bonds in the euro area have rekindled hopes that the advanced economies could soon start contributing more robustly to global growth. Judged by the level of the output gaps as currently estimated, many advanced economies continue to produce significantly less than their potential (Figure 1).

One of the key factors behind this persistent demand shortfall is the remaining deleveraging that firms, households, sovereigns and banks have to undergo. The financial crisis arguably changed attitudes regarding the safe amount of leverage. Many households in the United States and Europe were left with debts that they could not refinance, and many more experienced difficulties repaying them. This has deterred consumption and housing investment. Many governments have seen public debt approach unsafe levels and some have experienced difficulties accessing financial markets. For banks, regulatory requirements add to the private incentive to delever.

Figure 2 illustrates the build-up in leverage before the crisis. Clearly, rising debt was a widespread phenomenon in advanced countries.

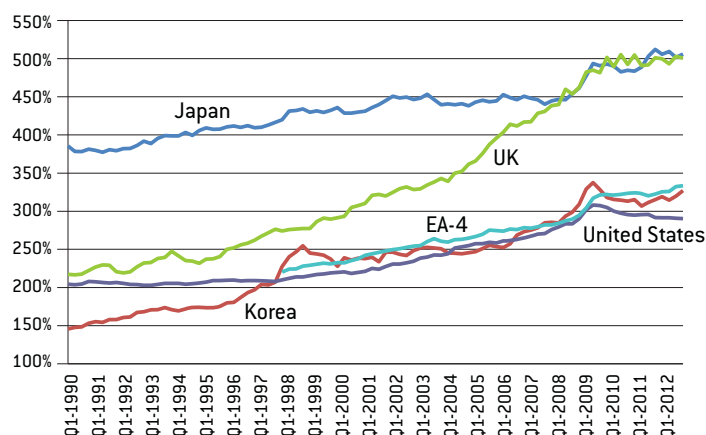
Total level of debt is useful in providing an overall picture and can indicate fragilities. Experience indeed shows that debt can move across sectors, especially if the state, acting as the ultimate guarantor, bails out banks saddled with non-performing loans to private agents. Yet, to base the analysis on total debt levels runs the risk of ignoring that 'all debt is not created equal'<sup>1</sup>. The distribution of debt across different agents matters. A good example is Switzerland (not shown on Figure 2), which had relatively high total debt during the period but which is not considered (assumption: correctly) an especially vulnerable economy. The reason is that a large part of the debt is held by high-income households that can be expected to service their liabilities<sup>2</sup>.

Figure 1: Estimated and projected output gaps of selected economies (% of potential GDP)



Source: IMF WEO April 2013.

Figure 2: Domestic private and public sector debt by country 1990q1-2012q2 (%/GDP)



Source: Bruegel calculations with McKinsey Global Institute data. We are grateful to MGI for giving us access to their debt data. Note: EA-4 = France, Germany, Italy, Spain.

A second issue is whether financial sector debt should be included in total debt. If it is, countries that serve as financial hubs, such as the United Kingdom, necessarily feature elevated debt levels in comparison to other countries. In normal times, this distorts comparisons in the same way the location of a major harbour that serves neighbouring countries distorts foreign trade openness comparisons. At the same time, the example of Ireland after the financial crisis shows that excessive financial sector debt can pose a real threat, which would favour of its inclusion<sup>4</sup>.

Figure 3 shows the total amount of debt broken down by sector in 2000q1 and

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2012q2. It confirms the increase in debt levels in all countries. During the period, Japanese non-financial corporations and households were the only two sectors in the whole sample that decreased their leverage. Yet, this was more than offset by increased indebtedness on the part of Japan's government.

### Sectoral versus aggregate deleveraging

In order to assess the deleveraging process in key countries, Figures 4 and 5 break down the evolution in sectoral debt, distinguishing two sub-periods: before the onset of financial crisis (2000-2007) and after (2007-2012).

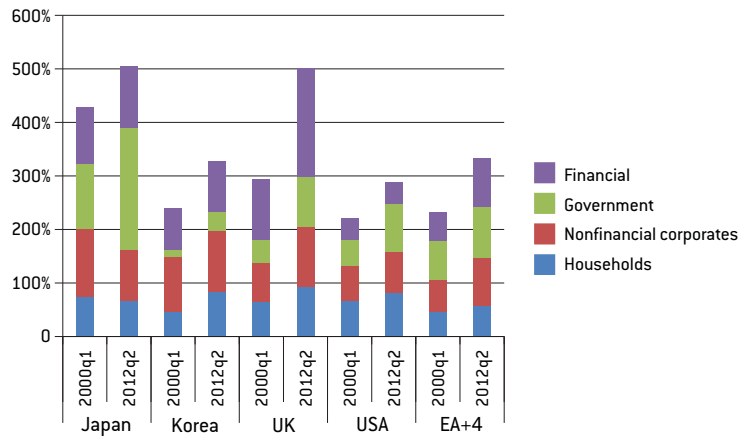
Countries differ substantially in terms of the role of various sectors in the increase in total leverage until 2007. In Japan, the main driver was the government, in South Korea and the US it was households, in the UK the financial sector and in the four large euro-area countries (EA-4), financial and non-financial corporations played a quantitatively similar role.

In the post-2007 period all countries continued to experience an increase in total debt. But they differed markedly in sectoral evolutions. In the US, the emphasis has been on private deleveraging, especially for households (Figure 5). Aggregate debt increased by 20 percentage points of GDP only, in spite of the significant increase in government debt. Korea has been the opposite case, with most additional debt coming from the private sector. In the euro area and the UK, private debt has not decreased and government debt has increased substantially, in spite of the priority given to fiscal consolidation. In Japan virtually all the increase in debt has come from the public side.

For the financial sector, it is striking that leverage (defined here as debt-to-GDP) has increased most in the EA-4 and decreased only in the US<sup>4,5</sup>. Although the UK still has by far the highest financial debt, the US has decreased leverage considerably to less than half the level in the EA-4.

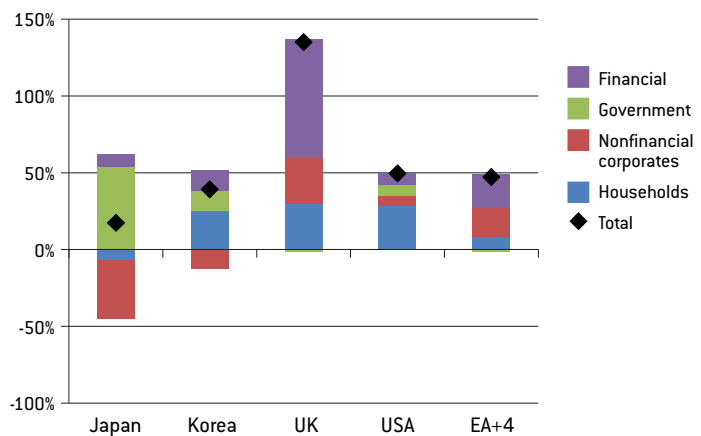
Based on measures such as unemployment and GDP growth, the US has arguably

Figure 3: Sectoral debt levels in 2000q1 and 2012q2 as a share of GDP



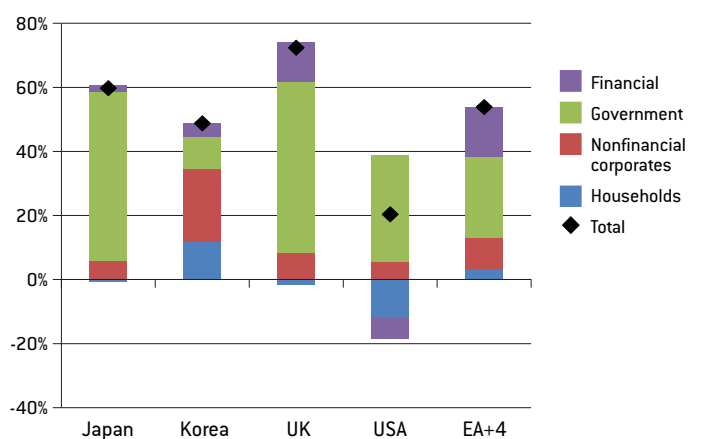
Source: Bruegel calculations with McKinsey Global Institute data.

Figure 4: Change in private and public debt-to-GDP ratio 2000q1 to 2007q1



Source: Bruegel calculations with McKinsey Global Institute data.

Figure 5: Change in private and public debt-to-GDP ratio 2007q1 to 2012q2



Source: Bruegel calculations with McKinsey Global Institute data.

performed better than the euro area in recent years. There is therefore a temptation to conclude that initial private sector deleveraging should be supported by allowing public deficits to balloon<sup>6</sup>. Public deficits could be reduced after the recovery when the fiscal multiplier would be lower. This is what happened in Germany and is also what the US is seemingly trying to achieve. However, this was not a real option for several euro-area sovereigns because their access to credit markets was limited. Additionally, within the euro area, countries have less incentive to provide stimulus because a considerable share of the extra spending is diverted to other countries<sup>7</sup>. More centralised budgetary arrangements could have helped in both providing more support and internalising the external effects of national policies arising from the high openness of individual member states. As the euro area as a whole had lower public debt than the US, it should have been able to react with similarly sized deficits. Still, this would have had distributional consequences and would have required much deeper integration for which there is no political or popular support.

### A look at Asia

Deleveraging is less of an issue for the major Asian economies currently. Nevertheless, an often discussed topic is if/when Japan will start curbing its sizeable public indebtedness. General government gross debt at the end of 2012 stood at 237 percent and net debt at 135 percent (IMF).

Public deleveraging is challenging in Japan because of the low level of potential growth and the aging population, which puts pressure on public finances. These two issues are naturally linked. Japan's near-stagnation since 1991, since which yearly RGDP growth has been 0.8 percent compared to 4.6 percent from 1981 to 1990, seems exaggerated once the decline in the working age population is taken into account. For example, between 2001-07 Japan's RGDP/working age population grew by a healthy 1.6 percent annually<sup>8</sup>.

Nevertheless, the stagnation of nominal GDP precludes deleveraging through growth of the

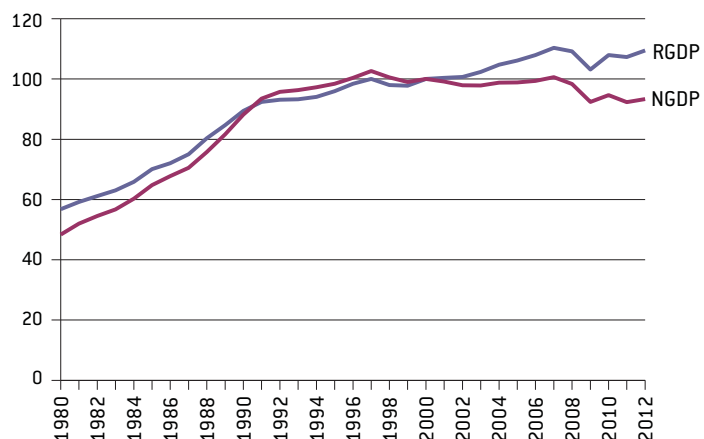
*'The US has performed better than the euro area in recent years. There is therefore a temptation to conclude that initial private sector deleveraging should be supported by allowing public deficits to balloon.'*

denominator (Figure 6). Some of the proposed solutions include: (i) growth friendly tax reform by increasing indirect taxes and lowering taxes on work and corporations; (ii) increased immigration; (iii) increased participation rates by women; (iv) higher inflation. A more unorthodox approach would be to introduce a tax on cash balances that would encourage spending, boost growth and increase government revenues.

For now, the new government has emphasized expansionary policies by unveiling a stimulus package worth 2 percent of GDP and influencing the central bank's decision to increase its inflation target to 2 percent. In the short term at least, the fiscal measures will add to the deficit, but the aim is that the expansionary policies will succeed in ejecting Japan out of its long-standing deflationary environment and will thereby also ameliorate the debt-to-GDP trajectory. The initial market reaction to the announcements was a significant weakening in the yen, which if maintained should help the government achieve its goal of higher growth via exports.

A crucial complication, especially with the higher inflation target, is the uncertain effect on the interest rate of Japanese government bonds. So far, the government has been able to borrow at very low rates because of a large pool of conservative old savers, the expectation of continued deflation and low policy rates and the appreciating yen. However, because of the large stock of debt, even limited increases in the interest rate would rapidly in-

Figure 6: Development of Japanese nominal GDP and real GDP (index, 2000=100)



Source: IMF WEO April 2013.

crease government debt service expenditures and render the debt trajectory unsustainable.

On the private side, Japanese household debt is below that in South Korea, the UK and the US (Figure 3), and thanks to considerable assets Japanese households had the highest financial net worth in the OECD in 2010<sup>9</sup>. As a caveat, it should be noted that financial net worth is not an especially reliable metric of resilience because assets such as equity are more at risk of losing their value than liabilities in the form of debt. Nevertheless, a large part of Japanese savings are in presumably safe instruments such as government bonds. Figure 5 also shows that the Japanese private sector has not experienced significant change in leverage since 2007.

South Korea has considerable household debt but this is offset by sizeable financial assets. As a result their financial net worth is close to the OECD average. Its non-financial corporations have been increasing leverage in recent years and the sector's debt level remained highest in 2012q2 among the selected economies (Figure 3)<sup>10</sup>. One source of resilience for South Korea is its low public debt, which should allow the government to sustain demand in case of a private deleveraging shock.

In China, the stimulus provided after the financial crisis increased credit expansion, which was directed to a significant extent to state-owned enterprises. From a historical perspective, the Chinese savings and investment rate are already very high and further credit expansion could lead to an increase in non-performing loans if credit standards fall. A more sustainable source of growth can be achieved by increasing the share of consumption in GDP.

Nevertheless, when studying separately private and public leverage in China, there is no indication of a rising trend in either sector (Figure 7). There was an uptick following the financial crisis but since then both government debt and domestic credit to the private sector have been flat or falling as a percentage of GDP (with the qualifier that the

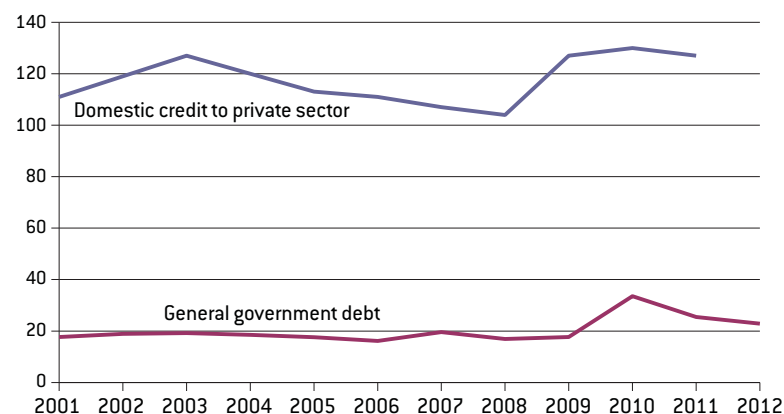
*'In China, the rise of more unconventional forms of credit is a potential source of fragility since they are less regulated and more opaque than bank loans.'*

data extends only until 2011 for private debt).

A major caveat is that Figure 8 does not portray the rise of China's shadow banking system, which has taken a more and more prominent role in credit extension in the country. In addition to yuan bank loans, the Total Social Financing (TSF) indicator measures foreign currency loans, trust loans, bank acceptance bills, corporate bonds and non-financial corporation equity. Figure 8 represents the evolution of credit flows disaggregated to traditional yuan bank loans and other items.

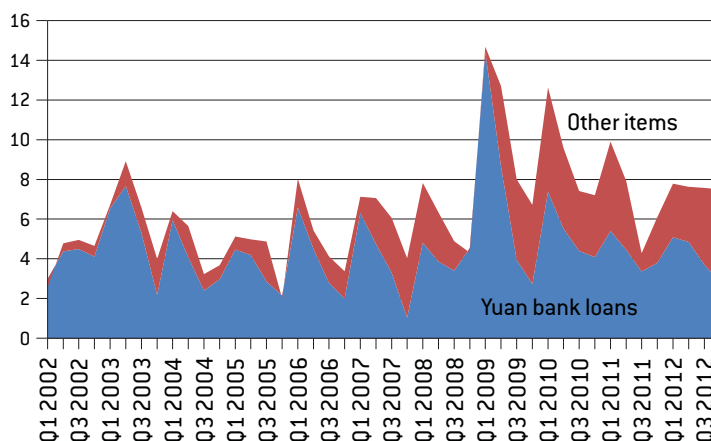
In 2012, other items than yuan bank loans accounted for 46 percent of TSF, whereas between 2002-07 their share was 24 percent and in 2002 only 6 percent. The rise of these more unconventional forms of credit is a potential source of fragility since they are less regulated and more opaque than bank loans.

Figure 7: Evolution of public and private debt (stock) in China (%/GDP)



Source: IMF WEO April 2013 and World Bank.

Figure 8: Credit expansion (flow) measured by TSF in China, (% of yearly GDP)



Source: Datastream.

## Deleveraging and growth in the global economy

The considerable remaining deleveraging is likely to weigh on global growth for the foreseeable future. This is because agents differ and a shortfall in demand by one set of agents, say because of suspended access to credit, is not automatically offset by a rise in demand by others<sup>11</sup>.

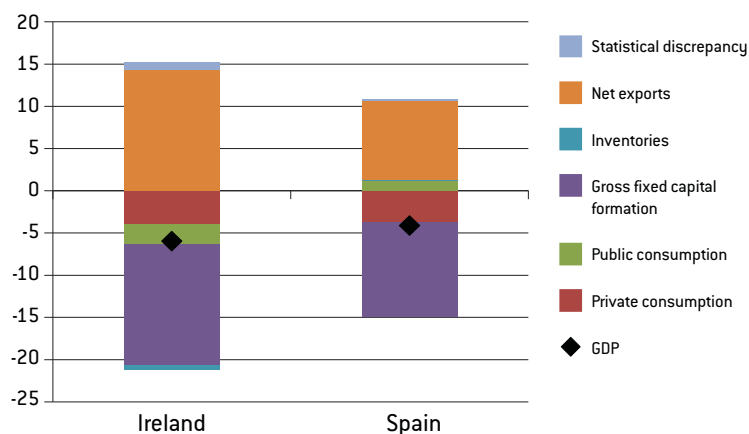
To mitigate the adverse effects on aggregate demand, all sectors/countries should not attempt to delever simultaneously. This depresses incomes, increases the real burden of debt and risks a Fischerian debt-deflation spiral. A proper sequencing of deleveraging is therefore necessary. If private sector balance sheets are healthy, public sector deleveraging should not cause too much harm (and vice versa). Additionally, especially small open economies can achieve considerable domestic deleveraging without damage to output if there is ample external demand. This was arguably the case with the Nordic countries after their crisis in the beginning of the 1990s.

Spain and Ireland since the crisis illustrate that it is difficult to find alternative sources of demand after a sectoral shock. Figure 9 shows how reduced investment (particularly in housing) was not fully offset by other demand components.

Only net exports significantly cushioned the shock in the two countries but these were not enough to prevent a fall in output. Additionally, part of the rise in net exports was explained by import compression, not rising exports. Nevertheless, the increase in net exports is an indication of the international dimension of deleveraging episodes. The fact that domestic agents are constrained by high debt levels does not need to mean that output has to decline as long as global aggregate demand does not fall and it is redistributed across countries. However, this redistribution of spending requires a large degree of price and sectoral output flexibility. Because of rigidities in both (eg in nominal wages and the reallocation of construction workers), a temporary fall in output is difficult to avoid.

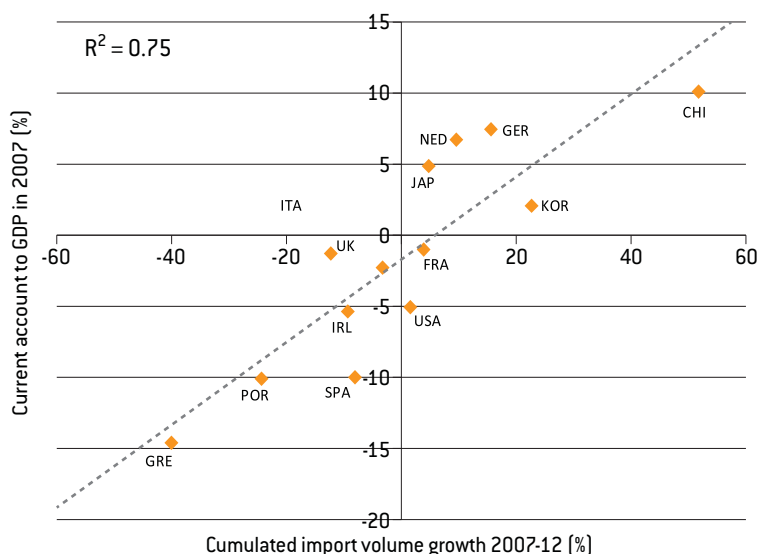
Some reallocation of demand has already taken place. The current-account surpluses of the three biggest creditor countries (China, Germany and Japan) declined from an average of 7.5 percent/GDP in 2007 to 3.4 percent in 2012 (IMF and AMECO). Although much of the initial decrease in 2009 was due to exports falling faster than imports (except in China), since 2011 imports have grown at a higher rate than exports in both China and Japan. In this connection, Figure 10 shows how countries with positive current accounts pre-crisis have generally increased their imports whereas imports have contracted in many indebted economies since the crisis.

Figure 9: Change in GDP and its components 2007-2012 (% of 2007 GDP)



Source: Bruegel based on Eurostat.

Figure 10: Initial current-account to GDP ratio (2007) and subsequent import volume growth (2007–2012)



Source: IMF WEO April 2013.



## Global implications

The deleveraging situation, like many other macroeconomic indicators, is a sign of the changing global economic landscape. In 1997 it was the Asian economies that were struggling with excessive leverage. Now it is the advanced countries, which in the 1990s were lecturing others about how to manage their economies, that need to adjust. Nonetheless, it is not a time for *schadenfreude*. This note has argued that deleveraging in one part of the world has global repercussions and the world should adapt accordingly.

There are a host of policy measures that could smooth global adjustment. A more flexible global exchange rate system would better insulate countries against future deleveraging shocks. Countries with persistent current account surpluses such as Switzerland and China should not inhibit markets from revaluing their exchange rates. The added flexibility would limit the rise of unemployment and the decrease in consumption in countries hit by deleveraging shocks. Structural reforms to increase the responsiveness of labour, product and capital markets to changes in demand would shorten adjustment periods. This route is being pursued by southern European countries and the reform momentum should be maintained. Countries that retain fiscal space but suffer from a shortfall in demand, such as the UK and the US, should not try to achieve overly abrupt public deleveraging before their private sectors are healthier. Finally, Japan should enact reforms to improve the long-run sustainability of public finances while realising that as a large country with considerable foreign assets it should not remain indefinitely reliant on external demand to fuel its growth.

Given appropriate macroeconomic policies to sustain aggregate demand, the current deleveraging episode not only does not need to be harmful to global output growth, but can even plausibly increase it and strengthen its resilience. Before the crisis too large a fraction of global savings were used to finance consumption in the advanced countries. If a larger share were instead used to invest in relatively low capital intensity countries, global

growth should pick up. To achieve this positive scenario, capital accounts in developing countries should be opened up in a measured fashion to expand investment opportunities. This should be coupled with efforts to modernize domestic financial markets. At the same time, policymakers should be mindful of the potentially destabilising properties of uncontrolled capital flows and financial liberalisation, which were among the reasons for the crisis originally.

## References

- Fan, He (2013) 'Structural changes after the global financial crisis: China's perspective', presentation at AEEF conference  
Fukao, Mitsuhiro (2013) 'Fiscal consolidation in Japan', presentation at AEEF conference  
Roxburgh, Charles (2013) 'Debt and deleveraging: uneven progress on the path to growth', Presentation at AEEF conference

## Notes

- 1 See Eggertsson and Krugman (2012) 'Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach', *Quarterly Journal of Economics* 127 (3).
- 2 In 2010, households and non-profit institutions serving households (NPISHs) in Switzerland had the second highest financial net worth as a share of gross disposable income (GDI) among OECD countries after Japan.
- 3 In Ireland, financial corporations' debt-to-GDP ratio increased from an already very high 538 percent in 2001 to 1390 percent in 2008. Only Luxembourg in the OECD had higher a financial debt ratio. These OECD figures are not comparable with McKinsey data because they do not correct for double counting of asset backed securities.
- 4 Within the EA-4 financial debt decreased in Germany but rose in the other three countries.
- 5 Assessing deleveraging is complicated by the fact that the starting period is always somewhat arbitrary. For example, if the starting period were 2009q1, the financial sector would have deleveraged significantly in all regions except the EA-4.
- 6 In case of a global shock, only relying on net exports to support demand is not feasible.
- 7 Symmetrically, this effect would tend to reduce the adverse effects of austerity within the euro area. Nonetheless, the demand shortfall is arguably very large in many southern European countries and public retrenchment, while unavoidable because of lack of access to credit and limited solidarity, does contribute to this lack of demand.
- 8 Working age is defined here as 20 to 69 years. Population data is from the UN and RGDP data from IMF WEO.
- 9 The financial net worth of Japanese households and NPISHs in 2010 was 370 percent of GDI compared to OECD average of 174 percent. In 2011, the financial net worth of Korean households and NPISHs was 170 percent of GDI compared to OECD average of 174 percent.
- 10 Spain and France individually had higher non-financial corporate debt levels than South Korea, however.
- 11 This is accentuated in the present environment of low interest rates, in which it is challenging to induce creditors to spend more by further lowering the return on their savings.