BANK FOR INTERNATIONAL SETTLEMENTS

Central banks and the global debt overhang

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50th SEACEN Governors' Conference

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Good morning, ladies and gentlemen. It is an honour and a pleasure to be able to address you on the occasion of the 50th SEACEN Governors' Conference in Port Moresby. For this, I thank Governor Bakani, all SEACEN Governors and the conference organisers.

In my address, I will focus on what is a central global economic policy issue: debt has reached record levels in many countries and, seven years since the start of the global financial crisis, it is still rising. There is no hard and fast rule to tell exactly when debt is excessive, but I believe there are signs that debt is already well past safe levels in many advanced economies. Financial market participants remain largely complacent about this risk. But they are apt to change their minds abruptly.

No less alarming is that the root causes of rising debt have yet to be tackled. Since the onset of the crisis, significant progress has been made in reducing leverage in the financial sector by tightening oversight and regulation and by strengthening capital buffers. But the macroeconomic roots of the debt overhang have yet to be addressed. These roots lie partly in the asymmetric conduct or easing bias of monetary policy since the early 2000s. Although inflation remained low and stable, monetary policy failed to prevent the build-up of debt and financial vulnerabilities. Meanwhile, a number of countries also moved towards a less prudent fiscal policy.

The asymmetry in monetary policy has not yet been corrected. Central banks rightly took aggressive measures to prevent the crisis from spiralling out of control. But the emergency is now over. The effects of ultra-low interest rates on the real economy are uncertain and probably diminishing. At the same time, the negative side effects are growing.

The only way out of the debt overhang is for highly indebted agents to patiently and gradually build saving balances and then maintain them through time. All other options, including default, higher inflation and financial repression, are unacceptable from the perspective of any central bank tasked with maintaining price stability. Central banks can help smooth the needed adjustment, but should not be trapped into keeping interest rates very low forever.

With some exceptions, emerging market economies are in better shape than advanced economies, but they too are not immune to the risk of excessive debt. The pace of debt accumulation has indeed accelerated in emerging markets since the start of the crisis. Avoiding a debt overhang should also be a primary concern for the Asian central banks represented today at the SEACEN Governors' conference.

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[1] This speech was prepared with Fabrizio Zampolli, and benefited from comments by Eli Remolona and colleagues in the BIS Representative Office for Asia and the Pacific.

I will structure my intervention into three main parts:

I. First, I will discuss the build-up of the global debt overhang and its fundamental causes;

II. Second, I will deal with the various approaches for resolving the debt overhang;

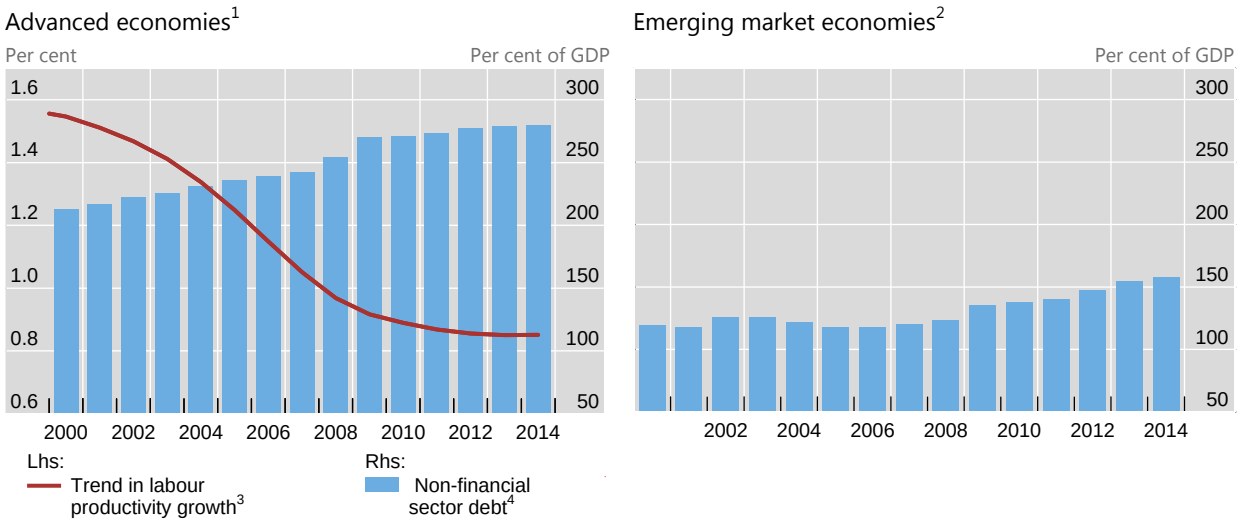
III. Finally, I will turn to the dilemmas that central banks need to confront in dealing with the problem.

I. The build-up of the debt overhang and its causes

A. The long-term rise in debt

Let me start with the big build-up. Graph 1 shows that total non-financial debt in advanced economies rose by 67 percentage points, from 212% of GDP in 1999 to 279% in 2014. It is striking how this increase in debt took place against the background of slowing productivity growth. Of this increase more than half (37 percentage points) occurred since the start of the global financial crisis. Graph 1 also shows that, since 2008, total debt has begun to rise at a rapid pace in emerging markets, reaching 157% of GDP in 2014.

An unsustainable growth model — Graph 1



[1] United States, Japan, euro area, Australia, Canada, United Kingdom, Sweden and Switzerland. [2] Argentina, Brazil, China, the Czech Republic, Hong Kong SAR, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Poland, Russia, Singapore, South Africa, Thailand and Turkey. [3] Hodrick-Prescott (HP) filter applied to annual growth of output per person employed. Aggregates are weighted averages of trend growth based on GDP at current PPP exchange rates. [4] Includes credit to the private and public sector converted to US dollars at market exchange rates.

Sources: IMF, *World Economic Outlook;* OECD, *Economic Outlook;* Conference Board, *Total Economy Database*; national data; BIS calculations.

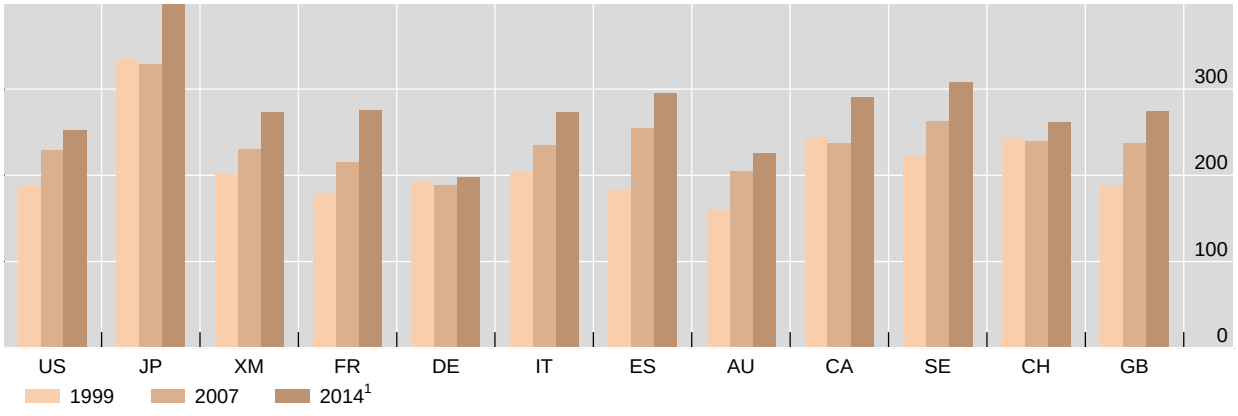
As the breakdown in the upper panel of Graph 2 shows, total debt is now almost four times GDP in Japan and in a range of two and a half to three times GDP in the majority of advanced economies. Over the last 15 years, the debt build-up in advanced economies was broadly based, involving both *public* and *private* debt. While some deleveraging has taken place in the private sector since 2007 – especially in the United States and the United Kingdom – the decline has been more than offset by a large rise in public debt. Moreover, this increase in domestic debt has gone hand in hand with a substantial rise in *external debt*. On top of this, many advanced economies also face rising *age-*

related liabilities resulting from underfunded pension and health programmes. As Carmen and Vincent Reinhart and Kenneth Rogoff put it, we are confronting not a single but rather a "quadruple debt overhang" problem.[2]

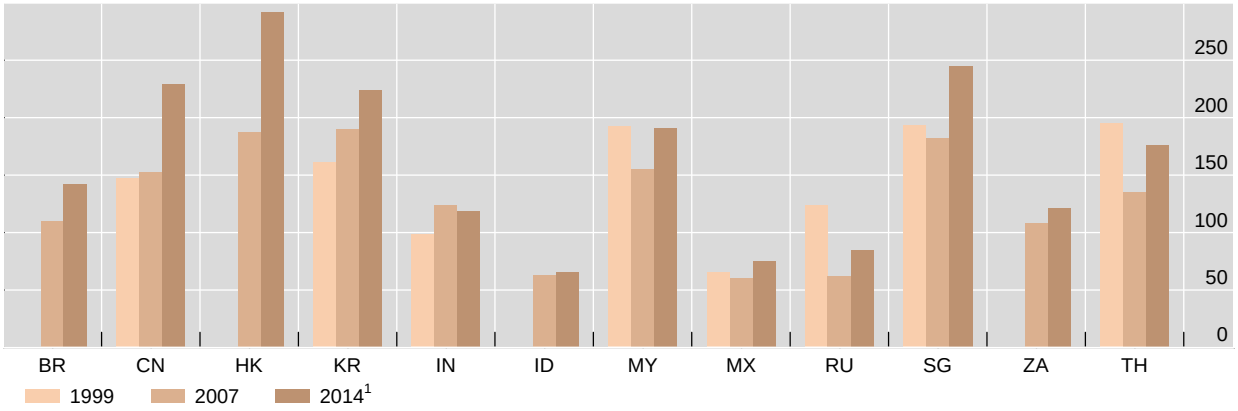
Total debt (excluding the financial sector)

As a percentage of GDP — Graph 2

Advanced economies



Emerging markets



[1] Refers to Q1 or Q2.

Sources: IMF; OECD; national data; BIS calculations.

Debt is much lower in EMEs as a group, as shown in the lower panel of Graph 2. But the average masks significant differences. In particular, China's total debt is now 229% of GDP. In less than six years it has increased 76 percentage points (or about 50% above its 2007 level). China's corporate debt stands now at over 150% of GDP, above the levels of most advanced economies. Public debt is relatively low at 40% but, taking into account off-balance sheet liabilities likely to materialise, China's public debt is estimated to be over 50%.[3] In Korea, total non-financial debt is over 220% of GDP, close to

[2] C Reinhart, V Reinhart and K Rogoff, "Public debt overhangs: advanced-economy episodes since 1800", *Journal of Economic Perspectives*, vol 26, 2012.

[3] See National Audit Office of the People's Republic of China, "Audit results of nationwide governmental debts", no 32 of 2013 (General Serial No 174), 30 December 2013.

that of China and other advanced economies. In most other EMEs, especially in the Asia-Pacific region, debt is much lower, but its pace of accumulation has accelerated post-crisis. Fast growth in debt is a concern, as it is more likely to be associated with excessive concentration of credit risks and misallocation of resources.

B. Unconventional economic policy and the debt-driven growth model

What has driven the global accumulation of debt? The process of financial liberalisation from the late 1970s onwards has certainly contributed to the rise in debt over the very long run. But, at least since the early 2000s, another key contributory factor for the continued rise in debt has been the progressive shift in major economies towards less prudent macroeconomic policies. We can say that "unconventional" policies commenced not in 2009, as a response to the global financial crisis, but well before. This shift began first in the United States. The main elements are intimately linked. The first is cheap money, resulting from an "*easing bias" in monetary policy*. The second is a procyclical behaviour of leverage in the banking sector encouraged by cheap money. Cheap money and easy credit then resulted in a widespread *preference for debt against equity* among households and corporates. And a final element is *expansionary fiscal policies*, which were made to appear sustainable only by cheap money. Let me briefly discuss the four components of the debt-driven growth model in turn.

1. Easing bias of monetary policy

Graph 3 illustrates the easing bias of monetary policy. It compares the actual policy rate with that implied by a simple Taylor rule. A clear departure from this rule occurred in the early 2000s: monetary policy became distinctly too accommodative in the United States and – via monetary policy spillovers – in the rest of the world too.

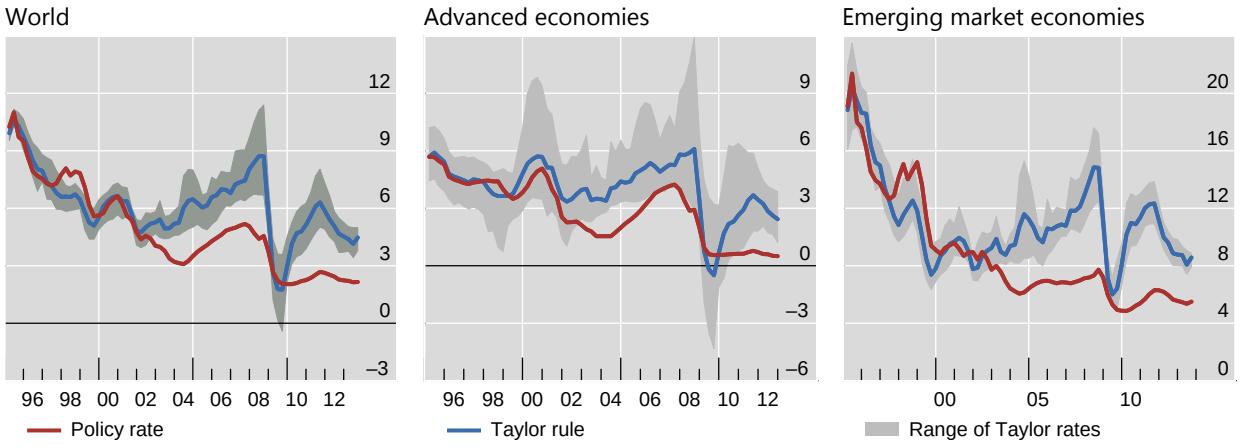
This departure largely reflects a fundamental *asymmetry in the conduct of monetary policy*. As stressed in the latest BIS annual report: "Policy does not lean against the booms but eases aggressively and persistently during busts. This induces a downward bias in interest rates and an upward bias in debt levels, which in turn makes it hard to raise rates without damaging the economy – a debt trap." Graph 4 illustrates this point by showing the opposite trends in total debt and the real policy rate for G7 countries.

A common objection is that the steady-state "natural" interest rate has fallen since the late 1990s, making invalid any inference based on a simple Taylor rule. The argument is well known. The emergence of large excess saving (or current account surpluses) in Southeast Asian countries, China and oil exporters required a fall in the equilibrium real interest rate to induce a corresponding widening of current account deficits in other countries. Central banks in advanced economies had no choice but to accommodate these structural forces lest they imparted an undue disinflationary bias to their economies.[4]

[4] This is, for example, the view of Ben Broadbent, Deputy Governor of the Bank of England: see "Monetary policy, asset prices and distribution", speech given at the Society of Business Economists Annual Conference, 23 October 2014.

Taylor rules and policy rates[1]

Graph 3

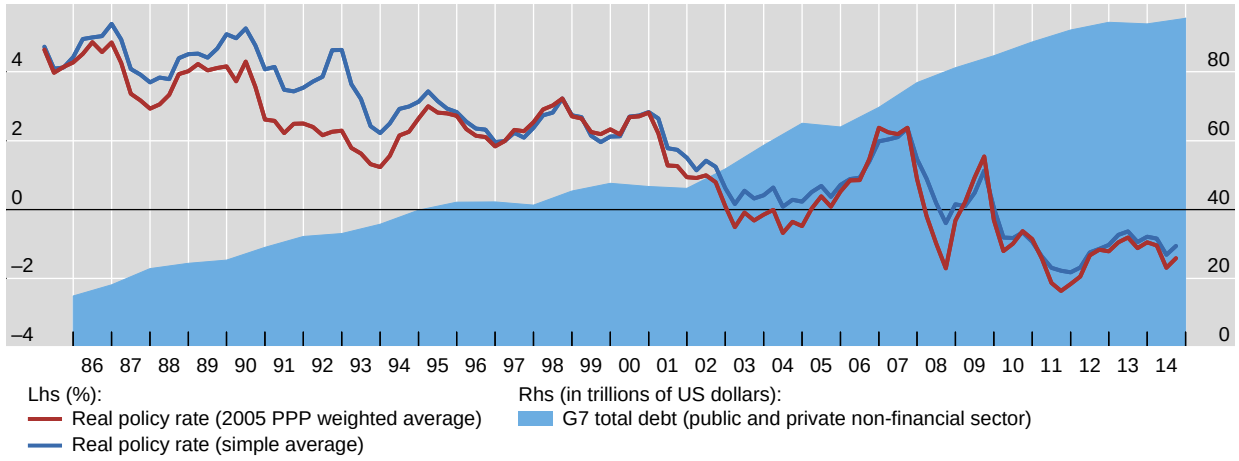


[1] Weighted average based on 2005 PPP weights. "Global" comprises the economies listed here. Advanced economies: Australia, Canada, Denmark, the euro area, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. Emerging market economies: Argentina, Brazil, China, Chinese Taipei, the Czech Republic, Hong Kong SAR, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Poland, Singapore, South Africa and Thailand.

Source: *BIS Quarterly Review*, September 2012, pp 37–49.

G7 total debt and real policy rate

Graph 4



Note: 2014 data refer to Q1 or Q2.

Sources: IMF; OECD; BIS private credit database; national data.

This "savings glut hypothesis" is, however, very much overstated. As pointed out by my colleagues at the BIS, it leaves several important facts unexplained:[5]

[5] See C Borio and P Disyatat, "Global imbalances and the financial crises: link or no link?", *BIS Working Paper*, no 346, 2011; and H-S Shin, "Global imbalances, twin crises and the financial stability role of monetary policy", paper prepared for the KIEP/CEPR conference, Seoul, 20 November 2009.

– First, in the run-up to the crisis, the increase in net capital flows was dwarfed by the huge increase in gross financial flows. And most of these gross flows were between advanced economies, not between advanced and emerging markets.

– Second, the bulk of the gross capital inflows into the United States originated from the private sector, not the official sector. And most were not used to purchase government debt securities, but riskier and often toxic assets such as asset-backed securities.

– Third, half of the gross inflows into the United States came from the United Kingdom and the rest of Europe (which were in deficit or close to balance respectively). China and other Southeast Asian economies only contributed a minor share.

The savings glut story is at a loss in explaining these facts. At best, it only offers a partial explanation. In my opinion, a more plausible account of these facts and the widening of current account imbalances centres on the financial cycle. Monetary policy plays an important role in amplifying the financial cycle by reducing the price of leverage, boosting asset prices and reducing perceived risk. As credit expands, more funds to finance it are attracted from abroad. As a result, capital flows rise and current account imbalances widen.[6]

As monetary policy is loosened in the United States and other major economies, its accommodative effects are also transmitted to the rest of the world. This happens through at least four channels. First, central banks set lower policy rates than they could to prevent capital inflows and currency appreciation. Second, in globally integrated bond markets long-term yields, including those of emerging market local currency bonds, tend to co-move with those of core countries. Third, looser monetary policy normally leads to stronger capital flows, especially to emerging markets. Last but not least, the growing $11.5 trillion in offshore dollar and euro credit to non-residents also transmits easing pressure, regardless of where that credit originates.[7]

2. Preference of the banking sector for leverage against capital

Along with regulatory gaps, cheap money has induced banks to raise their leverage ratios in the run-up to the global financial crisis. As shown in Graph 5, the leverage of large banks increased by half, from 20 times equity in 2000 to 30 in 2008.

Since the onset of the crisis, the implementation of the Basel III regulatory framework has prompted banks to boost their capital positions, thus leading to a gradual fall in their leverage ratio, which is now around 15 times equity. Further progress may be expected, as important parts of Basel III have yet to be completed. These include, in particular, the calibration of the leverage ratio, the review of sovereign risk weights, and the update of the Basel II capital requirements on securitisation.

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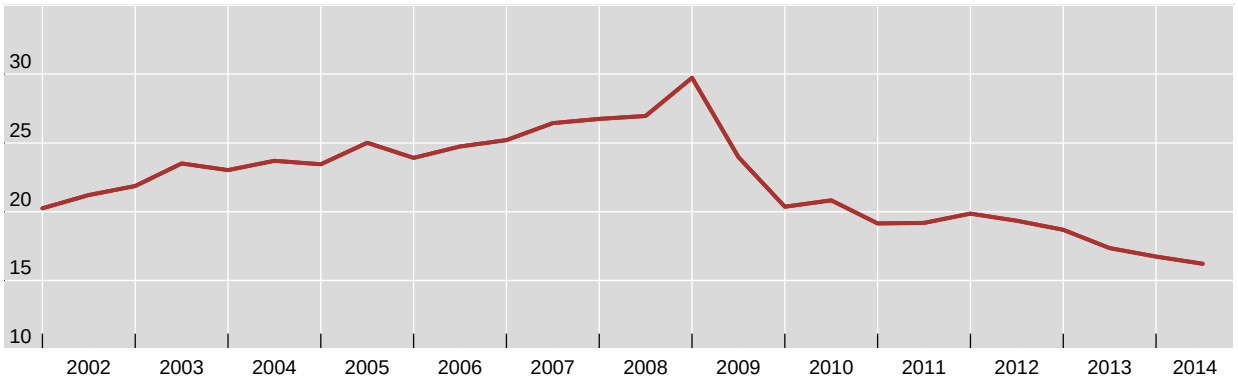
[6] In the run-up to the crisis the rapid shortening of the government debt maturity since the early 2000s may also have played a role in dampening the long-term interest rate, and may partly explain why the rise in the Fed Fund rate over the period 2004–07 was not accompanied by an increase in the long-term rate of the size observed in previous tightening episodes – what Alan Greenspan called a conundrum. See eg J Chadha, P Turner and F Zampolli, "The interest rate effects of government debt maturity", *BIS Working Papers*, no 415, June 2013. Interestingly, the authors find that, when controlling for the average maturity of US federal debt, capital inflows into Treasuries from the official foreign sector become statistically insignificant.

[7] See eg R McCauley, P McGuire and V Sushko, "Global dollar credit: links to US monetary policy and leverage", *Economic Policy*, forthcoming. There is also some evidence that long-term interest rates have become more correlated across countries: see eg P Turner, "The global long-term interest rate, financial risks and the policy choices in EMEs", *BIS Working Papers*, no 441, February 2014.

Leverage of large banks[1] Graph 5



[1] 20+ major banks in the advanced economies. Total assets/total equity, weighted by asset size.

Sources: Bloomberg, BIS calculations.

3. Widespread preference of economic agents for debt against equity

It is no surprise that, in the low interest rate environment of the 2000s, household and corporates have shown a strong preference for debt over equity. Households overstretched themselves in the United States and other countries. The subsequent bust led to widespread foreclosures – the social cost that had to be paid in the United States to reduce household debt from 95% of GDP in 2007 to 77% of GDP in 2014 (Annex Table 2). Corporates have also been incentivised to borrow rather than raising capital. Non-financial corporate debt has increased over the last 15 years in both advanced and emerging markets, and now represents 86% and 82% of GDP respectively. The largest increase occurred in emerging markets (44 percentage points against 9 points in advanced economies) (Annex Tables 1 and 2).

The incentives for corporates to take on more debt continues to be strong in the post-crisis environment. Abetted by ultra-low interest rates, corporate bond issuance has been strong in both domestic and offshore markets. In BIS statistics, the outstanding amount of US dollar and euro-denominated bonds issued by borrowers who reside outside the United States and the euro zone has jumped to over $5 trillion in 2014 as monetary policy has helped to push down term premia. At the same time, in the United States initial public offerings (IPOs) are currently well below their 2007 level (about $238 billion in 2014 against $438 billion in 2007). And share buybacks have also been rising. For example, in the United States share buybacks totalled $533 billion in the 12 months to June 2014, a 26% increase over the comparable 12-month period in 2013 and close to the high level reached in 2007.

4. Expansionary bias in fiscal policies

Weak fiscal discipline has been a long-standing issue. In many advanced economies, public debt as well as unfunded liabilities have trended up more or less steadily since the mid-1970s. Fiscal discipline weakened further in the early 2000s. It was then that the United States started accumulating deficits again, after a period of improving fiscal balances and falling debt. In Europe, after a period of greater discipline in the run-up to the monetary union, a general relaxation of fiscal policy was amplified by the Franco-German decision in 2004 to water down the Stability and Growth Pact. Furthermore, the upper limit of 60% to the debt-to-GDP ratio set by the Maastricht Treaty ceased to be a reference. Debt ratios rose further, and by 2007 had already reached levels unprecedented in peacetime in a number of countries.

The biggest jump in public debt, however, occurred soon after the start of the crisis as governments resorted to an exceptional discretionary fiscal stimulus. As the discretionary stimulus was

only partially reversed, public debt grew in 2014 to 106% in the United States and to 108% in the euro zone. At the time, the IMF strongly advocated fiscal expansion. But in a speech at the SEACEN Governors' meeting in Kuala Lumpur in February 2009,[8] I argued that the appropriate fiscal policy responses to the 2008 crisis were stabilisation policies – allowing the automatic stabilisers to operate – and not stimulus policies. And I predicted that the exceptional fiscal stimulus in already highly indebted advanced economies would lead, sooner or later, to sovereign debt crises.

Unfortunately, unconventional new thinking on fiscal policy has recently been gaining ground in some policy circles. According to this new paradigm, any discretionary measure aiming at reducing (or simply stabilising) public debt is too costly or even counterproductive. Coupled with this view is the idea that high debt levels are still safe, provided that the central bank is prepared to play an active role in compressing yields. A corollary of this is that countries can live with high debt levels for a long time until the resumption of strong growth reduces them. "Austerity" is therefore not only too costly, so the argument goes, but also unnecessary.

This "anti-austerity" thinking, however, needs to confront the reality of unsustainable public debt trajectories. In 2010, a BIS working paper presented a set of 30-year projections for the path of the debt/GDP ratio in a dozen major advanced economies. The results are alarming. Let me quote: "In the baseline scenario,[9] debt-to-GDP ratios rise rapidly in the next decade, exceeding 300% of GDP in Japan; 200% in the United Kingdom; and 150% in Belgium, France, Ireland, Greece, Italy and the United States."[10] Since 2010, fiscal positions and the associated debt projections have improved somewhat, but not enough. Without further progress on closing current fiscal deficits and without reforms that curb pension and health expenditure, debt will inexorably continue to rise.[11] Stronger growth is unlikely to come to the rescue. The historical record shows that high growth is seldom associated with high public debt.[12] Policymakers should not fool themselves into believing that the debt overhang problem can be solved without fiscal discipline and rigour.

To sum up, with the exception of some deleveraging in the financial sector, total non-financial debt has continued to grow, prompting the simple question that heads up a recent Geneva report on the world economy: "Deleveraging? What deleveraging?"[13] Of the two root causes of the global financial crisis,[14] only the microeconomic one has been addressed, through regulatory reform (Basel III) that aims at improving banks' capital buffers, risk management and incentives. The macroeconomic policy causes – the flaws of the debt-driven growth model and the loose policy mix that led to the crisis – have yet to be addressed. How do we get out of this unsustainable debt-driven growth model?

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8 "Long-term sustainability versus short-term stimulus: is there a trade-off?", speech by Hervé Hannoun, Acting General Manager of the Bank for International Settlements, at the 44th SEACEN Governors' Conference on "Preserving Monetary and Financial Stability in the New Global Financial Environment", Kuala Lumpur, 7 February 2009.

9 The baseline scenario took into account the projected increase in age-related spending and was based on the average real interest rates observed in the period 1998–2007 and the real GDP growth potential calculated by the OECD at that time.

10 S Cecchetti, M Mohanty and F Zampolli, "The future of public debt: prospects and implications", *BIS Working Papers*, no 300, March 2010.

11 The necessary fiscal adjustment is substantial in several advanced economies. See eg *BIS 83rd Annual Report*, 2012/13, Chapter IV.

12 See C Reinhart and K Rogoff (2009, 2012) and Cecchetti, Mohanty and Zampolli (2010).

13 L Buttiglione, P Lane, L Reichlin and V Reinhart, "Deleveraging? What deleveraging?", *Geneva Reports on the World Economy*, no 16, September 2014.

14 The two root causes of the global financial crisis are discussed at length in the *BIS 79th Annual Report*, 2009.

II. Approaches to the resolution of the debt overhang problem

I will now turn to various approaches to the resolution of the debt overhang problem, which promises to be a major global economic policy issue for some considerable time. With total debt still rising, policymakers will have to make sure that over-indebtedness does not end up in "debt deflation"[15] – a situation in which the attempt to repay debt is self-defeating.

So far, central banks have acted aggressively to prevent debt deflation from materialising. But with the end of the emergency and now that a recovery is under way, the continued surge in debt raises questions about the appropriateness of keeping interest rates at present ultra-low levels. Indeed, the risk of a policy mistake is increasing: a central bank can normalise interest rates too early or too rapidly, thus choking off the recovery and making it harder to deleverage. But it can also wait for too long, leading to a further accumulation of debt, yet greater financial risk-taking, and the further postponement of essential growth-enhancing fiscal and structural reforms. If debt keeps rising against the backdrop of very low interest rates, the cost of any future adjustment may in fact rise, while the risk of debt deflation is simply pushed into the future.

I will first discuss the theoretical range of options for solving the debt overhang problem before describing central banks' current efforts in response to this problem.

A. The menu of options for solving the debt overhang problem

Governments, not central banks, have the primary responsibility for solving the debt overhang problem. But what can governments do? In a recent paper, Carmen and Vincent Reinhardt and Kenneth Rogoff lay out the menu of options: faster growth, debt restructuring or default, inflation, wealth taxes, financial repression, privatisation and austerity.[16] Their focus is on the reduction of public debt, but some of the options (especially regarding growth and inflation) also apply to the reduction of private debt. Let me consider these options in turn.

The favourite option is, of course, **faster trend growth**. Unfortunately, faster real growth cannot be achieved by decree. It requires that governments adopt a comprehensive range of structural and fiscal reforms. In other words, faster trend growth is not a substitute for structural or fiscal measures, but more likely a product of them.

A second option is **default or debt restructuring**. This option may be inevitable if governments fail to take action to consolidate public finances or boost trend growth, but should not be viewed as an appropriate solution. It might in fact involve unpredictable costs and wealth redistribution, which in the end may be less acceptable to society than ordinary fiscal consolidation. Any negotiation is likely to be prolonged and the ensuing uncertainty may in the process cripple the financial system. Default and debt restructuring are also unlikely to fully eliminate deficits – a fundamental imbalance between revenues and primary expenditure. Hence, fiscal consolidation measures could still be needed.[17]

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[15] I Fisher, "The debt-deflation theory of Great Depressions", *Econometrica*, vol 1, no 4, 1933.

[16] C Reinhart, V Reinhart and K Rogoff, "Dealing with debt", paper prepared for the International Seminar on Macroeconomics, Riga, June 2014.

[17] Debt restructuring conducted in an orderly way could be a way to repair the balance sheets of private agents, in particular financial institutions. For the clean-up of private sector balance sheets to be successful, a necessary condition is that the solvency of the public sector is not in doubt.

A third option is to raise **wealth taxes**. Here there are two possibilities. First, a large one-off wealth tax could, in principle, be used to eliminate a substantial chunk of outstanding public debt. In this sense, it is similar to a default or debt restructuring except that its burden would fall on all wealth holders, not only on bond holders. Yet, a large wealth tax might in practice be difficult to implement. It is more likely that wealth taxes may become part of the regular set of fiscal tools. If designed appropriately, they could also help reduce inequality and make necessary fiscal consolidation more acceptable to the general public.

A fourth option is a **surprise surge in inflation**. This would not be an acceptable option from a central bank's perspective. And it would anyway be insufficient. Without imposing any restrictions on financial transactions, interest rates would soon catch up as creditors seek compensation for higher inflation. The easing of the debt burden would therefore be temporary (and inversely related to the maturity of outstanding debt). But the costs could be permanent. The credibility of central banks' inflation targets might be lost, resulting in higher, more persistent, and more volatile inflation rates. Capital might also take flight to other countries. As a result, real interest rates might be higher in the long run and average growth lower. And the distributional effects of inflation – a tax on the poor – would be unacceptable.

A fifth option is **"financial repression"**. This comprises a wide range of rules, restrictions and policies that have the ultimate effect of reducing real interest rates below those that would prevail in a free market. Some of the new financial regulation and unconventional monetary policy actions by central banks may be construed as a form of financial repression happening by accident rather than design. Financial repression has in the past often been associated with higher inflation, worse credit and resource allocation and hence lower average growth. Moreover, in a globalised world, financial repression may be more difficult to implement than in past overhang episodes. It would require either a coordinated approach among many economies or the imposition of capital restrictions, which would hurt growth. And governments may not necessarily use persistently cheap funding to reduce public debt fast enough, but instead to simply prolong unsustainable or wasteful spending.

A sixth option for public debt reduction is **privatisation** of public assets. However, any benefit from a short-term reduction in debt may be offset by the expected loss of future revenue. The benefit will depend, in particular, on how well the government runs its assets or firms. At the same time, privatisation can improve the liquidity position of the government and hence reduce the risk premium on its debt. It is, however, unclear in practice how large these benefits are. At best, privatisation could only be a partial solution to the debt overhang problem.

The final option for debt reduction in the Reinhart and Rogoff typology is "austerity". But perhaps that term is the wrong one. In the case of government debt, this option should preferably be called "running a primary surplus". More generally, for all categories of indebted economic agents (household, corporates and governments), it amounts to a "**gradual increase in saving rates maintained through time"**: "gradual" enough to minimise the adverse effects on aggregate income of many agents increasing their savings simultaneously; but also "maintained through time" to ensure that debt stays on a safer downward trajectory. This option inevitably leads to slower average growth for some time. But it has the merit of being the most reasonable one, recognising that savings have not become the enemy of policymakers. Defaulting on debt or engineering inflation (which is another stealthy way of defaulting) are far worse solutions to the debt overhang problem.

B. Central banks' current efforts for the resolution of the debt overhang problem

Confronted with the debt overhang problem, major central banks have – rightly – favoured the option of a gradual increase in savings rates among debtors, broadly supporting fiscal consolidation, while trying to stimulate spending by less indebted agents or net savers. More specifically, their implicit strategy has involved three elements:

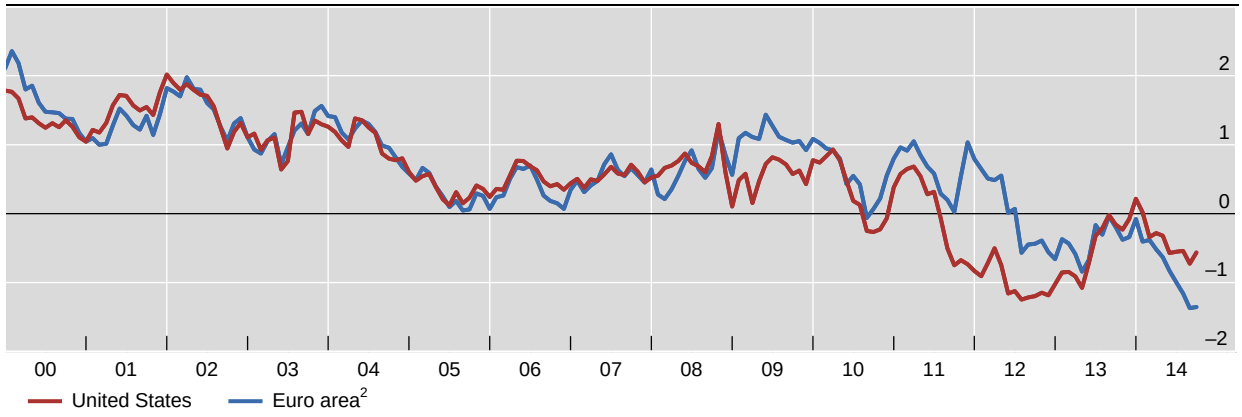
1. The first is to forcefully **reduce debt service ratios**, thus boosting debtors' cash flows and preventing them from cutting their spending too sharply. The reduction in borrowing costs was achieved initially by large cuts in the policy rate, which had a stronger effect in countries with a large share of variable rate debt such as the UK and several euro area members. Subsequently, borrowing costs were pushed down by quantitative easing measures as well as by forward guidance (the promise to keep policy rates low for longer).

2. The second is to **reinforce the commitment to keeping inflation as close as possible to the 2% target**. For example, the US Federal Reserve has removed any ambiguity about its target by making it explicit at 2%. The Bank of Japan has also announced a target of 2% along with "open-ended" quantitative easing measures. And the ECB has stuck to its "below but close to 2%" target. This has helped keep long-term inflation expectations well anchored at or just below 2%, thereby preventing any risk of a deflationary spiral. Central banks have also rightly rejected academic advice to raise their inflation targets. Central banks cannot be seen as engineering inflation as a way to reduce the real value of the debt. And, as argued above, the long-run costs would largely outweigh any transitory benefits. [18]

3. The third is to support aggregate demand by **reducing the long-term interest rate**, bypassing the zero lower bound on policy rates through unconventional measures such as large-scale asset purchases and forward guidance. As shown in Graph 6, these measures have helped push term premia into negative territory in 2011–12 in the United States and the euro area; and again in 2014. A negative term premium is unsustainable in the long run as it means that an investor is willing to pay to be exposed to interest rate risk rather than being compensated for this risk.

Ten-year nominal term premium[1]

In per cent — Graph 6



[1] Ten-year nominal term premium (sum of the real risk premium and the inflation risk premium) as derived from econometric term structure models. [2] Based on Germany and France.

Sources: BIS calculations.

[18] That major central banks have all converged on the same target of 2% or close to 2% is a remarkable achievement. According to Jean-Claude Trichet, "we have now an affirmed global nominal anchor for the first time since the dismantling of the Bretton Woods System." This has probably played a role in stabilising the foreign exchange market, the only segment of financial markets that has not undergone significant disruptions during the crisis. See J-C Trichet, "Central banking in the crisis – Conceptual convergence and open questions on unconventional monetary policy", 2013 Per Jacobsson Lecture, 12 October 2013, Washington DC.

III. Central banks' dilemmas on the debt overhang problem

Is the current stance for the resolution of the debt overhang problem still warranted? In tackling this question, central banks need to confront at least five dilemmas.

1. Are unconventional monetary policies incentivising more debt?

The first dilemma is whether a prolonged period of unconventional monetary policies is incentivising more debt and is therefore beginning to do more harm than good. Instead of helping debtors to deleverage, such policies may have become an encouragement to increase leverage further. As the latest BIS annual report puts it, "Low interest rates can also have the perverse effect of incentivising borrowers to take on even more debt, making an eventual rise in rates even more costly if debt continues to grow… Low interest rates do not solve the problem of high debt." In some countries, negative interest rates on short-term government securities mean that governments now obtain some remuneration from borrowing short term instead of bearing a cost for it.

Ultra-low interest rates also breed complacency among creditors: as shown in Table 1, despite the huge increase in public debt, the burden of interest payments as a share of GDP has declined, creating the illusion that the unfettered debt surge is sustainable and – to use the terminology of the rating agencies – "affordable". Yet, market discipline does not work in a continuous way. Long periods of complacency are followed by episodes of "market tantrums", making market indicators an unreliable guide to debt sustainability. The compression of sovereign spreads in periods of low market risk aversion creates a false sense of comfort and provides a misleading picture of the sustainability of high debt-to-GDP ratios.

Fiscal sustainability

As a percentage of GDP — Table 1

	Government net debt interest payments			Government debt		
	1999	2007	2014	1999	2007	2014
United States	3.2	2.6	2.5	58.6	63.8	106.2
Canada	4.1	0.6	0.4	92.2	70.4	94.2
France	2.7	2.5	2.2	69.0	73.0	115.1
Germany	2.8	2.5	1.4	61.8	65.6	83.9
Italy	6.3	4.7	4.8	125.7	116.5	147.2
Japan	1.3	0.0	1.1	127.9	162.4	229.6
United Kingdom	2.5	1.8	2.9	47.9	46.9	101.7

Source: OECD.

2. Should central banks insure against the risks of debt-deflation?

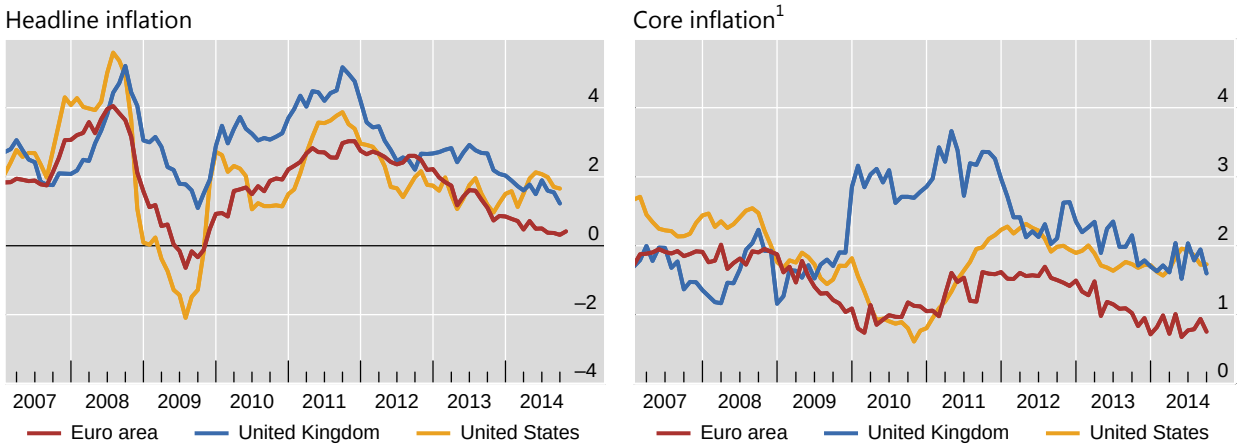
The second dilemma for central banks is about the risk of debt deflation. Should central banks insure against this risk? Let me divide this dilemma into two separate questions. First is the question of evidence. Second is the question of how to respond.

Turning first to the question of evidence, it is not clear from the data that there has been a significant rise in the risk of deflation. As shown in Graph 7, headline inflation in major economies has been falling steadily since its 2011 peak, but the recent decline is largely explained by falling commodity prices, which are known to be volatile. Underlying inflation ("core inflation") has been more stable,

especially in the last few months. Wage inflation is generally subdued but stable. If anything, a fall in inflation should support real disposable income and hence growth.

Inflation in major advanced economies

Twelve-month changes, in per cent — Graph 7



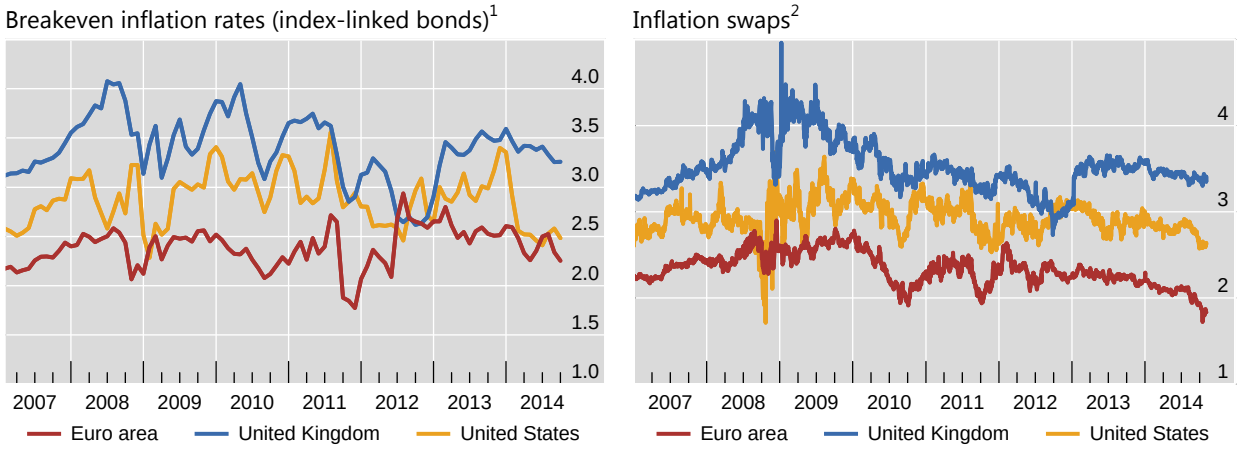
[1] Excluding food and energy.

Sources: Datastream; OECD; national data.

Neither measure of long-run inflation expectations shown in Graph 8 – the breakeven inflation rates derived from index-linked bonds and the inflation swap rates – points unambiguously to a heightened risk of deflation. Long-term inflation expectations appear to be relatively well anchored, currently at around 2% in the euro zone, and at around 2½% in the United States. In the short run, though, these indicators can be quite volatile.

Inflation expectations

In per cent — Graph 8



[1] Five-year, five-year forward breakeven inflation rates; monthly averages. [2] Five-year, five-year forward inflation swap rates.

Sources: Bloomberg; Consensus Economics; BIS calculations.

Without convincing evidence that the economies are at risk of falling into a deflationary spiral, policymakers expressing the view that "inflation is too low" might be counterproductive. The general public would have difficulty accepting this message given the gap between the perceived inflation rate

and inflation as recorded by the statisticians.[19] So the appropriate message is "inflation is below target" rather than "inflation is too low". It is critical to avoid transforming "inflation targeting" into "targeting more inflation".

Let me now turn to the second question: if there seems to be no immediate risk of deflation, should central banks act in a pre-emptive manner, even before evidence of deflation materialises? In other words, should central banks try to minimise the probability of debt deflation occurring as well as any potential fallouts? The case for pre-emption relies on at least two conditions, which in my view are not met at present. The first is that the potential costs of deflation outweigh the negative side effects of further monetary easing. The second is that monetary policy is still effective. Let me discuss these two conditions in turn.

As regards the cost of deflation, market commentators appear to exaggerate it as they seem to be extrapolating from the Great Depression. But the economy's institutional characteristics are different today. And policymakers took prompt action in the initial emergency phase of the latest financial crisis, by providing ample liquidity and mitigating the fallout from banking failures. Hence, in today's circumstances, it seems that the most plausible worst-case scenario is one of mild deflation – more similar to what experienced in Japan than in the United States during the Great Depression. In this scenario the costs of deflation (and the costs of slipping into it) are not necessarily as high as presumed by many commentators seem to think.[20]

At the same time, the indefinite costs of deflation need to be weighed against the more certain costs of further monetary easing. These costs include not only those of a possible inflation overshoot, but especially those, already apparent, of ultra-low interest rates. By trying to push yields and spreads even lower, further stimulus may induce the financial sector to take even more risk, increasing the odds of a future abrupt correction in asset prices and credit conditions. Even if successful in boosting demand and inflation today, such easing may stoke the risks of another financial crisis and a yet more powerful deflationary shock in the future.

The second condition is that monetary policy continues to be effective. This cannot be taken for granted. While monetary policy actions have so far helped to reduce nominal yields substantially, their effects on real activity are much less certain. Agents may not respond as assumed in current models of monetary policy.[21] In particular, the expectation that growth will stay low for a prolonged period of time might discourage businessmen and households from increasing their spending much further, despite the low interest rates. Any additional spending brought forward means less spending in the future; and there may be limits to how much agents want to substitute intertemporally. In other words, rational agents may understand that what is needed is not simply a boost to demand, but a boost to "sustainable" demand. In these circumstances, a better option for policymakers aiming to sustain the recovery in output and minimise debt-deflation risk is to speed up the repair of bank balance sheets, improve credit allocation, minimise the uncertainty regarding future taxes and spending by presenting credible fiscal consolidation plans, and ensure that overdue structural reforms are finally implemented.

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[19] Opening remarks at the Seventh Irving Fisher Committee Conference on Central Bank Statistics at the BIS, Basel, 4 September 2014.

[20] See eg M Bordo and A Filardo, "Deflation and monetary policy in a historical perspective: Remembering the past or being condemned to repeat it?", *Economic Policy* vol 20, 2005; and C Borio and A Filardo, "Looking back at the international deflation record", *North American Journal of Economics and Finance* vol 15, 2004. See also discussion in Chapter V of the latest *BIS Annual Report*.

[21] On this point see eg L Smaghi, "Monetary policy: Many targets, Many instruments, Where do we stand?", paper presented at the Rethinking Macro Policy II: First Steps and Early Lessons Conference hosted by the International Monetary Fund, 16–17 April 2013.

3. Are unconventional monetary policies causing distributional problems and greater inequality?

The third dilemma for central banks is how they can keep their independence if their policies are perceived – rightly or wrongly – as permanently altering the distribution of income and wealth in favour of some social groups to the detriment of others.

The maintenance of current ultra-low interest rates already involves substantial transfers from creditors to debtors, and from savers to consumers and investors. Yet, the ultimate distributive effects are very complex and hard to discern precisely. They depend on how debt and savings are distributed across age and income groups; on the reaction of asset prices; on the impact on unemployment, which disproportionately affects low income groups; and on whether the expansionary fiscal policy abetted by low interest rates compensates creditor groups in other ways.[22] For example, the boost to housing wealth supported by low interest rates may benefit the old more than the young. So, the old (at least those who are home owners) are not necessarily made worse off by low interest rates. Clearly, more research is needed to understand these complex distributive issues.[23]

One thing, though, is certain. If these transfers go on for longer, and there is a *perception* in the public that the main effect of quantitative easing is to engineer asset price inflation, questions could be raised about the potential impact of unconventional monetary policies on inequality. In the end, monetary policy might end up being seen as no different from fiscal policy, in which case demands for political control would naturally grow. And, if this were to happen, central banks' future ability to effectively conduct stabilisation policy could be impaired.

4. Has the threat of fiscal dominance increased?

The fourth dilemma for central banks is how to help with the resolution of the debt overhang crisis while avoiding the risk of fiscal dominance. Policymakers in advanced economies are under pressure from both financial markets literature and some academic circles to search for easy ways to deal with the debt overhang problem. If unconventional monetary policies disappoint, we can expect a proliferation of "new" ideas on how to circumvent the problem, including "helicopter money" and "overt money financing" (for example, "having the central bank buying government securities which are explicitly non-

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[22] The question of how monetary policy, and unconventional measures in particular, affects income and wealth distribution is receiving increased attention. See eg a recent workshop on "Monetary policy and inequality" at the Federal Reserve Bank of Atlanta, 3–4 April 2014. Recent research suggests that a decade of unconventional monetary policy in Japan has widened income inequality, especially after 2008 when quantitative easing became more aggressive: see A Saiki and J Frost, "How does unconventional monetary policy effect inequality? Evidence from Japan", *DNB Working Paper*, no 423. The opposite view is presented in O Coibion, Y Gorodnichenko, L Kueng and J Silvia, "Innocent bystanders? Monetary policy and inequality in the US", VoxEU, September 2014. Their evidence that monetary policy tightening increases inequality is, however, based on a pre-crisis sample dominated by normal business cycles and the use of conventional monetary policy tools. It is unclear how their findings apply to the post-crisis environment of very prolonged interest rates and artificially compressed long-term yields.

[23] In the United Kingdom, for example, the old have benefited from the housing booms more than the young. The housing boom before the crisis was accompanied by larger increases in net wealth among older age groups. Ownership rates have also increased for older groups and decreased for younger ones. And the age at which a young household can purchase a house has increased significantly. Now, the continuation of ultra-low interest rates in the post-crisis environment is likely to continue, again tilting wealth distribution in favour of the old (see eg M Waldron and F Zampolli, "Household debt, house prices and consumption in the United Kingdom: a quantitative theoretical analysis", *Bank of England Working Paper*, no 379, March 2010). At a minimum, this example shows that there is no easy conclusion about the possible distributive impact of unconventional monetary policy and that more research is clearly needed.

interest bearing and never redeemable").[24] The trend in the public debate towards more and more eccentric proposals is symptomatic that the economic policy compass has gone adrift.

5. What pace of interest rate normalisation can borrowers reasonably withstand?

If central banks conclude that the potential cost of keeping interest rates at unprecedentedly low levels already outweighs any potential benefit, a final dilemma for central banks is how to normalise them. As the "new normal" for interest rates is highly uncertain, it will have to be discovered in the process of exiting current policies. A "normal" rate should be one that current debtors are able to withstand. At the same time, it should no longer encourage debt accumulation and its attendant risks. Market reaction is also very hard to predict. For all these reasons, normalisation of policy rates should probably proceed gradually. Yet, the challenge for central banks is to ensure this gradualism is designed so that it does not encourage investors to indulge in additional excessive risk-taking.

Conclusion

Let me conclude by summarising the main points of my intervention. Total non-financial debt had risen substantially over the last 15 years. Public finances are not yet under control. Debt is excessive and poses a serious risk in a number of countries.

This debt overhang partly arises from the asymmetric conduct of macroeconomic policy, or an easing bias, in advanced economies since the early 2000s. This has been part of a debt-driven growth model. If governments' efforts to consolidate their finances were to falter, under repeated calls for an end to "austerity", central banks would come under increasing pressure to keep interest rates at the current near-zero levels.

However, any failure to normalise monetary policy is a high-risk strategy. The continuation of very low interest rates might end up encouraging even more debt. It might push investors to take on excessive financial risk. And it may damage the supply side of the economy, by worsening credit misallocation and inducing policymakers to postpone essential growth-enhancing reforms. In this sense, continued unconventional monetary policy can buy more stability now, but at the price of lower average growth and greater financial instability in the future. In other words, the risk of debt deflation is not eliminated, but simply postponed.

A gradual increase in saving by highly indebted economic agents is the only acceptable solution to the debt overhang problem. Efforts to deleverage will inevitably weigh on economic growth for a long time. But default, debt restructuring, higher inflation and financial repression may end up imposing much heavier costs on society, including the possibility of unintended distributional consequences. If growth continues to disappoint, the reaction against rising inequality can only be

[24] See eg B Bossone, T Fazi, R Wood, "Helicopter money: The best policy to address high public debt and deflation", VoxEU, 2 October 2014.

expected to grow.[25] This means, in my view, that the unavoidable deleveraging will only be acceptable to society if policymakers make the reduction of inequality a key part of their policy framework.[26]

[25] Citing data from the Federal Reserve's 2013 Survey of Consumer Finances, Janet Yellen noted in her 17 October 2014 speech: "[T]he wealthiest 5 percent of American households held 54 percent of all wealth reported in the 1989 survey. Their share rose to 61 percent in 2010 and reached 63 percent in 2013."

[26] Wealth taxes, Thomas Piketty suggests, may be one of the tools needed in efforts to reduce inequality and improve fiscal balances: see T Piketty, *Capital in the Twenty-First Century*, Belknap Press, 2014.

Breakdown of total debt (excluding the financial sector)

As a percentage of GDP — Annex Table 1

	Level in 2014[1]				Change since end–1999[2]			
	House–hold	Corpo–rate	Govern-ment[3]	Total	House–hold	Corpo–rate	Govern-ment[3]	Total
Advanced economies[4, 5]	75	86	119	279	13	9	45	67
United States	77	68	106	252	12	6	48	65
Japan	65	103	230	398	–9	–28	102	65
Euro area	64	101	108	272	15	28	29	72
France	57	103	115	275	22	28	46	95
Germany	57	57	84	197	–16	0	22	6
Italy	44	81	147	273	23	25	22	69
Spain	75	111	108	295	33	41	39	113
Australia	116	74	35	225	47	12	7	66
Canada	94	102	94	291	32	13	2	47
Sweden	86	173	49	308	37	70	–22	86
Switzerland	127	89	46	262	15	12	–10	17
United Kingdom	93	79	102	274	25	7	54	86
Emerging markets[4, 6]	31	82	45	157	13	44	–6	37
Brazil[7]	38	38	66	142	20	20	…	…
China	35	153	41	229	…	…	4	81
Hong Kong SAR	64	222	6	292	6	116	…	…
Korea	82	104	38	224	36	6	21	63
India	9	50	60	119	…	…	–10	20
Indonesia	17	22	26	66	…	…	…	…
Malaysia[7]	70	64	57	191	…	…	19	–2
Mexico	15	12	48	75	6	1	2	9
Russia[7]	14	55	16	85	9	35	–83	–39
Singapore	61	81	103	245	23	8	20	51
South Africa[7]	40	33	48	121	6	5	…	…
Thailand	73	55	48	176	24	–35	–9	–20

[1] Refers to Q1 or Q2. [2] In percentage points of GDP; for Brazil, Hong Kong SAR, Indonesia and South Africa, government debt data are unavailable; for China, India, Indonesia and Malaysia, breakdown is unavailable for household debt and corporate debt. [3] OECD and IMF estimates of gross financial liabilities. [4] Weighted average of the economies listed based on 2005 GDP and PPP exchange rates. [5] Economies shown. [6] Argentina, Brazil, China, the Czech Republic, Hong Kong SAR, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Poland, Russia, Singapore, South Africa, Thailand and Turkey. [7] Breakdown of household debt and corporate debt is estimated based on bank credit data.

Sources: IMF; OECD; national data; BIS calculations.

Breakdown of total debt (excluding the financial sector)

As a percentage of GDP

Annex Table 2

	Level in 2014[1]				Change since end–2007[2]			
	House–hold	Corpo–rate	Govern-ment[3]	Total	House–hold	Corpo–rate	Govern-ment[3]	Total
Advanced economies[4, 5]	75	86	119	279	–6	1	42	37
United States	77	68	106	252	–18	–2	42	23
Japan	65	103	230	398	0	3	67	70
Euro area	64	101	108	272	2	5	35	43
France	57	103	115	275	9	8	42	59
Germany	57	57	84	197	–7	–3	18	9
Italy	44	81	147	273	5	3	31	38
Spain	75	111	108	295	–8	–18	66	40
Australia	116	74	35	225	8	–8	21	21
Canada	94	102	94	291	16	14	24	54
Sweden	86	173	49	308	17	28	0	46
Switzerland	127	89	46	262	14	16	–7	23
United Kingdom	93	79	102	274	–6	–12	55	36
Emerging markets[4, 6]	31	82	45	157	9	25	3	37
Brazil[7]	38	38	66	142	16	16	1	32
China	35	153	41	229	16	54	6	76
Hong Kong SAR	64	222	6	292	13	90	2	105
Korea	82	104	38	224	10	13	11	34
India	9	50	60	119	–1	10	–14	–5
Indonesia	17	22	26	66	5	6	–9	3
Malaysia[7]	70	64	57	191	17	4	15	36
Mexico	15	12	48	75	1	3	10	15
Russia[7]	14	55	16	85	3	12	7	23
Singapore	61	81	103	245	22	23	18	63
South Africa[7]	40	33	48	121	–4	–3	20	13
Thailand	73	55	48	176	26	5	10	41

[1] Refers to Q1 or Q2. [2] In percentage points of GDP. [3] OECD and IMF estimates of gross financial liabilities. [4] Weighted average of the economies listed based on 2005 GDP and PPP exchange rates. [5] Economies shown. [6] Argentina, Brazil, China, the Czech Republic, Hungary, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Mexico, Poland, Russia, Singapore, South Africa, Thailand and Turkey. [7] Breakdown of household debt and corporate debt is estimated based on bank credit data.

Sources: IMF; OECD; national data; BIS calculations.