



Global economic and financial challenges: a tale of two views

Jaime Caruana, General Manager, Bank for International Settlements

“Yet the models of monetary policy now commonly in use, both for teaching students in the field and for supporting policymaking within central banks, are not only incapable of incorporating the most widely accepted accounts of how this episode occurred but incapable too of analyzing the actions that monetary policymakers took. The gap between the models and the world of monetary policymaking is now wider than at any time since the 1930s.”

*Benjamin M Friedman
William Joseph Maier Professor of Political Economy
Harvard University*

It is a privilege to be delivering this lecture at the Harvard Kennedy School, and it is a pleasure to be doing so upon an invitation from Lucas Papademos. We attended many meetings together at the ECB in the past, and I vividly recall how all of us members of the Governing Council benefited enormously from his thoughtful comments.

Let me start by sharing with you this excerpt from the paper that Benjamin Friedman presented at the 2013 American Economic Association meetings.¹ Friedman aptly highlights the intellectual and operational challenges that central banks are going to face for many years to come. Today, in the spirit of his words, I would like to present two highly stylised views of some of these challenges. At the core is the interaction between what we call the financial cycle and the real economy – in the context of a globalised world. These two views share elements and are not mutually exclusive, but their policy conclusions are different and the implications worth exploring.

So why these challenges? What is the problem here? It has been over five years since the height of the global financial crisis, but the global economy is still struggling to shake off chronic post-crisis weakness. This weakness can be portrayed with a number of stylised facts about the global economy:

- Output and productivity trends have been disappointing. In those economies on both sides of the Atlantic that were front and centre in the crisis, recovery has been slow by historical standards. Although growth is getting back to normal in some of them, output is still below its pre-crisis path. Unemployment is still above pre-crisis levels. Productivity growth in advanced economies appears to be on a gradual trend decline which started well before the crisis.
- Inflation has been low and stable in general. But in some places, it is below policy objectives. In some cases, concerns have been raised about deflation (eg euro area).
- Private sector balance sheets have remained burdened. Debt-to-GDP ratios have generally continued to increase. For the G20 economies combined, the total debt of private non-financial sectors has risen by close to 30% since the crisis.

¹ Benjamin M Friedman, “The simple analytics of monetary policy: a post-crisis approach”, paper presented to the Committee on Economic Education at the AEA meetings, San Diego, January 2013.



- The financial sector is still under repair. In crisis-hit economies, banks have made progress in raising capital, largely through retained earnings and new issues, but uncertainties about the quality of assets and the extent of the balance sheet repair remain.
- In contrast, financial markets have remained buoyant and their dependence on central banks has grown. In advanced economies, the search for yield has proceeded unabated.
- Fiscal policy remains under strain. In crisis-hit economies, fiscal deficits have ballooned as a result of the fall in revenues, the post-crisis discretionary boost and, in some cases, the need to support ailing financial institutions. Some countries have sought to consolidate. Even so, debt-to-GDP ratios have continued to rise and in some cases look to be on an unsustainable path.
- Monetary policy has been testing its limits. In the jurisdictions that are home to the major international currencies, monetary policy has been extraordinarily accommodative. With policy rates at or near the effective zero lower bound, central banks have adopted forward guidance, large-scale asset purchases and long-term lending to ease conditions further.
- Economies that were not directly hit by the crisis, including many emerging market economies, have generally done better, but are now also slowing down. Many of them have seen strong credit growth and asset price booms. Private sector debt has been on the rise, although from lower levels. There are signs that financial imbalances have been building up in some of these economies, making them vulnerable to changes in global liquidity conditions.

This picture raises troubling questions. What are the deep causes of the chronic weakness? And what is the way forward? There are no easy answers. And they depend critically on one's perspective.

This is why I would like to lay out the two views. They differ in terms of diagnosis, priorities and policy prescriptions. The first, quite widespread, view emphasises that the key problem is a persistent shortfall of global aggregate demand that calls for further traditional expansionary policies. For brevity, I will label this the "shortfall of demand view". The second, less familiar, view maintains that the key is removing the impediments to growth that are the legacy of a balance sheet recession. I will label this the "balance sheet view". I shall argue that the balance sheet view provides a more convincing overarching interpretation of what has been happening in the global economy in general, although of course it is a better description for the situation of some countries than for that of others.

Before I go on to explain what I mean by these two views in more detail (in Section I) and discuss their different policy implications (in Section II), let me highlight three takeaways.

First, not all recessions are born equal. The post-crisis recession we have seen is a balance sheet recession, linked to the bust phase of a long financial cycle. The unsustainable pre-crisis financial boom created a false sense of prosperity while masking balance sheet vulnerabilities and real resource misallocations, both across sectors and in the aggregate. As the boom turned to bust, the subsequent balance sheet recession revealed and exacerbated these weaknesses. In addressing a balance sheet recession, the key is to target the nexus between debt overhangs, poor asset quality and the misallocation of both capital and labour. These problems cannot be redressed by traditional aggregate demand policies alone. If not sufficiently redressed, the balance of risks and rewards of aggregate demand policies – monetary policy in particular – will worsen over time. Strong sustainable growth requires tackling these impediments head-on and restoring productivity growth.

Second, the post-crisis policy response has been unbalanced. There has been a lot of emphasis on fiscal pump-priming and monetary accommodation and not enough on balance sheet repair and structural reforms. This suggests that we have not yet fully come to grips with the financial cycle. In economies still recovering from balance sheet recessions, reacting ever more aggressively with monetary and fiscal policy will not resolve the problem. After a certain point, it may even be counterproductive (eg depletion of policy ammunition, development of new imbalances).



And third, given the previous takeaways, a logical policy conclusion would be that policy frameworks need to adjust based on a longer-term focus. Monetary, fiscal and prudential policies alike need to be more symmetrical over the financial cycle: policies should lean more deliberately against financial booms and ease less aggressively and persistently during busts, assigning priority to repair and reform. This symmetry would limit the amplitude of the disruptive cycles and avoid the risk of exhausting ammunition over time. Correspondingly, there should be more emphasis on structural policies (eg labour, competition, taxation) to address structural problems. There are no short cuts: the path from here to there will not be easy. But the longer we wait, the bigger the costs will be.

I. Two views: diagnosis, evidence, assessment

Let me now elaborate on the two views. I will first explore how they compare in their diagnosis of the post-crisis weakness I described earlier. I will then examine the evidence for them and give you my own assessment. I should stress again that, for easier exposition, I will provide stylised descriptions. The two views are not mutually exclusive, but they do emphasise different aspects.

Diagnosis

The shortfall of demand view is quite familiar. In a nutshell, it argues that there is a persistent global shortfall of demand, which is particularly acute in crisis-hit advanced economies.

More specifically, this view can be summarised in seven propositions:

- First, the crisis represented a major negative demand shock with lasting consequences.
- Second, deleveraging in the aftermath of the crisis is a major factor prolonging this demand shortfall and should be offset or avoided.
- Third, a key factor restricting aggregate demand is anaemic credit supply: lenders are unwilling to lend in the aftermath of the crisis.
- Fourth, a major adjustment asymmetry in the global monetary system is magnifying this shortfall: surplus countries are under no pressure to expand demand while deficit countries have to contract.
- Fifth, persistent demand weakness, in turn, risks sapping supply, potential output and productivity growth: the unemployed lose their skills, while weak investment retards innovation and the expansion of capacity – a familiar form of hysteresis.
- Sixth, some variants also suggest that equilibrium real interest rates (or “natural rates”) are negative and likely to remain so: the zero lower bound is a crippling constraint. Some observers have suggested that equilibrium real rates may have been negative even before the crisis: bubbles were necessary to compensate for the underlying demand deficiency.
- Finally, persistently weak demand poses a serious risk of deflation: falling prices could lead to a hard-to-control debt deflation, by raising real debt burdens – a force that a hamstrung monetary policy cannot offset.

The balance sheet view is less familiar. It acknowledges the existence of a shortfall of demand, at least in economies that were directly hit by the crisis, but it highlights how its nature makes it less responsive to traditional aggregate demand management policies.

This view, too, can be summarised in seven propositions:



- First, the crisis is not an exogenous shock; rather, it represents the inevitable collapse of a previous unsustainable boom – the bust phase of a financial cycle. This naturally ushers in a balance sheet recession, featuring large sectoral and aggregate debt and capital stock overhangs and an impaired financial sector.
- Second, given initial conditions, deleveraging is a necessary precondition for a self-sustained recovery: debt overhangs relative to income need to be reabsorbed for the economy to rebound sustainably.
- Third, a key factor restricting aggregate demand is anaemic credit demand: agents realise that they have borrowed too much given their lower income expectations and seek to pay down debt. This numbs the effectiveness of monetary and fiscal stimulus.
- Fourth, the major asymmetry in the global monetary and financial system that worsens the picture is that easy monetary conditions in major economies spread to the rest of the world. As a result, the system has produced inappropriately low interest rates for the world as a whole. Non-crisis-hit countries find it hard to operate with interest rates that are significantly higher than those in the large crisis-hit jurisdictions because of the fear of exchange rate overshooting, even when the economy has been growing strongly. In several cases, this has been fuelling unsustainable financial booms (“financial imbalances”). The result is expansionary in the short run but contractionary over the longer term.
- Fifth, a key source of hysteresis is the misallocations of credit and resources (capital and labour) that built up during the unsustainable boom and may worsen during the bust. Given debt overhangs, in crisis-hit economies the allocation of credit matters more than the total amount of credit extension for the recovery and medium-term growth.
- Sixth, negative real interest rates, especially when associated with zero policy rates, are not equilibrium phenomena. As a result, they risk causing collateral damage, not only in the crisis-hit countries themselves, where they may further delay balance sheet adjustment or encourage unhealthy forms of risk-taking, but also, and more visibly, elsewhere in the world, by causing a build-up of financial imbalances. This, in turn, could end up validating those low interest rates, as the unwinding of the imbalances could make normalisation extraordinarily difficult globally.
- Finally, disinflationary, and possibly deflationary, pressures may in part reflect benign underlying forces, notably heightened global competition, that the boom had obscured. To that extent, the concern is not so much declines in the prices of goods and services per se as the harmful interaction between debt and asset prices.

Evidence

The shortfall of demand view embodies inferences drawn from the workhorse macroeconomic models used in policy institutions and academia. It is also supported by evidence, drawn in particular from crisis-hit countries. There, unemployment remains high and there is a sizeable output shortfall compared with pre-crisis trends; this shortfall is also visible, by extension, at the global level. Disinflation has now set in; ostensibly, economic slack is finally putting downward pressure on prices. Credit growth is low, and in a number of economies lending spreads exceed their pre-crisis levels. To be sure, globally current account positions have contracted somewhat, but cyclical factors are largely at work. Natural interest rates are unobservable, but central banks’ aggressive use of forward guidance and balance sheet policies, even as inflation remains positive, indicates that they believe that equilibrium rates are negative. The failure of aggregate demand to surge despite such extraordinarily accommodative policies points to persistent and strong headwinds. And the fiscal consolidation steps recently taken in several countries, following the post-crisis expansion, add to contractionary forces: indeed, there is evidence that fiscal multipliers may be higher when output is way below potential.



In contrast, the balance sheet view is more controversial and not part of the prevailing paradigm. To my knowledge, there is not yet a macroeconomic model that captures this view. Nonetheless, there is considerable evidence that supports it – including evidence based on research by my colleagues at the BIS. Let me outline here some evidence in six areas.

First, the nexus between systemic banking crises, financial cycles and the measurement of potential output. Recent studies have found that banking crises, and the balance sheet recessions they usher in, tend to occur at the peak of financial cycles. Such cycles are best captured by the joint behaviour of credit and property prices and, crucially, are much longer than business cycles: they last from 16 to 20 years rather than up to eight or 10 years.² Indeed, it is possible to construct fairly reliable real-time leading indicators of systemic banking crises based precisely on the behaviour of credit and property prices. These also identified fairly accurately the vulnerabilities ahead of the recent crisis.³

Second, the measurement of potential output. Systemic banking crises have particularly persistent effects on output and, in all probability, potential output too. It is now widely accepted that they have historically been associated with large *permanent* output losses: output may at some point grow again at its pre-crisis long-term rate, but does not return to its previous path.⁴ The current episode is no exception. Unless one is willing to entertain the (implausible) idea that output can be below potential for decades, this indicates that potential output is lower than estimated pre-crisis.

Additional evidence supports this point; and it also casts doubt on more traditional measures of potential that generally draw on the behaviour of inflation. Importantly, all the measures of potential output used nowadays in policy institutions and academia failed to identify *in real time* that output was running above its potential, or sustainable, level ahead of the great financial crisis: after all, inflation was low and stable. They have done so only *ex post*, a few years after the recession set in, as those institutions and scholars rewrite history with the benefit of hindsight. By contrast, recent work indicates that, by using information from the financial cycle, notably the behaviour of credit and property prices, it is possible to do precisely that.⁵ The intuition is simple: it was the build-up of financial imbalances, not rising inflation, that signalled the unsustainable expansion of output before the crisis. Such financial booms may also have helped to mask the trend decline in productivity growth, while globalised competition helped to keep goods prices in check.

² See M Drehmann, C Borio and K Tsatsaronis, "Characterising the financial cycle: don't lose sight of the medium term!", *BIS Working Papers*, no 380, June 2012. For broadly consistent evidence, see also S Claessens, M Kose and M Terrones, "Financial cycles: What? How? When?", *IMF Working Paper* WP/11/76, 2011; and, on credit cycles from a historical perspective, D Aikman, A Haldane and B Nelson, "Curbing the credit cycle", paper presented at the Columbia University Center on Capitalism and Society Annual Conference, New York, November 2010.

³ See eg C Borio and M Drehmann, "Assessing the risk of banking crises – revisited", *BIS Quarterly Review*, March 2009, pp 29–46; and, on a similar aspect, L Alessi and C Detken, "Real time early warning indicators for costly asset price boom/bust cycles: a role for global liquidity", *ECB Working Papers*, no 1039, 2009. For the role of credit, which is the best single variable, see M Drehmann, C Borio and K Tsatsaronis, "Anchoring countercyclical capital buffers: the role of credit aggregates", *International Journal of Central Banking*, vol 7(4), pp 189–239, 2011; O Jordá, M Schularick and A Taylor, "When credit bites back: leverage, business cycles and crises", *Federal Reserve Bank of San Francisco Working Paper Series*, 2011–27, 2011; and P-O Gourinchas and M Obstfeld, "Stories of the twentieth century for the twenty-first", *American Economic Journal: Macroeconomics*, 4(1), pp 226–65, 2012.

⁴ For a thorough review of the empirical literature, see Basel Committee on Banking Supervision, *An assessment of the long-term economic impact of stronger capital and liquidity requirements*, August 2010. See also C Reinhart and K Rogoff, "The aftermath of financial crises", *NBER Working Papers*, no 14656, January 2009.

⁵ See C Borio, P Disyatat and M Juselius, "Rethinking potential output: embedding information about the financial cycle", *BIS Working Papers*, no 404, February 2013; and, by the same authors, "A parsimonious approach to incorporating economic information in measures of potential output", *BIS Working Papers*, no 442, February 2014.



Third, the role of deleveraging. There is evidence that, in sharp contrast to a normal recession, a balance sheet recession requires deleveraging.⁶ In this case, deleveraging during the recession induces a stronger subsequent recovery. Moreover, there is generally little link between post-crisis credit expansion, beyond the recession, and output growth: so-called “credit-less recoveries” are the rule, not the exception, following balance sheet recessions.⁷ This casts the post-crisis slow bank credit growth in a different light. In addition, in contrast to the view that stresses regulation-induced credit supply constraints, much of the adjustment in the banking sector has taken place through retained earnings and external capital, and far less through lending cuts.⁸ Likewise, a large widening of lending spreads has been persistent mainly in some peripheral euro area countries.⁹

Not surprisingly, for much the same reason, balance sheet recessions, in contrast to normal ones, appear to numb the effectiveness of both monetary and fiscal policy. A recent cross-country study suggests that looser monetary and fiscal policies during the recession are not followed by stronger subsequent recoveries.¹⁰ This is consistent with the intuition that agents’ attempt to pay back debt reduces the impact of lower interest rates and fiscal transfers: agents have little intention to borrow more and prefer to save the additional income. The result is not surprising for monetary policy,¹¹ but conflicts with empirical studies that suggest fiscal multipliers are higher when economic slack is large. A possible explanation is that those studies fail to distinguish normal from balance sheet recessions.

Fourth, the source of hysteresis. The risk of hysteresis as a result of credit and real resource misallocations is borne out, in particular, by the Japanese experience. There is considerable evidence that, following the financial bust in the early 1990s, the combination of very low interest rates and forbearance hurt production potential, by trapping resources in inefficient companies at the expense of more profitable ones.¹² Nordic countries, which faced similar problems roughly at the same time, and were forced to take tougher monetary and fiscal policies, recovered much better. Presumably, in addition to larger exchange rate depreciations, this reflected in part their aggressive steps to repair the banking

⁶ See M Bech, L Gambacorta and E Kharroubi, “Monetary policy in a downturn: are financial crises special?”, *BIS Working Papers*, no 388, September 2012; forthcoming in *International Finance*.

⁷ See eg E Takáts and C Upper, “Credit and growth after financial crises”, *BIS Working Papers*, no 416, July 2013. The authors confirm and extend the findings on credit-less recoveries, eg by S Claessens, A Kose and M Terrones, “What happens during recessions, crunches and busts?”, *Economic Policy*, no 24(60), pp 655–700, 2009; and by G Calvo, A Izquierdo and E Talvi, “Phoenix miracles in emerging markets: recovery without credit from systemic financial crises”, *American Economic Review*, vol 96(2), pp 405–10, 2006.

⁸ See B Cohen, “How have banks adjusted to higher capital requirements?”, *BIS Quarterly Review*, September 2013, pp 25–41.

⁹ See A Illes and M Lombardi, “Interest rate pass-through since the financial crisis”, *BIS Quarterly Review*, September 2013, pp 57–66.

¹⁰ See M Bech, L Gambacorta and E Kharroubi, *op cit*.

¹¹ On this, see also R Rajan, “A step in the dark: unconventional monetary policy after the crisis”, Andrew Crockett Memorial Lecture, BIS, Basel, 23 June 2013.

¹² See, in particular, R Caballero, T Hoshi and A Kashyap, “Zombie lending and depressed restructuring in Japan”, *American Economic Review*, vol 98, pp 1943–77, 2008; and J Peek and E Rosengren, “Unnatural selection: perverse incentives and the misallocation of credit in Japan”, *American Economic Review*, vol 95, no 4, September 2005, pp 1144–66.



system and reform the economy.¹³ Forbearance and delays in balance sheet repair also appear to have been at play in the more recent post-crisis experience, at least in some jurisdictions.¹⁴

Fifth, the causes of deflationary pressures. The historical evidence indicates that deflations have often been associated with sustained growth in output.¹⁵ Surprisingly perhaps, the Great Depression was more the exception than the rule. Similar spells have also been evident since the 2000s, including in China, Nordic countries and, as I speak, Switzerland. In these cases, sustained output growth has proceeded alongside strong increases in credit and asset prices. At the same time, there is growing evidence that global factors have been playing a bigger role in domestic inflation just as domestic measures of slack have lost significance.¹⁶ Indeed, macroeconomists and policymakers know that, for many years now, the link between domestic slack and inflation has proved elusive. To be sure, one common explanation is that better-anchored expectations, underpinned by greater central bank credibility, have reduced the sensitivity of inflation. Even so, it would be implausible to rule out the role of the globalisation of the real economy, notably the entry of China and former communist countries into the world trading system. Surely, in addition to relative prices changes, this produced welcome disinflationary tailwinds, which were at play well before the crisis and may well still be at play.

Finally, the asymmetries in the international monetary system. There is considerable evidence that, for the world as a whole, policy interest rates have been persistently below traditional benchmarks, fostering unbalanced expansions. Policy rates are comparatively low regardless of the benchmarks – be these trend growth rates or more refined ones that capture the influence of output and inflation, such as Taylor rules.¹⁷ Moreover, there is clear evidence that US monetary policy helps explain these deviations,

¹³ See C Borio, B Vale and G von Peter, “Resolving the financial crisis: are we heeding the lessons from the Nordics?”, *Moneda y Crédito*, 230, pp 7–47, 2010; also available as *BIS Working Paper* no 311, June 2010. For a detailed analysis of the Japanese experience, see H Nakaso, “The financial crisis in Japan during the 1990s: how the Bank of Japan responded and the lessons learnt”, *BIS Papers*, no 6, October 2001.

¹⁴ See eg U Albertazzi and D Marchetti, “Credit supply, flight to quality and evergreening: an analysis of bank-firm relationships in Italy after Lehman”, Bank of Italy, *Temi di discussione*, no 746, 2010; Bank of England, *Financial Stability Report*, no 30, December 2011; and A Enria, “Supervisory policies and bank deleveraging: a European perspective”, speech at the 21st Hyman P Minsky Conference on the State of the US and World Economies, 11–12 April 2012.

¹⁵ See A Atkeson and P Kehoe, “Deflation and depression: is there an empirical link?”, *American Economic Review*, May 2004; and C Borio and A Filardo, “Looking back at the international deflation record”, *North American Journal of Economics and Finance*, vol 15, issue 3, December 2004 (abridged version of “Back to the future? Assessing the deflation record”, *BIS Working Papers*, no 152, March 2004).

¹⁶ See C Borio and A Filardo, “Globalisation and inflation: new cross-country evidence on the global determinants of domestic inflation”, *BIS Working Papers*, no 227, May 2007; International Monetary Fund, “Globalization and inflation”, *World Economic Outlook*, April 2006; M Ciccarelli and B Mojon, “Global inflation”, *Review of Economics and Statistics*, August 2010; S Eickmeier and K Moll, “The global dimension of inflation: evidence from factor-augmented Philips curves”, *ECB Working Papers*, no 1011, 2009; and F Bianchi and A Civelli, “Globalization and inflation: structural evidence from a time-varying VAR approach”, *Duke University Working Paper*, 2013. For sceptical empirical assessments, see J Ihrig, S Kamin, D Lindner and J Márquez, “Some simple tests of the globalization and inflation hypothesis”, *International Finance*, December 2010; and A Calza, “Globalization, domestic inflation and global output gaps: evidence from the euro area”, *International Finance*, December 2009. There is also a difference of views at the more theoretical level: compare eg C Engel, “Inflation and globalisation: a modelling perspective”, *BIS Papers*, no 70, 2013; K Rogoff, “Globalisation and global disinflation”, in *Monetary policy and uncertainty: adapting to a changing economy*, a symposium sponsored by the Federal Reserve Bank of Kansas City, 28–30 August 2003, Jackson Hole, pp 77–112; and M Woodford, “Globalization and monetary control”, *NBER Working Papers*, no 13329, 2007.

¹⁷ See B Hofmann and B Bogdanova, “Taylor rules and monetary policy: a global ‘Great Deviation’?”, *BIS Quarterly Review*, September 2012, pp 37–49. For studies looking at individual economies, see R Ahrend, “Monetary ease: a factor behind financial crises? Some evidence from OECD countries”, *Economics: The Open Access, Open Assessment E-Journal*, 2010, p 4; G Kahn, “Taylor rule deviations and financial imbalances”, Federal Reserve Bank of Kansas City, *Economic Review*, second



especially for small open and emerging market economies.¹⁸ This, together with the large accumulation of foreign exchange reserves, is consistent with the view that these countries find it hard, economically or politically, to operate with rates that are considerably higher than those in core advanced economies. And, alongside such low rates, several of these economies, including some large ones, have been exhibiting signs of a build-up of financial imbalances worryingly reminiscent of that observed in the economies that were later hit by the crisis.¹⁹ Importantly, some of the financial imbalances have been building up in current account surplus countries, such as China, which can ill afford to use traditional policies to boost domestic demand further. This is by no means new: historically, some of the most disruptive financial booms have occurred in current account surplus countries. The United States in the 1920s and Japan in the 1980s immediately spring to mind.

Assessment

There is no doubt in my mind that the diagnosis has to be country-specific.

In particular, not all crisis-hit countries have faced full balance sheet recessions. Some, such as France and Germany, have seen serious banking strains, but largely on banks' cross-border exposures; private sector credit has continued to expand briskly, sometimes uncomfortably so. Others have imported the crisis largely through trade, such as Canada; there, signs of the build-up of financial imbalances have been present, in sync with other advanced economy commodity exporters. Others still have been struggling under the weight of a demand shortfall linked to demography, notably Japan. Japan had its own full balance sheet recession back in the 1990s; this hardly explains its more recent travails. And the euro area presents a varied picture, complicated by its institutional specificities, although the banking system has generally been under considerable pressure. Countries facing full balance sheet recessions, with outside domestic financial cycles, notably include the United States, the United Kingdom, Spain and Ireland. For much the same reasons, the post-crisis disinflation involves a mixture of weak domestic demand and positive global as well technological factors.

Similarly, countries differ in their capacity to bounce back from balance sheet recessions. For instance, the United States is in a comparatively favourable position. Its labour and product markets are quite flexible, at least compared with many in continental Europe. This makes it easier to reallocate resources across sectors, away from overblown ones, such as residential construction, to more promising

quarter 2010, pp 63–99; and J Taylor, "Monetary policy rules work and discretion doesn't: a tale of two eras", *Journal of Money, Credit and Banking*, vol 44, issue 6, September 2012, pp 1017–32.

¹⁸ See E Takáts, "How does US monetary policy affect policy rates in emerging market economies?", *BIS Quarterly Review*, March 2014, pp 6–7; C Gray, "Responding to the monetary superpower: investigating the behavioural spillovers of US monetary policy", *Atlantic Economic Journal*, 41(2), 2013, pp 173–84; M Spencer, "Updating Asian 'Taylor rules'", Deutsche Bank, *Global Economic Perspectives*, 28 March 2013; and J Taylor, "International policy coordination and the great deviation", *Journal of Policy Modelling*, 2013, in press.

¹⁹ See eg J Caruana, "Global liquidity: where it stands, and why it matters", IMFS Distinguished Lecture at the Goethe University, Frankfurt am Main, Germany, 5 March 2014. More generally, the argument that it is financial imbalances, and not current account imbalances, that are the Achilles heel of the international monetary and financial system is developed in C Borio and P Disyatat, "Global imbalances and the financial crisis: link or no link?", *BIS Working Papers*, no 346, May 2011. On this, see also H S Shin, "Global banking glut and loan risk premium", Mundell-Fleming Lecture, *IMF Economic Review*, vol 60(2), 2012, pp 155–92; and H Rey, "Dilemma not trilemma: the global financial cycle and monetary policy independence", paper presented at the Federal Reserve Bank of Kansas City Economic Policy Symposium, "Global Dimensions of Unconventional Monetary Policy", Jackson Hole, 22–24 August 2013.



ones.²⁰ And the structure of its mortgage market makes monetary policy less ineffective, as it facilitates deleveraging. Household debt can be cut more easily: people can walk away from their homes when their value falls below that of the debt (non-recourse loans) and they can refinance easily when interest rates are unusually low, reducing the debt's discounted present value.

But, equally, there is no doubt in my mind that, as an overarching explanation, the balance sheet view is much more compelling. It can explain in one single sweep both pre- and post-crisis developments across the world. It served us well pre-crisis in identifying risks as events unfolded. And it seems to trace them better now, for both crisis-hit and non-crisis-hit economies. Surely Occam's razor applies. Moreover, why should we trust the analytical paradigms and macroeconomic models that led us so badly astray pre-crisis – those very models of which the shortfall of demand view is one offspring?

II. Policy prescriptions

This assessment naturally applies also to the corresponding policy prescriptions.

First of all, let me say that both views would agree on one critical point: in the midst of the financial crisis, when financial markets are seriously impaired, the priority is to fend off a destabilising spiral between a collapsing financial system and economic activity. In particular, in this crisis management phase, central banks should use all their tools and respond aggressively to address market impairments and shore up confidence, consistently with their traditional lender of last resort role.

The difference in prescriptions between the two views is more evident when we move to the next phase, when the issue is not addressing collapsing markets and confidence, but adding a few decimal points of sustainable growth. It is also different in the boom phase prior to the crisis.

After the crisis management phase, the policy prescriptions of the shortfall of demand view are quite straightforward. Since there is a gap, it should be filled: the priority is traditional demand management stimulus. Monetary policy should remain highly accommodative. The authorities should fend off especially aggressively the risk of even gradually declining prices. Some even argue that inflation above target would be part of the solution: it reduces the risk of policy rates again hitting the zero lower bound and can erode the real value of debt. Fiscal policy should, if anything, have been more expansionary and could support demand further; any needed consolidation can wait for better times. Policy should be especially expansionary in current account surplus countries, which are draining global demand. Prudential policy should go easy, to avoid constraining credit supply. Structural policies are important, but they too can wait for better times.

The policy prescriptions of the balance sheet view are different. The priority is not so much mechanically to fill an output gap through traditional demand management. Rather, it is to establish the basis for a self-sustained and prompt recovery through aggressive balance sheet repair, resolving the legacy of the crisis and limiting the risk of chronic weakness. In this phase, monetary policy should work together with prudential and fiscal policies to address the debt overhang–poor asset quality nexus head-on. It should also give way to structural policy, to reduce other impediments to growth. And in deciding the necessary degree of accommodation, monetary policymakers should consider carefully to what

²⁰ See BIS, *83rd Annual Report*, June 2013, Chapter III, for cross-country evidence on the importance of labour market flexibility for the strength of economic recoveries and employment performance following economic expansions in which sectoral imbalances build up, as is typical of financial booms.



extent disinflationary pressures result from positive supply developments or from a domestic shortfall in demand.

Failing to carry out these policies raises several risks, as standard aggregate demand measures fail to gain lasting traction. Fiscal policy expansion risks undermining further the sustainability of public sector finances. A persistently aggressive monetary policy risks exacerbating collateral damage, both domestically and internationally, as unwelcome spillovers foster the build-up of disruptive financial imbalances in other countries whenever financial cycles are out of sync. And as results disappoint, such a policy can ultimately sap the central banks' credibility, effectiveness and public support.

More generally, there is a serious risk of exhausting the policy room for manoeuvre over time. As policymakers respond asymmetrically over successive business and financial cycles, hardly tightening or even easing during booms and easing aggressively and persistently during busts, they run out of ammunition and entrench instability. Failure to consider the sources of disinflationary pressures can add to this risk. As a result, lasting normalisation remains elusive. In particular, the accumulation of debt and the distortions in production and investment patterns associated with unusually low interest rates hinder their return to more normal levels. Low rates, paradoxically, validate themselves.

This is an instance of "time inconsistency": policy steps look compelling when taken in isolation, but, as a sequence, they lead policymakers astray. The shortfall of demand view sees no tension between boosting demand in the short term and longer-term growth; if anything, the former promotes the latter. The balance sheet view is fundamentally about intertemporal trade-offs: a short-term approach to boosting demand risks more wrenching pain further down the road. The only way to reconcile short-term and long-term prospects is to improve the latter, so as to unblock private demand, especially investment.

The balance sheet view has implications for policy responses at the current juncture and for adjustments to policy frameworks.

Policies now should take advantage of the window of opportunity provided by stronger growth to repair and reform. Monetary policy should stay on course towards normalisation, avoiding the risk of financial dominance, ie of being unduly influenced by financial market jitters. By filling the void left by other policies, it has been overburdened for too long. Fiscal policy should keep a close eye on long-term sustainability: it should consolidate where fiscal trajectories are unsustainable and make room to use any available firepower to support the restructuring of balance sheets, such as through banking system recapitalisations. Moreover, it should not be lulled into a false sense of security where unsustainable financial booms have been under way: there is ample evidence that they flatter the fiscal accounts, as potential output growth is overestimated, revenues are bloated and contingent liabilities accumulate.²¹ Prudential policy should strengthen financial institutions' balance sheets. In crisis-hit economies, this means full and prompt balance sheet repair, by enforcing loss recognition and building up capital and liquidity buffers. In those economies experiencing financial booms, it means strengthening defences further. Everywhere, it means completing the financial regulatory reforms. And it means paying much more attention to structural policies that raise growth potential. This would allow countries to rebound more strongly post-crisis and reverse the long-term trend decline in productivity growth.

²¹ See eg A Benetrix and P Lane, "Financial cycles and fiscal cycles", Trinity College Dublin, 2011, mimeo; F Eschenbach and L Schuknecht, "Budgetary risks from real estate and stock markets", *Economic Policy*, 2004, pp 315–46; and C Borio, P Disyatat and M Juselius, 2013, op cit. The post-crisis deterioration of fiscal finances has also been highlighted in C Reinhart and K Rogoff, *This time is different: Eight centuries of financial folly*, Princeton: Princeton University Press, 2009.



Policy frameworks need to incorporate financial cycles systematically. As my colleagues and I have explained in more detail elsewhere,²² policies – monetary, fiscal and prudential – should respond more deliberately to financial booms,²³ by building up buffers, and respond less aggressively and persistently to busts, by drawing the buffers down. This calls for longer policy horizons than those currently in place – recall that the financial cycle is much longer than the business cycle. And it calls for governance arrangements that effectively insulate policymakers from the huge political economy pressures that induce asymmetric policies: no one objects during a boom; everyone demands support during a bust. These adjustments, unfortunately, are easy to identify but exceedingly difficult to implement.

Conclusion

I have laid out two views, two lenses through which to understand the world around us. They are not mutually exclusive, but point to quite different policy prescriptions. These differences are country-specific and will depend on a number of factors: the degree of inefficiencies and distortions, the flexibility and capacity to adjust of the economy, etc.

I have also argued that the balance sheet view is much more helpful than the shortfall of demand view in deciphering the challenges the global economy is facing and in devising policy responses.

The balance sheet view highlights the tight nexus between balance sheets and economic activity. It focuses on how balance sheet problems and the associated distortions in the real economy develop during financial booms, hardly noticed under the rising tide, only to emerge during busts, once the tide recedes. It acknowledges the power of financial factors, but recognises that only structural ones hold the key to long-term growth. It acknowledges that the interaction between financial factors and monetary policy influences inflation and disinflation, but it recognises that, in today's highly integrated world economy, the globalisation dividend may still be generating welcome disinflationary pressures. It

²² See eg J Caruana, "Macroprudential policy: what we have learned and where we are going", keynote speech at the Second Financial Stability Conference of the International Journal of Central Banking, Bank of Spain, Madrid, 17 June 2010; J Caruana, "Monetary policy in a world with macroprudential policy", speech delivered at the SAARCFINANCE Governors' Symposium, Kerala, India, 11 June 2011; and C Borio, *op cit*, which includes several references to previous articulations of this position.

²³ The importance of monetary policy in this context is underlined by the hypothesis that it operates also by affecting agents' perceptions and attitudes towards risk, and hence risk premia – the so-called "risk-taking channel". For an exposition of this channel, see C Borio and H Zhu, "Capital regulation, risk-taking and monetary policy: a missing link in the transmission mechanism?", *Journal of Financial Stability*, vol 8(4), 2012, pp 236–51; also available as *BIS Working Paper* no 268, December 2008. For formalisation and further discussion of this channel, see T Adrian and H S Shin: "Financial intermediaries and monetary economics", in B Friedman and M Woodford (eds), *Handbook of Monetary Economics*, vol 3, Amsterdam: North Holland, 2010, pp 601–50; V Bruno and H S Shin, "Capital flows and the risk-taking channel of monetary policy", *BIS Working Papers*, no 400, December 2012; S Morris and H S Shin, "Risk-taking channel of monetary policy: a global game approach", Princeton University, January 2014, mimeo; and D Diamond and R Rajan, "Illiquidity and interest rate policy", *NBER Working Papers*, no 15197, 2009. For empirical evidence, see G Jiménez, S Ongena, J-L Peydró and J Saurina, "Hazardous times for monetary policy: what do 23 million bank loans say about the effects of monetary policy on credit risk-taking?", *Econometrica* (forthcoming); L Gambacorta, "Monetary policy and the risk-taking channel", *BIS Quarterly Review*, December 2009, pp 43–53, which includes a brief review; and, for more recent complementary findings, T Paligorova and J Santos, "When is it less costly for risky firms to borrow? Evidence from the bank risk-taking channel of monetary policy", *Bank of Canada Working Papers*, 2012-10, 2012. For a discussion of these issues, see also J Stein, "Overheating in credit markets: origins, measurement, and policy responses", speech at the research symposium "Restoring household financial stability after the great recession: Why household balance sheets matter", sponsored by the Federal Reserve Bank of St Louis, St Louis, Missouri.



stresses stocks, not only flows. It emphasises policies with a financial cycle perspective, not individual responses to isolated shocks.

The policy prescriptions follow naturally. Where economies are still recovering from balance sheet recessions, address head-on the pernicious nexus between the debt overhang and poor asset quality and rely less on traditional aggregate demand policies: they are less effective and may possibly, at some point, become counterproductive in the longer term. After all, not all recessions are born equal. Where economies have been experiencing financial booms, lean aggressively against them and do not be fooled by their false veneer of prosperity. After all, not all expansions are equally sustainable. Since initial conditions matter, everywhere, make sure that fiscal accounts are sound and financial institutions well capitalised, and work hard on structural policies. After all, there are no short cuts. Finally, adjust policy frameworks so that monetary, prudential and fiscal policies are more symmetrical over successive financial and business cycles. This would reduce the probability and severity of endogenous financial crises and provide policymakers with more leeway to act.