

## IV. Monetary policy challenges ahead

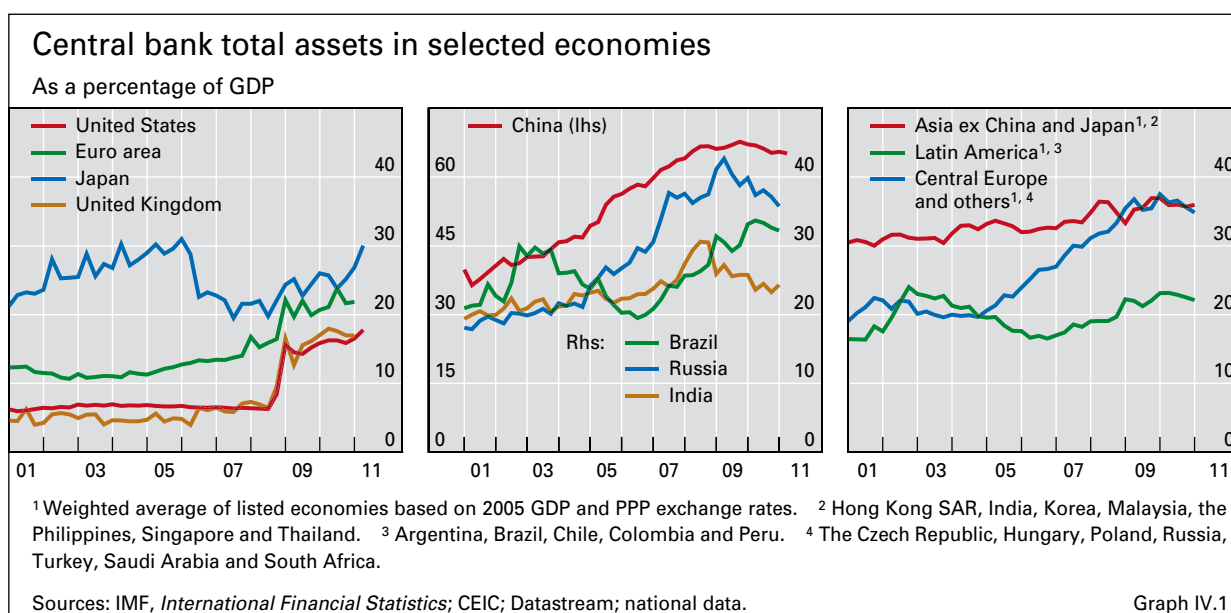
Central banks face considerable challenges after a prolonged period of accommodative monetary policies. Global inflation pressures are rising rapidly as commodity prices soar and as the global recovery runs into capacity constraints. These increased upside risks to inflation call for higher policy rates, but in some countries this still needs to be balanced against the vulnerabilities associated with continuing private and public sector balance sheet adjustments and lingering financial sector fragility.

This monetary policy environment has been further complicated by the unprecedented expansion of central bank balance sheets, especially in recent years. This chapter starts by reviewing the current size and complexity of central bank balance sheets and their implications. It then assesses the threat to price stability and other factors influencing the need to normalise the global stance of monetary policy.

### Challenges from the expansion of central bank balance sheets

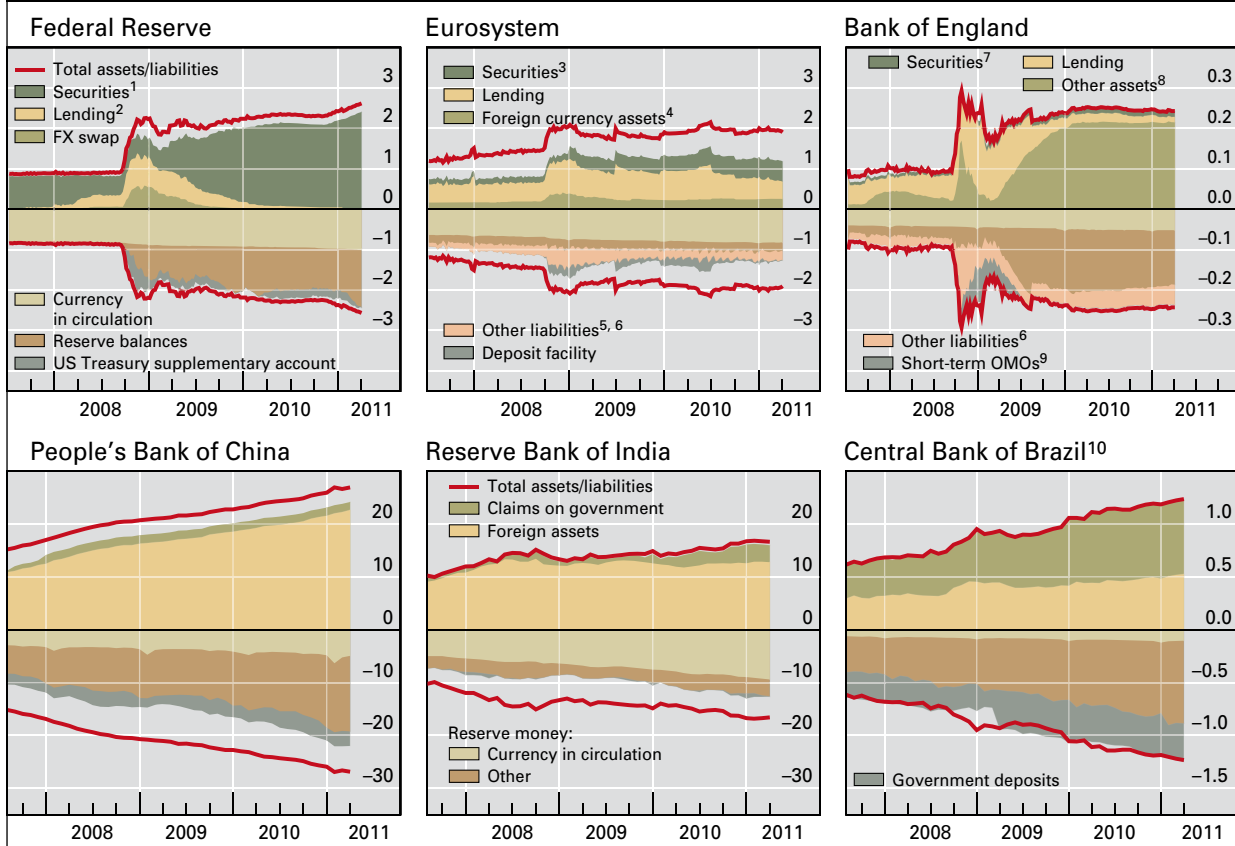
Over the past decade, many central bank balance sheets have grown to an unprecedented size (Graph IV.1). For example, in responding to the international financial crisis, the Federal Reserve and the Bank of England sharply increased their total assets, in each case from 8% to just below 20% of GDP, while the Eurosystem expanded its assets from 13% to more than 20% of euro area GDP. Most of the growth of the balance sheet of the Bank of Japan, to 30% of GDP, occurred as a consequence of quantitative easing in the early 2000s. The Bank

Central bank balance sheets expanded for different reasons



## Central bank assets and liabilities

In trillions of respective currency units



<sup>1</sup> Securities held outright. <sup>2</sup> Repurchase agreements, term auction credit, other loans and Commercial Paper Funding Facility. <sup>3</sup> Securities issued by euro area residents and general government debt, in euros. <sup>4</sup> Including US dollar liquidity auctions. <sup>5</sup> Including liabilities to non-euro area residents in euros and liabilities to euro area residents in foreign currency. <sup>6</sup> Including to central banks. <sup>7</sup> Bonds and other securities acquired via market transactions. <sup>8</sup> Including US dollar liquidity auctions and loans to the Bank of England Asset Purchase Facility Fund. <sup>9</sup> Open market operations, including issuance of Bank of England sterling bills. <sup>10</sup> Total liabilities may include items with changing signs.

Sources: CEIC; Datastream; national data.

Graph IV.2

of Japan's balance sheet expanded further this March as the central bank injected additional liquidity to combat the adverse economic and financial consequences of the earthquake.

In advanced economies, the expansion was a response to the crisis

Central banks in advanced economies, in particular the Federal Reserve and the Bank of England, eased monetary conditions aggressively during the crisis. They first lowered interest rates and then massively expanded their balance sheets via unconventional monetary policies (Graph IV.2, top panels). The latter included large purchases of both private sector and government securities, new targeted lending facilities and credit extensions associated with the rescue of financial institutions. Many central banks also widened the range of eligible counterparties for their monetary policy operations and lengthened their maturity. Central banks in advanced economies that were less directly hit by the crisis, such as Australia and Canada, also expanded their balance sheets, albeit by much less, as the crisis spilled over to their countries' financial systems.

Central bank balance sheets in emerging market economies grew more gradually over the past decade. Following the Asian crisis in the late 1990s, the growth mainly reflected a steady accumulation of foreign exchange reserve assets, both to build up a war chest against contingencies and as the by-product of policies to resist exchange rate appreciation (Graph IV.2, bottom panels). Foreign currency reserves help to smooth exchange rate volatility, especially in economies whose financial markets cannot accommodate effective hedging of foreign exchange exposures. Foreign currency reserves can also support favourable credit ratings for sovereign bonds and growth in local currency debt markets, thereby lowering borrowing costs and deepening financial markets.

In emerging markets, it reflected the build-up of foreign exchange reserves

#### *Implications of expanded central bank balance sheets*

Central bank balance sheet policies have supported the global economy through a very difficult crisis. However, the balance sheets are now exposed to greater risks – namely interest rate risk, exchange rate risk and credit risk – that could lead to financial losses. Rising long-term interest rates may result in actual losses if central banks sell bonds from their portfolios, or in potential losses under mark to market accounting. Central banks with large holdings of foreign currency-denominated assets are especially vulnerable to exchange rate risks: a sharp appreciation of the domestic currency would translate into losses on their foreign exchange reserves. Credit risks have been increasing since the onset of the international financial crisis as central banks have purchased (or lent against) lower-quality assets, such as asset-backed securities.

Bloated balance sheets create financial risks for central banks ...

Losses may also arise from the mismatch between funding costs and asset revenues. Central banks that remunerate commercial banks' reserves or that issue central bank bills to drain liquidity from the market may find that the related interest payments exceed the returns on their assets. In emerging market economies, the return on foreign assets often falls short of the cost of short-term sterilisation bonds; this carrying cost can be rather substantial in those economies with low credit ratings.<sup>1</sup>

Sustained balance sheet losses arising from unconventional policy measures adopted during the crisis could expose central banks to political economy pressures.<sup>2</sup> In the case of private sector asset purchase programmes, including in some instances corporate bonds, central banks may risk being criticised for favouring some segments of the economy over others. Similarly, rescue operations by central banks may raise questions about the degree of preferential treatment that one financial institution receives over another, even if the policy actions are designed solely to save the financial system overall from collapse. Finally, large-scale asset purchase programmes may complicate fiscal debt management, putting the actions of the central bank at odds with

<sup>1</sup> See H Genberg, R McCauley, Y C Park and A Persaud, "Official reserves and currency management in Asia: myth, reality and the future", *Geneva Reports on the World Economy*, 7, September 2005.

<sup>2</sup> See C Borio and P Disyatat, "Unconventional monetary policies: an appraisal", *BIS Working Papers*, no 292, November 2009; and P Stella, "Minimising monetary policy", *BIS Working Papers*, no 330, November 2010.

## Box IV.A: Interactions of sovereign debt management with monetary conditions and financial stability

The global financial crisis dramatically altered the environment in which central banks and managers of sovereign debt operate. During the crisis, debt managers in many cases had to meet sudden and large additional funding needs as central banks undertook extraordinary liquidity support measures and, in some cases, subsequently purchased government debt as part of unconventional monetary policy operations.

Debt managers generally aim to minimise the medium- to long-term expected cost of funding the government's activities, subject to prudent risk management. Experience with sovereign debt management (SDM) choices during and after the crisis is somewhat different across countries. For example, to meet funding needs under difficult market conditions, some highly rated government issuers shortened maturities; but others tended not to, in spite of the market pressures.

Maturity and other SDM choices, such as indexation and issuance techniques, can matter for central banks. For example, shorter maturities of individual debt issues, other things being equal, imply more frequent rollovers and may affect liquidity conditions in the money markets. More generally, SDM is relevant for central banking because both activities influence the money and government bond markets and because government bond yields act as a benchmark for the pricing of other types of debt. This is especially the case under current conditions of heightened segmentation of financial markets, markedly higher government debt issuance and fiscal sustainability concerns.

The potential interactions of SDM and central banking could be mutually reinforcing or conflicting. For example, while some central banks have used large-scale transactions in government bonds as part of unconventional monetary policy operations, there is a risk that those operations could be perceived as intended to fund fiscal policy initiatives, undermining central bank independence. Moreover, SDM strategies that shift the maturity or risk characteristics of outstanding government debt could have implications for financial stability or could affect how monetary policy actions influence monetary conditions. Increased issuance of long-term debt, for example, might blunt the interest rate effects of central bank purchases of such debt if the primary mechanism by which such purchases work on interest rates is through the supply of long-term debt in the market.<sup>①</sup>

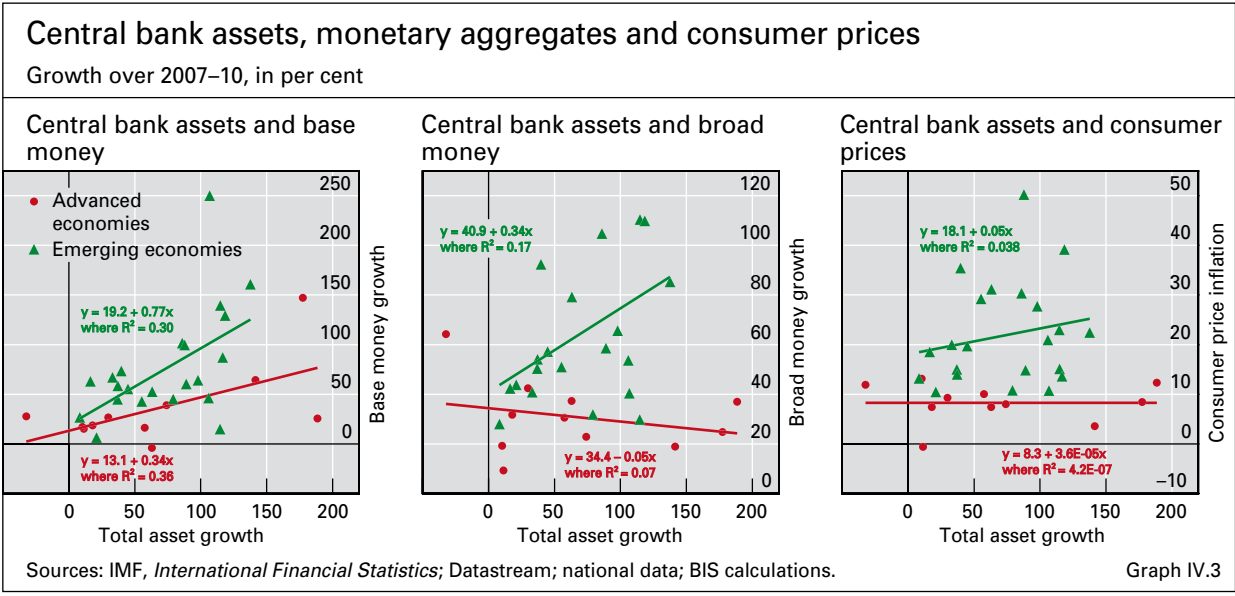
A report recently published by the Committee on the Global Financial System (CGFS) examined these issues and their implications for central banks.<sup>②</sup> In most countries, debt management operations do not appear to have constrained central banks' ability to ease monetary conditions via large-scale asset purchases. This partly reflects the credibility of existing independence arrangements, as well as the use of communication to emphasise the respective agencies' different objectives and planning horizons. Mainstream SDM practice generally aims to keep issuance steady and predictable, consistent with reducing volatility for investors, while monetary policy's role is to respond quickly to new information relevant to the inflation and growth outlook.

In countries facing fiscal sustainability concerns and in some emerging market economies, legacy SDM choices (about maturity and foreign participation, for example) have affected crisis dynamics and thus financial stability. The lessons from this experience are that sound SDM can reduce financial system volatility by spreading maturity, avoiding concentrated placement and developing stable and diversified investor bases, which help in the recovery from crisis.

In the current circumstances, or where financial systems are still developing, debt managers will benefit from taking a broad view of cost and risk, and central bankers will benefit from keeping abreast of SDM activities. Recent experience confirms that medium-term strategic outcomes for the maturity structure and risk characteristics of outstanding debt do matter, especially for financial stability. For the relevant agencies, this underscores the importance of closely coordinating their activities while maintaining their independence and accountability on the basis of clear and distinct mandates.

<sup>①</sup> See P Turner, "Fiscal dominance and the long-term interest rate", *LSE Financial Markets Group Special Paper*, no 199, May 2011; and BIS, *79th Annual Report*, June 2009, Chapter VI. <sup>②</sup> CGFS, "Interactions of sovereign debt management with monetary conditions and financial stability: lessons and implications for central banks", *CGFS Papers*, no 42, May 2011.

the plans of debt managers if not coordinated appropriately. Indeed, sovereign debt management activities, monetary policy and financial stability policies have become much more interdependent in recent years (see Box IV.A).



All these risks argue for an eventual reduction in the size of central bank balance sheets. But it would be dangerous to cut balance sheets too rapidly or too indiscriminately. In the major advanced economies, a near-term reduction faces obstacles because of both the lingering economic and financial fragility and the inherent uncertainties surrounding the withdrawal from the unprecedented measures. In emerging market economies, there is the concern that achieving a substantial reduction in central bank balance sheets by selling foreign exchange assets would put upward pressures on exchange rates and could trigger destabilising capital flows. These concerns notwithstanding, central banks will want to avoid the longer-term costs associated with persistently expanded balance sheets.

... calling for their eventual normalisation

On a more positive note, the traditional monetarist concern that the expansion of central bank balance sheets might cause inflation receives little empirical support. The relationship between increases in central bank balance sheets and base money has been rather weak for both advanced and emerging market economies since 2007 (Graph IV.3, left-hand panel). The correlation between central bank asset expansion and broad money growth has been even weaker; in advanced economies, it is even slightly negative (centre panel). This reflects instability in the money multiplier (broad money over monetary base) over this period. Similarly, the correlation between the change in central bank assets and consumer price inflation has been virtually zero (right-hand panel). In sum, bloated central bank balance sheets do not seem to pose a direct inflation risk.

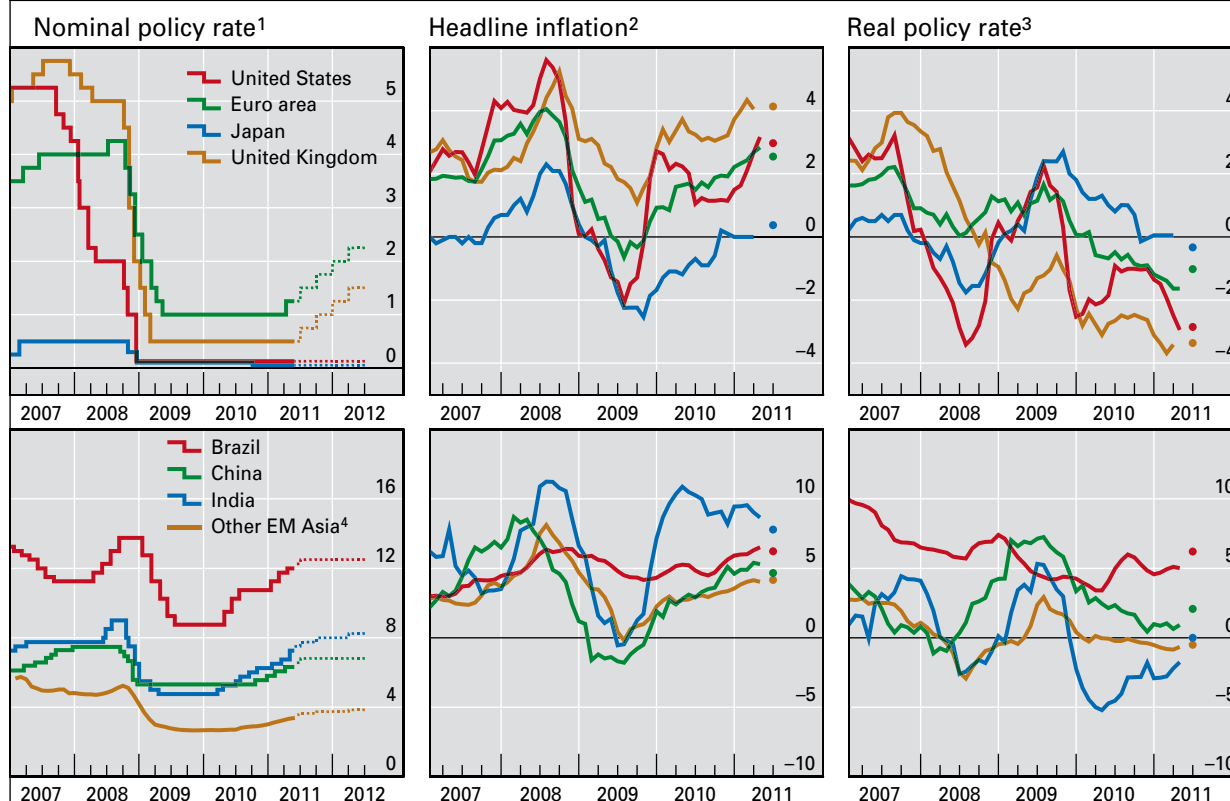
### Normalising policy rates

Central banks in many advanced and emerging market economies have already begun modestly raising policy rates (Graph IV.4, left-hand panels). Even in some of the countries hardest hit by the crisis, markets are pricing in policy rate increases both in the near term and in the coming years (Graph IV.5). That

Policy rates have started to rise

## Policy rates and inflation

In per cent



<sup>1</sup> For the United States, target federal funds rate; as of mid-December 2008, midpoint of the target rate corridor (0–0.25%); for the euro area, minimum bid rate up to October 2008 and fixed rate of the main refinancing tenders thereafter; for Japan, target for the uncollateralised overnight call rate; as of October 2009, midpoint of the target range (0–0.1%); for the United Kingdom, Bank rate; for Brazil, target SELIC overnight rate; for China, benchmark one-year loan rate; for India, repo rate. The dotted lines show the JPMorgan Chase forecast as of 21 May 2011 for the policy rate in June 2011, September 2011, December 2011, March 2012 and June 2012. <sup>2</sup> Year-on-year changes in the consumer price index. Inflation projections (dots) are based on inflation expectations from Consensus Economics. <sup>3</sup> Nominal policy rate minus annual headline inflation. Projections (dots) are based on forecasts from JPMorgan Chase and Consensus Economics. <sup>4</sup> Weighted average of Chinese Taipei, Hong Kong SAR, Indonesia, Korea, Malaysia, the Philippines and Thailand based on 2005 GDP and PPP exchange rates.

Sources: Bloomberg; © Consensus Economics; JPMorgan Chase; national data; BIS calculations.

Graph IV.4

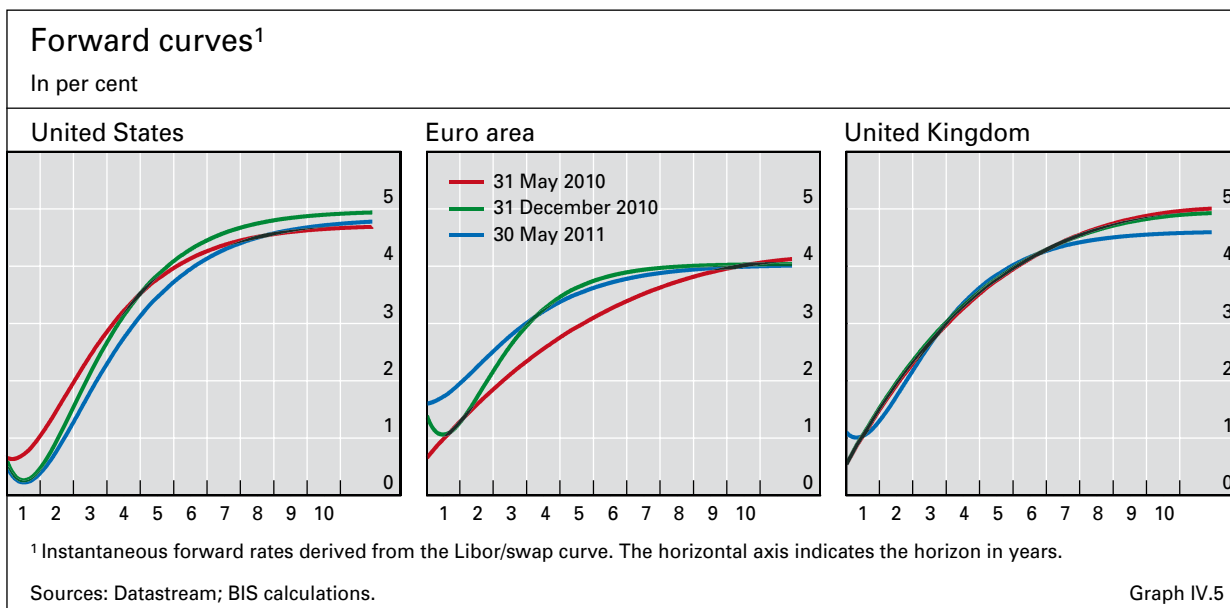
said, the expected pace of tightening is rather modest. Policy rates in real terms have remained exceptionally low over the past year and in many countries continue to be negative (Graph IV.4, right-hand panels).

Two interrelated factors are likely to be important in determining the future trajectory of inflation: (i) commodity prices and (ii) the degree of global economic slack.

### *Inflation risk from higher commodity prices*

Inflation is rising ...

One key factor influencing the pace of tightening is the upside risk to inflation arising from higher commodity prices, especially food and energy prices. Headline inflation has already risen significantly in many countries. The impact has been particularly strong in emerging market economies, where food constitutes a large part of the consumption basket (around 25%, compared with less than 15% for advanced economies).



The buoyancy of food and commodity prices is closely linked to the strength of the global economic recovery, particularly in emerging market economies. Supply side disruptions are also contributing to upward price pressures. Recent poor weather conditions, including floods in Pakistan and Australia and droughts in China and Russia, helped drive up food prices. And geopolitical concerns and supply disruptions in North Africa and the Middle East are putting additional upward pressure on energy prices. Although these adverse supply side effects should subside when weather conditions normalise and the political landscape in energy-producing countries becomes more stable, conditions in particular markets may continue to have an effect. For example, coal and natural gas prices could receive a substantial boost from efforts to substitute away from nuclear energy and, in the short term, financial factors seem to have played a role in influencing commodity prices (see Box IV.B). More generally, as long as the demand for food and commodities is supported by robust global growth, their prices may stay elevated or even rise further.

... driven by commodity prices

Since 2005, inflation in most advanced and emerging market economies has been much more volatile than it was in the period 2000–04, owing for the most part to the volatility of the energy and food components of consumer price indices (Graph IV.6, left-hand panel).

Inflation volatility has increased ...

Soaring commodity prices have in addition raised concerns about a significant increase in underlying inflation via second-round effects. There are clear signs of mounting wage pressures in some major emerging market economies (Graph IV.6, right-hand panel). Dwindling economic slack and persistent inflation in these countries have been pushing up wage demands. Moreover, given the globalised nature of many supply chains, underlying inflation pressures in the advanced economies are affected indirectly by a pickup in unit labour costs in the emerging market economies. Indeed, profit margins may have become tighter and a further squeezing of price margins due to higher costs may eventually force firms to pass on a greater share of the

... and the risks of second-round inflation effects are mounting

## Box IV.B: Commodity prices and financialisation

What role have financial investors played in the rise in the level and volatility of commodity prices (Graph IV.B, left-hand panel)? Commodity-related financial instruments such as index funds and exchange-traded commodity funds have expanded rapidly in recent years (Graph IV.B, right-hand panel). One major reason for this growth seems to be that institutional and retail investors are seeking to diversify their portfolios. Some investors may view investments in commodity derivatives as a vehicle for benefiting from rapid growth in the aggregate demand coming from emerging market economies without having to invest in the often narrow local financial markets. A search for yield in an environment of low interest rates has also been part of this trend.

A greater presence of financial investors can affect commodity prices in various ways.<sup>①</sup> On the one hand, markets could become deeper and more liquid, which in turn should facilitate hedging and reduce price volatility. On the other hand, index-linked investments in particular could raise the correlation between commodities and other assets, especially equities, and add to price volatility to the extent that hedging makes the demand for commodities less price-sensitive.

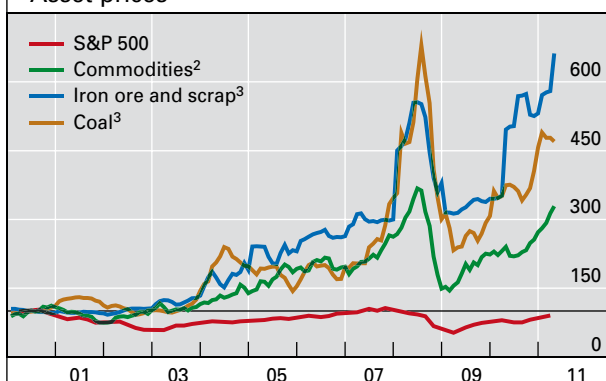
Recent research supports the view that financialisation is affecting short-term price dynamics in commodity markets.<sup>②</sup> This seems to reflect both financial investors' sensitivity to news and the large sums they employ in commodity trading. The run-up in oil prices until mid-2008 has provided the strongest empirical evidence that financial investments resulted in significant deviations of prices away from those implied by fundamental demand and supply conditions. For non-oil commodities, there is little evidence that financial investments have had a material impact on prices. The fact that the prices of coal and iron ore – commodities that are not included in the standard commodity indices – have also risen supports the view that physical demand and supply have remained the key driver of commodity prices.

In sum, while traditional demand and supply factors continue to matter for commodity prices, there is growing evidence that price formation and dynamics in commodity futures markets increasingly display patterns familiar from traditional markets for financial assets – including swings in investor risk aversion and episodes of herding behaviour. More research is needed to better understand the impact of financial investments on commodity prices.

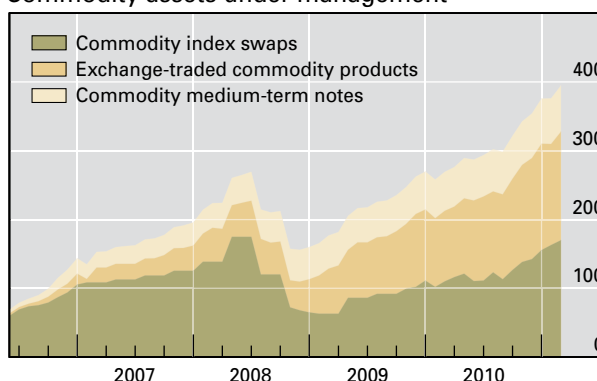
<sup>①</sup> See S Irwin and D Sanders, "Index funds, financialization and commodity futures markets", *Applied Economic Perspectives and Policy*, 2011, pp 1–31; and K Tang and W Xiong, "Index investment and financialization of commodities", *NBER Working Papers*, no 16385, September 2010. <sup>②</sup> For an overview, see K Singleton, "Investor flows and the 2008 boom/bust in oil prices", *Stanford University Working Paper*, March 2011.

### Financialisation of commodities

Asset prices<sup>1</sup>



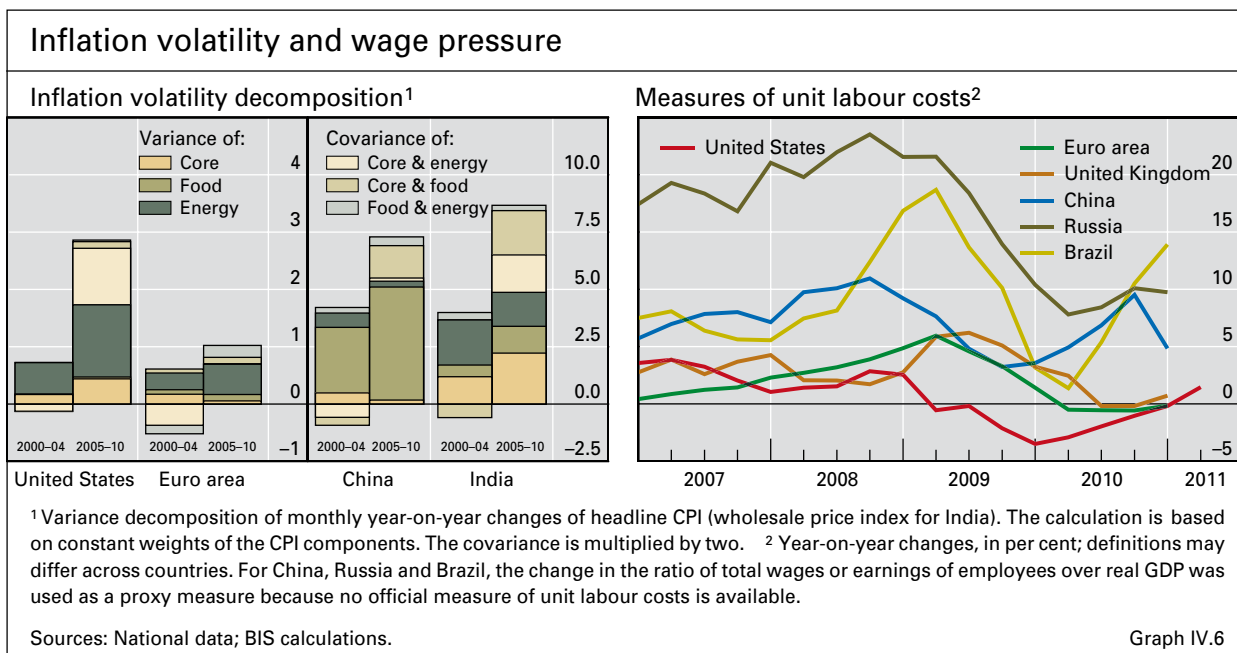
Commodity assets under management<sup>4</sup>



<sup>1</sup> 2000 average = 100. <sup>2</sup> Goldman Sachs general commodity index. <sup>3</sup> HWWI index. <sup>4</sup> Barclays Capital data, in billions of US dollars. Sources: Barclays Capital; Bloomberg; Datastream; national data. Graph IV.B

increase in input prices to consumers. As a consequence, advanced economies may see core inflation pick up through the back door of global supply chains despite moderate wage pressures in their domestic labour markets.





### State of the recovery and risks of overheating

The second key factor influencing the pace of monetary tightening is the extent of economic slack. The recovery has broadened over the past year, with the advanced economies gaining momentum and the emerging market economies continuing to perform strongly. For 2011, according to Consensus Economics, the global economy is forecast to expand by 3.7%, with the advanced economies expected to grow at 2.0% and emerging market economies at 6.1%. The improved macroeconomic conditions reflect in no small part the effectiveness of the extraordinary fiscal and monetary policy measures taken in response to the financial crisis but, since last year, evidence has been accumulating that self-sustaining cyclical forces in the private sector have begun to play a bigger role in the recovery.

The global recovery continues, but risks are still present

The persistently high unemployment rates in some countries are often interpreted as indicating that there is significant slack in labour markets. For the economy as a whole, some measures of the output gap (actual output minus potential output) also point to ample unused capacity. In particular, structural estimates of the output gap which rely on production functions and other structural macroeconomic relationships (see the OECD's estimate represented by the dots in the top right-hand panel of Graph IV.7) currently indicate a large negative output gap (that is, actual output much smaller than potential). Projections of structural estimates suggest that the gap will shrink only slowly and, as a consequence, hold down price pressures for some time.<sup>3</sup>

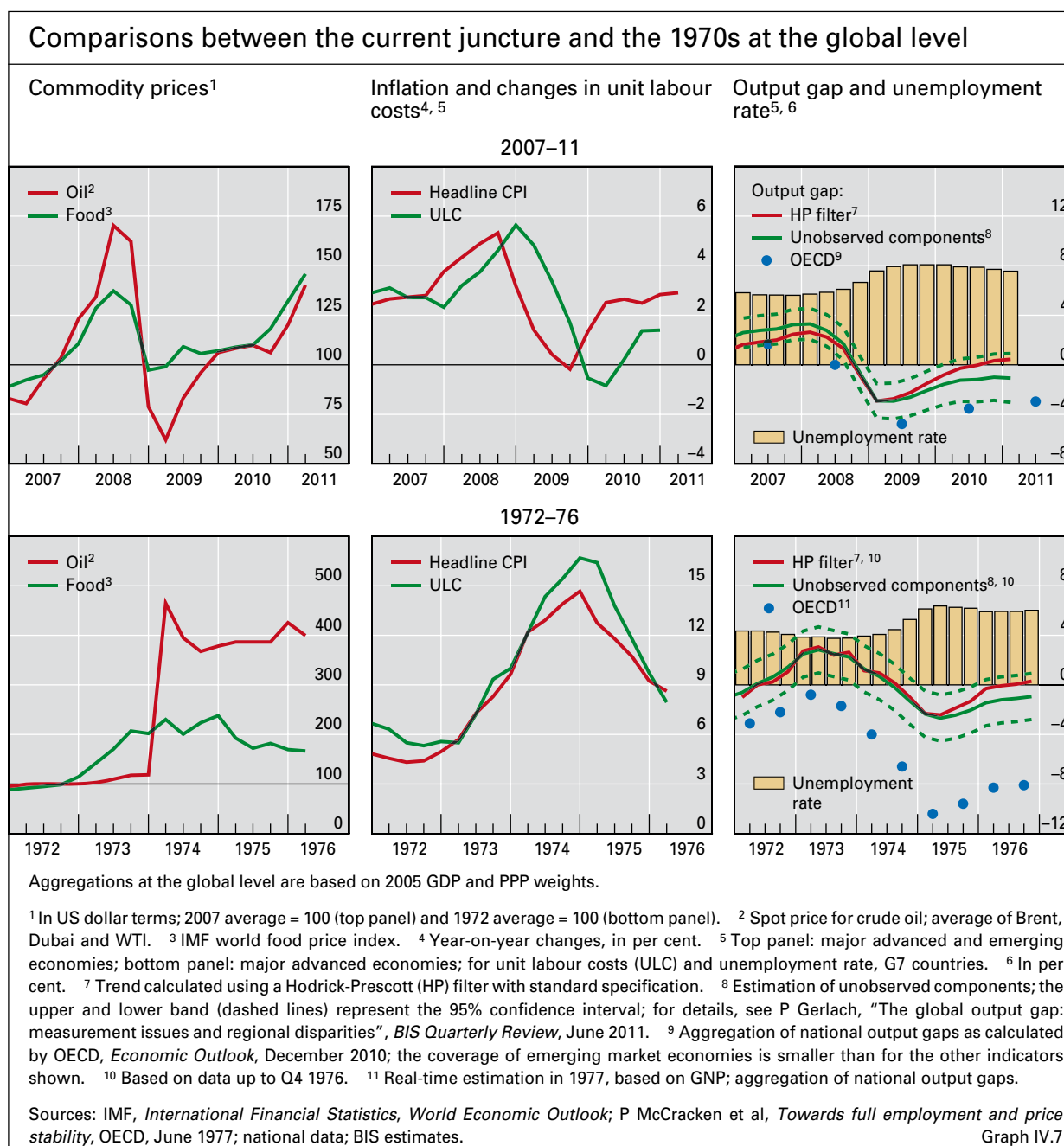
Other measures of the output gap suggest, however, that there may be much less unused economic capacity in many economies and, on average,

<sup>3</sup> For a comparison of different output gap measures for the United States, see J Weidner and J Williams, "How big is the output gap?", *FRBSF Economic Letter*, no 2009-19, 12 June 2009, and 28 January 2011 update, [www.frbsf.org/publications/economics/letter/2009/el2009-19.html](http://www.frbsf.org/publications/economics/letter/2009/el2009-19.html).

globally. For example, some statistical measures of global output gaps indicate that a substantial narrowing, if not outright closure, is in train (Graph IV.7, top right-hand panel). Survey measures of capacity utilisation, which are available at high frequency, also indicate a low degree of output slack.

Monetary policymakers face uncertainty about economic slack ...

The less benign inflation perspective is also supported by soaring commodity prices and evidence of increasingly tight labour market conditions in emerging market economies. It also reflects the possibility that potential output in the advanced economies was more adversely affected by the international financial crisis than is commonly thought. In particular, potential output trends may be suffering from high private and public debt, which can have negative effects on consumption and investment prospects. Moreover,



large investments that took place prior to the crisis, eg in the construction sector, may prove to be much less productive than was originally expected (see Chapter II). In general, identifying and quantifying changes in the structure of the economy takes time. Thus, while statistical measures may overestimate the speed of closure of the output gap, structural models may underestimate it.<sup>4</sup>

Inflationary pressures from soaring commodity prices and the possibility of overestimated economic slack evoke memories of the 1970s. Then, food prices – which are set in global auction markets and therefore respond quickly to global demand pressures – were the first to move up, well before the surge in oil prices (Graph IV.7, bottom left-hand panel). What followed was a mutually reinforcing spiral of increases in headline inflation and unit labour costs (bottom centre panel). At the same time, unemployment rates were reaching new highs and the apparent opening-up of a large negative output gap during the decade, as then measured by the OECD, indicated considerable slack in the economy (bottom right-hand panel).

... suggesting parallels to the policy challenges in the 1970s ...

Today, with hindsight, it is clear that conventional measures of economic slack at that time were grossly overestimated. The rise in the unemployment rate was due in large part to structural changes in labour markets. The slowdown in economic activity was mistakenly attributed mainly to insufficient demand rather than to a substantial slowing of potential output growth. In other words, the estimated output gap was thought to be quite large and persistent, whereas in reality it was not. This is evident if one looks at the difference between the OECD real-time estimate based on structural measures (Graph IV.7, bottom right-hand panel) and revised estimates based on current data.<sup>5</sup> This misperception helps to explain why monetary policy at the time ended up being too accommodative for too long.

The economic environment today appears to be very different from that in the 1970s. In particular, wage developments in advanced economies today are much less closely tied to domestic output gaps and domestic consumer price developments. Globalisation, greater flexibility in labour markets and the achievement of price stability have played key roles. However, the increase in unit labour costs in some major emerging market economies represents a risk to price stability globally because of the importance of these economies in supply chains. The current situation, while different in many respects from that in the 1970s, may therefore still confront monetary policymakers with challenges that are more similar to that period than they might appear at first sight.

... even if the economic environment today appears different

Against this backdrop, central banks must remain highly alert to a build-up of inflationary pressures. They should do so even if the evidence may seem at odds with conventional estimates of domestic economic slack and domestic wage developments. Vigilance and a timely tightening of monetary

<sup>4</sup> See P Gerlach, "The global output gap: measurement issues and regional disparities", *BIS Quarterly Review*, June 2011, pp 29–37.

<sup>5</sup> For a real-time assessment of 1970s stagflation, see P McCracken et al, *Towards full employment and price stability*, OECD, June 1977. Additional details on the overestimation of output gaps in the 1970s are presented in BIS, *75th Annual Report*, June 2005, and in A Orphanides, "The quest for prosperity without inflation", *Journal of Monetary Economics*, vol 50, no 3, April 2003, pp 633–63.

policy in both emerging market and advanced economies will be needed to maintain well anchored inflation expectations, preserve a low-inflation environment globally and reinforce central banks' inflation fighting credibility.

### Assessing the current monetary policy stance

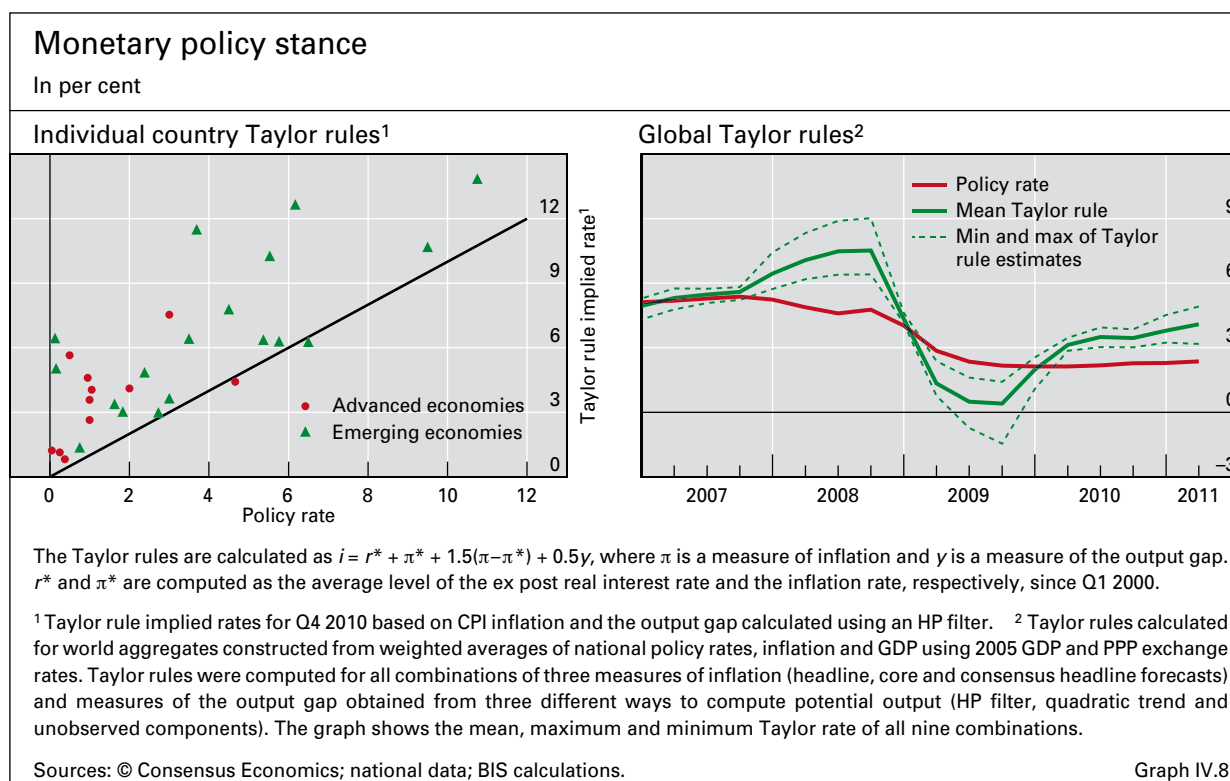
Policy rates are too low from a historical perspective ...

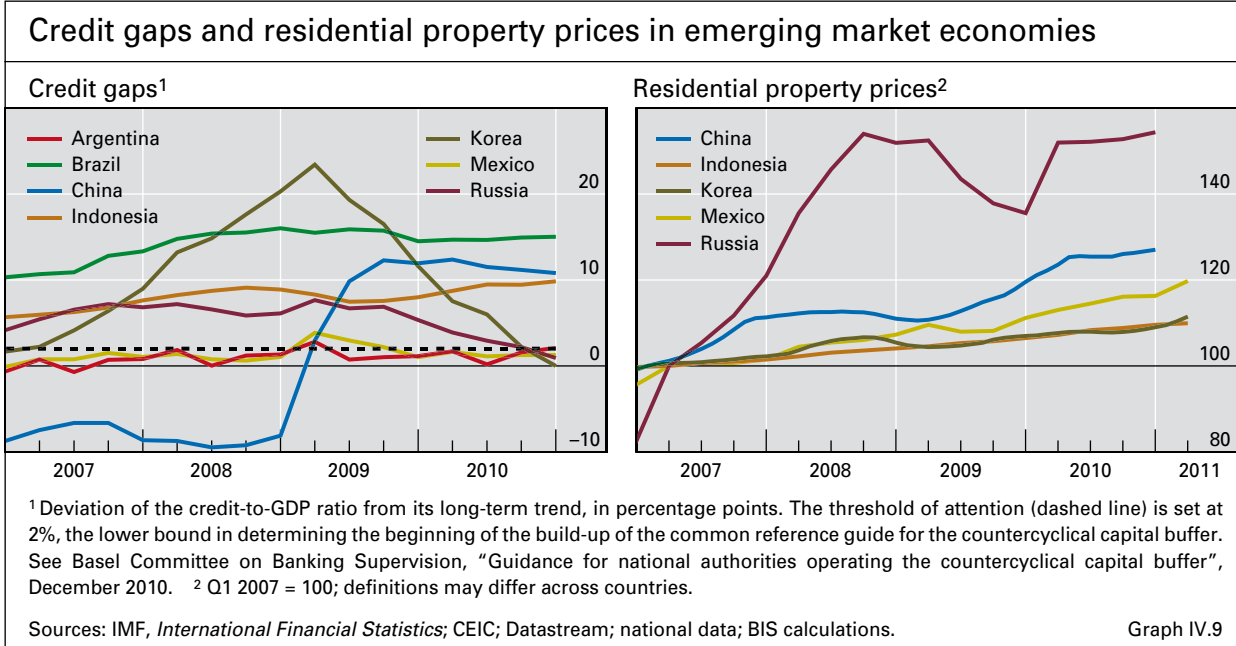
How much tighter does monetary policy need to be to keep inflation in check? Estimated Taylor rules, which link the level of policy rates to inflation and the output gap, indicate that policy rates are too low. This is true for a large number of individual countries, where the implied policy rates from the Taylor rule are well above the actual policy rates (observations above the 45° line in the left-hand panel of Graph IV.8), as well as on average for the global economy (right-hand panel).

Of course, conventional Taylor rules may not be able to completely characterise the range of trade-offs facing a central bank in setting its policy rate. Those rules ignore a number of factors relevant in the current policy environment, such as lingering financial headwinds from the crisis and the effects of the unconventional monetary policies recently adopted. The latter policies make monetary conditions much more accommodative than is indicated by the difference between the actual policy rate and the implied rate from estimated Taylor rules.

... contributing to risks to price and financial stability

The current loose stance of monetary policy therefore reinforces concerns about risks to price stability. At the same time, it may foster a renewed build-up of risks to financial stability. In particular, emerging market economies risk the accumulation of financial imbalances similar to those seen in advanced economies in the years immediately preceding the global crisis. Credit relative





to GDP and prices for residential property and equities have grown fast in many emerging market economies over the past year (Graph IV.9; see also Graph I.2, right-hand panel). These developments have also been fuelled by large capital inflows (Graph I.2, centre panel).

Monetary policy tightening in emerging market economies has been limited by concerns about reinforcing capital inflows and exchange rate appreciation. But alternative policy measures have been adopted to rein in the build-up of financial imbalances. These include macroprudential measures (such as caps on loan-to-value and debt service-to-income ratios), higher reserve requirements and in some cases capital controls (such as taxes on short-term capital inflows).<sup>6</sup> These measures, however, cannot substitute for a tightening of monetary policy and greater exchange rate flexibility.<sup>7</sup>

For the advanced countries that were most affected by the crisis, undue delay in the normalisation of the monetary policy stance entails the risk of creating serious financial market distortions, the postponement of deleveraging and the misallocation of resources.<sup>8</sup> Moreover, the unusually accommodative monetary conditions in advanced economies have probably been an important factor behind the recent large capital flows to emerging market economies.

Indeed, one lesson from the crisis is that monetary policy actions taken in one economy can have powerful consequences for other economies. A purely domestic focus fails to take into account the global implications of central banks' collective behaviour. In the run-up to the crisis, for instance, unusually

Central banks need to take better account ...

<sup>6</sup> For an overview of macroprudential tools and their usage, see CGFS, "Macroprudential instruments and frameworks: a stocktaking of issues and experiences", *CGFS Papers*, no 38, May 2010.

<sup>7</sup> See J Caruana, "Capital flows to the emerging market economies: a perspective on policy challenges", speech delivered at the Forty-sixth SEACEN Governors' Conference, Colombo, Sri Lanka, 24–26 February 2011.

<sup>8</sup> For a detailed discussion of this issue, see BIS, *80th Annual Report*, June 2010, Chapter III.

... of the global implications of their collective actions

low policy rates in the core advanced economies were transmitted to the rest of the world through resistance to exchange rate appreciation. The result was unusually loose global monetary policy conditions at a time of strong global growth. Another example is the role of commodity prices in the formulation of monetary policy. Central banks commonly treat commodity prices as exogenous, often excluding them from the price index representing the main guidepost for monetary policy. But commodity prices, which are determined in global auction markets, may be driven by global monetary conditions and may thus be endogenous with respect to central banks' collective actions. As argued in Box IV.B, the recent increase in commodity prices may also be related to a search for yield caused by the extraordinarily loose global monetary policy. These considerations call for central banks to take better account of the global side effects of their own monetary policies (see Chapter III). This also puts a premium on reaching an international consensus on how to achieve balanced, non-inflationary growth.

### Summing up

In the current monetary environment, policymakers face several daunting challenges. The increase in the size and complexity of central bank balance sheets resulting from unconventional monetary policies and foreign reserve accumulation creates risks that, if left unchecked, could eventually impact monetary policy credibility. At the same time, soaring commodity prices have pushed headline inflation rates up to uncomfortable levels in many economies, while tighter capacity constraints have heightened the risks of second-round inflation effects. These increased upside risks to inflation call for higher policy rates, but in some advanced economies this still needs to be balanced against the vulnerabilities associated with continuing private and public sector balance sheet adjustments and lingering financial sector fragility. However, the prolonged period of very low interest rates entails the risk of creating serious financial distortions, misallocations of resources and delay in the necessary deleveraging in those advanced countries most affected by the crisis. Moreover, some emerging market economies show signs of a renewed build-up of financial imbalances.

Tighter global monetary policy is needed in order to contain inflation pressures and ward off financial stability risks. It is also crucial if central banks are to preserve their hard-won inflation fighting credibility, which is particularly important now, when high public and private sector debt may be perceived as constraining the ability of central banks to maintain price stability. Central banks may have to be prepared to raise policy rates at a faster pace than in previous tightening episodes.