

## **Ric Battelino: Global monetary developments**

Address by Mr Ric Battelino, Deputy Governor of the Reserve Bank of Australia, to 2009 Securities & Derivatives Industry Association Conference, Sydney, 28 May 2009.

*I would like to thank Chris Becker for his extensive assistance with this talk.*

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### **Introduction**

Over the past eight months, many central banks have reduced interest rates to unusually low levels. Some have also undertaken unconventional measures to implement monetary policy, such as:

- giving commitments about the future path of interest rates;
- greatly expanding their balance sheets; and
- shifting the composition of their assets from securities that are short-term and relatively risk-free to those that are longer-term and somewhat riskier.

Given the unprecedented nature of these measures, many people are asking what they mean for the world economy, and particularly for inflation.

Debate about these issues will no doubt continue for a long time yet, and I certainly don't pretend to have the answers. In my talk today I will set out what various central banks have been doing, and offer a perspective on how these actions could be interpreted.

### **Monetary policy implementation**

Until recently, the majority of the world's central banks followed a fairly standard model when it came to implementing monetary policy:

- first, a monetary policy committee or board set a target for a short-term interest rate, taking into account the central bank's objectives;
- second, central banks then undertook operations in financial markets to adjust the supply of funds in the market to a level consistent with the targeted short-term interest rate; and
- third, changes in short-term interest rates fed through to a wide range of other interest rates in the economy.

An important channel through which this approach to monetary policy works is by influencing the demand for credit. The supply of credit is assumed to adjust to demand, which in a world of deregulated financial systems and stable, well functioning markets, is a reasonable assumption.

When markets are disrupted, however, the normal transmission mechanism can break down at several points:

- first, the relationship between the amount of funds supplied through market operations and the overnight interest rate can become unstable. For example, if banks start to hoard liquidity, more funds need to be supplied to keep the overnight rate at the target;
- second, even if the target rate is achieved, the flow-through to other interest rates in the economy may become impaired. If, for example, risk aversion in markets increases, interest rates for term funds rise relative to the overnight rate, and premiums for credit risk also rise. Reductions in the overnight rate targeted by central

banks, therefore, may not flow through to the same extent as usual to interest rates charged on loans; and

- third, if banks become capital constrained, their willingness and capacity to lend at any interest rate will be diminished.

As you know, over the past year, many countries have found that the normal monetary transmission mechanism has become less effective.

### **Interest rates**

As I noted, many central banks have responded to this by reducing official interest rates to abnormally low levels, in some cases close to zero.

Most of this has happened since September last year. Up until then, monetary policy settings around the globe had been following a relatively normal path, guided mainly by inflationary pressures. Global monetary policy entered a tightening phase around 2004 and the majority of central banks continued to tighten policy into 2008. Of the 35 largest countries or monetary areas, 23 had higher interest rates at September 2008 than at the start of the year, seven had unchanged rates and five had lower rates (see Table 1). This is not surprising because global inflationary pressures were still rising in the middle of 2008. Commodity markets did not peak until July 2008, and indicators of pressure on global capacity – such as prices charged on shipping contracts – were at extreme levels.

**Table 1: Changes in Monetary Policy**

		Change from 1 Jan to 1 Sep (basis points)	08	Change from 1 Sep to present (basis points)	Current level (per cent)
<b>Developed markets</b>					
United States	↓	225	↓	188	0.125
Euro area	↑	25	↓	325	1.00
Japan		0	↓	40	0.10
United Kingdom	↓	50	↓	450	0.50
Canada	↓	125	↓	275	0.25
Australia	↑	50	↓	425	3.00
Sweden	↑	50	↓	400	0.50
Switzerland		0	↓	250	0.25
Norway	↑	50	↓	425	1.50
Denmark	↑	35	↓	295	1.65
New Zealand	↓	25	↓	550	2.50
<b>Emerging Asia</b>					
China		0	↓	216	5.31
South Korea	↑	25	↓	325	2.00
India	↑	125	↓	425	4.75
Taiwan	↑	25	↓	238	1.25
Indonesia	↑	100	↓	175	7.25
Thailand	↑	50	↓	250	1.25
Hong Kong	↓	225	↓	300	0.50
Malaysia		0	↓	150	2.00
Pakistan*	↑	300	↑	100	14.00
Philippines	↑	75	↓	150	4.50
<b>Emerging Europe</b>					
Russia**	↑	100	↑	100	12.00
Turkey	↑	100	↓	750	9.25
Poland	↑	100	↓	225	3.75
Czech Republic		0	↓	200	1.50
Romania	↑	275	↓	75	9.50
<b>Latin America</b>					
Brazil	↑	175	↓	275	10.25
Mexico	↑	75	↓	300	5.25
Chile	↑	175	↓	650	1.25
Colombia	↑	50	↓	400	6.00
Peru	↑	125	↓	225	4.00

Other					
Saudi Arabia		0	↓	350	2.00
South Africa	↑	100	↓	350	8.50
Israel		0	↓	375	0.05
Iceland***	↑	175	↓	250	13.00

Sources: Bloomberg; central banks

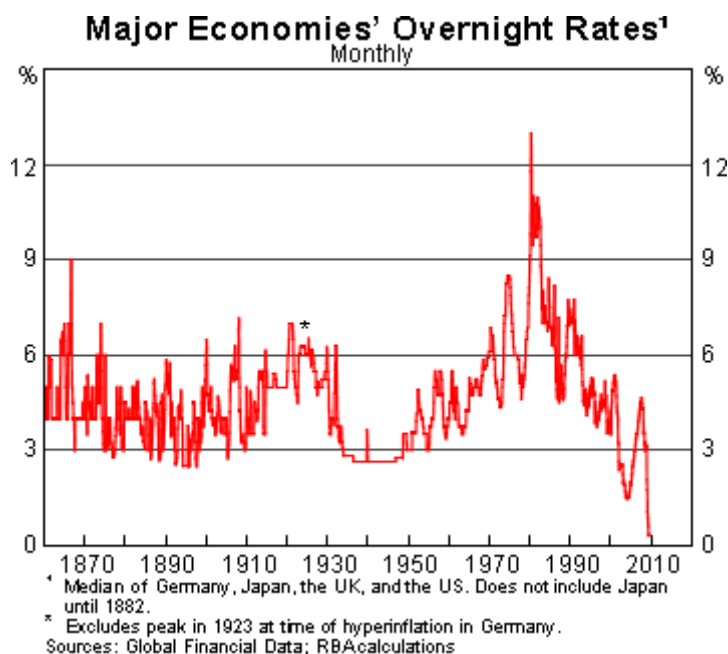
\* After raising its policy rate by 200 basis points in November 2008, Pakistan's central bank lowered its policy rate by 100 basis points in April 2009.

\*\* Russia's central bank increased its policy rate by a cumulative 200 basis points during November 2008 in moves aimed at stemming capital outflows and mitigating the downward pressure on the ruble.

\*\*\* After initially lowering rates by 350 basis points in mid October 2008, the Icelandic central bank increased its policy rate by 600 basis points two weeks later as part of the conditions of the IMF's rescue package. Subsequent easings have amounted to 500 basis points.

The unusual period of monetary policy began in September 2008, after the failure of Lehman Brothers dramatically escalated the financial crisis. This in turn led to a collapse of household and business confidence around the world. Official interest rates have since been cut very sharply across virtually all countries due to the highly synchronised nature of the current economic cycle. The average reduction in interest rates has been 330 basis points in the developed economies and about 300 basis points in emerging economies. Among the developed economies, only four – Australia, New Zealand, Denmark and Norway – still have official interest rates above 1 per cent. Official interest rates have never been this low in the developed world in the 150-year period for which we have data (Graph 1).

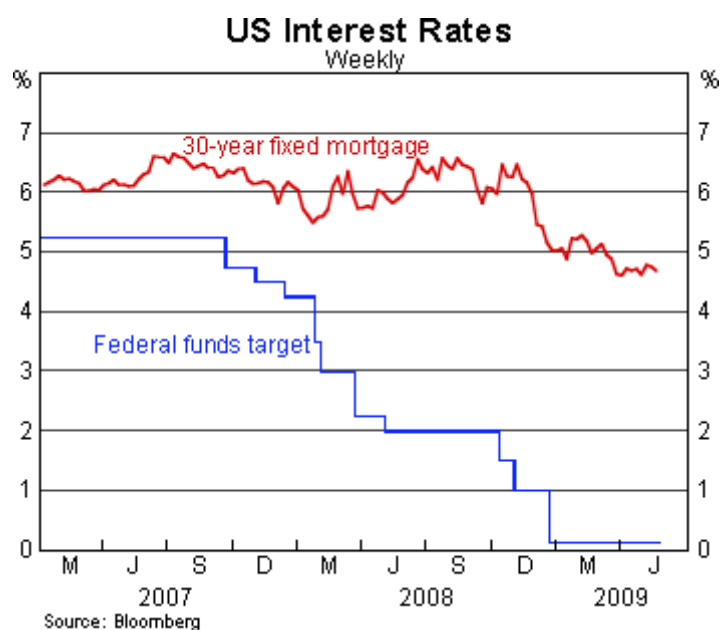
**Graph 1**



The reason why official interest rates have been reduced to such extreme levels is that frictions in markets had made interest rates on loans to households and businesses less responsive to cuts in official rates. In the case of the US, for example, even though the Fed had reduced official rates by 325 basis points by September 2008, the standard mortgage

rate had hardly changed (Graph 2). Bigger cuts in official rates were therefore needed in order to bring about a given fall in interest rates on loans.

**Graph 2**



**Table 2: Mortgage Rates on New Housing Loans\***

	<b>Predominant Mortgage Type</b>	<b>Current Rate</b>	<b>10-year Average Rate</b>	<b>Deviation from Average</b>
Australia	Standard variable	5.16	6.85	-1.70
United States	30-year fixed	4.63	6.42	-1.79
Canada	5-year fixed	3.89	5.65	-1.76
United Kingdom	Standard variable**	3.83	6.5	-2.67
United Kingdom	3-year fixed**	4.33	5.58	-1.25
New Zealand	2-year fixed	6.19	7.79	-1.60
Germany	Fixed (>10 years)	4.49	5.33	-0.84
Sweden	Variable	2.16	4.18	-2.02

Sources: Bloomberg; Thomson Reuters; national data

\* Data: to April for Australia, US and Canada; to March for UK and NZ; and to February for Germany.

\*\* In the UK, variable rate and 1–5 year fixed-rate loans account for approximately the same proportion of the market.

In assessing the level of global interest rates, it is important to look not just at official rates, but at a broader spectrum of rates faced by borrowers. We don't have data on housing rates going back 150 years, but it is clear that they are not at the very low levels of official rates. In most countries, including Australia, they are around 1½-2 percentage points below their decade averages – that is, low, but not at extremes (Table 2).

For corporate borrowers, interest rates are not unusually low. In fact, in most developed economies, interest rates faced by corporations in capital markets are, if anything, still a little above decade averages, due to the large increase in risk premiums (Table 3).

**Table 3: Non-financial Corporate Bond Yields\***

	<b>Maturity</b>	<b>Current Rate</b>	<b>10-year Average Rate</b>	<b>Deviation from Average</b>
Australia	1-5 years	7.29	6.62	0.67
United States	5-10 years	6.59	6.26	0.34
Canada	1-10 years	5.37	5.75	-0.38
United Kingdom	5-10 years	7.04	6.43	0.61
Euro area	7-10 years	6.00	5.50	0.50
New Zealand	10 year**	8.66	7.84	0.83

\* Industrial corporates

\*\* A-rated bonds

Sources: Bloomberg; Merrill Lynch

### **Other monetary measures**

Let me now turn to the other unconventional measures central banks have undertaken. These are often grouped in the popular press under the generic title of “quantitative easing” or “printing money”, but they really fall into three distinct categories:

- measures to add to banks' reserve balances;
- measures to reduce the term structure of interest rates; and
- measures to support specific credit markets and/or take credit risk onto central bank balance sheets. The US Fed has coined the term “credit easing”<sup>1</sup> to cover such policies.

All these measures involve changes in either the composition or the size of central bank balance sheets. While all are aimed at sustaining the flow of credit in the economy, some do so by working on credit demand, while others aim to stimulate the supply of credit. The measures are not mutually exclusive, but can be mixed in different combinations to best suit

<sup>1</sup> See Bernanke, B (2009), “The Crisis and the Policy Response”, at the Stamp Lecture, London School of Economics, London, 13 January.

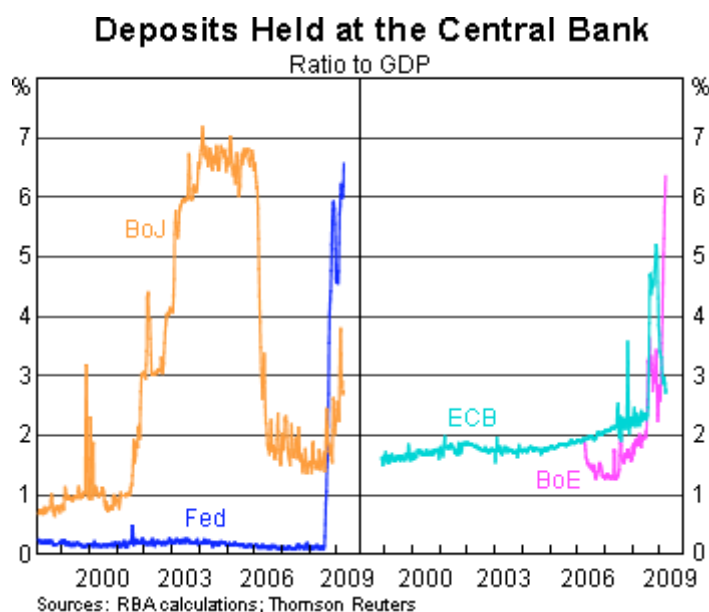
the circumstances of the country. Indeed, it can make sense, in terms of maximising their impact, for policies to combine elements of each of the above measures.

### **Measures to increase bank reserves**

Measures designed to increase the supply of bank reserves can, I think, be accurately referred to as “quantitative easing”. They involve the central bank increasing the size of its balance sheet by increasing its purchases of securities from the market and crediting the payments to banks’ reserve balances at the central bank.

These measures differ from routine market operations both in their scale and their intent. They involve operations on a much larger scale than normal. Some central banks have expanded the supply of reserves by several percentage points of GDP (Graph 3).

**Graph 3**



Perhaps more importantly, the objectives underpinning quantitative easing are different. Whereas routine operations are working through interest rates to influence the demand for credit, quantitative easing seeks to influence the supply of credit. The aim is to provide more reserves than banks wish to hold, with the intention that they will try to dispose of these excess reserves by increasing their lending.

This type of activity is usually undertaken only when interest rates have fallen to zero or near-zero levels. While, theoretically, a central bank could undertake quantitative easing at any level of interest rates, in practice it is difficult to do so, as large-scale provision of excess reserves forces the interest rate to zero. The central bank could stop this from happening by paying a market-based interest rate on reserve holdings, but this would undermine the purpose of the exercise by reducing the incentive for banks to lend their reserves.

### **Measures to flatten the yield curve**

As I noted earlier, monetary policy settings in most countries are normally defined in terms of a target for a short-term interest rate. The precise relationship between official interest rates and the interest rates faced by borrowers varies from country to country. In some countries, such as Australia, where the bulk of banks’ loans to customers are at floating rates, the relationship is usually relatively close. In countries where banks mainly lend to customers at longer-term fixed rates, the relationship between official rates and loan rates is more

complex, and therefore more prone to being unsettled when market conditions deteriorate. As such, loan rates in these countries can become quite insensitive to changes in the short-term rate, reducing the effectiveness of monetary policy.

Because of the limited flow-through from short rates to long rates, a number of central banks have recently taken direct measures to reduce longer-term rates.

One way they have done this is by giving commitments to keep short-term rates low for a long time. Central banks in the US, UK, Canada, New Zealand and Sweden have done this. By signalling such a commitment, forward interest rate expectations are lowered, resulting in lower longer-term yields. The success of this measure in lowering term rates will naturally depend on how credible the commitments are.

A second set of measures involves the central bank buying a large amount of long-term assets. Such measures work mainly through a portfolio balance effect, increasing demand for these securities above what it would otherwise have been, thereby lowering their yields. There are, of course, also flow-on effects to other asset prices.

Purchases of long-term securities can be undertaken in association with, or independently of, quantitative easing. In the former case, the central bank would buy long-term bonds and pay for them by adding to banks' reserves. In the latter, it would buy long-term bonds but pay for them by selling some of its existing holdings of short-term securities, or by issuing its own securities, thereby leaving reserve balances unchanged. Purchases of long-term securities can also contain an element of credit easing, if the securities being purchased carry credit risk.

### ***Credit easing***

At their most basic, credit easing measures might involve simply expanding the range of collateral that central banks will accept in their repo operations. Most central banks in the world have done this over the past couple of years and so can be thought of as having engaged in some limited form of credit easing. But the term is normally understood to apply to more forceful measures, such as:

- providing long-term central bank funding to vehicles set up to acquire private securities or loans;
- outright purchases by central banks of securities carrying credit risk; and
- guaranteeing some part of the assets held by commercial banks.

These measures involve decisions about the allocation of credit between specific institutions and sectors of the economy. This is usually a function of fiscal policy, whereas monetary policy is normally general in its application. The measures therefore start to blur the distinction between monetary and fiscal policy.

### **The effectiveness of various measures**

As with normal monetary policy, the impact of these various unconventional measures is likely to take quite some time to become apparent. This is particularly the case for measures involving bank reserves.

Given the relatively limited time that most of these measures have been in place, it is therefore premature at this stage to draw any firm conclusions about their effectiveness. Also, as most of these measures were undertaken relatively simultaneously, only their combined effects can be judged. So far, their main impact seems to have been on market pricing, which is starting to return to more normal levels.

One guide to the effectiveness of these measures may come from past episodes, such as that in Japan in the early part of this decade. Of course, circumstances differ greatly from

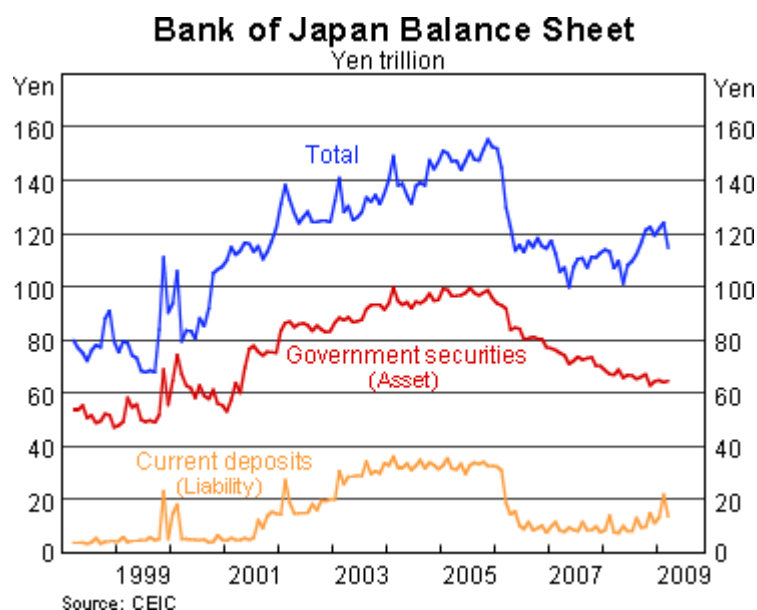


country to country so there are limits on the extent to which one country's past experiences are relevant to others.

The Japanese episode was very prolonged. The economy started to stagnate following the collapse of property prices and the stock market in the late 1980s. The interaction of macroeconomic weakness and instability in the banking system exacerbated the downturn. Through the 1990s the Bank of Japan responded to this by lowering interest rates but, by 1999, the policy rate had been reduced to zero.

In 2001, the Bank of Japan switched from targeting an interest rate to an explicit target for banks' reserve balances. The target was initially set at ¥5 trillion and then subsequently raised several times to peak at ¥35 trillion (Graph 4). Relative to GDP, this increase in reserves was not dissimilar to increases recently experienced by other major central banks.

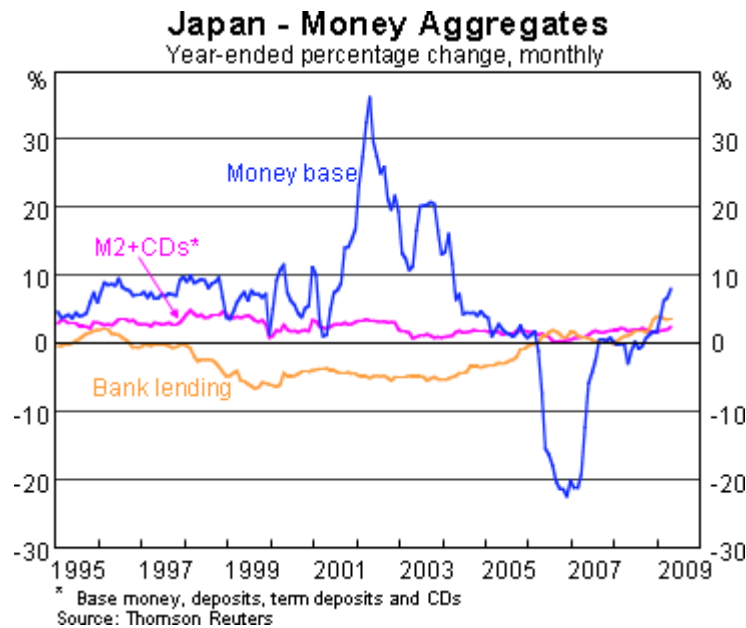
**Graph 4**



During the quantitative easing period, base money expanded rapidly due to the increase in banks' deposits with the Bank of Japan (Graph 5). While one can never know what the counterfactual would have been in the absence of this policy, the evidence available indicates that the expansion in the money base did little to boost broader money aggregates or bank lending. Instead, banks appear to have hoarded the additional liquidity. Bank lending had been contracting since the late 1990s and continued to do so through to 2006. Research conducted by the Bank of Japan concluded that the ability of quantitative easing to impact on aggregate demand and prices was limited.<sup>2</sup>

<sup>2</sup> Ugai, H (2006), "Effects of the Quantitative Easing Policy: A Survey of Empirical Analyses", Bank of Japan Working Paper Series, No. 06-E-10, July.

**Graph 5**



The Bank of Japan's experience also provides some evidence in relation to yield curve measures. Its quantitative easing was implemented by buying long-term government bonds and it also gave a commitment to maintain official interest rates at zero for a long time. In effect, therefore, the quantitative easing undertaken by the Bank of Japan was combined with measures to flatten the yield curve. The evidence suggests that these measures were effective in lowering the yield curve in Japan, particularly the medium-term point of the curve.

## Conclusions

Let me conclude.

With central banks doing unconventional things, it is not surprising that there is considerable debate about the effectiveness and consequences of the various measures. On the one hand, some argue that the measures will be ineffective. On the other side of the debate, others argue that they will eventually result in higher inflation.

Those of the former view point to the experience of Japan over the past decade as supporting their case. The conclusion they draw from that experience is that, if the household and corporate sectors are seeking to consolidate their balance sheets, and banks remain risk averse and capital constrained, simply adding to banks' reserves at the central bank may not result in any generalised expansion of money and credit.

The other side of the debate – that the measures will result in higher inflation – implicitly assumes that the measures will be effective in stimulating the economy, since money does not miraculously transform into inflation without affecting economic and financial activity. Rather, their argument is that central banks will be too slow to reverse the various measures.

As there are no technical factors that would prevent or slow the reversal of recent measures – they can be reversed simultaneously or in any sequence – the argument must rest on central banks making incorrect policy judgments. This is always a possibility. But, the high state of awareness that currently exists about the risk of being too slow to reverse recent exceptional measures should limit the probability of such a mistake being made.