

## Guy Debelle: The Reserve Bank's operations in financial markets

Address by Mr Guy Debelle, Assistant Governor (Financial Markets) of the Reserve Bank of Australia, to the University of Adelaide Business School, UniBreakfast, Adelaide, 26 February 2013.

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I'm very pleased to be back in my home town to talk to you today about the Reserve Bank's dealings in financial markets.<sup>1</sup>

Why might you be interested in this topic?

I will talk about how the Reserve Bank actually implements the target interest rate set by the Reserve Bank Board at its monthly meetings. I will then describe how this interest rate, known as the cash rate, affects all the other interest rates in the economy, including mortgage rates, business borrowing rates and deposit rates. So that affects you one way or another.

I will also talk about the Reserve Bank's transactions in the foreign exchange market and finish with some thoughts about the exchange rate more generally.

### Domestic market operations

As you all know, on the first Tuesday of each month (except January), the Board of the Reserve Bank meets to determine the appropriate stance of monetary policy in Australia. At 2.30 pm, just after the conclusion of the meeting, the Governor issues a press release announcing the Board's decision, along with an explanation for the decision taken. The decision takes the form of a target for the cash rate. It is the job of part of my area, Financial Markets Group, to ensure that the Board's target for the cash rate is actually achieved.

So how do we do this? And how does that affect the interest rate on your mortgage, your business loan and your deposit?

The cash rate is the interest rate on overnight unsecured borrowing in the interbank market. That is, it is the interest rate banks charge each other to borrow and lend funds overnight. (Unsecured means that there is no security, such as a government bond, tied up in the loan as collateral.) The Reserve Bank's ability to affect this interest rate comes from the fact that we control the amount of funds or liquidity in this market.

Banks have deposit accounts with the Reserve Bank called exchange settlement accounts. These are the accounts across which the myriad of transactions in the economy are settled each day. When you pay your electricity bill by direct debit, the funds are effectively transferred from your bank account, across the exchange settlement account of your bank to that of your electricity company's bank and into the electricity company's account.

These exchange settlement accounts at the Reserve Bank must always have positive balances. At the end of each day, the balance in these accounts is paid an interest rate of 25 basis points (a quarter of one per cent) below the cash rate. If a bank finds that its projected balance is below zero, it borrows from the Reserve Bank at an interest rate of 25 basis points above the cash rate. So banks have a strong incentive to manage their liquidity so that they have just enough funds, but not too much, in these accounts. If they think they are likely to have too much funds, they will lend the excess funds overnight to another bank at the cash rate, which earns them 25 basis points more than leaving it in their

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<sup>1</sup> Details of the Bank's operations in financial markets are described in detail each year in the "[Operations in Financial Markets](#)" chapter in the Reserve Bank *Annual Report*.

account. Conversely, if they think they are not going to have enough funds, they will borrow at the cash rate from another bank with excess funds, which saves them 25 basis points from not borrowing the funds from the Reserve Bank.

The control the Reserve Bank has over the cash rate comes from the fact that we determine the total amount of funds in this market. We have complete control of the supply. The total demand comes from summing the amount all the banks want to hold in their ES accounts overnight. The interaction of this supply and demand each day determines the cash rate. If, in aggregate, the banking system wants to hold more ES balances, we increase the supply to stop the cash rate from moving up as the banks bid more aggressively to borrow from each other. If they want to hold less, we would decrease the supply; otherwise banks would start trying to lend below the cash rate to offload their excess funds.

The Reserve Bank controls the supply of funds through our daily open market operations. In your textbooks, this was probably described in terms of purchases or sales of government securities by the central bank. While we do do a bit of that, most of our open market operations take the form of what are known as repurchase agreements (repos), where we lend cash to a bank in return for a security (generally a government security) for a period of time, generally a week or two, at the end of which, they return the cash and we return the security.

These repo transactions allow the Reserve Bank to manage the day-to-day fluctuations in liquidity caused primarily by cash flows in and out of the Australian Government's deposit account with us. These cash flows are the result of government spending and tax payments, which inject and withdraw liquidity from the economy every day.<sup>2</sup>

Our daily market operations aim to ensure that we offset these liquidity flows so that the overall supply of liquidity and the banking system's total demand for it clear at the cash rate target set by the Board.

The fact that we ourselves deal in the market every day means we get a very good sense of developments in the cash and repo markets, as well as bank funding markets more generally. Certainly, this direct market liaison was invaluable at the height of market stress in 2008 and 2009.

So now to the question you're probably more interested in. How does that cash rate affect all the other interest rates in the economy?

The cash rate is effectively the anchor point for all interest rates in the economy. Banks fund only a very small part of their operations in the cash market, but ultimately all their funding can be arbitrated back to the cash market. Their borrowing at terms longer than overnight is the weighted average of the expected future path of the cash rate plus some premia for risk. If this were not the case, a bank would be better off funding itself overnight and rolling that funding every day.

A bank will similarly price its deposit rates based on the cash rate for an at call deposit, as they are alternative sources of overnight funding. For term deposits, again a bank will price them based on the expected future path of the cash rate. In recent times, there has been a lot of competition for deposits, which has seen interest rates paid on deposits rise quite considerably relative to the cash rate. This competition has arisen from a desire by banks to increase the share of deposit funding resulting from a number of factors including lessons learned during the crisis, pressure from ratings agencies and the market, as well as regulatory changes. I spoke about this at some length here in Adelaide last year.<sup>3</sup> So,

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<sup>2</sup> See Baker A and D Jacobs (2010), "[Domestic Market Operations and Liquidity Forecasting](#)", *RBA Bulletin*, December, pp 37–43.

<sup>3</sup> Debelle G (2012), "[Regulatory Reforms and their Implications for Financial Markets, Funding Costs and Monetary Policy](#)", Address to the Financial Services Institute of Australia, Adelaide, 18 September.

fluctuations in these competitive forces mean that deposit rates do not move in lock step with the cash rate.

Where long-term interest rates are priced above the expected path of the cash rate, it is usually to compensate the lender for the greater risks they are taking on in lending for longer periods of time. For example, lenders demand more compensation for credit risk when lending to banks for longer periods than just overnight. This risk premium increased significantly during the financial crisis. Today, credit premia are nowhere near as high as they were in 2008 and 2009, but the risk premia faced by banks remain significantly higher than they were in the years leading up to 2007, when they were extremely small.

While these risk premia move around independently of the cash rate, it is still the case that the cash rate has a very large influence on the whole structure that underlies the interest rates faced by banks and others looking to borrow funds. Hence the cash rate is still a very large determinant of the banks' costs of funding. If the cash rate were 3 percentage points higher, the whole structure of funding costs for the banking system would shift up by around the same amount.

This effect of the cash rate on the cost of banks' funding translates into a large effect on the structure of lending rates for both households and businesses. The banks base these lending rates on their cost of funding, along with a risk premium to compensate them for the riskiness of the loan being made; that is, how likely the mortgage will be repaid. In addition, there is a mark-up to generate a rate of return for bank shareholders.

So the cash rate has a large influence on lending rates. But there are other factors such as credit risk premia, competitive pressures in the deposit market, as well as changes in the mix of funding banks use which mean that the relationship between the cash rate and lending rates may not always be one for one. In the years before 2007, these other factors did not move around much, so changes in lending rates did tend to move in line with the cash rate. But over the past five years, there has been quite a material change in a number of these factors, so that while changes in the cash rate are still the predominant determinant of changes in lending rates, the relationship between them is not one for one.

The Reserve Bank will again be publishing a detailed analysis of developments in banks' funding costs and lending rates in the next RBA *Bulletin* which is released on 21 March.<sup>4</sup>

## **Foreign exchange transactions**

I'll now talk about the Bank's transactions in foreign exchange markets. The Bank transacts in foreign exchange markets for a number of reasons. The principal one is because we do all the Australian Government's foreign exchange transactions. For example, when the Department of Foreign Affairs needs to pay its embassy in Washington in US dollars, the Bank sells the necessary US dollars to the government (in exchange for Australian dollars). Generally, the Bank purchases the US dollars in the market prior to settlement, although it does have the option of funding its sale of US dollars out of its foreign currency reserves. On average, the Bank does around \$30 million of these transactions each day.

One benefit of this regular interaction with the market is that we are able to get useful intelligence about developments in the market. This flow of information helps us to form a view about market conditions in real time and can prove invaluable in times of market stress. I use this information to provide some background colour to my monthly briefings of the Reserve Bank Board on financial market developments.

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<sup>4</sup> The 2012 analysis of funding costs can be found in Deans C and C Stewart (2012), "[Banks' Funding Costs and Lending Rates](#)", RBA *Bulletin*, March, pp 37–43.

Most of the other transactions the Bank undertakes in global financial markets result from the fact that the Bank holds and manages the country's foreign exchange reserves. Currently these amount to \$36 billion. 45 per cent of these are held in US dollars, 45 per cent in euros, with the remainder split between yen and Canadian dollars. The Bank has a conservative approach to managing the reserves, with the vast bulk of the portfolio invested in government securities.

The day-to-day management of the reserves portfolio is undertaken by RBA staff in New York (for the US and Canadian dollar portfolios) and London (for the euro portfolio) as well as in Sydney. The transactions that are conducted each day in managing the portfolio again provide us with very useful market intelligence, particularly in times of market stress.

Why is it that we hold \$36 billion in foreign currency? Why not some other amount?<sup>5</sup>

One reason is that some of the reserves are held to fund Australia's potential commitments to global financial institutions such as the IMF. But the primary motivation is to provide the capacity for the Bank to intervene in the foreign exchange market when necessary. Over the past two decades, we have, on occasion, intervened to facilitate an orderly depreciation of the Australian dollar, when conditions in the market warranted.<sup>6</sup>

The most recent episode of intervention was in 2008–2009. At that time, there were various bouts of illiquidity as stresses flared in global markets particularly following the failure of Lehman Brothers. Many participants stepped back from the market, particularly because of concerns about the viability of their counterparty to any transaction. The Bank was able to deploy its reserves to inject liquidity into the market in these disorderly conditions. We were willing to be the counterparty on the other side of the transaction and market participants were willing to deal with us when they weren't with others. We were not trying to prevent the depreciation of the currency in that episode. From a macro policy perspective, the depreciation was desirable. Rather, we were trying to ensure the depreciation was orderly, without excessive price gapping; that is, avoiding the exchange rate moving by large amounts from one transaction to the next, which only tends to exacerbate market dysfunction.

In that intervention episode, the Reserve Bank only utilised around A\$3.8 billion of reserves, with most of our transactions in the market being very small, because no-one was looking to trade large amounts. By contrast, in the 2001 episode, when the Australian dollar reached an all-time low of US 47c, A\$1 billion of reserves was used on one day alone, with some hedge funds taking very large positions against the Australian dollar. The 2008–2009 episode, as well as the one in 2001, were very profitable for the Bank and hence the Australian taxpayer. We bought Australian dollars low and sold them high, generally a good investment strategy. Or to put it the other way round, we sold foreign currency at a high price and were able to rebuild our reserves later at a cheaper price in Australian dollar terms.

More recently, in the second half of last year, there was discussion about some of the Bank's transactions in the foreign exchange market. I'll take this opportunity to run through the details of this with you, which might be of some interest. The Bank offers foreign exchange services to all of its official customers, not just the Australian Government. Very occasionally, one of the Bank's foreign customers lets us know that they would like to buy some Australian dollars to invest and they ask to purchase them through the Reserve Bank. After we have sold them the Australian dollars for foreign currency, we have to decide whether to retain the foreign exchange or sell it in the market.

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<sup>5</sup> For more, see Vallence C (2012), "[Foreign Exchange Reserves and the Reserve Bank's Balance Sheet](#)", RBA *Bulletin*, December, pp 57–63.

<sup>6</sup> See Newman V, C Potter and M Wright (2011), "[Foreign Exchange Market Intervention](#)", RBA *Bulletin*, December, pp 67–76.

With the Australian dollar trading at the high end of our assessment of fair valuation at the time (based on determinants such as the terms of trade, domestic economic and financial conditions), we decided on this occasion it would be appropriate to retain the foreign exchange in our reserves portfolio rather than sell it. That is, we thought the foreign exchange was on the cheap side of fair value. Moreover, if we had sold the foreign exchange in the market, we would have been buying back Australian dollars putting further upward pressure on the A\$ at the margin, which we didn't think was appropriate given our assessment was that the currency was already somewhat on the high side.<sup>7</sup>

## The exchange rate

So having said that the Australian dollar is somewhat on the high side, let me now talk about why that might be.

The primary explanation, I think, for the currency being higher than the state of the domestic economy and the terms of trade would suggest is the weak state of many advanced economies and the resulting policies being pursued by the central banks in these countries. Having lowered interest rates as far as they can, effectively to zero, these central banks have embarked on a large expansion of their balance sheets, buying assets, mostly government securities, from the private sector. One of the main channels by which this quantitative easing is expected to work is by encouraging the private sector to use the cash they have received from the central bank for the government securities to buy other assets, which includes foreign assets.

Their actions are understandable and defensible from their own domestic policy perspectives. However, these policy actions *do* have an impact on other countries.<sup>8</sup>

As some of this quantitative easing generates capital outflows from the country doing the easing, the exchange rate depreciates, boosting local economic activity. But an exchange rate is a relative price. When one country's exchange rate depreciates another's must appreciate. The exchange rate movement transfers demand from one country to another.

There is an income and substitution effect at work here. Quite likely, these policy actions boost demand in the world as a whole. But if the exchange rate appreciation is large enough in a particular country or if a country doesn't trade all that much with the one doing the QE, the effect of that appreciation may outweigh the positive effect of stronger global demand. That is, for a given economy, the substitution effect may dominate the income effect. This is particularly likely to be the case for a smaller country, where the size of the capital inflows it attracts may be large relative to the size of its economy, even if the capital flows are small for the large country that is easing its policy.<sup>9</sup> So while it may be the case that the monetary

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<sup>7</sup> For those who are interested, these transactions are evident in a couple of statistical tables on the RBA website. In table A4, the RBA's transactions in foreign exchange markets are recorded. The first column shows the Bank's dealings with the market, the second, our transactions with the government, and the third, our dealings with other customers, as well as the interest earned on the reserves. The net of all these three columns are the Bank's additions to its outright foreign reserve holdings. Most of the time, the number is a low positive one, reflecting the monthly earnings on the reserves. (Columns one and two tend to offset reflecting the way in which sales of foreign currency to the government are funded in the market.) But in the second half of 2012, the number is a larger positive number which reflects the transactions I am referring to here. The RBA's [balance sheet](#) is published weekly, and you can also see the effect of the transaction in temporarily boosting customer deposits through this time.

<sup>8</sup> The Governor covered some of these issues in "[Challenges for Central Banking](#)" (2012), Address to the Bank of Thailand 70th Anniversary and 3rd Policy Forum, Bangkok, 12 December.

<sup>9</sup> The starkest case of this recently is the experience of Switzerland, where the size of the capital flows they received from Europe, when concerns about euro a break-up were at their height, was huge relative to the size of the Swiss economy. This was reflected in the accumulation of foreign reserves by the Swiss central bank, which amount to more than 80 per cent of GDP now. To put that in context for an Australian audience, if the RBA accumulated a similar amount of reserves, they would amount to over A\$1 *trillion!*

policy settings we see at the moment might be good for the global economy as a whole, they may not be beneficial for every country.

This can leave the countries that are receiving these inflows with a difficult choice. They can decide to offset the effects of the higher exchange rate with expansionary policy too. A number of commentators say this is clearly a good thing for the global economy,<sup>10</sup> and is in stark contrast to the 1930s, where countries responded with tighter policy.<sup>11</sup> The argument is that given a deficiency in global demand, further expansionary policy elsewhere helps to redress the fact that there is no scope in the major economies for lower rates, given they are already at zero.

But lowering rates to such low levels can cause some problems. It can generate excess credit expansion or asset price inflation or imbalances elsewhere in the economy. The current experience of Canada, Hong Kong and Switzerland is salient in this respect. The next line of argument is that such concerns can be alleviated by the appropriate deployment of “macroprudential” policy tools. But there are large uncertainties about how effective such tools really are.

To date in Australia, we have been able to counter the effects of the higher Australian dollar with lower interest rates, as my colleague Phil Lowe described recently.<sup>12</sup> We still obviously retain scope to lower interest rates further, should the need arise, including to counterbalance the pressures of an elevated exchange rate.

So, I hope that has given you a sense of how the Reserve Bank sets the cash rate and how that affects the structure of interest rates in the economy. The cash rate still has the largest influence over lending and deposit rates, even if the relationship is not exact. I’ve also described how the Reserve Bank operates in the foreign exchange rate and discussed some of the forces affecting the exchange rate at the moment.

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<sup>10</sup> See Krugman P (2013), “Currency War Confusions”, *The New York Times*, 15 February. Available at <<http://krugman.blogs.nytimes.com/2013/02/15/currency-war-confusions/>>.

<sup>11</sup> This was the archetypal “beggar thy neighbour” scenario, with competitive devaluations. See Eichengreen B (1992), *Golden Fetters: The Gold Standard and the Great Depression, 1919–1939*, Oxford University Press, New York.

<sup>12</sup> Lowe P (2012), “[What is Normal?](#)”, Address to the Australian Business Economists Annual Dinner, Sydney, 5 December.