MARKET OPERATIONS IN THE PAST YEAR[1]

Address by Dr Guy Debelle, Assistant Governor (Financial Markets), to 2008 FTA Congress, Melbourne, 31 October 2008.

Introduction

Today I would like to talk about the Reserve Bank's operations in the domestic money market during the period of financial turmoil. The money market can be thought of as the plumbing right at the heart of the financial system. It is important to ensure that any blockages in the money market are addressed quickly to ensure that liquidity can flow through the financial system.

I have spoken on this topic twice in the past year,[2] but there have been some noteworthy developments in the few months since last I spoke on this which bear some examination. While we have made some changes to our operating procedures over the past year or so, these changes have been easily accommodated within our overall framework. More generally, the operating framework for liquidity provision to the domestic money market has proven to be resilient and effective throughout the period.

Before discussing some of the changes we have made in recent months, I will first describe the overall framework for the RBA's open market operations. I will then outline the changes we have made to our domestic market operations which can be grouped into three: widening the pool of eligible collateral, conducting operations at longer maturities and offering term deposits. Finally I will also describe the US dollar facility that we have instituted with the Federal Reserve over the past month.

The Australian Money Market[3]

The Reserve Bank Board implements monetary policy by setting a target for the cash rate – the interest rate on overnight unsecured loans in the interbank market. This rate influences interest rates in other wholesale and retail markets, which in turn affect economic activity and inflation.

A key determinant of activity within the interbank market for overnight funds is the aggregate volume of exchange settlement (ES) balances held at the Reserve Bank. ES accounts are maintained by banks and a number of other institutions to meet their settlement obligations

1 *I thank Matt Boge for his help in writing this speech.*

2 *'Open Market Operations and Domestic Securities', speech given to the Australian Securitisation Forum, 29 November 2007; 'Open Market Operations', speech given to the Australian Debt Markets Conference, 27 June 2008.*

3 *This section covers much of the material in the two earlier speeches but bears repeating.*

with each other and with the Reserve Bank. As such, they are the most immediate source of liquidity for banks.

In Australia, banks are not required to meet targets for holding reserves at the central bank. However, a bank's ES balance must always be non-negative, even on an intraday basis.[4] As the Reserve Bank remunerates ES balances at a rate of 25 basis points below the cash rate target, this creates an incentive for account holders to recycle excess balances within the interbank market by lending them to other institutions at the cash rate. That is, there is an incentive to economise on cash holdings which must be weighed against the cost of running short of cash balances at the end of the day and needing to borrow from the Reserve Bank at a penalty rate (see below). I will describe later how interbank lending in the cash market has fared during the period of turmoil.

The Reserve Bank controls the supply of ES balances through its transactions in financial markets. For example, when the Bank purchases securities from a counterparty, that counterparty's ES account (or the ES account of their bank) is credited with funds at the same time the transfer of title to the security occurs. In other words, the Bank injects funds into the system when it purchases a security (and conversely withdraws funds when it sells a security).

Each day then, the Reserve Bank must gauge the overall demand for ES balances from the financial system and adjust the supply of funds accordingly so as to keep the cash rate at the target set by the Reserve Bank Board.

Even if the Bank wishes to hold the amount of ES balances stable from one day to the next, the Bank will generally be required to transact with the market to offset the impact of its customers' payments, in particular those of the Australian Government, which is the Bank's largest customer. Payments to or from these customers can significantly alter overall balances in the system. Each day, the Bank will estimate the likely net impact of these payments and its own transactions and derive the estimated cash position. This is the amount by which the pool of ES balances would change if the Bank did not conduct any market operations. In doing so, Bank staff liaise closely with the relevant departments within the Australian Government and with our other clients to ascertain the timing and size of payments and receipts.

If, in aggregate, private financial institutions are expected to pay an amount of funds into the Government's account at the Reserve Bank (for example, in the form of tax payments) greater than the funds being received, then the cash position will be a deficit and, other things equal, ES balances will decline. Conversely, on days where payments from the Bank and its customers are estimated to be greater than receipts, there will be a cash surplus and ES balances will increase. Almost always, the Reserve Bank will act to offset the liquidity impact of these exogenous flows by purchasing (or selling) securities in open market operations.

At 9.30 am each morning, the Bank publishes the estimated cash position for that day and its intention to either buy or sell securities. The Bank will also indicate a preference for the maturities at which it wishes to conduct its operations. I will discuss later how we determine these preferred maturities. Counterparties have 15 minutes to submit approaches, from which

4 *This is in contrast to the systems in the US, Europe and the UK where there is a reserves target that is required to be achieved over a period of time, but the Australian framework is similar to that in Canada.*

the Bank will select those that best match its dealing intentions, in terms of preferred maturities, and are at the most attractive rates.

The Bank is usually in a position to advise market participants of the success or otherwise of their approaches by 10.00 am. The results of our market operations are published electronically by about 10.15 am. They show the amount dealt as well as the maturities at which the Bank dealt, the type of collateral and the average price.[5]

The overall impact on system liquidity of the Bank's operations on any given day is not the amount dealt but any net injection or withdrawal of funds, that is, the amount dealt less the cash position. This is reflected in the net change in ES balances day to day.

It is worth keeping in mind two points: the Reserve Bank has control over the size of the ES balance pool; and, funds injected into the system through open market operations must end up in the ES account of a financial institution at the end of the day, after all interbank payments have been made. Thus an institution having a large balance in its account at the end of the day may reflect a desire to hold a large precautionary cash balance but it can also be the case that the institution happened to be a large net receiver of payments on that particular day and was unable to on-lend the funds.

To deal with institution-specific, rather than market-wide, liquidity needs, the Bank maintains a standing facility through which ES account holders can obtain funds overnight, at their discretion, at 25 basis points over the cash rate target. The funding is secured against collateral. Generally, banks will access this facility when they have miscalculated their payment flows or are experiencing other operational problems and would otherwise see their ES balance fall below zero. Because the facility is designed to deal with temporary technical hitches in the operation of the money market, there is no stigma associated with its use. Indeed, importantly, there is no stigma attached to any of the Bank's open market operations.

The range of institutions with which the central bank is willing to deal in its market operations can be relevant in determining how well cash balances are distributed within the system during periods of market stress. Permitting a wide range of institutions to bid directly for central bank funding makes it more likely that liquidity is directed to where it is most needed. The range of institutions eligible to deal with the Reserve Bank is quite broad and extends beyond banks and other ES account holders to include, for example, securities dealers and nominee companies. This wide range of counterparties participate in the Bank's operations on a regular basis. To be a counterparty in our open market operations, an institution must be a member of RITS (which covers the terms of the repo agreements between ourselves and the counterparty), have its treasury operations in Australia and be able to settle in a timely and efficient manner.

Overall, the Bank has found it advantageous to be as flexible as possible in the way that it manages system liquidity. We operate daily in the market with a relatively wide range of counterparties and over a wide range of maturities. This has been particularly beneficial over the past year, as it has allowed the Bank to respond in a timely way to emerging pressures in financial markets.

5 *This information is published on the Reserve Bank's Reuters and Bloomberg pages and is also available on the website.*

Market Operations over the Past Year

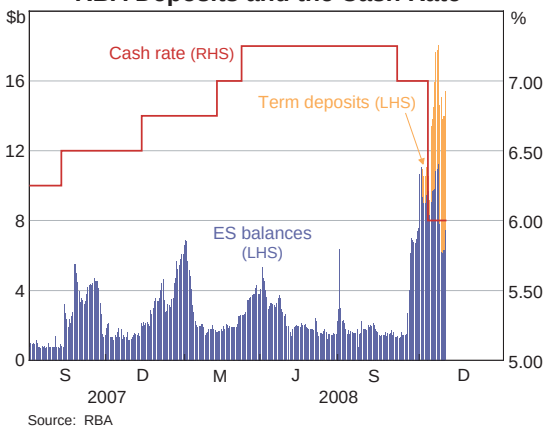
Within this overall framework, the Reserve Bank has made a number of changes over the past year as the financial turmoil has unfolded. These have included widening the pool of collateral, dealing on a regular basis at long maturities and introducing a term deposit facility. In addition, we have significantly increased the pool of ES balances, on occasion, to levels well above those that have prevailed in recent years.

Increasing ES balances

Beginning in August 2007, as banks became less certain of their own funding requirements and less confident of the credit profile of their counterparties, the interbank borrowing markets became quite tight. Banks were more inclined to hold onto cash, both because of an increased unwillingness to lend it, but also reflecting a concern about their ability to obtain funding themselves from the market in the future should they require it. This was most evident in term markets, where borrowing rates increased sharply. However, for similar reasons, there was an increased precautionary demand for ES balances, reinforced by the fact that ES balances are a risk-free asset. The effect was the demand curve for ES balances shifted out.

Graph 1

RBA Deposits and the Cash Rate



Source: RBA

The Reserve Bank's initial response last August to this increase in demand was to increase the supply of ES balances, from the level of $750 million which had prevailed for a number of years to more than $5 billion (Graph 1). If the Reserve Bank had not increased the supply, the cash rate would have risen above the target set by the Reserve Bank Board as financial institutions bid harder for funds in an attempt to increase their cash balances. Because of the framework for monetary operations, in particular the fact that we deal in the market every day, the Bank was able to very quickly gauge the extent of the increased demand for cash and react accordingly.

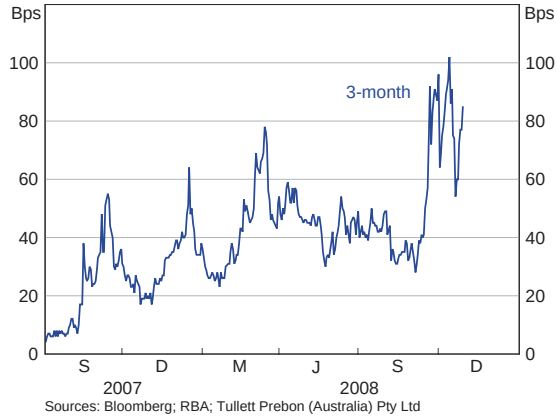
As the demand for cash in the market has ebbed and flowed since last August, the Bank has continued to vary the supply of ES balances. ES balances have generally increased approaching the end of a quarter as institutions have sought to hold more cash on their balance sheets through the quarter end. This phenomenon had been evident prior to the credit turmoil but has been particularly accentuated over the past year.

At times when term markets for bank funding have become particularly stressed (Graph 2), the Reserve Bank has signalled that it is willing to deal for longer terms so as to enhance liquidity in the underlying market for bank paper. In conducting a repo operation at a longer term, say 80 days, the Bank is encouraging an institution to present eligible collateral of at

least that maturity (e.g., in this case a 90-day bank bill). The institution can purchase the bank bill at a high spread to the expected cash rate (OIS) and present it to us as collateral at a (generally) lower spread to OIS. Note that this repo transaction is profitable to both the institution and to the RBA as our return on the transaction is the spread on the repo. In this sense, the Bank can try to alleviate some of the pressures in term funding markets by conducting repos at longer maturities.

Graph 2

Spread Between Bank Bills and OIS



Sources: Bloomberg; RBA; Tullett Prebon (Australia) Pty Ltd

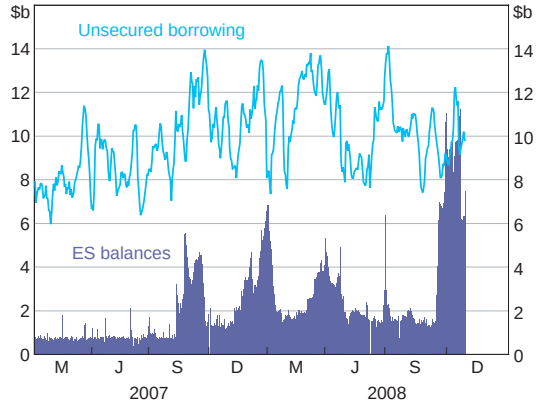
However, to expand its repo operations at these longer terms, the Bank may need to increase the supply of ES balances. While the repo operations are conducted at term, the cash provided by the Bank increases the ES pool on the date of the transaction. Thus the Bank needs to weigh up the benefit of providing some support to term funding markets against any possible cost to the cash market of increasing the ES pool (discussed below).

From early September, tensions in money markets increased significantly. Counterparty credit risk became paramount. This was primarily a global phenomenon, exacerbated by the failure of Lehman Brothers. Demand for ES balances rose rapidly and again the Bank accommodated this, which resulted in balances reaching $11 billion in mid October. We have subsequently reduced the ES pool as demand has eased.

The degree to which turnover in the cash market has been affected by the turbulence and by the heightened counterparty fears should not be overstated. The daily turnover in the cash market has been relatively constant throughout and has been largely unaffected by the size of ES balances (Graph 3). Thus a crucial part of the financial system, which lies right at its heart, has continued to function well.

Graph 3

Overnight Cash Market



Source: RBA

Term deposits

As the pool of ES balances has increased, it has the potential to eventually disrupt the functioning of the cash market. At some point the supply may be so large as to result in downward pressure on the cash rate. Moreover, if the pool were large enough, each institution may have enough balances in its ES account to settle any payments outflows without resorting to the interbank market.

To relieve this tension in the overnight cash market, while continuing to allow the Bank to conduct more repo transactions at longer maturities to try to alleviate term funding pressures, the Bank announced a new term deposit facility on 24 September. This facility allows institutions to move some of the funds that may have otherwise sat in the overnight ES accounts to a longer maturity of either 7 or 14 days. Thus one can think of the term deposits as an ES account with a longer maturity. The balances are breakable at short notice with a relatively small cost, so institutions are still able to access this liquidity if necessary.

The rates of return on these accounts are determined by auction, with the counterparties indicating their desired return in their bid.[6] The return should generally be no lower than the rate of return on the overnight ES account (which is 25 basis points below the cash rate target). However, the return should generally also not be higher than the cash rate, which is the unsecured interbank rate, given the absence of credit risk on a deposit with the RBA. Indeed, in our regular auctions of term deposits, the Bank reserves the right to reject bids at too high a rate.

Collateral

While the Bank deals with a wide range of counterparties, the credit risk the Bank incurs through its counterparty exposures is mitigated by three factors: the quality of the collateral; the fact that in normal circumstances it accepts only 'third-party' collateral; and the margin or 'haircut' taken on that collateral.

Over the past 10 years or so, the Bank has gradually expanded the range of securities which it is willing to accept as collateral. In general, these changes had been prompted by the evolving nature of the debt markets in Australia. Specifically, as the stock of Commonwealth Government securities has fallen, the Bank has needed to accept other highly rated collateral. Securities issued by the borrowing authorities of State and Territory governments became eligible collateral in 1997, the AAA-rated Australian dollar debt of certain supranationals became eligible in 2000, while those of foreign governments and agencies with government guarantees, as well as bank bills and certificates of deposit issued by certain authorised deposit-taking institutions (ADIs) became eligible in 2004.

From mid September 2007, the Bank further expanded its list of eligible collateral by accepting ADI securities with a remaining term to maturity longer than 12 months. These securities are subject to minimum credit-rating requirements and margins as high as 9 per cent.

6 *The rate of return is expressed as a spread to the cash rate, so there is no issue of monetary policy expectations affecting the bid, if the deposit were to span a RBA board meeting.*

With the market for securitised debt becoming particularly dysfunctional, the Bank announced that from early October 2007, residential mortgage-backed securities (RMBS) and asset-backed commercial paper (ABCP) would also be eligible collateral. In addition to being of the highest credit quality (AAA-rated and P-1 rated, respectively), the Bank only lends funds against these securities to the extent that at least 90 per cent of the assets backing them are 'full-doc' mortgages. The RMBS and ABCP can be issued by both ADIs (which are banks, building societies and credit unions) as well as non–ADIs. The securities need to be vetted by the Bank's Risk Management Unit before being deemed to be eligible collateral.

The Bank also draws a distinction between securities to which its counterparty is related and those to which it is not. Thus, while the Bank is prepared to accept as collateral bills and certificates of deposit from any ADI, an ADI dealing in repurchase agreements with the Reserve Bank cannot offer its own securities, or those of a related party, as collateral.

The same condition also applied to RMBS and ABCP when these securities were initially added to the acceptable collateral list. That is, a financial institution was not able to present, as collateral, RMBS with which it was related party. The relatedness could reflect the fact that it was the originator of the mortgages or that it acted to provide credit enhancement or insurance to the security.

However, at the time of their inclusion in the pool of eligible collateral, the Bank stated that in certain circumstances the relatedness stipulation might be relaxed. With the significant worsening of term funding markets since early September, the Bank announced on 8 October that ADIs could present their own RMBS and ABCP as eligible collateral. This served to significantly increase the pool of liquifiable assets available to financial institutions.

When lending cash against the receipt of collateral, the Bank always imposes a margin or 'haircut' on its counterparty. For example, on short-term bank paper, the margin has been 2 per cent.[7] That is, for every $100 lent by the Bank, securities worth $102 need to be pledged as collateral. If, during the term of the repo, the security declines in value, the counterparty is required to post additional collateral. In the case of RMBS and ABCP, a margin of 10 per cent is imposed.

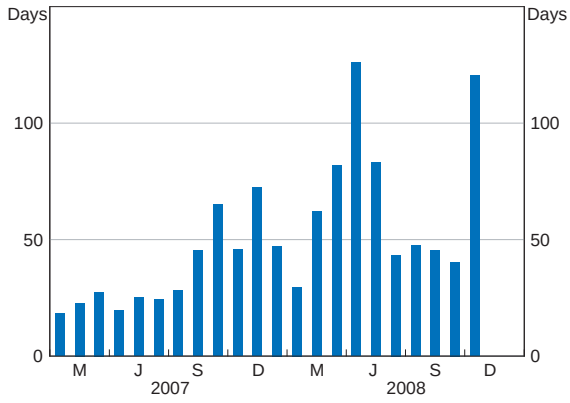
Maturities

The Bank's preferred maturities for dealing are derived from our projections for future withdrawals and additions to system balances. The preferred maturity is generally a day when we forecast the system to be in surplus. Thus, on the day that the repo transactions on this preferred maturity were to unwind, they would drain liquidity from the system, thereby converting the projected surplus to a deficit. In this way, we are able to ensure that on most days the system is in deficit, thereby allowing us to conduct repo operations regularly.

7 *The full list of eligible collateral and details of the margin requirements are available on the Bank's website.*

Graph 4

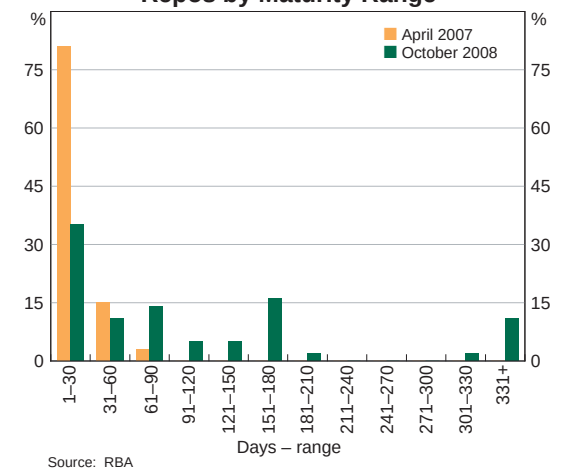
Average Term of RBA Repos



Source: RBA

Graph 5

Repos by Maturity Range



Source: RBA

In the past year, the Bank has varied the maturity of its repurchase transactions quite significantly (Graph 4).

In the past, we have not offered repos at longer maturities on a pre-scheduled basis, although we generally offered a longer term at least once a week. However, with the worsening of the dislocation in term funding markets in recent weeks, we have decided to offer a 6- and 12-month maturity every day to provide some greater certainty of term funding to financial institutions. This has resulted in a further lengthening of the average maturity of the RBA's repo book so that it currently has the structure shown in Graph 5.

US Dollar Swaps

Thus far, I have talked about the provision of Australian dollar liquidity to the local market. However, the US dollar funding market has been particularly disrupted globally at various times since last August. The roots of this dislocation are related to the need for some institutions, particularly in Europe, to access US dollar funding on a daily basis to fund their US dollar investments. This has caused disruption to the US dollar foreign exchange swap market, not just in Europe, but also in other regions and time zones, given the global nature of the market.

To address this problem, late last year, the Federal Reserve announced a swap facility with the European Central Bank and the Swiss National Bank so that the ECB and SNB could provide US dollars to their local market participants against local currency collateral.

As the dislocation became particularly acute in September, the facility was expanded significantly to include a number of major central banks, including the Reserve Bank of Australia, to allow the US dollars to be provided to more markets in more time zones. In a number of cases, including our own, the introduction of the facility does not reflect a fundamental shortage of US dollars on the part of local financial institutions. Rather it was to help address the problem

in global markets of the dislocation of the US dollar swap market by increasing the supply of US dollars in more markets and time zones.

The swap facility involves the exchange of US dollars from the Fed for local currency from the counterpart central bank, Australian dollars in our case. We then auction the US dollars to local institutions who are eligible for our domestic market operations. The institutions then provide as collateral, securities which are acceptable in our domestic operations. Thus, one can think of this facility as an open market operation in US dollars, rather than in domestic currency.

In some regions, such as Europe and the UK, the facility has been further extended to provide an unlimited amount of US dollars at a pre-determined price, to ensure that all the demand at that price is satisfied.

Overall, it appears this has had some success with conditions in the US dollar swap markets improving over the last few weeks, and the cost of US dollar funding declining to more normal rates.

Conclusion

The framework for the Reserve Bank's market operations has been very flexible and has served us well. The modifications that the Bank has made in response to the tensions in the domestic money market resulting from the turmoil in global credit markets have been easily accommodated within the overall pre-existing framework. In particular, the fact that the Bank has for a long time, dealt daily with a wide range of counterparties across a wide range of maturities has allowed us to respond quickly and flexibly. Nevertheless, the Bank is continually reviewing all aspects of the operating framework to ensure that it is consistent with the evolving nature of the domestic financial market.