Guy Debelle: The impact of payments system and prudential reforms on the Reserve Bank of Australia's provision of liquidity

Address by Mr Guy Debelle, Assistant Governor (Financial Markets) of the Reserve Bank of Australia, to the Australian Financial Markets Association (AFMA) and Reserve Bank of Australia (RBA) Briefing, Sydney, 16 August 2013.

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This speech was co-authored with Matt Boge.

Today, I wish to talk about several important changes that will be made to the framework under which the Reserve Bank operates in domestic financial markets. These changes will be introduced at different points during the next 18 months and will have significant implications for the size of the Reserve Bank's balance sheet and the way in which the Bank provides liquidity to financial institutions.

The primary purpose of the Bank's operating framework is to implement the monetary policy decisions of the Reserve Bank Board. As you would be aware, the Board states its policy stance in terms of a target for the cash rate. To be precise, it's the rate on overnight unsecured loans between authorised deposit-taking institutions (ADIs). While the Board has been announcing targets for the cash rate since 1990, the Bank's operating framework has continued to evolve over this time, although the underlying principles haven't changed.

To a large extent, these modifications have been prompted by the need to accommodate structural changes within markets, such as the end of the arrangements for Authorised Money Market Dealers in the mid-1990s and the reduced supply of government bonds during the following decade.

In responding to these developments, the Bank has been guided by the need for its operating framework to enable the Bank to meet the Board's cash rate target and to facilitate the most effective transmission of those policy decisions to the prices of financial assets more broadly, and ultimately, to the real economy.

With that in mind, during the global financial crisis, when different segments of financial markets became impaired to varying degrees, the Bank modified several aspects of its operating framework. Some of these changes were only temporary and were discontinued after markets stabilised, such as offering term deposits and US dollar repos to domestic financial institutions. Other changes have been permanent, such as broadening the range of securities that are eligible for the Bank's repurchase transactions.

The Bank's operating framework has also needed to adapt to changes in the payments system, such as the shift to real-time gross settlement in the late 1990s and the settlement of the Australian dollar leg of foreign currency transactions via CLS Bank a few years after that.

Going forward, further innovations to the payments system as well as the introduction of the Basel III liquidity reforms will require more changes to be made. Before describing these changes, it is worth recapping what the core features of the Bank's operating framework are.

Essentially, the Bank seeks to control the supply of settlement funds that ADIs use to meet their payment obligations, so that the rate at which ADIs borrow and lend these funds to each other is equal to the Board's target for the cash rate. To create the incentive for exchange settlement (ES) account holders to participate in the overnight cash market, the Bank pays account holders 25 basis points below the cash rate target on their end-of-day balances. On the other side, a penalty rate of 25 basis points above the cash rate is charged if an ADI needs to borrow overnight from the Reserve Bank to ensure its ES balance is positive. Together, these rates comprise the 50 basis point interest rate "corridor" that the Bank uses to guide the cash rate to the Board's target.

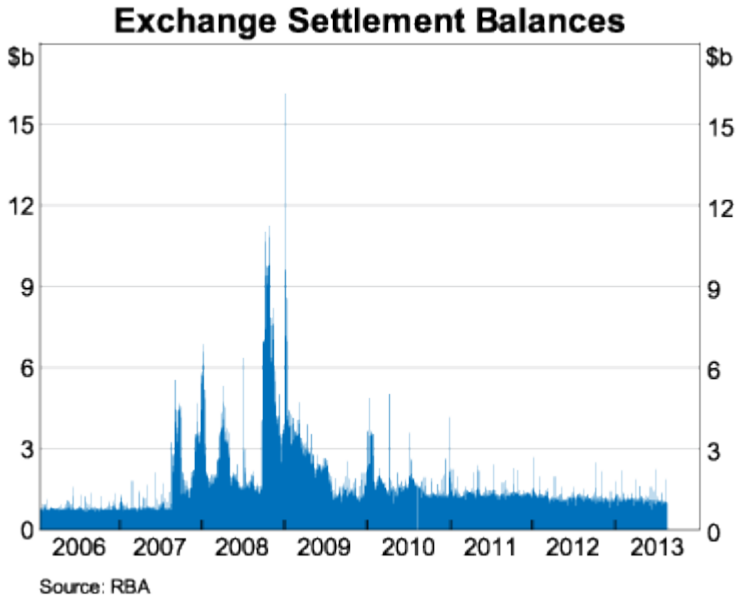
As payments to and from the Reserve Bank (or its clients) are constantly changing the supply of exchange settlement funds, each day the Bank will transact in the market to maintain the appropriate supply of funds.[1] These transactions are almost always repos; that is, the Bank's counterparty agrees to repurchase the security it has sold to the Bank at some future date.

This framework has been successful in achieving its objectives: the interbank cash market is quite active, with usually around $5 billion transacted each day;[2] the cash rate consistently trades at the Board's target; and changes in the cash rate pass through rapidly to the overall rate structure within the domestic market.

Given that background, I'll now turn to the forthcoming changes to the payments system and liquidity regulations and explain what they are likely to mean for the demand for ES balances.

At the present time, the demand for ES balances is generally low as ADIs seek to minimise their balances, subject to the constraint that they must be positive. Although ES funds are a risk-free investment, the 25 basis point spread to the cash rate is usually wide enough to discourage ADIs from using them as a store of liquidity. During periods of financial turmoil, that can change. Between 2007 and 2009, the amount of ES funds rose as ADIs became increasingly risk averse and sought to hold larger precautionary balances at the central bank, which the Reserve Bank accommodated with increased supply (Graph 1).[3,4] However, for the past three years or so, aggregate ES balances at the end of each day has usually only been around $1 billion, a very small component of the Reserve Bank's liabilities and of ADIs' liquid assets.

Graph 1



[1] See Baker A and D Jacobs (2010), "Domestic Market Operations and Liquidity Forecasting", RBA *Bulletin*, December, pp 37–43.

[2] The data on activity in the cash market can be found on the RBA website in Statistical Table F1.

[3] See Debelle G (2010), "The Evolving Financial Situation", Address to the Women in Finance Lunch, Sydney, 16 February.

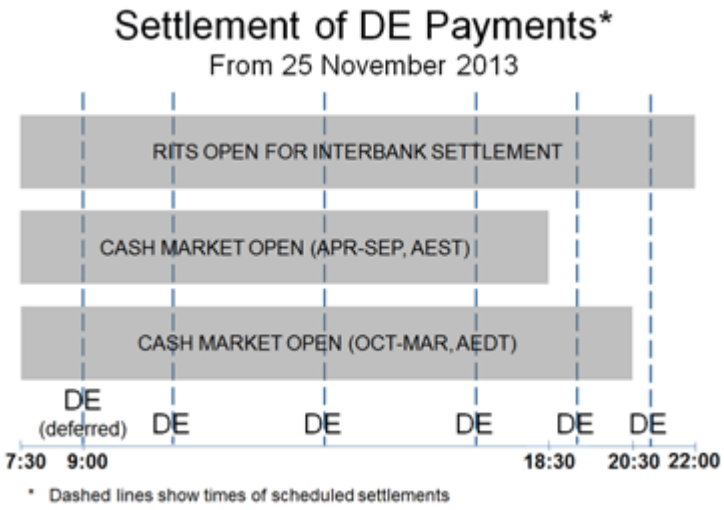
[4] A recent report by a study group that I chaired, "Central Bank Collateral Frameworks and Practices" published by the Markets Committee at the BIS, documents a similar phenomenon globally over this period. The report also highlights the interesting point that banks globally did not generally present the cheapest to deliver collateral to access central bank liquidity over the course of the crisis. This is relevant to the sort of changes that I am talking about in this speech and it will be interesting to see if something similar occurs here.

As payments arrangements evolve in the coming years, the demand for ES funds will rise significantly. As you might be aware, the Payments System Board last year established a number of strategic objectives for the payments system, including improving the process for settling electronic "direct entry" (DE) payments. The direct entry system is used very widely, such as for salary payments, the payment of Centrelink benefits, "Pay Anyone" internet transfers and for many dividend payments. While most individual direct credit and direct debit transfers are quite low in value, the total value of such payments averages more than $40 billion per day.

At present, like most low-value payments, direct entry payments are not settled on the same day that the details of the transaction are exchanged between financial institutions. DE payments are settled in one batch at 9 am on the following business day.

From November this year, DE payments will be able to be settled for same-day value, albeit still in batches. While this should be of great benefit to financial institutions and their customers, some of these settlements will be taking place outside of normal banking hours (Figure 1). Furthermore, at the time the interbank cash market closes at the end of the day, ADIs will not know the size of these payments (or receipts) that they will need to settle later that evening. Potentially, these payments could be quite large.

Figure 1



To be assured of having sufficient funds with which to meet payments throughout the evening, ADIs directly involved in the DE exchanges will each need to retain higher balances in their ES account. From November, the Reserve Bank expects ES balances to increase from their current level of $1 billion to be between $20 and $30 billion on an ongoing basis. This is designed to ensure that payments made after the close of the day don't result in ADIs facing negative ES balances and hence being unable to make the payments. The size of these balances has been calculated by examining the largest payment obligations that have arisen from these later batches in recent times and providing a buffer above that. The size will be reviewed regularly as we see how the payments patterns evolve after November.

The Bank will manage this expansion in its balance sheet through its existing liquidity facility for ES account holders. Unlike open market operations (which are conducted by auction), repos via the Bank's liquidity facility are made available to ES account holders on pre-specified terms. At the present time, ES account holders usually only access this facility for intraday funding; repos used for this purpose carry no interest charge. During the course of a normal day, the pool of ES balances (and therefore the size of the Bank's balance sheet) tends to expand by around $10 to $15 billion as ADIs use intraday repos to give them the capacity to make payments before the settlement of incoming funds. By the end of each day,

these repos are unwound. On the very rare occasions that such repos are carried over to the next day, a penalty interest rate 25 basis points above the cash rate target applies.

From November, the Bank will allow ES account holders to access a pre-determined amount of funds through its liquidity facility on an "open" basis; open repos are those contracted without an agreed maturity date. The interest rate on these open repos will be set at the cash rate target. At the same time, the Reserve Bank will change the way that interest on ES balances is calculated. To the extent that account holders retain matching funds against their open repo position, those ES balances will earn the cash rate rather than 25 basis points below. Hence while these changes will increase the size of the Bank's balance sheet, they won't change the net income the Bank earns.

In net terms then, there need be no cost to holding an open repo position. However, as is the case currently, surplus ES funds, that is, funds held in excess of an open repo position, will earn a rate 25 basis points below the cash rate target. Similarly, any shortfall in funds below the account holder's open repo position will incur a 25 basis point penalty. An allowance will be made for variations in ES balances arising from direct entry payments that settle during the evening.

This arrangement will not only provide the means for ADIs to hold sufficient liquidity to complete their payments throughout the evening, it also preserves the incentive for ADIs to participate in the interbank cash market while it is open, lending surplus balances or borrowing against a shortfall. We would expect the "excess" supply of ES balances to be much as it is now, around $1 billion above the sum of outstanding positions in open repos.

Consequently, these operational changes will not alter the way in which the Bank implements monetary policy, as the operation of the cash market will be insulated from the structural increase in ES balances. This framework leaves us well placed to accommodate further innovations in the payments system in the coming years, such as the planned shift to 24/7 settlement for retail payments.

One consequence of the new arrangements is that it will largely remove the need for an ES account holder to contract intraday repos with the Reserve Bank. For this reason, the Bank will allow all ADIs that operate ES accounts to contract open repos, not just those participating in the direct entry exchanges.

Despite the operational changes the Bank is making, we nevertheless recognise that shifting a large quantity of payments activity to same-day settlement will complicate the task of liquidity managers. It is always difficult to forecast customers' payments activity; this is not only true for ADIs, it is also true for the Reserve Bank.

The size of the Reserve Bank's daily open market operations each morning are largely based on a forecast of that day's cash flows across the Australian Government's accounts with the Reserve Bank. Settling direct entry payments for same-day value will make it more difficult to forecast flows such as tax receipts. It may be that the Reserve Bank will need to conduct operations in the open market late in the day to address any unexpected payment flows and ensure the right amount of settlement funds are in the banking system to allow the cash market to function appropriately.

In the past, the Bank has needed to resort to these "second rounds" of dealing only two or three times a year. Going forward, we anticipate that second rounds of dealing will be more frequent. Given this, we intend to formalise the arrangements for these operations, announcing at a set time each day whether further open market operations will be conducted and, if so, on what terms. Where there is a need for an operation, it will be important that there is active participation from ADIs.

As with our regular open market operations, it will not be the Bank's aim to simply supply overnight funds to those individual institutions that are short, or absorb overnight funds from those that are long cash. That is what the interbank cash market is for. As I mentioned a minute ago, the Reserve Bank's operations are designed to put the appropriate amount of

settlement funds in the system as a whole so that, in managing their individual ES accounts, ADIs will transact with each other at the cash rate target.

I'll now turn to the Basel III liquidity reforms, which will be introduced in Australia from January 2015. As is well known, those ADIs to which APRA applies the Basel III liquidity standard will be required to hold enough high-quality liquid assets (HQLA) to withstand a 30-day period of stress. As is equally well known, with only Commonwealth Government Securities (CGS) and semi-government securities (semis) meeting the Basel criteria for HQLA in the domestic securities market, there will not be enough securities to enable ADIs to meet this liquidity standard.

At the present time, ADIs own around $130 billion of these securities. A rough estimate would be that this is as much as $300 billion short of where they would need to be to meet the Basel standard, given their current balance sheet structures. Mostly, the ADIs' holdings are in semis. These holdings of semis have increased almost tenfold since 2007, and now are around 40 per cent of the semi-government market.

Our assessment is that ADIs' aggregate holdings of HQLA are broadly appropriate to the current size of the market. This assessment was contained in a media release put out by APRA last week.[5] Should the supply of these securities increase further, as is currently projected, we would expect that ADIs would raise their holdings in line with the increased supply. That said, it is not possible or desirable to be too precise about what is appropriate. The aim is to ensure that the markets for government securities continue to function well. We don't want to find out the hard way that ADIs are holding too large a share of the market.

Compelling ADIs to hold the entire supply of government debt would be counterproductive for the liquidity of these markets. It would defeat the purpose of the liquidity standards which is for banks to hold *liquid* assets. Notwithstanding that fundamental issue, it would be difficult to actually engineer such an outcome. At some point, the scarcity of available securities would cause their yields to fall to a particularly low level. To some extent this is already the case with CGS, which generally trade in Australia at an expensive price compared to sovereign debt in other jurisdictions.[6] If it was the case that the yields on both CGS and semis fell to a particularly low level, this would raise the demand for ES balances, given these balances are also HQLA. While the rate paid on "surplus" ES balances – 25 basis points below the cash rate – generally means that ADIs don't hold them as a store of liquidity, in the absence of sufficiently attractive alternatives, ADIs would inevitably use them to comply with the liquidity standard.

Higher demand for ES balances need not be a problem in itself. However, it is important that it does not interfere with the Reserve Bank's ability to implement monetary policy. Within the Bank's framework, it would be quite problematic if the demand for ES balances varied to allow ADIs to comply with a liquidity standard, rather than with changes in their actual cash position.

For this reason, in November 2010, the Reserve Bank Board approved the introduction of a committed liquidity facility (CLF) that is consistent with the arrangements for such facilities set out within the Basel standards. The facility was announced publicly the following month.[7] The technical details of the CLF were worked out during 2011 in consultation with APRA and

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[5] APRA (Australian Prudential Regulation Authority) (2013), "Implementation of the Basel III liquidity framework in Australia", Media Release No 13.25, 8 August. Available at <http://www.apra.gov.au/MediaReleases/Pages/13_25.aspx>.

[6] RBA (2012), "Box E: Yields on Sovereign Debt", *Statement on Monetary Policy*, May, pp 59–60.

[7] RBA (2011), "The RBA Committed Liquidity Facility", Media Release No 2011–25, 16 November. And Debelle G (2011), "The Committed Liquidity Facility", Speech to the APRA Basel III Implementation Workshop 2011, Sydney, 23 November.

were announced publicly at the end of that year.[8] There was then a public consultation process following APRA's announcement of the new liquidity arrangements that ran for three months.

Put simply, for the payment of a fee, the CLF will commit the Reserve Bank to purchase eligible securities from ADIs under repurchase agreements. As the range of securities eligible to be sold to the Reserve Bank is considerably broader than just CGS and semis, it addresses the problem of there being insufficient securities for ADIs to hold that meet the Basel III standards. Subject to APRA's approval, an ADI will be able to use the Reserve Bank's commitment under the CLF to bridge the gap between its holdings of CGS and semis and the amount of HQLA required to meet the standard.

When it comes into operation in January 2015, the CLF will work in exactly the same way as the Bank's existing liquidity facility. Indeed, the CLF is simply a means by which the Reserve Bank will make a contractual commitment to an ADI to provide funding under its liquidity facility. As is the case in commercial lending contracts more generally, the Bank's commitment under the CLF will be contingent on appropriate conditions being met, namely an assessment that the ADI continues to have positive net worth.

As I have said, the CLF simply guarantees access to the Bank's existing liquidity facility, and ES account holders use this facility every day. At the present time, it is used almost exclusively for intraday funding; after November this year when DE payments are settled for same-day value, it will be used for open repos as well.

From 2015, ADIs subject to the Basel III liquidity standards will only be able to use CGS and semis in the Bank's liquidity facility, unless they have paid the 15 basis points commitment fee for the CLF. In this way, any ES balances acquired from the Bank's liquidity facility will always represent the exchange of one liquid asset for another and cannot improve an ADI's compliance with the liquidity standard.

The consequence of this is that small "drawings" on the CLF will be a routine event as part of normal operations to manage payment flows. Provided the funds are repaid same-day or, in the case of open repos, are retained in the ADI's ES account, there need be no cost to using the facility in this way.

However, should the funds be used for any other purpose such that the balance on the account is below where it should be, the penalty will be 25 basis points above the cash rate target. Such a use of the CLF is likely to occur in more stressed circumstances. As I mentioned earlier, 25 basis points has long been the penalty rate attached to the Bank's liquidity facility and it is designed to discourage ADIs from relying upon the facility for funding purposes during normal times.

In a stress scenario, of course, this penalty rate of 25 basis points may not appear so onerous. That is by design. In such circumstances, it is appropriate that the central bank provides liquidity support against suitable collateral. This principle of central banking dates back at least to Bagehot: lend against good collateral at a penalty rate but not a penal rate.

The experience here in Australia over many years is that this penalty of 25 basis points has been sufficient to ensure that there has not been excessive use of the central bank's liquidity facility. The usage of this facility is published on the website with a small lag and recorded in the Bank's Annual Reports in the chapter on Operations in Financial Markets. Even in the stressed environment of 2008 and 2009, the facility was only drawn on a couple of times for small amounts, and for no longer than one day, to deal with unexpected payment flows.

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[8] Technical details of the CLF and its relationship to the Reserve Bank's existing liquidity facility can be found on the Bank's website.

To put the rationale for the CLF another way, the purpose of holding liquid assets is to sell them during periods of stress. In the Australian context, this will mean using funds raised via the CLF. This need not be the "last resort"; that is, after all other avenues have been exhausted. The point of liquidity regulations is to avoid fire sales of non-liquid assets and other actions that might have adverse effects on broader financial stability.

Again, that a central bank should be prepared to play this role is nothing new. In this sense, the fee of 15 basis points that the Reserve Bank will apply to any commitments made under the CLF can be seen as a means of explicitly charging the large ADIs an appropriate price for a liquidity option they have always implicitly held.

In thinking about the appropriateness of such a fee, it is important to remember that under the CLF, the Reserve Bank will only provide funding against the market value of an eligible security at the time the facility is accessed, not the market value at the time any commitment is established. Furthermore, the Bank will haircut the security's market value by as much as 25 per cent, depending on the type of security involved. So, taking account of the haircut, the effective cost of obtaining this liquidity can be considerably higher than the 25 basis point penalty combined with the annual 15 basis point commitment fee.

Consequently, the CLF is only (and not completely) insuring an ADI against the liquidity risk on its securities. The credit and market risks attached to any securities remain with the ADI. As is the case with all repos contracted by the Reserve Bank, should the market value of a security decline, the Bank will require additional securities to be delivered to restore the original value of the repo. Similarly, should the credit quality of a security held by the Bank fall below a certain threshold, the ADI will be required to replace the security with one that meets the eligibility criteria.

Deriving the precise value of such a liquidity option is not straightforward. Certainly, as acknowledged in the Basel standards, it is not appropriate to simply look at the yield differential between government bonds and other securities eligible for the CLF. That spread will largely reflect compensation for credit and other non-liquidity risks, as well as that part of the liquidity risk which the Bank is not insuring – the Bank's haircut. The Bank is only interested in charging for the liquidity component. The credit spread should be retained by the party bearing the ongoing credit risk, the ADI in this case. For example, if we look at the spread between a three-month bank bill and the expected cash rate, it is around 18 basis points currently. Before 2007, it was in the single digits. Much of this spread is credit risk which implies the liquidity component is small. While this spread rose considerably during the crisis and some of this reflected an increase in the liquidity premium, much of the increase was a result of heightened credit concerns, evidenced by the rise in CDS premia at the same time.

Theoretically, some indication of the cost of hedging liquidity risk can be extracted from term repo rates on eligible securities. By way of illustration, since adopting its current haircut schedule for repos, the Reserve Bank has, through its open market operations, contracted one-month repos at an average premium of about 4 basis points above cash, while for a six-month repo the average premium is about 8 basis points over the expected cash rate.[9] The CLF is effectively an option with a strike price set 25 basis points above the cash rate. Of course, during periods of stress, the cost of liquidity can rise significantly and it is the potential for this to occur that would give the option some value.

Separate to any market-derived estimates, an equally important consideration in pricing the CLF was to maintain consistency with the rest of the Reserve Bank's operating framework and not compromise the Bank's ability to implement monetary policy. As I suggested earlier, it is likely that at least initially, the Bank will be making commitments under the CLF of around

[9] "Cash" in this context means rates on overnight indexed swaps, which are referenced against the cash rate. This information can be obtained from the RBA website, where information on our daily operations in the cash market is published.

$300 billion; we will have a more precise indication of that figure after APRA completes the trial liquidity budgeting exercise that is currently underway.

Instead of introducing a CLF and committing to fund assets, the Bank could have opted to purchase the assets *ex ante*, expanding the supply of ES balances, and the Bank's balance sheet, by $300 billion. That is, the liquidity provision could be provided for the whole system *ex ante*, rather than provided to an individual institution when required.

Effectively, the CLF requires ADIs to pre-position the securities but retain them on their own balance sheet. The alternative approach would see the Reserve Bank's balance sheet increase by more than three times over. Such an outcome would not only jeopardise the functioning of the cash market and hence the implementation of domestic monetary policy, but also impair the functioning of domestic securities markets.

Moreover, it would not be feasible for the Bank to conduct such large-scale asset purchases through its regular open-market operations. This would mean a large-scale purchase of domestic securities by the RBA, but there simply is not a large enough pool of such assets that the Reserve Bank is willing to hold on an outright basis. Hence, it would have meant a series of bilateral arrangements with ADIs along the lines of the open repo arrangements I discussed earlier, with self-securitised assets serving as the collateral. To implement monetary policy in such an environment, the price of accessing such an arrangement would have needed to be set so as not to create an incentive for ADIs to generate the required ES balances through other means. This is no different to the CLF.

The purpose of establishing the CLF was to ensure that ES balances could continue to play their existing role in the Bank's operations. This means that ADIs seeking to raise their liquid asset holdings should, at the margin, prefer to use additional CGS, semis and/or an increased subscription to the CLF for this purpose instead of ES balances. Our assessment is that a CLF fee of 15 basis points should allow this to be the case.

The pre-positioning of these securities, combined with the enhanced information requirements for asset-backed securities the Bank announced last year,[10] will allow the Bank to make a much more detailed credit assessment of the securities. Consequently, the Bank will be able to more precisely assess the value of these securities at any point in time and will be able to reduce its use of ratings agencies.

To conclude, over the next 18 months, there will be some significant developments in the Reserve Bank's balance sheet, resulting from some upcoming changes in the payments system and the commencement of the Committed Liquidity Facility. Both of these changes are being accommodated within the general framework for the implementation of monetary policy that has operated successfully in Australia for some considerable time. The payments system changes will see some increase in the size of the Reserve Bank's balance sheet, but no material change in either the risk or income derived from that balance sheet. The design of the CLF is very much in keeping with the Reserve Bank's (and other central bank's) provision of liquidity to the financial system. It should not result in any material change in the size of the Bank's balance sheet and has been structured to avoid a significant increase in the balance sheet that would have risked the effective functioning of domestic markets.

[10] RBA (2012), "New Eligibility Criteria for Residential Mortgage Backed Securities", Media Release No 2012–31, 22 October.