

# Financial Regulation and Australian Dollar Liquid Assets

Alexandra Heath and Mark Manning\*

Liquid assets with low credit and market risk have a number of uses in financial markets, such as providing collateral against short-term funding or credit exposures that arise between counterparties to financial transactions. This article examines the existing sources of demand for Australian dollar-denominated liquid assets. Given relatively low levels of government debt in Australia, demand for these assets has been increasing relative to supply for some time. A further increase in demand arising from regulatory changes designed to improve the management of liquidity risk and counterparty credit risk will accentuate this trend.

## Introduction

Liquid assets play an important role in the financial system. They are generally defined as financial assets, such as cash and government securities, that can be readily used to fund payments, even in stressed market conditions. These assets are central to liquidity and credit risk management in financial markets. They are commonly used as collateral to obtain short-term funding and manage counterparty credit risks in derivatives transactions. Liquid assets, particularly those that also have low credit and market risk, are also an important asset class for a range of institutional investors, such as official sector managers of foreign exchange reserves.

A number of regulatory reforms designed to increase the stability of the financial sector in the wake of the global financial crisis are set to increase demand for liquid assets, both globally and locally. In particular, the Basel Committee on Banking Supervision (BCBS) is introducing the Liquidity Coverage Ratio (LCR), which will require banks to

have sufficient *high-quality* liquid assets (HQLA) to meet the outflows associated with a 30-day stress scenario. This is a much more demanding metric than is currently applied in most jurisdictions. Regulatory changes designed to improve credit risk management in over-the-counter (OTC) derivatives markets are also likely to add to the demand for liquid assets.

In Australia, the supply of HQLA, such as Commonwealth Government securities (CGS), is low relative to the size of the financial sector, reflecting consistent budget surpluses over a number of years prior to the global financial crisis. Although the supply of government bonds has increased since 2007, it remains very low by international standards and relative to the needs of the financial system.

This article first discusses the existing and prospective demand for Australian dollar-denominated HQLA, and then considers the supply of assets that is available to meet these various needs. The article goes on to discuss the options available to private market participants and policymakers, respectively, to alleviate any possible adverse implications for the smooth operation of financial markets.

\* This work was started while Alexandra Heath was in the Domestic Markets Department. Mark Manning is in the Payments Policy Department. We would like to thank Matthew Boge, Guy Debelle, David Jacobs, Greg Moran and many other colleagues for comments on this paper. We would also like to thank Shaun Collard, Sara Ma and Paul Ryan for assistance with the data.

## The Demand for A\$ Liquid Assets

Banks and other financial institutions require liquid assets to support their activities. Banks, in particular, need to hold assets that can be exchanged for cash at short notice to manage their day-to-day needs. Banks need liquid assets to help them manage the risks inherent in using short-term liabilities to fund longer-term assets, such as loans. Financial institutions active in derivatives markets also typically need to hold an inventory of liquid assets for use as collateral to fund their trading and hedging activities. To fulfil these roles, there needs to be reasonable certainty about the value of these assets.

At the beginning of 2007, before the global financial crisis, liquid assets accounted for around 6 per cent of Australian banks' total domestic assets (Table 1). A large share of liquid assets was in the form of unsecured securities issued by other banks: holdings of short-term paper, such as bank bills and certificates of deposit (CDs) accounted for 56 per cent of liquid assets, and a further 10 per cent was held in long-term bank paper. In normal market conditions, prime bank bills and CDs can be sold readily with very little impact on the prevailing price and are about as liquid as government bonds.<sup>1</sup> The importance of unsecured bank paper as a source of liquidity was highlighted as the financial crisis emerged in the second half of 2007. Issuance of these securities increased significantly, with most taken up by other banks to increase their capacity to access liquidity from the RBA (Boge and Wilson 2011).

In contrast, only around 6 per cent of liquid assets were either CGS or semi-government debt. Some of these securities would have been held under a repurchase agreement (repo). In this context, a repo transaction is very similar to an outright transaction because the cash receiver transfers the title of the security to the cash provider for the term of the repo, and is entitled to re-use the security in other

transactions.<sup>2</sup> In Australia, the repo market plays an important role in helping banks and other financial institutions to accommodate large and variable cash flows, while managing any associated credit risks (Wakeling and Wilson 2010). Most repo market activity in Australia makes use of government securities rather than private securities. In aggregate, banks are usually small net purchasers of securities under repo, as they fund the trading operations of non-bank securities dealers and borrow securities from nominees and pension funds.

Institutional investors, such as official reserve managers, sovereign stabilisation funds and pension funds, demand liquid assets to fulfil mandates that emphasise capital preservation and the capacity to meet periodic cash flows. Official reserve managers, for instance, tend to hold a significant share of their reserves in safe, liquid assets in foreign currencies that enable them to conduct intervention as needed, while many sovereign stabilisation funds also focus on safety and capital preservation. Insurance companies and pension funds, on the other hand, have long-term liabilities and aim to match these by investing in long-term, but liquid, assets, such as long-dated government bonds. The International Monetary Fund (IMF) estimates that almost half of the government bonds on issue globally are held by these institutional investors (IMF 2012).

Demand for Australian dollar-denominated liquid assets from non-resident investors, such as official reserve managers, has increased fivefold since 2000. This is partly due to an increase in these investors' funds under management, and partly due to increasing diversification of their portfolios across a range of AAA rated sovereign securities (IMF 2012). As a result, the share of these assets held by non-resident investors has doubled since 2000 to around 60 per cent (Graph 1). More than three-quarters of the stock of CGS are held by non-resident investors. Given the nature of this demand, these assets are often passively managed,

1 The Australian Financial Markets Association (AFMA) is responsible for determining the set of prime banks, which must have low credit risk and contribute significantly to the liquidity of the market. Currently there are only four prime banks: ANZ, Commonwealth Bank, National Australia Bank and Westpac. For more details, see RBA (2012a).

2 This is different to re-hypothecation, which occurs when banks and brokers re-use securities that have been pledged by their clients as collateral for their own transactions.

**Table 1: Australian Banks' Assets**  
Domestic books

	March 2007		March 2009		March 2012	
	\$ billion	Share <sup>(a)</sup>	\$ billion	Share <sup>(a)</sup>	\$ billion	Share <sup>(a)</sup>
<b>Liquid assets<sup>(b)</sup></b>	<b>98</b>	<b>6</b>	<b>199</b>	<b>8</b>	<b>270</b>	<b>10</b>
– CGS and semis <sup>(c)</sup>	6	6	29	15	82	30
– Short-term bank paper	54	56	94	47	59	22
– Long-term bank paper	9	10	42	21	79	29
– Other <sup>(d)</sup>	28	29	33	17	50	18
<b>Total bank assets</b>	<b>1 640</b>		<b>2 411</b>		<b>2 636</b>	

(a) Share of total A\$ assets (per cent), subcomponents are the share of liquid assets

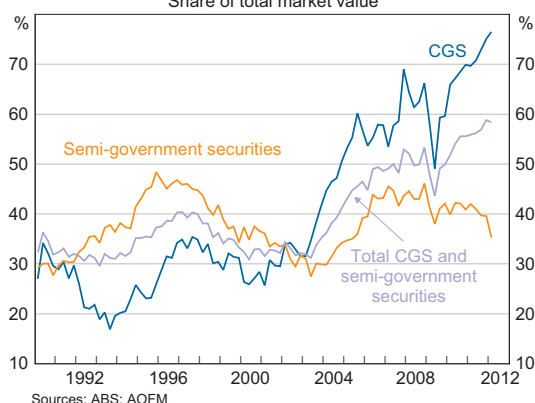
(b) While deposits with other banks are a store of liquidity, they do not contribute to the stock of liquidity held by the banking system as a whole, since the recipient banks will, in turn, need to hold additional liquidity against these deposits; consequently, they are excluded from this table

(c) Semi-government securities are issued on behalf of state and territory governments

(d) Includes notes and coins, A\$ debt issued by non-residents and securitised assets (excluding self-securitised assets)

Sources: ABS; APRA; RBA

**Graph 1**  
**Foreign Ownership of Australian Government Debt**  
Share of total market value



that is, held to maturity. This reduces the 'free float' available to satisfy the demands of other participants in the Australian financial market.

As part of the extensive regulatory reform agenda in response to the global financial crisis, changes are set to take place that will have significant implications for the demand for HQLA across the financial system.

### Basel III liquidity standards

During the global financial crisis, many assets that had been liquid in normal market conditions performed very poorly when volatility in financial

prices increased. In particular, many highly rated assets experienced sharp price falls and/or became illiquid (IMF 2012). This experience led the BCBS to fundamentally reappraise its regulatory rules around the management of liquidity risk (BCBS 2010a) and the capitalisation of trading book assets (BCBS 2012). Most notably, as part of the Basel III rules, the BCBS has established new minimum standards for the size and composition of banks' liquid assets. In particular, from the beginning of 2015 the LCR will require banks to have a sufficient quantum of the highest-quality liquid assets, a subset of the liquid assets considered in Table 1, to meet the outflows associated with a 30-day stress scenario. This is a significantly more stringent test than the five-day stress scenario that is currently being used in Australia, and is consistent with proposed changes to liquidity standards under consideration by APRA before the global financial crisis.<sup>3</sup> Under the LCR, HQLA are defined as assets that are unencumbered, easily and immediately convertible into cash with little or no loss of value *under stressed market conditions* and, ideally, are eligible for repurchase transactions with the central

<sup>3</sup> APRA will impose the LCR requirements on all authorised deposit-taking institutions (ADIs), with the exception of those currently under the Minimum Liquidity Holdings regime. The latter are typically small ADIs with retail-based businesses. These institutions will continue to have a simple quantitative liquidity ratio requirement.

bank. In Australia, APRA has defined the highest-quality liquid assets as cash, central bank reserves, CGS and semi-government securities.<sup>4</sup> The BCBS has explicitly excluded short-term unsecured obligations of financial institutions, such as bank bills and CDs, from counting towards the LCR.

Changes to Australian banks' balance-sheet management practices are already apparent in the share and composition of their liquid asset holdings (Table 1). These have been driven partly by heightened market discipline since the onset of the global financial crisis, and partly by the need to prepare for the introduction of Basel III. The share of liquid assets has increased steadily since 2007 and was 10 per cent at the beginning of 2012. The share of government securities increased to 30 per cent of liquid assets, while the share of other banks' short-term paper more than halved. At the same time, holdings of other banks' long-term bonds also increased to almost 30 per cent, in part reflecting banks' adjustment to other Basel III reforms that will limit the maturity mismatch between banks' assets and liabilities.

Despite this, APRA estimates that banks would have needed around \$300 billion more HQLA at the end of 2011 to cover the outflows estimated for the 30-day stress scenario under the LCR framework as articulated by the BCBS (2010a).<sup>5</sup> The BCBS has estimated that the global shortfall of HQLA for banks that do not meet the LCR is at least €2 trillion (BCBS 2010b; IMF 2012). Banks could reduce these shortfalls to some extent between now and 2015 by adjusting their business models to lower the net outflows that need to be covered in the stress scenario (the denominator of the LCR). Furthermore, the LCR is subject to an observation period and therefore the specific parameters used to set requirements could

potentially be refined. Nevertheless, the magnitude of the estimated shortfall suggests that there will be a significant further increase in demand for HQLA.

## Regulation of OTC derivatives

The global financial crisis revealed that some OTC derivatives markets, such as the credit default swap market, were a significant source of uncertainty and risk. In many cases, the size of exposures was not transparent to counterparties or regulators, and prevailing risk-management arrangements were not adequate to control the build-up of counterparty credit exposures or to prevent the transmission of distress between financial institutions. These observations have led to a number of regulatory initiatives.

Most notably, at the Pittsburgh Summit in September 2009, the leaders of the G-20 committed to central clearing for all standardised OTC derivatives by the end of 2012 and to higher capital requirements for non-centrally cleared derivatives.<sup>6</sup> Since some OTC derivatives are not well suited to central clearing, the G-20 subsequently endorsed the development of international standards for bilateral margin requirements on non-centrally cleared derivatives, to improve counterparty risk management in those markets and ensure that there are no disincentives to central clearing (BCBS-IOSCO 2012).

While variation margin is already typically exchanged in cash under existing bilateral arrangements between financial institutions, the expansion of both central clearing and initial margining of non-centrally cleared transactions will increase the demand for assets that can be used to cover initial margin requirements. The collateral eligibility criteria for many central and bilateral counterparties

4 Currently, APRA has determined that there are no assets that qualify as so-called HQLA2, which is a category of assets that are likely to be slightly less liquid in stressed market conditions. In other jurisdictions, the types of financial assets that might qualify for this category include covered bonds and corporate bonds.

5 This calculation is on a consolidated banking group basis, whereas Table 1 presents data for banks' domestic books only.

6 In many jurisdictions, including Australia, legislative frameworks are being established that will allow for the implementation of mandatory central clearing requirements for certain classes of derivatives and counterparties. In Australia, however, the Council of Financial Regulators has concluded that in the first instance, industry-led solutions and economic incentives should be the preferred route to increased central clearing; mandatory requirements will only be imposed if desired outcomes are not reached within an acceptable time frame (Council of Financial Regulators 2012).

are broader than HQLA. However, assets with low credit and liquidity risk are often preferred so that, in the event of a default, the holder of collateral can manage any cash flow requirements that it may have until its exposure can be extinguished. Indeed, in practice, in many markets initial margin calls are predominantly settled in cash. As a result, demand for HQLA may be expected to increase further.

To illustrate the broad magnitude of the increase in demand for collateral in Australia from this source, we consider potential margin requirements on the two largest classes of OTC derivatives currently held on Australian banks' books. These are single-currency interest rate swaps and foreign exchange swaps and forwards (including cross-currency swaps). The notional value of these derivatives held by Australian banks was \$8.5 trillion and \$4.3 trillion, respectively, in March 2012 (Table 2).

It is likely that, as a result of either regulatory requirements or commercial incentives, single-currency interest rate swaps will largely move to central clearing because the capacity to do so is well established. However, the increase in demand for

collateral to meet margin obligations arising from these transactions is likely to be relatively limited for two reasons. First, margins are based on the central counterparty's multilateral net exposures to individual participants. Second, the prices of these assets are relatively stable. Hence, initial margins posted against single-currency interest rate swaps may be in the order of just 0.02 per cent of notional amounts outstanding (LCH.Clearnet 2011).

In contrast, the increase in demand for collateral to meet initial margin requirements associated with Australian banks' positions in foreign exchange derivatives is likely to be substantial. These positions will, at least in the short term, remain bilaterally cleared since no central counterparty yet offers a central clearing service for most classes of these derivatives.<sup>7</sup> Estimates of the potential increase in demand for Australian dollar-denominated HQLA from posting initial margin on foreign exchange derivatives are sensitive to the margin rate, the share of Australian banks' notional outstanding positions involving the Australian dollar, and the degree to which gross notional outstanding positions can be reduced through bilateral netting. Margin rates could be as high as 6 per cent,<sup>8</sup> but approved internal models that are expected to be widely used in practice are likely to produce lower rates, possibly closer to 3 per cent. Assuming that around 50 per cent of the gross outstanding value of foreign exchange derivatives involves the Australian dollar and that net exposures are around 50 per cent of gross outstanding exposures (which is plausible given the available data), the potential collateral needed to meet initial margin requirements could be around \$35 billion.

**Table 2: Australian Banks' Derivative Positions<sup>(a)</sup>**

Notional amounts outstanding,<sup>(b)</sup>  
A\$ trillion, March 2012

OTC interest rate contracts	
– Forwards	1.0
– Swaps	8.5
– Other <sup>(c)</sup>	2.2
OTC foreign exchange contracts	
– Forwards	2.2
– Swaps	2.2
– Other <sup>(c)</sup>	0.3
Credit derivatives <sup>(c)</sup>	0.2
Other <sup>(c)</sup>	0.3

(a) Includes Australian-owned banks and Australian branches and subsidiaries of foreign banks

(b) Notional amounts outstanding include bilateral positions between Australian banks; there is therefore some double counting

(c) Includes some exchange-traded derivatives  
Source: APRA

7 In those jurisdictions in which mandatory central clearing obligations are being introduced, current indications are that most classes of foreign exchange derivatives are (or are likely to be) exempt. This, at least in part, reflects difficulties in integrating a central counterparty with the existing settlement infrastructure for foreign exchange swaps and forward contracts. See Manning, Heath and Whitelaw (2010).

8 BCBS-IOSCO (2012) proposes that entities apply a margin rate on non-centrally cleared foreign exchange derivatives exposures of 6 per cent where approved internal models are not used.

## The Supply of A\$ High-quality Liquid Assets

The discussion above highlights that institutions in the Australian financial system demand HQLA for a variety of purposes and that there will be a significant increase in demand for such assets. For a given currency, the assets that tend to be most liquid in conditions of financial stress, after cash and cash-like assets, are domestic government securities. This arises because the public sector is generally more likely than private sector participants to maintain its creditworthiness due to its unique ability to tax the population and/or expand the money supply. Hence the markets for government securities are most likely to continue to function without significant loss of value. Indeed, it is common for the price of government securities to increase relative to other financial asset prices in these conditions because of their ability to maintain their value.

At present there is around \$240 billion outstanding in CGS, representing around 17 per cent of GDP and around 9 per cent of bank assets (Graph 2). The semi-government bond market is similar in size.

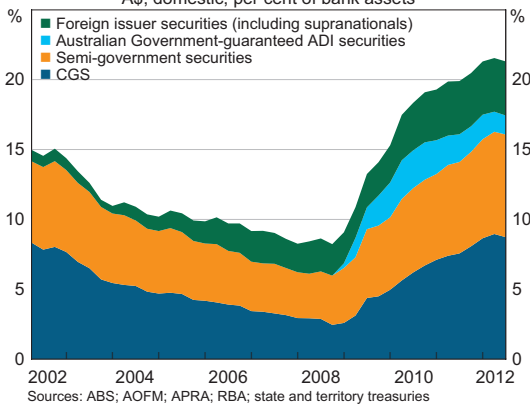
The level of CGS outstanding fell to as low as 4 per cent of GDP in 2008, primarily as a result of successive fiscal surpluses and a policy of maintaining the stock of nominal bonds at around \$50 billion, which in 2003 was judged to be consistent with a liquid

CGS market. In combination with the increase in demand from offshore investors, these trends led to a significant fall in the stock of CGS available for other uses such as collateral and to meet regulatory requirements.

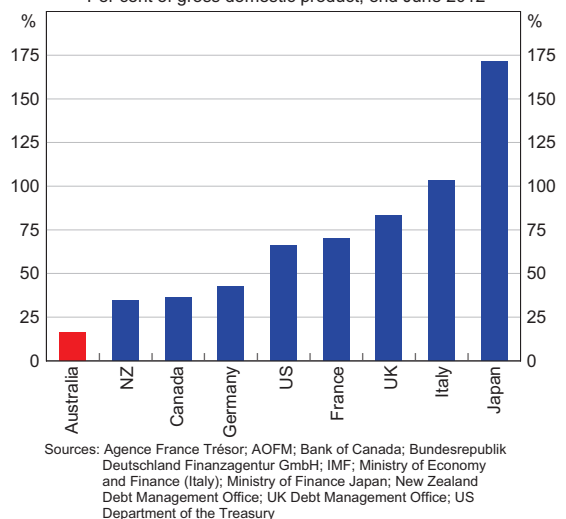
In response, the Australian Government announced that it would expand the amount outstanding of CGS to \$75 billion in May 2008. The fiscal response to the global financial crisis subsequently led to an increase in the stock of CGS to around 17 per cent of GDP at present. While this is projected to decline in coming years, the government has committed to issuing sufficient CGS to maintain a liquid market, which has been assessed to be in a range of between 12 and 14 per cent of GDP (Australian Government 2011).

Notwithstanding a noticeable improvement in the functioning of the CGS market as a result of the increase in issuance, the size of CGS outstanding remains very low relative to GDP, or any other nominal benchmark, by international standards (Graph 3). The relative scarcity of CGS is also reflected in the yields on Australian Government bonds, which are very low by international standards, after adjusting for the general level of the interest rate structure (RBA 2012b).

**Graph 2**  
Government-related Debt Securities  
A\$, domestic, per cent of bank assets



**Graph 3**  
Gross Central Government Debt Outstanding  
Per cent of gross domestic product, end June 2012



## Responses to a Shortage of Liquid Assets

Demand for Australian dollar-denominated HQLA is likely to increase much faster than the projected increase in the supply of CGS and semi-government securities. Furthermore, evidence from the United States suggests that the velocity of collateral, measured by the number of times a given security is re-used or re-hypothecated, has been falling, partly due to regulation as well as increased demand from clients for collateral assets to be protected (Singh 2011).<sup>9</sup> This will exacerbate any pressures in the market for collateral. There have been a number of responses, both internationally and domestically, and in both the public and private sectors, to alleviate these pressures.

### The private sector response

Internationally, the prospect of increasing and competing demands on a limited pool of HQLA has raised concerns in the private sector regarding the costs of meeting liquidity and collateral requirements.<sup>10</sup> In practice, the private sector has at least four ways of responding to these developments:

- Third-party collateral management services that allow market participants to *increase the efficiency of collateral usage* are well established, but are likely to become more heavily utilised. In the Australian context, for example, commercial bank providers of such services are already active and the ASX Group is working with Clearstream Banking Luxembourg to develop a centralised collateral management service linked to the domestic financial market infrastructure.
- Internationally, there has been an increase in demand for so-called *collateral transformation*, or *collateral upgrade services*, whereby one party exchanges low-quality or illiquid assets with

another for high-quality assets that meet some collateral eligibility criteria. Some concerns have been raised about the risks that might arise for the lender of the high-quality assets under such exchanges (Bank of England 2012). It has, however, also been acknowledged that this activity may have a role to play, as long as associated risks are understood and appropriately managed (FSA 2012).

- Central and bilateral counterparties are, where appropriate, increasingly likely to accept a *broader set of collateral assets* than HQLA to satisfy initial margin obligations. Some central counterparties already accept a relatively wide range of collateral assets. The CPSS-IOSCO Principles for Financial Market Infrastructures (CPSS-IOSCO 2012) suggest that central counterparties should prefer collateral 'with low credit, liquidity and market risks'. It is acknowledged, however, that other assets may be 'acceptable collateral for credit purposes if an appropriate haircut is applied'. Similarly, in relation to collateral exchanged for non-centrally cleared transactions, BCBS-IOSCO (2012) emphasises that 'to the extent that collateral is exposed to credit, market, liquidity and FX risks ... appropriately risk-sensitive haircuts should be applied'.
- With demand for HQLA increasing more rapidly than supply, the inevitable adjustment in yields will trigger some *portfolio reallocation*. Where they have discretion in their investment decisions, and the appetite to assume some credit, liquidity or market risk, some investors would be expected to substitute into higher yielding assets.

Ultimately, these responses will drive the system to a new equilibrium. Indeed, were it not for segmentation in markets, and restrictive mandates or regulatory requirements that constrain some market participants in their investment decisions, prices might be expected to have adjusted already in anticipation of these developments. To the extent that adjustments may in practice take some time,

<sup>9</sup> Having observed some institutions' difficulties in reclaiming posted collateral during the global financial crisis, policymakers in many jurisdictions are likely to implement regulatory reforms that reinforce the trend towards a lower collateral velocity.

<sup>10</sup> See, for example, Cameron (2012, pp 17–20) and *The Economist* (2012, p 78).

and potentially be disruptive, central bank policy is likely to play an important role in reducing the costs of transition.

Central bank policy will also be a key factor in shaping the eventual new equilibrium. For instance, collateral eligibility criteria in the private sector will typically reflect the assets that the central bank is willing to accept in its operations, and the access that different participants in financial markets have to central bank money. For example, the willingness of central counterparties to accept a broader range of collateral may be affected by the nature of their access to the central bank. More generally, the way that central banks respond to a collateral shortage in pursuit of their own policy objectives will influence the effectiveness of any independent measures taken by the private sector.

### The central bank response

Heightened demand for liquid assets, and in particular HQLA, could affect central banks' operations and policy objectives in a number of ways. First, for many central banks, including the RBA, repurchase agreements play a central role in open market operations. The availability of eligible collateral can therefore influence the effectiveness of monetary policy operations. It can also have implications for the smooth functioning of high-value payment systems, which generally rely on the provision of intraday liquidity against eligible collateral to facilitate real-time gross settlement.

Second, to the extent that increasing demand for eligible collateral assets drives up the price of those assets, banks' costs of funding and the costs of trading would be expected to rise. This could, in turn, lead to a decline in key financial activities, such as foreign exchange and interest rate hedging, which support many transactions in the broader economy.

Finally, and relatedly, financial stability risks could also arise if financial institutions were unable to access sufficient liquidity and were forced to meet any shortfall by selling illiquid assets at fire-sale prices.

In contrast to private sector financial institutions, a central bank can increase the supply of cash to its desired level by using its balance sheet. Given this unique capability, a central bank can provide a vehicle to transform a range of financial system collateral into cash. One way this can be done is by expanding the set of securities that are eligible for standard central bank repo operations.<sup>11</sup> The RBA has done this on a number of occasions over the past decade, both in response to the structural decline in the availability of CGS before the global financial crisis and in response to the increase in demand for central bank liquidity as market conditions became distressed during the crisis.<sup>12</sup> During this period, the RBA took a number of steps, including expanding the list of eligible securities to include residential mortgage-backed securities (RMBS) issued by the collateral provider (so-called 'self-securitised' securities) as a way of increasing liquidity without increasing systemic risks that arise from financial institutions holding securities issued by other financial institutions.<sup>13</sup> This episode highlights the importance of the central bank as a source of liquidity in times of stressed financial markets. The RBA has sought to accommodate any differentiation in credit or liquidity risk between collateral assets by applying appropriate haircuts, which are reviewed and adjusted as necessary on a regular basis.

The RBA has taken a similar stance in responding to the structural shortage of HQLA to meet ADIs' requirements under the LCR. In particular, ADIs may be able to establish a committed liquidity facility (CLF) from the RBA to help meet these requirements (APRA 2011), which in many ways is merely a formal extension of the RBA's existing arrangements. Under

11 The central bank's balance sheet can also be expanded by outright asset purchases.

12 The current list of eligible securities is available at <<http://www.rba.gov.au/mkt-operations/resources/tech-notes/eligible-securities.html>>.

13 To require that there were no related-party features on eligible securities would have implied a degree of cross-holdings in the banking system such that other systemic risk issues would have come to the fore. Indeed, the systemic risks associated with large cross-holdings might have been expected to crystallise precisely when institutions needed to use these securities to access RBA liquidity.



the CLF, participating ADIs will be permitted (at a price) to access a pre-specified amount of liquidity (determined by APRA) by entering into repurchase agreements outside the RBA's normal market operations. All the securities that are eligible for the RBA's normal market operations will also be eligible for the CLF. In addition, the RBA will allow ADIs to present certain related-party assets, including self-securitised RMBS and asset-backed securities.

In establishing the CLF, the RBA has effectively committed to perform collateral transformation, at a penalty rate, on assets that do not have the defining features of HQLA. The RBA will receive a fee of 15 basis points in return for this commitment (RBA 2011). This level has been set to capture the liquidity premium component of the yield differential between the assets eligible under the CLF and government securities (DeBelle 2011).<sup>14</sup> APRA's effective prudential supervision, including an explicit requirement that ADIs take all reasonable steps to reduce their need for the CLF, further ensures that ADIs face strong incentives to manage their liquidity risk appropriately.

The way in which the structural shortage of HQLA and the need to meet the Basel III prudential standards have been resolved in Australia highlights the importance of balancing regulatory goals against other policy objectives. In this case, the regulatory objectives of self-reliance and improving liquidity management in the banking sector need to be balanced against the objective of having liquid, and therefore more stable, financial markets for securities that are integral to the efficiency of the financial system.

The impending increase in demand for collateral-eligible assets arising from regulatory reforms in the market for OTC derivatives may require a similarly flexible response from the RBA – and indeed other central banks around the world. To the extent that

the additional demand cannot be satisfied by the combination of private sector responses described above, or at least not on a sufficiently timely basis, central banks may need to revisit their policies around central bank liquidity. Consistent with this, the RBA recently revised its access policy to require that systemically important central counterparties maintain Exchange Settlement Accounts (ESAs) at the RBA.<sup>15</sup> This recognises the increasingly important role of central banks in facilitating liquidity management for critical financial market infrastructure, particularly given the expansion in the use of centralised infrastructure to OTC markets.

## Conclusion

At the international level, there is concern that the increase in demand for HQLA, driven both by regulatory changes and market discipline in the aftermath of the global financial crisis, could lead to a substantial rise in the price of these assets. This could in turn increase the cost of key financial risk-management activities in both the financial sector and the wider real economy. While these changes are rightly intended to improve financial system stability, they could also have an important effect on financial system efficiency.

Australia confronted increasing demands on a limited pool of Australian dollar-denominated HQLA for many years before the global financial crisis. Relatively low levels of government debt were not sufficient to meet the day-to-day needs for liquid assets of financial institutions and the growing demand for these assets from offshore institutional investors. In response, the RBA increased the supply of assets that could be used to generate liquidity by broadening the range of eligible collateral that could be used in the RBA's daily open market operations. During the global financial crisis, the range of eligible collateral was expanded even further.

<sup>14</sup> The rationale for pricing the facility to capture the liquidity premium on eligible assets relative to government securities is that the RBA is seeking to replicate the economics of how the LCR would be met in the absence of a structural shortage of HQLA.

<sup>15</sup> In Australia, central counterparties are eligible to hold ESAs with the RBA and are therefore eligible to access liquidity against eligible collateral. Following a recent policy change, any licensed central counterparty deemed to be systemically important to Australia is now required to hold an ESA with the RBA (see RBA 2012c).

While there has been some increase in the stock of government securities over recent years, this will not be sufficient to cover additional demands coming from two sources. The first is the introduction of new liquidity standards that will come into force for ADIs in 2015. The second source of extra demand is for collateral to support derivatives market activity. In response, the RBA has committed to provide liquidity to ADIs against a very broad range of collateral in return for a fee, and has also revised its policy around access to central bank facilities. In many ways, this is a formal extension of existing liquidity-providing operations. ❖

## References

- APRA (Australian Prudential Regulation Authority) (2011)**, 'Implementing Basel III Liquidity Reforms in Australia', APRA Discussion Paper, 16 November.
- Australian Government (2011)**, *2011–12 Australian Government Budget – Budget Paper No. 1*, Commonwealth of Australia, Canberra, pp 7–17.
- Bank of England (2012)**, *Financial Stability Report*, June, p 40.
- BCBS (Basel Committee on Banking Supervision) (2010a)**, *Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring*, Bank for International Settlements, Basel, December.
- BCBS (2010b)**, *Results of the Comprehensive Quantitative Impact Study*, Bank for International Settlements, Basel, December.
- BCBS (2012)**, *Fundamental Review of the Trading Book*, Consultative Document, Bank for International Settlements, Basel, May.
- BCBS-IOSCO (Basel Committee on Banking Supervision and Board of the International Organization of Securities Commissions) (2012)**, *Margin Requirements for Non-Centrally-Cleared Derivatives*, Consultative Document, Bank for International Settlements, Basel, July.
- Boge M and I Wilson (2011)**, 'The Domestic Market for Short-term Debt Securities', *RBA Bulletin*, September, pp 39–48.
- Cameron M (2012)**, 'A Stay of Execution', *Risk Magazine*, April, pp 17–20.
- Council of Financial Regulators (2012)**, 'OTC Derivatives Market Reform Considerations: A Report by the Council of Financial Regulators', March.
- CPSS-IOSCO (Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions) (2012)**, *Principles for Financial Market Infrastructures*, Bank for International Settlements, Basel, and IOSCO, Madrid, April.
- Debelle G (2011)**, 'The Committed Liquidity Facility', Speech to the APRA Basel III Implementation Workshop 2011, Sydney, 23 November. Available at <<http://www.rba.gov.au/speeches/2011/sp-ag-231111.html>>.
- FSA (Financial Services Authority) (2012)**, 'Collateral Upgrade Transactions (Includes Liquidity Swaps)', Finalised Guidance FG12/06, February.
- IMF (International Monetary Fund) (2012)**, 'Safe Assets: Financial System Cornerstone?', *Global Financial Stability Report*, April, pp 81–122.
- LCH.Cleernet (2011)**, 'Central Clearing of OTC Derivatives in Australia'. Available at <<http://www.rba.gov.au/payments-system/clearing-settlement/submissions-received/central-clearing-otc/pdf/lch-annex.pdf>>.
- Manning M, A Heath and J Whitelaw (2010)**, 'The Foreign Exchange Market and Central Counterparties', *RBA Bulletin*, March, pp 49–57.
- RBA (2011)**, 'The RBA Committed Liquidity Facility', Media Release No 2011-25, 16 November.
- RBA (2012a)**, 'Box D: Interbank Reference Rates', *Statement on Monetary Policy*, August, pp 33–34.
- RBA (2012b)**, 'Box E: Yields on Sovereign Debt', *Statement on Monetary Policy*, May, pp 59–60.
- RBA (2012c)**, 'Payments System Issues: Exchange Settlement Account Policy for Central Counterparties', Media Release No 2012-17, 31 July.
- Singh M (2011)**, 'Velocity of Pledged Collateral: Analysis and Implications', IMF Working Paper No 11/256.
- The Economist (2012)**, 'Collateral Management: Security Services', 26 May, p 78.
- Wakeling D and I Wilson (2010)**, 'The Repo Market in Australia', *RBA Bulletin*, December, pp 27–35.