

Infrastructure Developments in the Market for Commonwealth Government Securities

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The market for Commonwealth Government securities (CGS) is a key financial market in Australia because, among other things, it provides a risk-free benchmark for the pricing of a wide range of fixed income securities. This article discusses aspects of the infrastructure that underpins the market, including: the issuance and ownership of securities; the registry and settlement of these securities; and efforts to promote improved access to the market for retail investors. Several infrastructure changes that have been implemented recently, or are soon to apply, are also discussed. These changes will result in some amendments to statistics published by the Reserve Bank on the CGS market.

Introduction

The Australian Office of Financial Management (AOFM) is responsible for the issue and management of CGS on behalf of the Australian Government. The Reserve Bank also provides some of the infrastructure underlying the market for CGS, although changes to the financial system in Australia over several decades have seen the private sector assume many of these roles.¹ Both the AOFM and the Reserve Bank have an interest in promoting a liquid and efficient bond market. The Reserve Bank has a particular interest in an efficient market arising from its monetary policy operations because government bonds are important securities for outright transactions and those executed under repurchase agreements.

Issuance of Commonwealth Government Securities

The Australian Government issues CGS in accordance with the *Commonwealth Inscribed Stock Act 1911*. Under the Act, the Treasurer borrows money on behalf of the Commonwealth by issuing Treasury

bonds, Treasury indexed bonds and Treasury notes. Treasury bonds and Treasury indexed bonds account for over 95 per cent of the outstanding stock of securities (Table 1). Currently, the AOFM conducts two tenders for the issue of Treasury bonds most weeks, with the amount of bonds offered usually in the range of \$0.6 billion to \$1 billion. There are one or two tenders for the issue of Treasury indexed bonds most months, for smaller amounts. The remainder of outstanding securities is made up of short-term Treasury notes that are mostly used to finance expenditures when there are mismatches between the timing of government receipts and outlays. The average maturity of the stock of government securities outstanding has been relatively steady in recent decades at around six years; the issuance profile ensures that an adequate supply of bonds with maturities out to 15 years or longer is maintained. In common with other highly rated sovereigns, the Australian Government only issues debt into the domestic market in local currency.

The move away from the 'tap' system of issuance toward auction-style issuance for short-term securities in 1979 and for longer-term securities in 1982 represented key financial reforms that imposed

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¹ For a history of institutional arrangements and deregulation of the financial system, see Macfarlane (1991) and RBA (1993).

Table 1: Commonwealth Government Securities
Face value, as at end June 2013

	Outstanding	
	\$ billion	Per cent of GDP
Total^(a)	257	17.2
– Treasury bonds	234	15.6
– Treasury indexed bonds	18	1.2
– Treasury notes	6	0.4

(a) Includes \$19 million in legacy liabilities such as tax-free stock, securities payable in foreign currencies and overdues
Sources: ABS; AOFM

a more disciplined approach on debt management and helped to separate it from the implementation of monetary policy.² Under current arrangements, CGS are usually issued via competitive tender, where investors are allocated stock according to their bids. Prior to 2006, the Reserve Bank conducted tenders on behalf of the government (and retains the capability to do so as a contingency). From October 2006, the AOFM assumed direct responsibility for issuance. Tenders are conducted using the AOFM Tender System, which is now accessed via Yieldbroker DEBTS.³ Registered bidders make up the primary market for CGS and there is no requirement for these parties to provide liquidity to the secondary market. There are currently around 20 market makers prepared to quote two-way prices for Treasury bonds, with most of these also quoting prices in Treasury indexed bonds, although only a few are active in the market for Treasury notes.

2 Under the tap system, the government set the yields (prices) of the securities to be sold and the market determined how many securities they would buy at those yields, with the Reserve Bank providing residual financing whenever the government did not sell enough securities to fund itself. This effectively subordinated the implementation of monetary policy to the process of debt management as the purchase and sale of securities by the central bank was not exclusively aimed at meeting the monetary policy objective. Under current arrangements, the AOFM conducts tenders in which the amount to be raised is predetermined. Interest rates, and therefore the government’s borrowing costs, reflect market demand for the securities offered. The Reserve Bank typically does not take up any stock at these tenders.

3 Yieldbroker DEBTS is an electronic trading platform used for debt securities and certain debt derivatives.

When issuing securities, the AOFM may sometimes also conduct syndicated offerings. Under this arrangement, a group of financial institutions is appointed to ‘manage’ the issue, including being responsible for placing securities with investors. Syndication can be helpful when issuing new securities, including those with longer tenor than existing securities. To help promote liquidity in the new bond, the AOFM will typically conduct a large initial issue, which syndication can help to place in the market.

The predictable and transparent approach to debt management by the AOFM and the requisite infrastructure has helped to support the development of a complementary market for derivatives. This market is important because it supports efficiency in the physical market for securities. In particular, the market for interest rate derivatives allows investors to hedge their interest rate risk. The Treasury bond futures market consists of 3- and 10-year futures contracts, which are traded on the Australian Securities Exchange (ASX). These contracts are generally more liquid than the physical CGS that they reference.⁴

The liquidity of the CGS market has been supported by Australian Government policy, even during periods of fiscal consolidation when issuance was not necessary for financing public expenditure. Following successive budget surpluses, and an extensive debt management review, in the 2003/04 Budget the government announced that it would maintain sufficient CGS on issue to support the liquidity of the Treasury bond futures market in order to provide for efficient interest rate risk management. In the 2011/12 Budget, the government reiterated its objective to maintain a liquid and efficient bond market that underpins the 3- and 10-year bond futures market. Prior to this, a panel of financial market participants and regulators had concluded that CGS outstanding should be supported at around 12 to 14 per cent of GDP over time.⁵

4 For more on Australian Treasury bond futures contracts, see Lien and Zurawski (2012).

5 See Australian Government (2011).

Registry and Settlement Services

The Australian Government issues debt in book-entry form, for which ownership records are maintained. Almost all CGS outstanding are held this way, with the Reserve Bank currently acting as the Registrar.⁶ The core functions of the Registry are the registration of new issues of CGS, transfer of title, maintenance of ownership records and distribution of payments associated with ownership.

Prior to 2002, the Reserve Bank also provided electronic settlement of CGS transactions through the Reserve Bank Information and Transfer System (RITS). This was in parallel to settlement services for other Australian dollar-denominated debt securities offered by Austraclear, a company now owned and operated by the ASX.

Since February 2002, CGS have been lodged within the Austraclear system, which acts as the central securities depository (CSD). Almost all CGS on issue are held in Austraclear, which retains legal title of the CGS as nominee for direct participants in the CSD (that is, those entities with accounts in Austraclear).⁷ Austraclear creates beneficial entitlements that can then be traded between market participants. As such, Austraclear appears on the Registry as the owner of all but a small amount of each CGS on issue.

There are well-defined market conventions that promote efficiency in the CGS market. Settlement of most CGS transactions occurs three business days after the transaction details are agreed. An exception is provided by Treasury notes, and bonds in their last coupon period, which are typically settled on a same-day basis. To ensure the integrity of the settlement process, Austraclear uses a 'delivery-versus-payment' model under which cash payment is made simultaneously with the transfer of beneficial

ownership. Through a link to RITS (the Reserve Bank's system for real-time gross settlement), these cash payments occur in central bank funds; that is, across the Exchange Settlement Accounts that Austraclear participants (or their sponsoring banks) hold at the Reserve Bank.

Many investors in CGS are not direct participants within Austraclear, preferring to transact through custodians.⁸ At times, there can be several layers of custodial, or nominee, relationships between the legal title to the security (held by Austraclear) and the ultimate beneficiary. Many non-resident investors, for example, will hold the beneficial interest in their securities through an account at one of the international CSDs (ICSDs), such as Clearstream or Euroclear, or with a custodian that is a participant in an ICSD.⁹ These ICSDs are not themselves direct participants in Austraclear, but maintain security accounts with nominee companies (JPMorgan Chase Bank and HSBC Custody Nominees). Currently, close to half of all CGS on issue is held within the ICSDs via these links or relationships. While these arrangements help to facilitate broader investor participation in the market, they make it difficult to identify the ultimate beneficiary of CGS investments (see also below).

In the past, notification of an intention to transfer CGS from an account within the ICSDs to elsewhere within Austraclear needed to be given well in advance of the cut-off times for comparable transfers between direct Austraclear participants. At times, this curtailed the ability of investors to respond in a timely fashion to the demand for specific CGS, such as would arise within the market for repurchase agreements (see 'Box A: The Securities Lending Facility'). Over time, the cut-off times for the ICSDs have moved to be close to synchronous with those applying to direct Austraclear participants, and

6 In the past, the government also issued bearer securities, for which no ownership records were maintained. The small value of these securities that remains outstanding is in the form of Australian Savings Bonds, which were mainly issued to retail investors in the 1980s.

7 A nominee is a company that is given legal title to the stock, but is not the beneficial owner who ultimately has a claim on its economic value. The nominee typically acts as a trustee and holds investments on behalf of an investor or custodian.

8 Custodians provide investors with a range of services, including safeguarding of assets, settlement, and banking services. For institutional investors, employing custodians is often a more efficient means of conducting transactions that would otherwise have to be undertaken by the investor's own back office.

9 Of the stock of CGS currently on issue, around three-quarters is estimated to be held by non-residents.

therefore better integrating non-resident investors with the domestic market.

Following a review of arrangements, the AOFM announced in 2012 that it would commence purchasing its registry services for CGS from a commercial provider. The Reserve Bank did not submit a bid but assisted in the tender process for this business, which was ultimately awarded to Computershare Fund Services Pty Limited.¹⁰ As a result, the Reserve Bank’s role as Registrar for CGS is expected to largely cease around the end of 2013. The Reserve Bank will, however, maintain a registry for CGS issued for the purposes of securities lending (see ‘Box A: The Securities Lending Facility’).

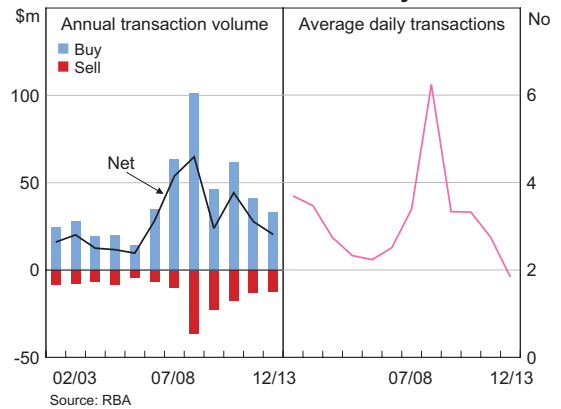
Retail Access to the CGS Market

Participation in the market for government bonds at the retail level has been limited in recent years. Retail investors are unable to transact directly in the wholesale market since it is not practical for them to set up an Austraclear account or access custodial services in a cost-effective way.¹¹ Those retail investors wanting to transact in CGS had to do so either through the Small Investor Bond Facility at the Reserve Bank or indirectly through investment vehicles such as mutual funds.¹²

Access for retail investors to the market for government bonds has been further constrained

by the large minimum parcel size required by many brokers. While the Reserve Bank’s Small Investor Bond Facility provided retail access to CGS at a lower transaction cost and in smaller parcel sizes, use of that facility remained relatively limited. In 2012/13, retail transactions conducted through the facility amounted to considerably less than half of 1 per cent of the outstanding stock. Furthermore, transactions represented an even smaller share of overall market turnover and the facility averaged only two transactions per day in 2012/13 (Graph 1).

Graph 1
Small Investor Bond Facility



As part of ongoing financial sector reform, the government announced in 2010 that it would make changes to facilitate greater access for retail investors to the existing market for CGS. These reforms sought to expand retail access to government bonds and improve the efficiency of the corporate bond market as a means of financing domestic investment and increasing competition for intermediated sources of financing.¹³

10 The main reason why the Reserve Bank was not well placed to continue providing these registry-related services flowed from the government’s objective of making the CGS market more accessible to retail investors, which would have required the Registry to be electronically integrated with a clearing and settlement system. The infrastructure costs for the Reserve Bank to upgrade the existing Registry were prohibitive, both in terms of time and outlays. Given that other service providers already had such infrastructure in place, and in view of its narrow customer base, it made little economic sense for the Reserve Bank to retain this responsibility.

11 Participants in Austraclear must be assessed by the ASX for satisfactory operational capacity, financial standing and business continuity arrangements. Along with transaction and membership fees, this makes it prohibitive to maintain Austraclear accounts for transacting in relatively small volumes.

12 In the 1970s and 1980s, the Commonwealth Government also issued Australian Savings Bonds, specifically targeted at the retail market. In Australia, another way for individuals to gain exposure to fixed income products, such as CGS, is indirectly through the asset allocation of their pool of superannuation retirement savings.

13 The government’s policy of facilitating greater retail access to the trading of CGS aims to provide a more accessible pricing benchmark for fixed income securities and thereby encourage greater interest in corporate bonds. This in turn is viewed as a desirable way to place competitive pressure on the interest rates paid on commercial borrowing from banks and to more effectively channel superannuation savings toward productive investments. Retail investors are seen to benefit through being able to diversify their savings more effectively. See Australian Treasury Department (2010).

Box A

The Securities Lending Facility

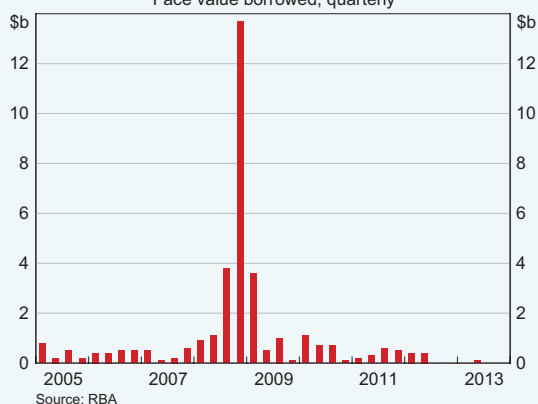
An active market for borrowing and lending securities assists market participants to meet their settlement obligations in Commonwealth Government securities (CGS). Because short positions commonly arise as a result of normal trading activity, dealers who quote two-way prices in particular securities are sometimes left with insufficient CGS to settle contracted transactions. Similarly, market participants pursuing a trading strategy might wish to cover a short position by using borrowed securities to settle an outright sale. In general, such activity can enhance the efficiency of the bond market by improving the process of price discovery.

Within the CGS market, participants generally use repurchase agreements to borrow specific securities, with the difference between the purchase and repurchase prices reflecting the interest (or repo) rate on the transaction. Where the repo rate on a specific security falls below other short-term interest rates, it indicates strong demand to borrow the security and raises the cost of maintaining a short position when a higher return could be earned on alternative investments. To ensure that market participants are always able to source CGS for their settlements, the AOFM offers a lending facility for CGS, which is operated by the Reserve Bank. Under this facility, financial institutions can borrow specific lines of CGS via a repo with the Reserve Bank. While there is no interest charge for intraday borrowings, a significant penalty (usually 300 basis points) applies to all overnight transactions executed under the facility.¹

In the period leading up to 2008, the limited supply of CGS meant that few dealers were able to maintain an inventory of bonds. To accommodate client demand

for securities in such circumstances required these dealers to assume short positions. As these positions needed to be covered through the repo market, repo rates gradually declined. During the period of financial market turmoil in 2008, dealers found it increasingly difficult to borrow CGS through the repo market, regularly needing to access the AOFM lending facility. With the size of the CGS market increasing in recent years, dealers are almost always able to borrow stock in the market, contributing to a substantial decline in use of the facility (Graph A1).²

Graph A1
AOFM Securities Lending Facility
 Face value borrowed, quarterly



The amount of CGS that can be lent via the lending facility is limited to \$5 billion. Securities available to be lent have been issued expressly for this purpose and, as such, are not counted as part of the stock of CGS outstanding. When not lent under a repurchase agreement, these securities are held outside Austraclear in the name of the government. A separate registry (administered by the Reserve Bank) will be maintained for these securities, distinct from the new, privately administered Registry described elsewhere in this article.

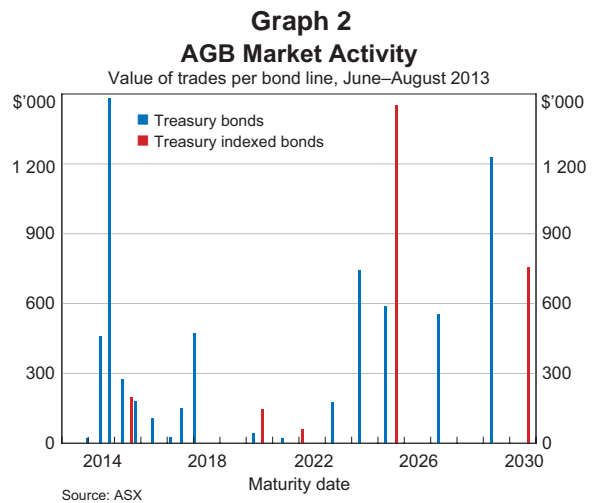
¹ The (overnight) repo rate on securities borrowed through the facility is set 300 basis points below the cash rate or at 25 basis points, whichever is the greater. At the same time, the Reserve Bank contracts an offsetting repo in other CGS or government-related securities, where the repo rate is equal to the cash rate.

² See also Wakeling and Wilson (2010).

The quotation and trading of exchange-traded government bonds commenced on the ASX in May 2013. Under the indirect ownership model adopted in Australia, retail investors are able to acquire beneficial entitlement to CGS without actual transfer of legal title. The legal title remains with Austraclear and a beneficial entitlement is issued to wholesale security holders who, in turn, issue further beneficial interests to retail investors. Consequently, the economic benefits associated with the securities (coupons and principal) accrue to the retail investors who have purchased the indirect interests in the bonds. These indirect interests are called CHES Depository Interests (CDIs).¹⁴ The retail and wholesale markets are linked by a depository nominee account in which market makers (who operate in both markets) deposit their interest in CGS on which the indirect interests are then sold via an exchange to investors in the retail market. The advantage of trading the indirect interest in the security, rather than the underlying legal title, is that it avoids segmentation between the retail and wholesale markets that could arise if a separate line of bonds was issued only to retail investors with subsequent trading at different prices to an equivalent security in the wholesale market. The arrangements therefore provide for an efficient translation of pricing from the wholesale bond market into the exchange-traded retail market. Three ASX appointed market makers (Commonwealth Bank, JPMorgan and UBS) are authorised to transfer beneficial interests in CGS from their own Austraclear accounts to that of a depository nominee.¹⁵ Under this transmutation of government debt securities from the wholesale to the retail market, the securities are referred to as Australian Government bonds (AGBs) to distinguish the indirect interest at the retail level from CGS in the wholesale market.

Computershare is the appointed registry service provider for AGBs and will also provide distribution instructions in relation to CDI holdings to the Reserve Bank until the company becomes the registry service provider for wholesale securities around the end of 2013. The Reserve Bank’s Small Investor Bond Facility ceased around the time that the quoting and trading of AGBs commenced on the ASX.

In the first three full months that the AGB market has been in operation, the 23 available bond lines have each been traded an average of three times per month, with the total value traded around \$2 million per month. Most of the turnover in the retail market to date appears to have been concentrated in bonds with maturity of 10 years or longer, although some of the shorter-dated bond lines have also been traded (Graph 2). Treasury notes are not available for retail trading.



Statistics Related to Commonwealth Government Securities

A wide range of data relating to CGS are publicly available. Primary market data include tender results and outstanding debt on issue and are published by the AOFM. Secondary market data are available from a variety of sources, including the Reserve Bank. By its nature, secondary market data can be difficult to compile and there are issues surrounding

¹⁴ The Clearing House Electronic Sub-register System (CHES) is the ASX retail clearing and settlement system and represents the counterpart to the wholesale market arrangements through Austraclear and RITS.

¹⁵ The depository nominee is a special purpose vehicle established by the ASX to facilitate the creation of beneficial interests in CGS.

the comparability of the different datasets that are published.

Turnover

Turnover is often used as an indicator of secondary market liquidity. For many years, the Reserve Bank has published data on CGS turnover by aggregating changes in stock ownership with movements in the securities settlement system.¹⁶ Within a settlement system, however, securities can move for a variety of reasons. These movements may be the result of settling an outright transaction (in either the primary or secondary market) or because securities have been posted as collateral against a derivative position or to settle a repurchase transaction.¹⁷ The Reserve Bank is generally not able to match security movements to their purpose. Moreover, transactions will often not give rise to any recorded movements, such as when the parties to a maturing repo agree to roll over the transaction and net the gross amounts to be settled. Similarly, the Reserve Bank’s data only capture movements *between* Austraclear accounts, which means that settlements that take place *within* an Austraclear account (such as settlement across the books of an ICSD) are not recorded at all.

A more reliable method of gauging turnover is to directly survey market makers on their trading volumes. The Australian Financial Markets Association (AFMA) conducts annual surveys on turnover in both outright and repurchase transactions in CGS (Graph 3).

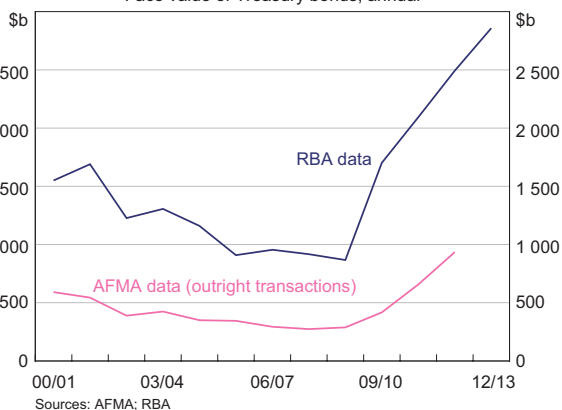
Given the inherent problems in compiling turnover data from a securities settlement system, the Reserve Bank will cease publication of turnover data from 30 September 2013.

Historical data on repurchase agreements executed through the AOFM Securities Lending Facility

¹⁶ Stock ownership is recorded on the Registry and, since 2002, the settlement system has been Austraclear.

¹⁷ Security movements may also occur when a beneficial owner is simply moving securities between their own accounts – such as when a dealer moves inventory from Euroclear or Clearstream (held within a nominee’s Austraclear account) to their own Austraclear account.

Graph 3
CGS Turnover
Face value of Treasury bonds, annual



(described in ‘Box A: The Securities Lending Facility’) are published by the AOFM, although only those trades with a term that is longer than intraday are included.¹⁸

Ownership

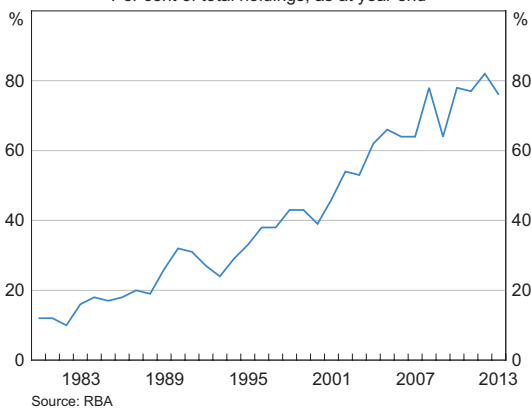
Data on beneficial ownership may provide insights into the structure of a market. Resident banks and other authorised deposit-taking institutions may hold CGS as a source of liquidity. There is also interest in what share of the market is held by non-residents. Each quarter, the Australian Bureau of Statistics publishes the sectoral breakdown of CGS holdings in the financial accounts. Separately, the AOFM publishes partial information on the domicile of non-resident holders.

On its monthly balance sheet, the Reserve Bank publishes data on its own holdings of CGS. Additionally, the Reserve Bank has long used ownership data as recorded on the Registry, or within the securities settlement system, to publish information on sectoral holdings of CGS. In deriving these data, it is only the name of the direct Austraclear participant in whose account the security is held that is visible to the Reserve Bank. Over time, there has been a trend for securities to be held with nominee companies and, as a result, the details of the underlying beneficial owners

¹⁸ The historical data are available at <<http://www.aofm.gov.au/>>.

can no longer be determined with any degree of certainty from the securities settlement system. Consequently, the Reserve Bank’s data on holdings have become less meaningful over time, with over three-quarters of total holdings now unattributed in terms of ownership under the residual category of ‘other’ (Graph 4). Given these limitations, the Reserve Bank will also cease to publish data for CGS on 30 September 2013.

Graph 4
Unattributed CGS Holdings
 Per cent of total holdings, as at year end



In summary, these changes will result in the following statistical tables no longer being published by the Reserve Bank: Commonwealth Government Securities Classified by Holder – E3; Maturity Structure of Non-official Holdings of Commonwealth Government Securities – E8; Commonwealth Government Securities Classified by Holder as at 30 June – E9; Commonwealth Government Securities on Issue – E10; and Turnover of Selected Commonwealth Government Securities – E12.

Secondary market yields

The Reserve Bank currently publishes indicative secondary market yields for Treasury bonds and Treasury indexed bonds. CGS rates published by the Reserve Bank are referenced in a variety of contexts, including Commonwealth and state legislation.

Up until recently, these data were derived from surveys of dealers conducted by the Reserve Bank at

the close of each trading day. However, following the cases of attempted manipulation of LIBOR – London Interbank Offered Rates – and other reference rates in offshore markets, financial institutions have become unwilling to participate in reference rate surveys, especially where participation requires a subjective assessment of market prices.

In recognition of this, the Reserve Bank has recently ceased its dealer surveys of CGS yields. The closing yields that the Reserve Bank publishes for Treasury bonds and Treasury indexed bonds are now sourced from Yieldbroker. Yieldbroker compiles indicative rates for debt securities using rates posted on their electronic trading platform by dealers. For the most liquid securities, such as Treasury bonds, these rates represent executable quotes. At the same time, the Reserve Bank has ceased publishing closing yields for Treasury notes as, in general, the number of dealers posting rates on these securities is low. ↘

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