It is certainly an interesting time for bond markets, perhaps too interesting. Today I would like to discuss what has been happening and, to some extent, what hasn’t been happening in the Australian bond market since the onset of the credit turmoil last August. Along the way I will summarise developments in the Kangaroo market and compare it to the other areas of the local bond market.

**Structure of the Australian Bond Market**

But first, it is useful to provide some context by examining the structure of the bond market (Table 1, Graph 1). The Australian bond market can usefully be divided into five categories:

- bonds issued by the Australian Government (CGS) and state borrowing authorities (semis);
- bonds issued by Australian financial institutions;
- bonds issued by Australian corporates;
- asset-backed bonds issued by Australian-domiciled vehicles; and
- Australian dollar bonds issued in Australia by non-residents – Kangaroo bonds.

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<th>Table 1: Domestic Bonds Outstanding(a)</th>
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<td><strong>Level</strong> $ billion</td>
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<tr>
<td>CGS</td>
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<td>Semi-government</td>
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<td>Financials</td>
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<td>Corporate</td>
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<tr>
<td>Asset-backed securities</td>
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<td>Kangaroos</td>
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<td>Total</td>
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(a) Totals may not sum due to rounding.
Sources: ABS; RBA
Since 2003, the stock of CGS and semis outstanding in Australia has been relatively stable. Although the Australian Government has been running budget surpluses over this time, it has elected to maintain the stock of CGS on issue at around $50 billion. The state governments too have, on average, run budget surpluses, although some increase in issuance is in prospect as they raise funds for a number of infrastructure projects.

While the stock of public debt has been fairly static, the stock of bonds issued by non-government entities in Australia has grown rapidly, and now is around three times larger than the value of public sector debt outstanding. This growth has been relatively broad-based across the four segments of the non-government market, though Kangaroo bonds have grown particularly strongly with average annual growth of 45 per cent over the past five years.

Reflecting the strong growth in Kangaroo bonds, their share of the domestic market (including CGS and semis) has increased from less than 5 per cent during the 1990s to above 20 per cent (Graph 2). Some of the factors that have contributed to the strong growth were discussed in a speech by one of my colleagues, Chris Ryan, at this forum last year and include the relative decline in CGS outstanding and, more importantly, diversification and cross-border portfolio investment as well as the development of the cross-currency basis swap market which has enabled Kangaroo issuers to hedge their exchange rate exposures.¹

The bonds outstanding shown in Table 1 relate to domestic issuance only. For a number of years, Australian entities have also been active in the offshore bond market. In fact, the stock of Australian non-government entities’ bonds issued offshore stands at around $400 billion compared to $250 billion onshore (Graph 3). This largely reflects the tendency of financial institutions, through both direct bond issuance (on-balance sheet funding) and securitisation (off-balance sheet funding), to access external finance.

a diverse range of funding sources available offshore.

The banks’ decision to fund themselves in this way has reflected the relative cost of issuing onshore and offshore. Research at the RBA² has shown that the average issuance costs domestically and offshore were very similar, suggesting, not surprisingly, that the banks had effectively arbitrated the differences in funding costs in domestic and offshore markets. They have raised funds where it was most cost effective to do so, just as Kangaroo bond issuers do in determining which market to raise their funds. This research also compared Australian banks with similar institutions in the US and showed that there was no evidence of any premium paid by Australian banks in raising funds in offshore markets.

Recent Developments in the Domestic Bond Market

As you are all aware, the period since July 2007 has been one of considerable turbulence in financial markets. For a number of years, central banks and a number of commentators had frequently expressed their concerns about the under-pricing of risk and the general compression of spreads. There were fears about the damage to financial markets and the economy that could result when risk was repriced. Now we have some idea about the nature of that unravelling.

As is generally the case when markets adjust to a new equilibrium, the transition is not smooth and the possibility of overshooting is always present. The reappraisal of risk has had a significant impact on global credit markets, particularly structured credit. Counterparty risk has increased substantially which has led to dislocations in a number of markets, including at times, the short-term money market. Central banks, including the RBA, have responded to the latter development by injecting substantial cash balances into the banking system, as needed, in order to ease the strain on liquidity, and in some cases – again, including the RBA – have extended the range of collateral against which they would lend.³

The Australian bond market has obviously been affected by these global developments. The major effect has been to engender a substantial degree of reintermediation. Corporate bond issuance has been almost non-existent. But corporate debt has continued to grow strongly, with businesses turning to the banking sector for funds (Graph 4).

³ In early September, the RBA broadened the range of securities that could be used for repo. This represented the latest stage in the progressive broadening of the range of securities accepted for repos that has occurred over the past decade but its timing also provided an avenue for the Bank to assist the functioning of a broader range of markets. See <http://www.rba.gov.au/MediaReleases/2007/mr_07_14.html> and my speech to the Securitisation Forum last November, ‘Open Market Operations and Debt Securities’.
The major Australian banks – who are among the largest resident-entity bond issuers – have continued to directly access wholesale funding throughout the recent turmoil. Issuance so far in 2008 has been particularly strong (Graph 5). In part this reflects the fact that Australian banks have sound balance sheets, which has made them attractive to investors, relative to other global financial institutions and structured credit instruments.

However, the banks’ access to funding has not been unaffected by the turmoil. Spreads at issuance have widened in the past six months and are well above the levels they issued at prior to July 2007. So far this year, the major banks have issued 3-year bonds at an average of 47 basis points above the swap rate in comparison to average spreads of around 10 basis points prior to the disruption in markets. At the same time, the average maturity of financials’ bonds at issuance has also shortened, to around two years compared to four and a half years previously. In part, the reported maturity is less because of the high share of extendible bonds in recent issues. (If one assumes that these bonds will all be extended to their legal maturity, then there has been little change in the maturity profile.) Nevertheless, the shorter tenors reflect a combination of investor preference in the current climate, together with the desire of issuers to avoid locking in high spreads for a long period. The rise in spreads and funding costs more generally has been passed on to business borrowers in the form of higher interest rates.

Because the banks have been able to maintain their pre-crisis pace of issuance, they have not curtailed their provision of credit, beyond charging a higher price. However, were the banks to experience difficulties in continuing to access funding, one might see a quantitative constraint placed on credit provision in addition to that provided by the price.

Although on-balance sheet funding by the banks through the issuance of bank bills and bonds has been large, securitised funding (i.e. off-balance sheet funding) has been very small. The securitisation market has been among the most affected by the strains in financial markets. At the short end, investors have been reluctant to roll over asset-backed commercial paper (ABCP)

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– spreads have increased sharply, maturities have shortened and investors are demanding greater transparency about the underlying collateral.

Issuance in the longer-term securitisation market has been particularly low. In the second half of 2007, $8 billion of asset-backed securities were issued compared to $48 billion in the first half. Since the beginning of 2008, there has only been one residential mortgage-backed securities (RMBS) issue. In combination with only a small number of RMBS deals taking place, average deal size has also been small: deal size has averaged around $370 million since September 2007 compared to around $1.6 billion prior to August 2007. The RMBS that were issued last year were at very elevated spreads to the bank bill swap rate, with spreads on AAA-rated tranches of around 60 basis points compared to 18 basis points prior to August. With almost no issuance this year, it is unclear where spreads are now, although almost certainly even higher.

**Recent Developments in the Kangaroo Bond Market**

As most people in this audience are aware, Kangaroo bond issuance dropped off in the second half of 2007, in line with the decline in activity in the rest of the domestic bond market. Issuance in the second half of 2007 was $1½ billion per quarter, whereas prior to July 2007, quarterly issuance averaged $8 billion. Most of these deals were taps of existing lines. Issuance was at shorter than usual tenors and the average deal size was lower than usual. Possibly reflecting investors’ reassessment of risk, the average credit rating of issuance was AAA compared to the average credit rating of Kangaroo issuance 18 months earlier of AA. Issuance was entirely by supranationals and government-related or guaranteed entities, whereas historically, the Kangaroo market has comprised roughly half US and European banks (some of whom have suffered losses associated with US sub-prime securities), with the other half being supranationals and government-related entities.

However, Kangaroo bond issuance has rebounded markedly this year. There has been $1.3 billion in new issuance and $3.5 billion in taps of existing lines. Deal sizes have increased, but all issues have still been AAA. This strength reflects a number of factors including investors’ appetite for high-quality A$ securities and relatively cheap funding costs as the Kangaroo
issuers are able to potentially swap the A$ into foreign currencies with Australian banks seeking to do the reverse.

Graph 6 compares the cost, for a sample of AAA-rated Kangaroo issuers, of issuing in Australia and swapping the proceeds back into US dollars (the orange squares) rather than raising US dollars directly (the purple dots). For our sample of issuers, Kangaroo issuance has been a slightly lower cost funding source, on average over the past few years, compared with raising US dollars (excluding deal costs).

The yield paid by this sample of Kangaroo issuers has tended to be below LIBOR, reflecting the high credit rating of these supranationals and government-related entities (i.e. the spread to LIBOR is negative). In recent months, the margin below LIBOR at issuance for the supranationals and government-related entities that have undertaken deals has actually increased, although borrowing costs have risen. This reflects the fact that the entities in our sample are high credit quality and can be considered a close substitute for government securities, combined with the widening spread between LIBOR and government bond yields.

Conclusions
It has been a tough time in global credit markets since August. Investor confidence has declined substantially and a significant repricing of risk has occurred. Bid/ask spreads have widened significantly, in the sense that the price investors are willing to buy exposure to credit is often substantially above what the issuer is willing to sell it at. The reappraisal of risk that occurred in August was triggered by credit write-offs by a number of institutions. Lower spreads are unlikely to return to markets before investors are confident that the bulk of these losses have been disclosed.

The Australian bond market has been affected by the global developments, although not in a uniform way. Issuance by financials has continued at pre-crisis rates, while corporate and asset-backed issuance has dried up. The issuance that has occurred has been at substantially wider spreads. A significant degree of reintermediation has taken place.

Kangaroo issuance has been similarly affected – average deal size and tenors decreased in the second half of 2007. However, the Kangaroo market has rebounded strongly so far this year. Kangaroo bonds continue to account for a large share of the domestic bond market – over 20 per cent – and this market continues to be supported by the fundamental factors that supported its robust growth over the past five years.