

FINANCIAL STABILITY REVIEW

March 2006

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Reserve Bank

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Overview

Recent developments have been largely favourable from a financial stability perspective. With the world economy continuing to expand strongly, financial systems in most countries are in good shape. In Australia, the banking system remains well capitalised and highly profitable, with bad debt levels that are low by both historical and international experience.

Notwithstanding these favourable outcomes, there continue to be a number of puzzles regarding the pricing of risk in the financial system. In global capital markets these include the persistence of low long-term bond yields and compressed credit risk premia. Both these phenomena reflect, in part, the *ex ante* excess global supply of saving over investment and an associated 'search for yield'. They also reflect an apparent optimism by investors that inflation will remain low and economic conditions will remain generally stable.

This optimism is also presumably behind the willingness of some investors to take on more leverage and purchase a wider range of financial assets. Examples of this include a resurgence of leveraged buy-out activity in the United States and Europe, very strong growth in assets managed by hedge funds and the enthusiasm of investors for structured finance products. These developments can promote efficiency and risk sharing in the financial system. But the willingness of market participants to price risk ever more finely may rest heavily on the assumption that the macroeconomy, inflation and asset prices will prove to be more stable than in the past. While the current environment of very low volatility may continue, experience suggests that when economic outcomes are consistently favourable over a run of years, investors tend to underestimate, and thus underprice, risk. It would therefore be surprising if there were not at least some element of this type of myopia in financial markets currently.

So far, however, the global financial system has comfortably ridden-out a number of tests of market sentiment. There had been considerable anxiety, for example, that when the US Federal Reserve started raising interest rates, there would be a damaging snap-back in the prices of a range of financial assets. In the event, financial markets responded sanguinely to increases in the US federal funds rate. Similarly, the 'flight to quality' that some had feared following the downgrading of a number of high-profile corporate bonds has not occurred.

On the domestic front, the Bank is continuing to pay close attention to household balance sheets. During the period in which house prices and housing credit were increasing at rates of around 20 per cent per annum, the concern was that should growth continue at an unsustainable pace, it could pose significant risks to the stability of the economy. The change of sentiment that occurred at the end of 2003, however, generated a slowdown in household credit growth and a more subdued housing market, with prices at the national level moving sideways. The issue is thus less one of unsustainably fast growth in house prices and household debt, than of the implications of the much higher level of debt that has resulted from more than a decade of strong credit growth.

To date there are few signs that the household sector is struggling with higher levels of debt and interest payments relative to income. While the rate of housing loan arrears has picked up slightly, it remains low by historical standards, and surveys give no indication that households are viewing their finances any less favourably than for much of the past decade or so. Households do, however, seem to be taking a slightly more cautious approach to their finances, with some banks reporting an increase in loan repayment rates. More generally, household spending now appears to be increasing more slowly than growth in household income, after a number of years in which the reverse was the case.

Looking forward, it is difficult to establish benchmarks as to when credit growth and/or debt levels are ‘too high’ or ‘too risky’. A significant number of households still carry little or no debt, and in the years ahead might choose to borrow more. Attitudes towards borrowing also appear to be changing, with people becoming more willing to borrow against assets later in life. As a result, although household credit growth is high relative to that in a number of other countries, it is not necessarily the case that the current pace is unsustainable.

One consequence of the slower pace of household credit growth over the past couple of years has been an intensification of competition amongst Australian financial intermediaries, particularly in lending for housing. As has been discussed at some length in previous *Reviews*, banks and non-bank lenders have moved away from many traditional lending practices. In particular, lenders now allow much higher debt-servicing and loan-to-valuation ratios, make low-doc loans which incorporate a large element of self-verification in the application process, and provide housing loans to borrowers with impaired credit histories. As a result, many households have obtained cheaper and more flexible finance.

While this greater competition is generally to be welcomed, lenders and investors have had no experience with how a household sector with current levels of debt is likely to behave in less favourable economic circumstances. Similarly, they have had little, or no, experience with how some of the newer types of loans are likely to perform in weaker conditions. In these circumstances, it is important that both borrowers and lenders recognise that the benign credit environment of the recent past may not be the best guide as to how the future unfolds. ❧

1. The Macroeconomic and Financial Environment

1.1 The International Environment

Recent global developments have been broadly positive from a financial stability perspective, although concerns remain about the pricing of risk in global markets. The world economy is continuing to expand at an above-average pace, volatility in financial markets has been unusually low, and banking systems in most countries are experiencing strong profitability. In this environment, investors have been prepared to purchase historically risky assets at relatively high prices, and have also been prepared to take on more debt. Given this, a concern for some time now has been that the apparently optimistic expectations that underpin many asset valuations and borrowing decisions may not be realised, prompting sharp adjustments in a range of markets. To date, however, this has not happened, with the global financial system showing resilience to a range of developments.

In the past three years, growth in world GDP has averaged around 4½ per cent, well above its long-run average of around 3¾ per cent. This strong growth is forecast to continue in 2006, with the composition of global growth expected to be more balanced than it has been for a number of years. In particular, there are signs that the recovery in Japan is becoming more firmly entrenched, and that prospects for economic growth in the euro area are improving (Table 1).

Against the backdrop of solid growth outcomes, problem-loan expenses in many banking systems have declined, and there have been few defaults on corporate bonds. Indeed, the current global default rate on speculative-grade bonds is around record lows, after reaching very high levels in the immediate aftermath of the high-tech boom (Graph 1). These favourable

Table 1: World GDP Growth
Year-average, per cent^(a)

	2004	2005 Estimate	2006 Consensus forecasts (March 2006)
United States	4.2	3.5	3.3
Euro area	1.8	1.4	2.1
Japan	2.3	2.8	2.9
China	10.1	9.9	9.1
Other east Asia ^(b)	5.9	4.8	4.9
World	5.1	4.6	4.6
<i>Australia's trading partners^(c)</i>	<i>4.9</i>	<i>4.5</i>	<i>4.4</i>

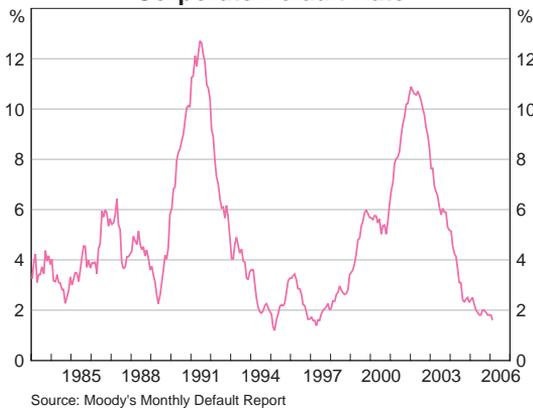
(a) Aggregates weighted by GDP at PPP exchange rates unless otherwise specified

(b) Weighted using market exchange rates

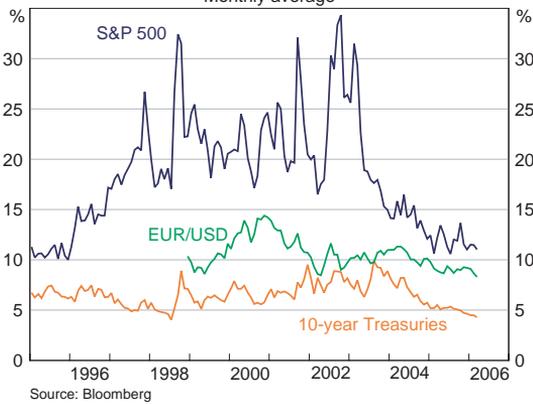
(c) Weighted using merchandise export shares

Sources: CEIC; Consensus Economics; IMF; RBA; Thomson Financial

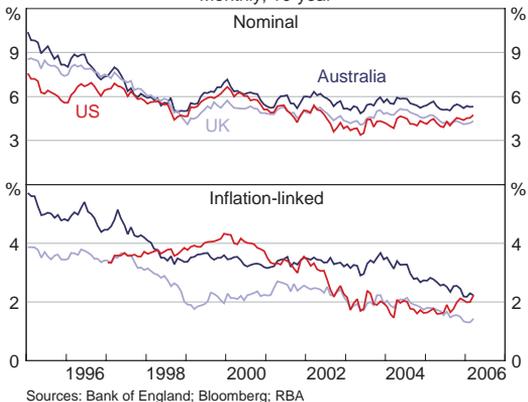
Graph 1
Moody's Global Speculative-grade Corporate Default Rate



Graph 2
US Implied Volatilities
 Monthly average



Graph 3
Government Bond Yields
 Monthly, 10-year



developments have coincided with low volatility in a range of financial markets. Investors expect that this will continue, with measures of implied volatility (extracted from option prices) in most major foreign exchange, interest rate and equity markets all around multi-year lows (Graph 2). The main exception to this general pattern is commodity prices, which have shown considerable volatility at times over the past couple of years.

Another notable feature of the current environment is that yields on most long-term bonds continue to be well below their long-run averages, although they have increased a little recently (Graph 3). Ten-year bond yields in Japan, the euro area and the United States currently stand at 1.7 per cent, 3.7 per cent and 4.7 per cent respectively. The continuation of low bond yields has occurred despite the removal of at least some of the monetary stimulus that has been in place over recent years (Graph 4). The United States is the most advanced in this process, with the federal funds rate now at 4½ per cent, up 3½ percentage points from its low and slightly above the average level of the past 15 years. In the euro area, the policy rate has been increased by 50 basis points, and currently stands at 2½ per cent, while in Japan the central bank has announced the end of its quantitative easing policy.

There are a number of possible explanations for the low level of bond yields. One is that inflation expectations are well anchored, reflecting the price stability over the

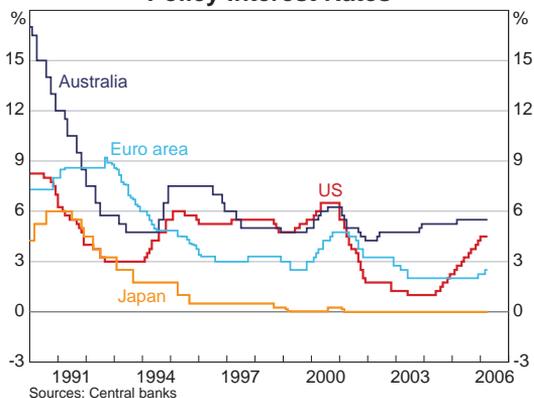
past decade or so. A second is that there is an *ex ante* excess supply of global saving over investment. And a third is that the low level is attributable to structural and regulatory factors. In the United Kingdom, for example, both pension funds and corporates with defined-benefit pension plans are seeking to better match the duration of their assets and liabilities, spurring an increase in demand for longer-dated nominal and inflation-linked securities.

The low levels of both bond yields and policy interest rates have contributed to strong growth in borrowing in a number of countries, particularly by the household sector. In turn, this has boosted asset prices, and especially house prices, in these countries (Graph 5). Investor interest in commercial property has also increased in the past year or two, resulting in a strengthening in commercial property prices, particularly in the United States and the United Kingdom (Graph 6 and Box A).

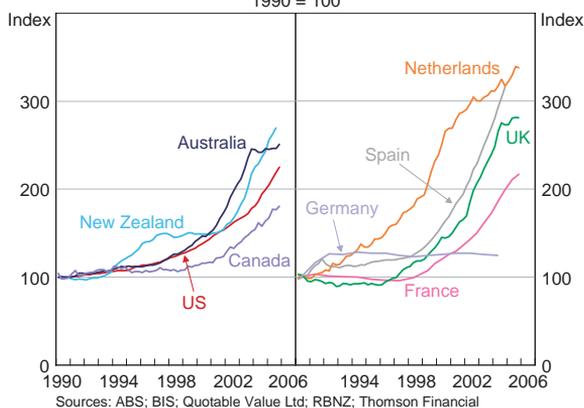
The current environment has led to investors being prepared to accept less compensation for holding historically risky assets and to take on investments with more leverage. There are a number of manifestations of this general phenomenon.

One is the low level of credit spreads on bonds issued by emerging markets and companies with low credit ratings. These spreads have fallen a little further recently, and are around their lowest levels since 1997 (Graph 7). Partly in response to these

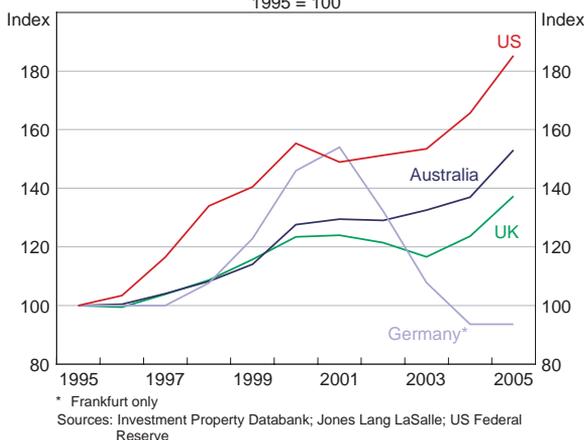
Graph 4
Policy Interest Rates



Graph 5
House Prices
1990 = 100

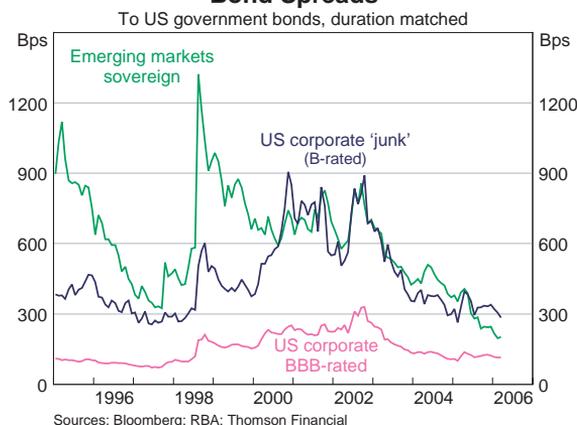


Graph 6
Office Property Values
1995 = 100



Graph 7

Bond Spreads



very positive borrowing conditions, an increasing number of emerging market countries have been able to issue long-term debt in their own currency, a positive development from the sovereign's perspective as it reduces the country's foreign currency exposure and rollover risk (Table 2).

A second is a sharp rise in leveraged buy-out (LBO) activity. The value of LBOs is now back around the levels of the late 1980s, although in contrast to that episode when much of the activity was

concentrated in the United States, there is now considerable activity in Europe and Asia. While LBOs, or the threat of them, can strengthen the management of firms, they can also lead to more fragile corporate structures by reducing available cash flow. The prospect of debt injections weakening the position of existing creditors in firms subject to LBOs is, in some cases, leading to increased spreads on debt issued by these firms.

A third factor pointing to a greater risk appetite is the growth of investments in hedge funds. According to Hedge Fund Research, these funds now have in excess of US\$1 trillion under management, more than double that of five years ago (Graph 8). This growth is likely to have contributed to an increase in leverage of the financial system as some hedge funds hold highly leveraged positions in derivatives markets and borrow from financial institutions. There has also been borrowing by 'funds of hedge funds' – asset management vehicles which invest in a range of hedge funds. While hedge funds generally have a relatively small capital base, they have a systemic dimension via their close relationship with financial institutions providing prime-

Table 2: Selected Emerging Market Debt Issues in Local Currencies
2005 onwards

	Issue rating	Maturity date	Coupon rate	Amount issued ^(a)	Market
	Moody's/S&P		Per cent	US\$m	
Brazil	Ba3/BB	Jan 2016	12.50	1 480	Global
Colombia	Ba2/BB	Oct 2015	12.00	570	Global
Czech Republic	A+ ^(b)	Sep 2020	3.75	930	Domestic
Malaysia	A3/-	Jul 2025	4.84	790	Domestic
Mexico	-	Nov 2035	4.50	60	Domestic
Russia	Baa2/BBB+	Feb 2036	6.95	280	Domestic
South Africa	-	Jan 2020	7.25	980	Domestic
South Korea	A3/-	Mar 2026	5.75	1 090	Domestic

(a) Local currency amount converted using the exchange rate on the issue date

(b) Rated by Fitch

Source: Bloomberg

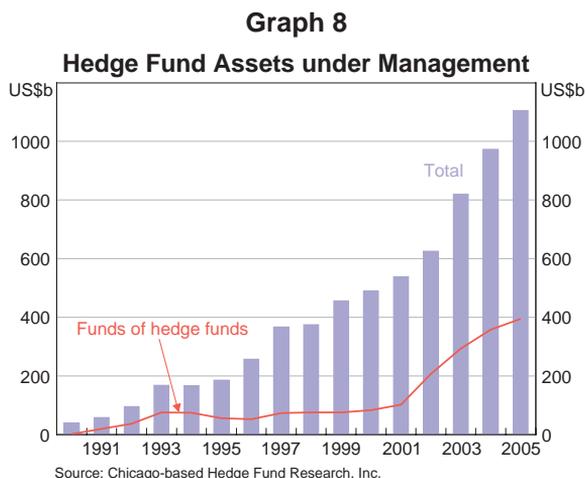
brokerage services, and through the potential for the unwinding of large positions in individual asset markets to cause market disruption.

Finally, there has also been strong growth in structured credit markets. Issuance of credit products tailored to the risk-profile requirements of investors has increased significantly – according to JPMorgan, global issuance of funded collateralised debt obligations (CDOs) in 2005 was nearly US\$300 billion, compared with around US\$190 billion in 2004.¹ The reallocation of this credit risk within the financial system is generally a positive development from a financial stability perspective. However, the complexity and embedded leverage attached to some of the newer products is not without its challenges when it comes to assessing how markets will perform in periods of stress. This was evident last year following the rating downgrades of General Motors and Ford, when liquidity in some CDO instruments quickly evaporated and prices spiked after investors and market-makers began questioning some of the assumptions that had been used to price these products.

These various developments do not pose particularly large risks on their own and can be seen as part of the evolution of a competitive and efficient global financial system. However, collectively, they paint a picture of a financial system in which risk is being very finely priced and one in which investors are increasing leverage. To the extent that, going forward, the macroeconomy, inflation and asset prices are more stable than they have been historically, this behaviour is understandable. The concern, however, is that the expectations underpinning many pricing and borrowing decisions might turn out to be too optimistic.

While financial markets have been resilient to a range of events over recent years, a more serious test would obviously occur if global economic growth were to falter. A shock such as an avian influenza pandemic could also pose difficulties for financial markets, as could a substantial pick-up in global inflationary pressures. Other possible catalysts for a reassessment of risk in global financial markets include an increase in borrower defaults and a sharp unwinding of ‘carry trades’ as the period of zero per cent financing in Japan eventually comes to an end.

One aspect of the current expansion that has been the subject of vigorous debate has been the changes in current account balances. In particular, the *ex ante* excess level of global saving over investment has manifested itself in large current account deficits in several industrialised economies, most notably the United States. For a number of years there have been concerns in some quarters that the deficits are unsustainable and would eventually trigger disorderly movements in global markets. This has not happened, and these concerns seem to have dissipated somewhat over the past year. Instead, there seems to be a broader acceptance that the existing



¹ See Reserve Bank of Australia (2005), ‘Collateralised Debt Obligations in Australia’, Financial Stability Review, September.

current account positions will persist for some time yet, and are unlikely to be a source of turbulence in major markets.

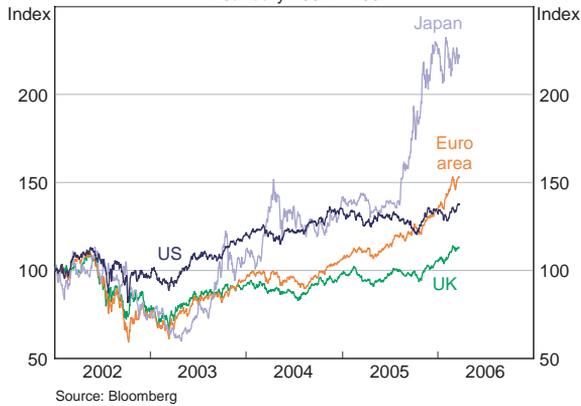
Financial Institutions

The strong global economy has provided a favourable platform for international financial institutions over the past year. Banking sector share price indices have trended higher as bank earnings have risen, despite continued contractions in interest margins (Graph 9). Most notably, the share prices and profits of Japanese banks have increased markedly as economic conditions have improved, the demand for bank lending has strengthened, and the level of non-performing loans has fallen.

Graph 9

Share Price Indices – Banks

1 January 2002 = 100



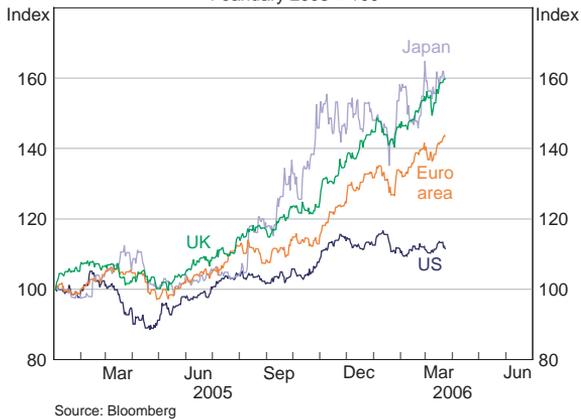
In the euro area, bank profits in many countries have risen as increases in housing lending and non-interest income have combined with lower provisions for bad debts. Banks in the United Kingdom have also reported strong returns over the past year, owing largely to improved non-interest income from trading activities. Similarly, bank profits have grown solidly in the United States, with relatively weak growth in net interest income offset by very strong growth in non-interest income from trading and other activities.

The global insurance industry withstood the large natural catastrophe losses in 2005 relatively well, aided by solid premium revenue and strong investment markets. The insured loss associated with Hurricane Katrina, which hit the United States in August, is estimated to be more than double the previous highest single-event loss (associated with Hurricane Andrew in 1992). The reinsurance industry is expected to bear a large part of this loss. As a result, several reinsurers had their credit ratings downgraded, and a few had to raise additional capital. Overall, however, share price indices for the insurance sector weakened only moderately following the hurricanes and have rebounded somewhat in the euro area and Japan (Graph 10). Credit markets also appear comfortable with the outlook for the sector, with

Graph 10

Share Price Indices – Insurers

1 January 2005 = 100



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spreads on insurers' credit default swaps, which rose in the aftermath of Hurricane Katrina, falling significantly in subsequent months.

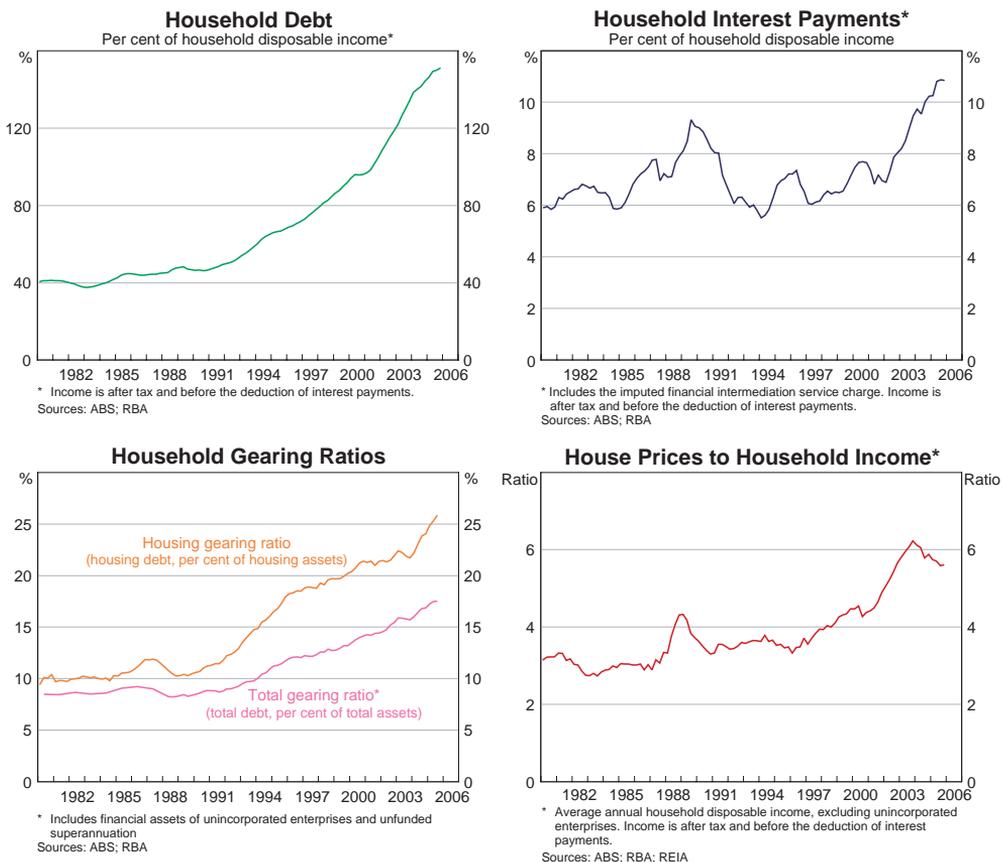
1.2 Australia

As with the international environment, domestic developments have been largely favourable from a financial stability perspective. Growth in house prices and household credit has moderated from the very fast pace seen at the end of 2003, and the business sector's financial position remains sound, buoyed in particular by strong profit growth in the mining sector. As a result of these developments, the issue is less one of unsustainably fast growth rates in house prices and household debt, than of the implications of the much higher level of household debt arising from more than a decade of strong credit growth.

Household Sector

As has been documented in previous *Reviews*, there have been significant changes in the structure of household balance sheets in Australia over the past decade (Graph 11). The ratio of household debt to income has more than doubled to just over 150 per cent, and the ratio of interest payments to income has increased from an average of 6¾ per cent in the 1990s to almost 11 per

Graph 11



cent currently. Similarly, the ratio of house prices to income has increased markedly, although with national house prices little changed over the past couple of years, this ratio has fallen a little recently. Measures of household leverage have also increased, with growth in housing debt consistently outpacing growth in the value of the housing stock.

These longer-term adjustments in household balance sheets are a reflection of some fundamental changes to both the demand and supply side of the housing finance market in Australia. On the demand side, the lower nominal interest rates associated with lower inflation have allowed households to take on larger debts. In addition, the relative stability of interest rates and the economy have given households greater confidence that they can service larger debt burdens. On the supply side, the stable macroeconomic environment and very low mortgage default rates by borrowers have encouraged lenders to compete more keenly to provide housing finance on cheaper and more flexible terms.

Nonetheless, by 2003, there were clear signs that the housing market had become overheated. Fuelled by speculative activity, annual rates of growth in both house prices and household borrowing were around 20 per cent. These developments were associated with very strong growth in spending: consumption and expenditure on renovations and new dwellings were at very high shares of income. The concern was that should growth continue at an unsustainable pace, it would ultimately pose significant risks to the stability of the economy. Developments since 2003, however, have proved largely favourable, with a cooling in the housing market and a slowdown in household credit growth.

On a national basis, house prices have shown little change since the end of 2003, although the outcomes have varied considerably across the major cities, reflecting both the relative strength of economic growth and the extent of previous price rises (Table 3). Prices in Perth have recorded significant further gains, while in Sydney, prices are lower than at the end of 2003. Over recent months, there have been some tentative signs of firmer conditions in a number of markets, with auction clearance rates in Sydney and Melbourne around their highest levels of the past two years.

Growth in household credit has also slowed significantly from its peak, although recent outcomes suggest it has again picked up slightly. Housing credit, which accounts for 86 per cent of total household credit, grew by 12¾ per cent over the year to January, down from

Table 3: House Prices
Average annual percentage change

	Five years to December 2003				Two years to December 2005			
	ABS	APM	REIA	Residex	ABS	APM	REIA	Residex
Sydney	14.2	15.0	12.8	15.1	-4.3	-4.3	-1.9	-2.8
Melbourne	14.6	14.9	13.5	14.3	1.7	1.0	-1.5	4.5
Brisbane	15.5	17.4	16.6	17.1	3.4	3.3	3.6	4.6
Adelaide	14.2	16.0	14.3	–	5.1	4.9	6.5	–
Perth	10.4	12.8	10.1	14.1	17.7	16.2	14.7	17.6
Canberra	16.3	19.3	15.9	19.0	-0.3	0.7	-0.3	1.2
Australia	13.8	15.2	13.2	15.2 ^(a)	1.2	0.8	0.9	4.0 ^(a)

(a) Excludes Adelaide, Hobart and Darwin
Sources: ABS; APM; RBA; REIA; Residex

a peak year-ended growth rate of almost 22 per cent in early 2004 (Graph 12). The deceleration has been most pronounced in borrowing by investors, which grew by 11 per cent over the past year, down from a peak of around 30 per cent over the year to February 2004.

One factor contributing to more subdued housing credit growth has been the slower rate of turnover in the residential property market, with property transactions as a proportion of the dwelling stock falling from over 7 per cent in 2003 to around 5 per cent in 2005. When turnover slows, housing credit growth also tends to slow given that the debt taken on by home buyers is typically greater than the amount of debt owed by sellers, particularly when house prices are rising rapidly.

Personal credit growth has also slowed, with growth of 10 per cent over the year to January, compared with around 15 per cent over the year to early 2004. The deceleration has been most notable in personal loans secured against residential property, while in contrast, there has been a marked pick-up in growth of margin loans used to purchase equities and to invest in managed funds (Table 4). Credit card debt continues to grow at around 12 per cent per year, around the average rate over the preceding four years. Data on other specific components of personal credit are not collected, although recent figures on personal loan approvals suggest that growth in car loans has eased over the past year, while that in loans for debt consolidation has picked up, consistent with other indications of some households consolidating their finances.

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An aspect of the slower growth in house prices and household debt since late 2003 has been the decline in investor participation. The share of loan approvals granted to investors has fallen from a peak of 46 per cent in late 2003 to 36 per cent recently, with the decline greatest in

Graph 12

Housing Market Activity

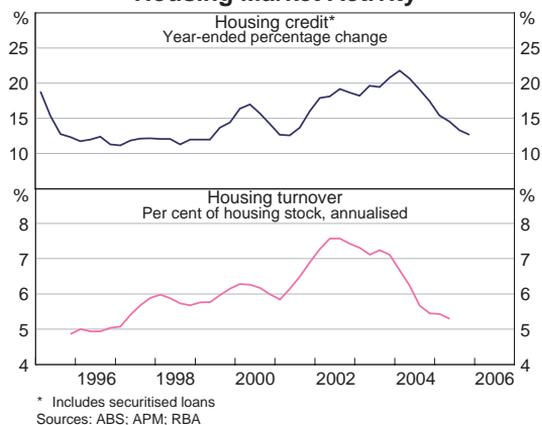


Table 4: Personal Credit

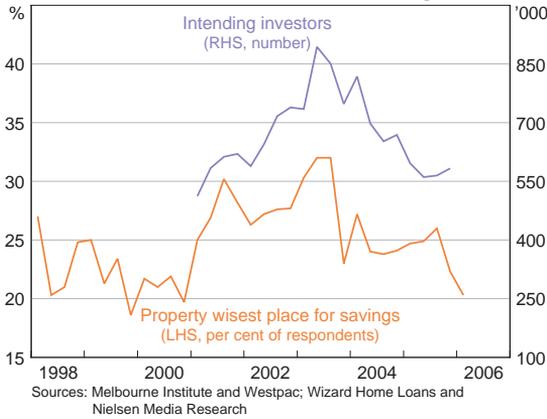
Per cent

Component	Share of personal credit		Year-ended growth	
	Jan 2006	Jan 2004	Jan 2004	Jan 2006
Fixed	52.7	11.9	11.9	9.7
Credit card	25.0	17.0	17.0	12.1
Non-credit card revolving	22.3	26.8	26.8	8.3
of which: secured by housing	15.2	32.0	32.0	6.9
Total	100.0	15.3	15.3	10.0
<i>Memo: Margin loans^(a)</i>	<i>16.5</i>	<i>15.3</i>	<i>15.3</i>	<i>31.0</i>

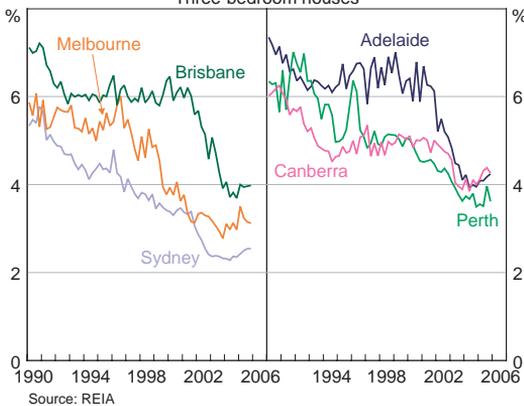
(a) Margin loan data are for December 2003 and December 2005, and include some margin loans to business. Margin loans feature in both revolving and fixed credit owing to differences in reporting across lenders.

Source: RBA

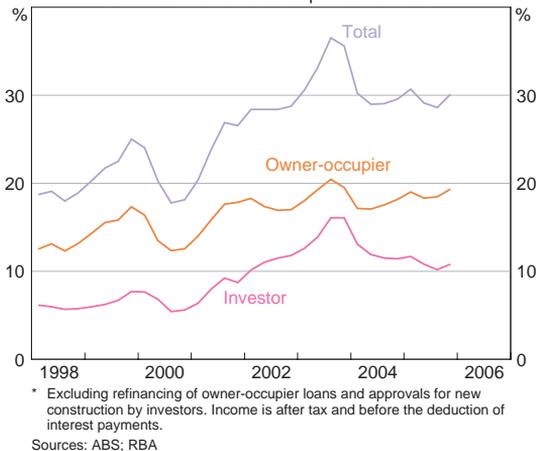
Graph 13
Sentiment towards Housing



Graph 14
Gross Rental Yields
Three-bedroom houses



Graph 15
Housing Loan Approvals*
Per cent of household disposable income



New South Wales. Further, the share of households that view property investments as the wisest place for their savings has also fallen, to around the levels prevailing in 2000 (Graph 13).

Among investors, the absence of capital growth appears to have prompted a more measured assessment of prospective risks and returns. Around late 2003, the national vacancy rate had risen above its long-run average, and traditional valuation yardsticks such as the ratio of house prices to household income and rental yields were at historical extremes (Graph 14). At a national level these ratios have recently reversed a little of the previous movements, with the average vacancy rate falling, growth in income outpacing that in house prices, and rental yields rising as a result of average rental growth of 4.7 per cent per annum since the end of 2003. Notwithstanding this, both house price-to-income ratios and rental yields remain well away from their long-run averages, although the relevance of historical comparisons is complicated by the structural shift to lower inflation and lower interest rates.

Although growth in owner-occupier activity in the housing market has also slowed since late 2003, the fall has been less pronounced than that in investor activity, and since mid 2005 loan approvals to owner-occupiers have picked up (Graph 15). The recent increase partly reflects stronger demand for finance by first-home

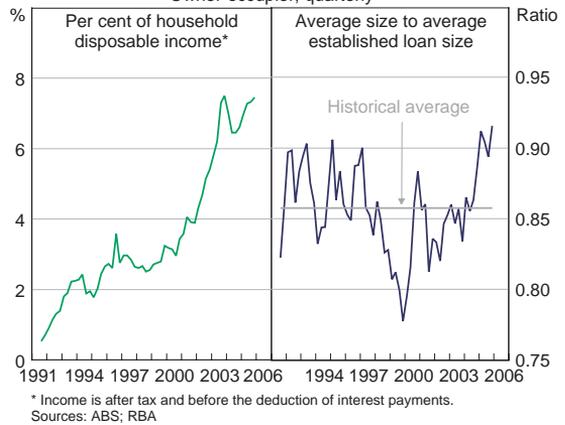
buyers, with this group accounting for 25 per cent of the value of owner-occupier approvals in the December quarter, the highest share since the March quarter 2002. Several lenders now offer first-home buyer schemes whereby borrowers can use the property of family or friends as security to access cheaper funds and/or larger loans. The expansion of low-doc and no-deposit products is also facilitating access for some borrowers that were previously excluded from the market. Refinancing activity has remained strong, reflecting competition in the mortgage market (Graph 16). Over the past couple of years, the average size of owner-occupier refinanced loans has increased at a faster pace than new loans, suggesting some tendency for households to increase loan size while refinancing.

Notwithstanding the slowing in house price growth, the value of assets owned by the household sector continues to grow faster than household income. Over the three quarters to September 2005, the total value of household assets increased at an annualised rate of 7¾ per cent, with the buoyant stock market boosting overall asset growth in the face of slower growth in the value of housing assets (which currently account for just under 60 per cent of the total) (Graph 17). The years post 2003 are the first since 1998 in which the increment to household wealth from assets other than housing has exceeded that from housing.

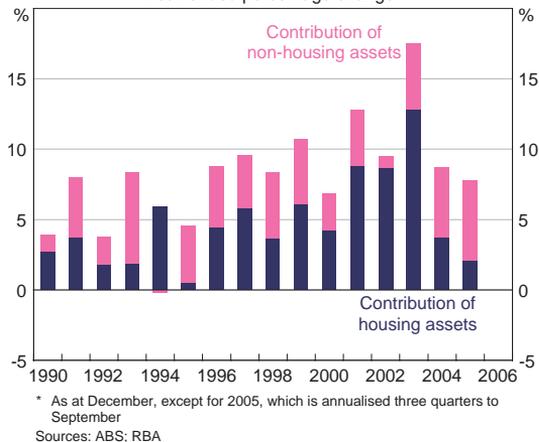
While the household debt-to-income and debt-servicing ratios, as well as measures of household gearing, continue to reach new highs, it is difficult to establish benchmarks as to when levels of indebtedness or credit growth become ‘too high’ or ‘too risky’.

Although it is clear that a continuation of the combination of developments seen in 2003 was unsustainable, it is far less clear what constitutes a sustainable rate of household credit growth. For one thing, attitudes towards debt appear to be changing, with people becoming more willing to borrow against assets later in life. Also, a significant number of households still carry little or no debt, and may choose to borrow more in the years ahead. Some insight

Graph 16
Mortgage Refinancing
Owner-occupier, quarterly



Graph 17
Household Assets
Year-ended percentage change*



into the potential for the household sector to increase borrowing can be gleaned from the ABS Household Expenditure Survey, which shows that only a little over one third of households had owner-occupier housing debt in 2003/04.² At that time, the average owner-occupier debt-servicing ratio (including principal repayments) was 25.6 per cent, with this measure lower among the higher income households that owe the bulk of owner-occupier housing debt and have higher net assets (Table 5).

Table 5: Owner-occupier Housing Debt

Per cent, 2003/04 financial year

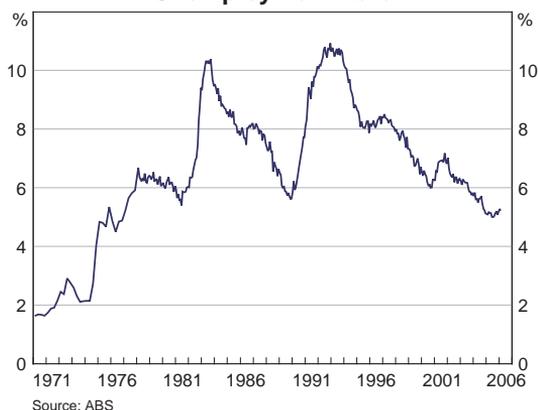
Income quintile	Mortgage repayments of owner-occupiers ^(a) Per cent of average after-tax earnings of households in quintile	Share of total owner-occupier mortgage repayments ^(a)	Share of all household net worth
Lowest	44.3 ^(b)	2.4	12.5
Second	28.3	7.0	15.4
Third	24.2	17.8	16.2
Fourth	20.5	29.5	20.2
Highest	16.8	43.3	35.7

(a) Includes interest payments and principal repayments on primary mortgage.

(b) ABS analysis of the 1998/99 Household Expenditure Survey suggests that the relatively high reading for the low income group is likely to partly reflect borrowers with access to considerable assets, such as business owners and retirees.

Source: ABS

Graph 18
Unemployment Rate



To date, there are few signs that the current level of indebtedness is causing the household sector difficulties. This is perhaps not surprising given the favourable macroeconomic environment, with the ongoing strength of the labour market delivering solid income growth. Over the year to December 2005, real household disposable income grew by 5½ per cent, and the unemployment rate currently stands at 5.2 per cent, around its lowest level in three decades (Graph 18).

The higher level of indebtedness has, however, increased the sensitivity of the household sector to movements in interest rates, and appears of late to have prompted some households to take a more cautious approach to their finances. This is suggested by an easing in the very strong growth previously seen in consumption and housing-related expenditure. In early 2004, annual real growth in consumption was running at over 6 per cent, taking spending to an historically

² For a discussion of changes in housing ownership see Reserve Bank of Australia (2005), 'Box A: Rates of Indebted Home Ownership', Financial Stability Review, September.

high share of household disposable income. More recently, however, growth in spending has slowed and is currently running a little below that in household disposable income (Graph 19). Similarly, spending on renovations and new dwellings has eased, but remains high relative to historical averages.

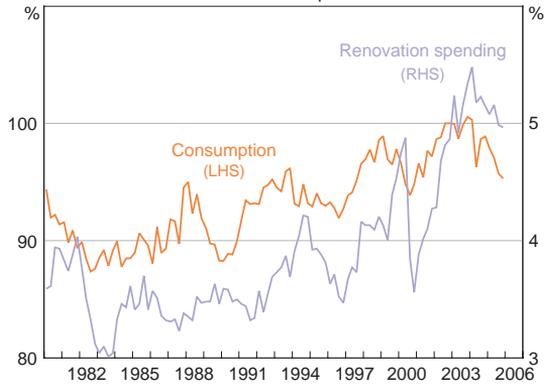
At the same time, there is little evidence of distress among households. Survey results show that while the share of respondents that consider their personal financial situation better than a year ago has declined since 2004, it remains above its long-run average (Graph 20). In recent years, trends in sentiment have been broadly similar amongst those households that own a home outright, and those that own a home with a mortgage or rent.

Similarly, while arrears on bank housing loans have recently increased a little, the arrears rate remains quite low relative to the average of the past decade (see *Financial Intermediaries* chapter). Bank credit card arrears also remain at low levels by historical standards. Credit card cash advances – a relatively expensive way of obtaining cash more likely to be used when households are in financial difficulties – have not increased in average size, although the total amount withdrawn has grown with the rise in the number of cards on issue. Over the past year, total credit card repayments have exceeded total new spending on credit cards, with growth in credit card debt outstanding largely accounted for by interest charges (Graph 21).

Graph 19

Household Expenditures

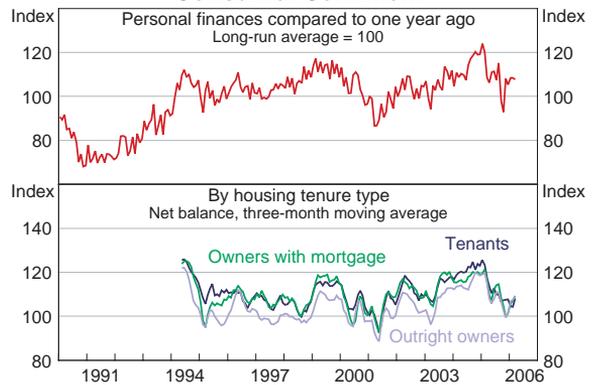
Per cent of household disposable income*



* Household disposable income excludes unincorporated enterprises and is after tax and before the deduction of interest payments.
Sources: ABS; RBA

Graph 20

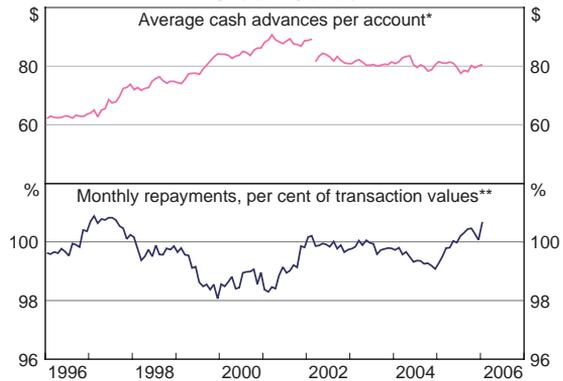
Consumer Sentiment



Source: Melbourne Institute and Westpac

Graph 21

Credit Cards



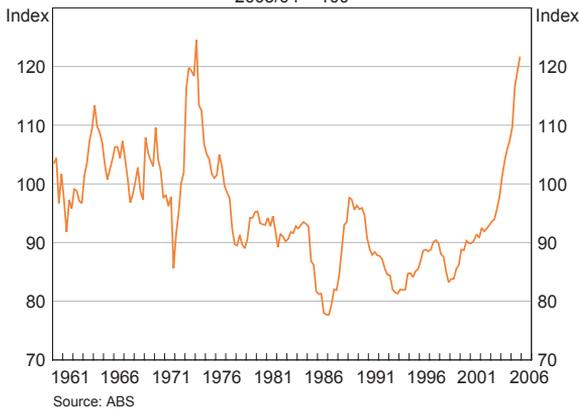
* Three-month moving average; series break in January 2002 due to coverage changes
** 12-month moving average
Source: RBA

Overall, the cooling in housing markets and the associated moderation in household credit growth has been a welcome development. The household sector is taking a somewhat more cautious approach to its finances and there are few signs of stress. Nonetheless, the higher level of indebtedness has increased the vulnerability of the household sector to any unexpected deterioration in the hitherto generally favourable economic and financial climate.

Business Sector

At the aggregate level, conditions in the business sector have continued to be very favourable, with high profits and the debt-servicing ratio remaining around historical lows. This overall

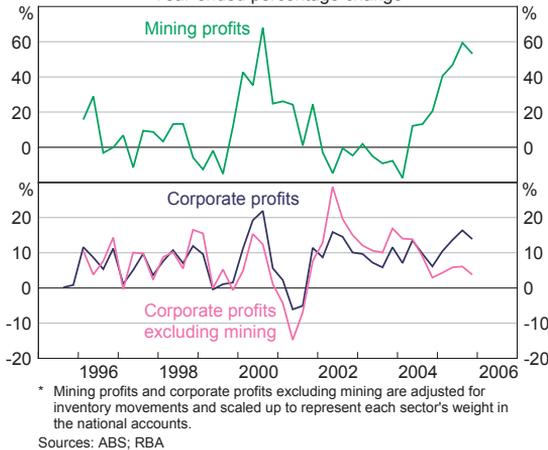
Graph 22
Terms of Trade
2003/04 = 100



strength owes in large part to the significant rise in the terms of trade over recent years which, together with the relatively stable exchange rate, has created an extremely strong environment for the resources sector (Graph 22).

Total business sector profits – as measured by national accounts data for private non-financial corporations and the unincorporated sector – increased by 9.6 per cent over the year to December 2005 and, as a share of GDP, are well above the average of the past 15 years. The increase over the past year mainly reflects growth of 53 per cent in corporate mining profits (Graph 23). Among the non-mining corporate sector, and unincorporated enterprises, profit growth has slowed in recent years, in line with moderating growth in domestic demand.

Graph 23
Corporate Profits*
Year-ended percentage change



Strong corporate profitability has been reflected in large gains in share prices. At the aggregate level, the ASX 200 is up by 21 per cent over the year to March (Graph 24). The increases have been largest in the resources sector, with the ASX

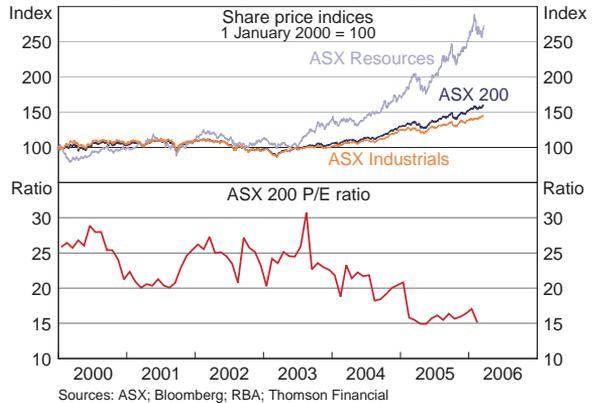
Resources index 39 per cent higher over this period. Share prices in most other sectors have also recorded solid gains over the past year, with the telecommunications sector a notable exception. In aggregate, the share price increases have been well supported by earnings growth, so there

has been little change in the price/earnings (P/E) ratio of the ASX 200, with this ratio around its 50-year average. Equity analysts are generally optimistic about future profits, with expected earnings per share being frequently revised upwards over the past few years as earnings surpass expectations (Graph 25). These upward revisions to forecasts have been particularly large for resource companies' earnings.

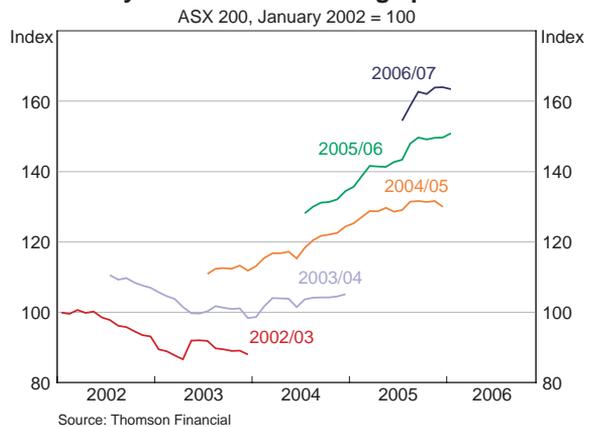
While continued strong profit growth means that businesses' internal funding as a share of GDP is around the highest on record, external fund raising has risen strongly in recent years, and as a share of GDP is the highest in 15 years. This is most evident in intermediated business credit, which grew by 16.3 per cent over the year to January, the strongest growth in a decade and a half (Graph 26). Firms have also been raising capital directly through financial markets, with solid issuance of non-intermediated debt and net equity raisings 25 per cent higher in 2005 than in 2004. The demand for business funding is consistent with the very strong growth in business investment, which is at its highest level as a share of GDP since 1989, and buoyant conditions in intermediated and wholesale finance markets.

Notwithstanding strong growth in intermediated debt, total business debt as a multiple of profits is below previous peaks (Graph 27). The business sector remains well placed to service the increased debt as interest payments as a share of

Graph 24
Share Price Indices and P/E Ratio



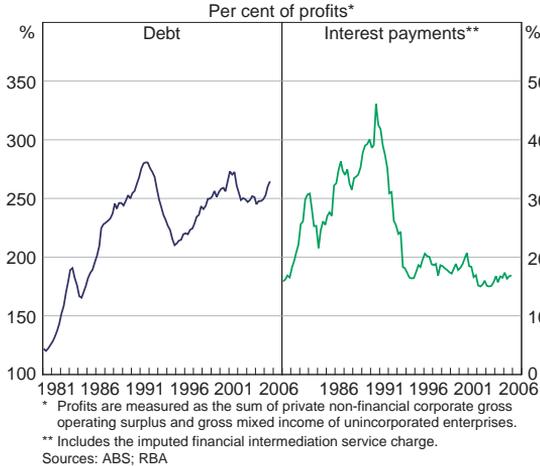
Graph 25
Analysts' Forecast Earnings per Share



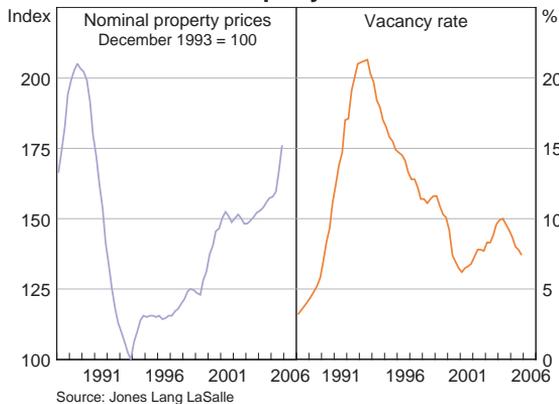
Graph 26
Business Credit*
Year-ended percentage change



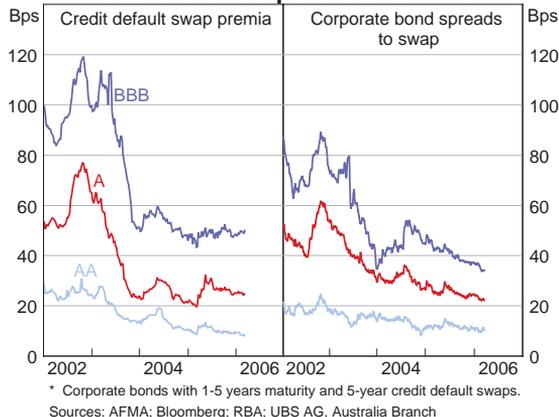
Graph 27
Business Sector Finances
Per cent of profits*



Graph 28
Office Property Indicators



Graph 29
Indicators of Corporate Credit Risk*



profits have increased only slightly from historically low levels, primarily reflecting the underlying strength in profits. The effect of interest rate increases in recent years has also been partly offset by a contraction in lending margins. The spread over the cash rate of the interest rate paid on bank loans to business has declined by around 35 basis points over the past three years to 135 basis points, a little over half of what it was 10 years ago.

The commercial property market continues to show few signs of the excesses that caused difficulties in the early 1990s. Non-residential construction, as a ratio to GDP, remains well below the peak reached during that period, despite a steady increase in recent years. Although national office and industrial property price indices have both risen significantly over the past year, in real terms they remain well below their 1989 peaks (Graph 28). Available data suggest that other aspects of the market have also firmed over the past year with a decline in office vacancy rates and an increase in rents in many markets, notwithstanding some variation by city. As in residential property, the commercial property market has been particularly strong in Perth, with the office and industrial indices rising by 15 per cent and 19½ per cent respectively over 2005.

The current positive operating environment is reflected in attitudes of businesses, financial market participants and rating agencies. The NAB Business Survey for the December quarter shows generally favourable perceptions of business

conditions, and business confidence around its long-run average, albeit somewhat below the high levels seen in late 2003 and 2004. Confidence remains strongest in the mining sector and weakest in the retail and wholesale sectors. Credit default swap premia and corporate bond spreads remain at low levels, indicating that financial market participants see low credit risk in the corporate sector (Graph 29). Among rating agencies, Standard & Poor's made more rating upgrades than downgrades for Australian corporates over 2005.

While the health of the business sector is clearly dependent on the overall economy, the strength of corporate profitability and debt-servicing capacity suggests that the sector is comfortably positioned from a financial stability perspective. This is not to say that all segments of the business sector are equally well placed. Clearly the current environment is particularly strong for those involved in, or servicing, the resources sector. But business surveys and liaison reports indicate that conditions are less positive in parts of the manufacturing industry, which are being affected by the slower growth of the domestic economy and strong competition from abroad.

Box A: International Commercial Property Developments

Over recent years, commercial property prices have risen strongly in many countries. Where increases have been large they have typically been broadly based: across offices, retail and industrial properties, and evident both in direct property indices and listed property trusts (Table A1 and Graph A1). As in residential property markets, price growth has generally been strongest in English-speaking countries.

Table A1: Commercial Property Prices

Year-ended percentage change in capital values

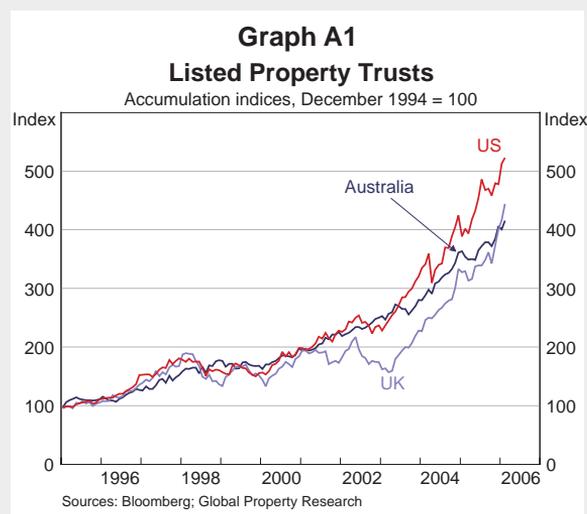
	All commercial property		Office property	
	Year to Dec 2005	Three years to Dec 2004 ^(a)	Year to Dec 2005	Three years to Dec 2004 ^(a)
Australia	–	–	11.7	1.9
Canada	10.1	1.4	9.3	-0.9
Ireland	18.1	3.0	16.7	-2.0
New Zealand	8.8	2.3	8.2	1.4
United Kingdom	12.8	5.8	13.4	-0.2
United States	11.3	5.7	11.8	3.6
Germany ^(b)	–	-2.1	0.0	-15.3
Japan ^(c)	–	–	-7.0	-9.9
Singapore	–	–	4.5	-9.6

(a) Average annual percentage change.

(b) Office data relate to Frankfurt only.

(c) Data relate to year(s) to September. Office data include retail property.

Sources: Investment Property Databank; Japan Real Estate Institute; Jones Lang LaSalle; Property Council of New Zealand; Singapore Urban Redevelopment Authority; US Federal Reserve



The upward pressure on prices partly reflects strong fundamentals, with economic growth contributing to an increase in rents and declining vacancy rates in many countries. But developments also appear to reflect strong investor demand, particularly from pension funds seeking assets offering long-term income streams at high yields.

As in other asset markets, the rise in prices has been associated with an increase in borrowing. In many countries, banks have increased lending to the commercial property

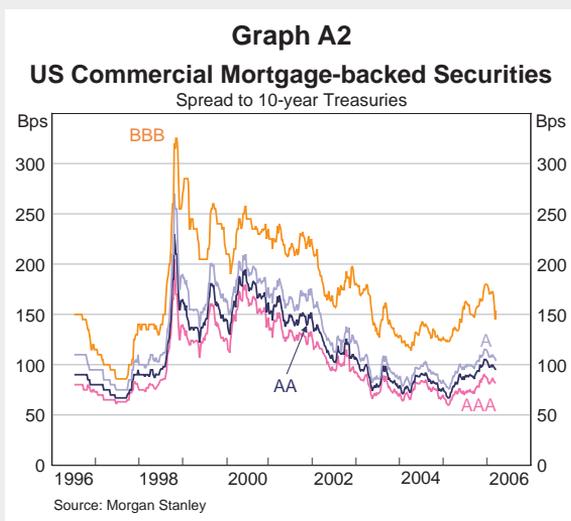
sector, often against the backdrop of generally subdued corporate demand for debt. For example, over 2005, bank lending for commercial property in the United States grew by 17 per cent, while in the United Kingdom it grew by 18 per cent, continuing the high rates of growth seen in recent years. This strong growth has attracted the attention of prudential supervisors. Earlier this year, the US federal bank and thrift regulatory agencies issued draft guidelines to institutions on sound risk management practices for commercial property loans, noting that some institutions had high and increasing concentrations of loans where repayment is primarily dependent on sources such as rental income, the sale of the property or refinancing. In the United Kingdom, the Financial Services Authority has noted the rapid growth in commercial property lending and associated risks on numerous occasions in recent years.

There has also been an increase in the financing of commercial property through capital markets. Industry data show that in 2005 issuance of commercial mortgage-backed securities (CMBS) in the United States was around US\$170 billion, an 82 per cent increase over the previous year. Strong activity is also evident in Europe, where around US\$56 billion of CMBS were issued in 2005, with around three quarters of this amount issued in the United Kingdom. Credit spreads of US CMBS to 10-year Treasuries remain low by historical standards, notwithstanding some widening over the past year reflecting increased issuance and investor concerns over the higher leverage and lower credit support levels in recent issues of CMBS (Graph A2).

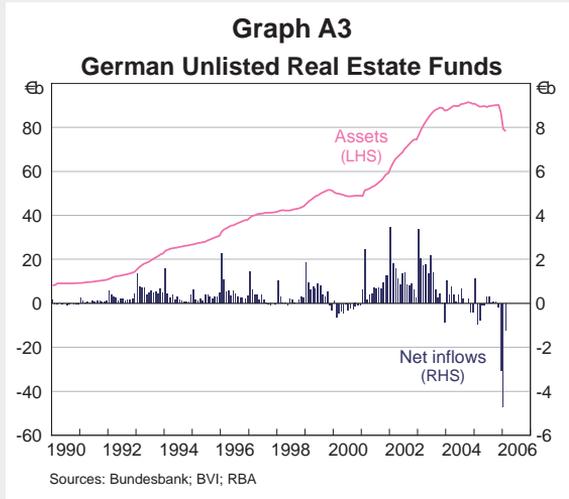
There has also been strong growth in commercial real estate collateralised debt obligations (CDOs): in the United States more than US\$21 billion in real estate CDOs were issued in 2005 compared with US\$8.4 billion in 2004.

The increasing supply of CMBS and CDOs, with a range of subordination, has broadened the investor base in real estate debt markets and reduced the commercial property sector's dependence on bank financing. It has also helped increase market scrutiny of the commercial property sector. These are generally favourable developments from a financial stability perspective.

Investor interest in commercial property may increase further, with the United Kingdom, Germany and several other countries planning legislative changes to encourage the development of the listed property trust sector. The changes will promote trust structures along the lines of US real estate investment trusts, which are similar to listed property trusts in Australia in that holdings can be actively traded on an exchange. In the United Kingdom, for example, subdued



secondary trading of the existing listed property trusts has, to date, limited their appeal to small investors.



Some of the risks associated with commercial property and, in particular, unlisted unit trust structures, were recently highlighted in Germany, where the commercial property market has been weak. Difficulties emerged when a number of unlisted retail property trusts experienced a heavy flow of unit redemptions, as investors attempted to access funds before a feared downward revaluation of the trusts' assets (Graph A3). The redemptions exposed the substantial maturity mismatch between the liabilities and

assets of the trusts, with investors' highly liquid claims on the trusts backed primarily by relatively illiquid real estate. The run prompted a freeze on redemptions in several funds, a statement of support by a major bank associated with one of the trusts, as well as a statement by German regulatory agencies expressing confidence in the long-term prospects for the industry. ❖

2. Financial Intermediaries

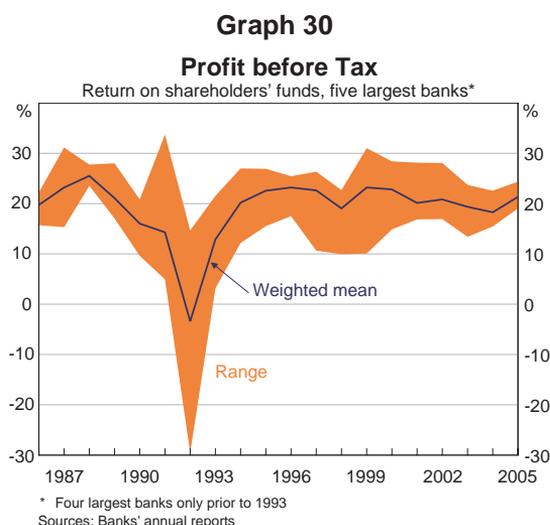
Australian financial institutions are continuing to benefit from the expansion of the domestic economy. While margins remain under downward pressure, high levels of profitability have been sustained through further reductions in costs, relative to income, and growth in non-interest income. Banks are also seeing balance sheet growth as a result of a pick-up in the demand for credit by businesses, which has helped offset slower growth in the demand for housing finance. Competition amongst banks and other lenders remains strong, with borrowers able to obtain finance at lower margins and on more flexible terms than has been the case in the past. To date, the supportive economic environment has meant that this general lowering of lending standards has not led to an increase in banks' overall bad debts expense, although, in time, an increase is likely to occur.

2.1 Deposit-taking Institutions

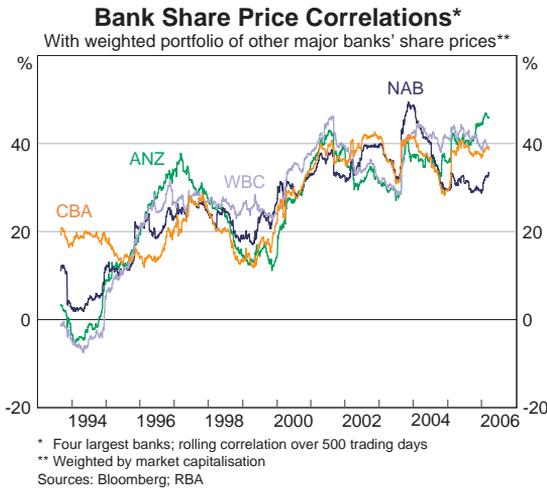
Profitability and Balance Sheet Growth

In aggregate, the return on equity for the five largest banks in 2005 was 21.4 per cent (Graph 30). This outcome continues a run of high and stable returns over more than a decade. The other notable feature of recent profit results has been the similarity in the returns earned by the various banks. This reflects, in part, the fact that the balance sheets of the major banks have evolved in a similar way over the past decade, with each of them experiencing very strong growth in their portfolios of residential mortgages. One consequence of this broad similarity in profitability has been a notable increase in the correlation of movements in the share prices of the four largest banks (Graph 31).

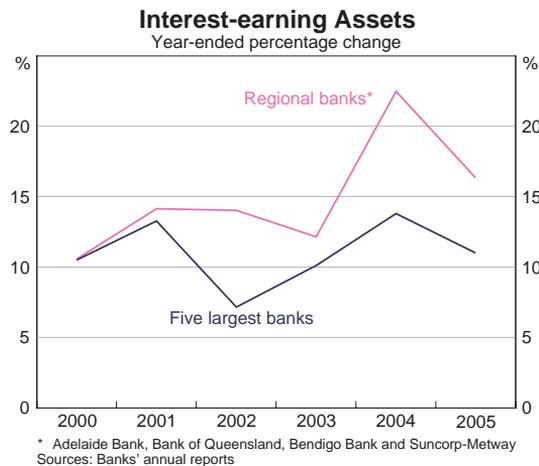
The aggregate balance sheet of the banking system continues to grow at a firm pace, reflecting strong domestic credit growth; over the past year, interest-earning assets of the five largest banks grew by around 11 per cent, with the smaller regional banks experiencing considerably faster growth of 16 per cent (Graph 32). However, the



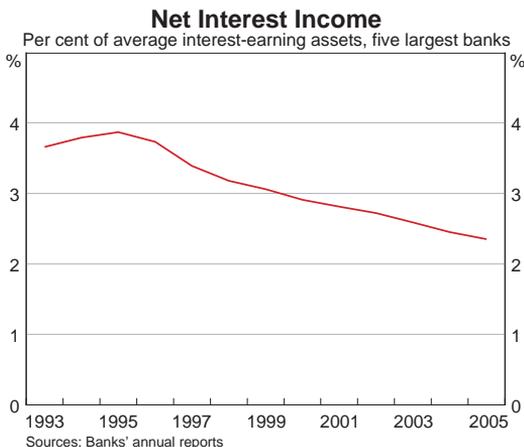
Graph 31



Graph 32



Graph 33



composition of balance sheet growth has changed, with growth in lending to businesses picking up significantly and growth in lending to households slowing. APRA data on banks' business lending suggest that much of the growth in business lending has been in loans with a value greater than \$500 000 (typically to large businesses), which account for over three quarters of banks' outstanding business loans.

Growth in net interest income continues to be considerably slower than that in assets, reflecting the ongoing decline in net interest margins. Over 2005, net interest income of the five largest banks increased by 6½ per cent, with the ratio of net interest income to interest-earning assets falling by 10 basis points, to 2.35 per cent (Graph 33 and Table 6).

Partly in response to the pressure on margins, banks have sought to diversify their sources of income, including by bolstering their wealth management operations. Income from wealth management (excluding revaluations) increased by 23 per cent over the past year and now accounts for over 13 per cent of the four largest banks' total income, compared to 9 per cent four years ago (Graph 34). While other forms of non-interest income have grown more slowly, total non-interest income accounted for around 45 per cent of banks' total income in 2005.

Table 6: Annual Profit Results^(a)

Five largest banks, consolidated

	2004	2005	Growth
	\$b	\$b	Per cent
Income			
Net interest income	24.2	25.8	6.5
Net income from wealth management	5.4	6.6	23.3
Other non-interest income ^(b)	13.1	14.8	13.1
Expenses			
Operating expenses ^(c)	22.4	23.7	5.5
Bad and doubtful debts	2.3	1.9	-15.6
Goodwill amortisation	0.8	0.9	4.3
Profit^(d)			
Net profit before tax and revaluations	17.1	20.8	21.2
Net profit before tax	17.2	21.9	27.2
Net profit after tax	12.3	15.6	26.7

(a) Year to September for ANZ Banking Group, National Australia Bank, St George Bank and Westpac Banking Corporation; year to June for Commonwealth Bank of Australia

(b) Includes National Australia Bank's sale of stakes in AMP, St George Bank, and two Irish banks, and reversal of HomeSide provisions

(c) Includes Commonwealth Bank of Australia's 'Which New Bank' restructuring costs and National Australia Bank's foreign currency options trading losses

(d) Before outside equity interests

Sources: Banks' annual reports

Competition

An important feature of the current environment is the strong competition in both lending and deposit markets.

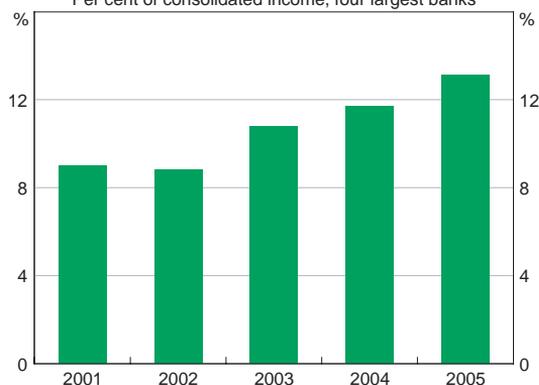
Over recent years, competition amongst lenders has put considerable downward pressure on margins and has led to an incremental easing of lending criteria. In particular, the increase in competition in the housing market has seen lenders move away from many of their traditional lending practices. These changes have been discussed at length in previous *Reviews*, with the main changes including:

- higher permissible debt-servicing ratios. Following changes to procedures for assessing prospective borrowers, many lenders are now prepared to make loans with a debt-servicing

Graph 34

Wealth Management Income*

Per cent of consolidated income, four largest banks



* Excludes wealth management revaluations
Sources: Banks' annual reports

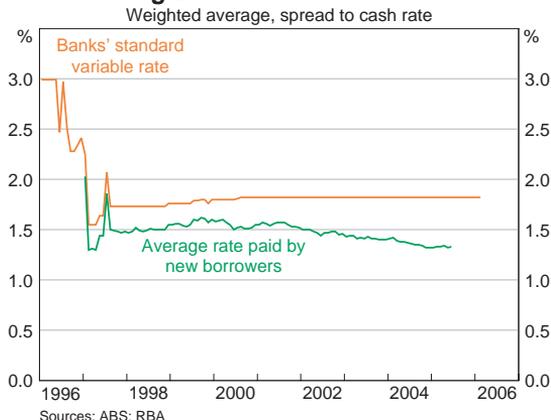
ratio (the ratio of interest and principal repayments to the borrower's gross income) of 50 per cent, rather than the traditional 'rule of thumb' of 30 per cent;³

- an increased reliance on brokers to originate loans. In aggregate, around 30 per cent of new loans are originated through third-party brokers, though this figure varies significantly across banks;
- the granting of low-doc loans which involve a large element of self-verification in the application process; and
- the greater availability of loans with minimal, or no, deposit.

Recently, competitive pressures appear to have intensified, as many lenders have sought to maintain growth in their mortgage portfolios in the face of slower growth in the demand

for housing finance. As a result, the downward pressure on housing loan margins has continued, with lenders both advertising and negotiating larger discounts to the standard variable mortgage rate. The average rate paid by new borrowers was around 50 basis points below the banks' standard variable rate in mid 2005, with discounts of 70 basis points common for loans over \$250 000 (Graph 35). Strong competition has also been a feature of overseas housing markets, including in New Zealand and the United Kingdom, where Australian

Graph 35
Housing Loan Variable Interest Rate
Weighted average, spread to cash rate



banks have significant retail operations (see Box B).

One factor contributing to the fall in lending margins has been a decline in the spreads that investors require to hold residential mortgage-backed securities (RMBS). Recently, AAA-rated RMBS have been issued at about 14 basis points over the bank bill swap rate, compared with 18 basis points during much of 2005 and 36 basis points a few years ago (Graph 36). Spreads have fallen by an even larger amount on AA-rated securities. These declines have allowed lenders that securitise mortgages to make loans at lower rates than would otherwise have been the case.

Strong competition is also evident in the low-doc housing loan market. While banks generally entered this market later than specialised non-bank lenders, they are now significant participants, with some regional banks targeting this market quite aggressively. Low-doc loans are designed mainly for the self-employed or those with irregular incomes who do not have the

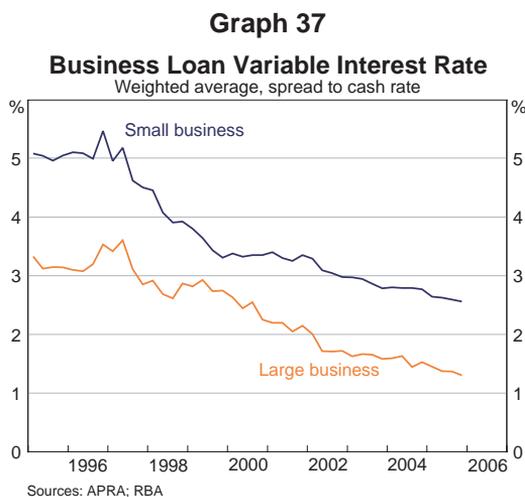
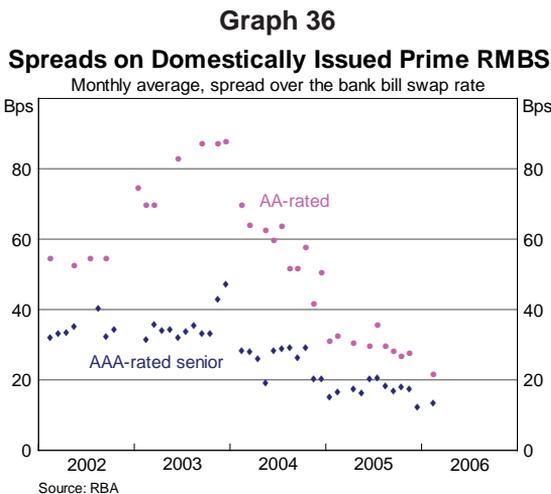
³ See Reserve Bank of Australia (2005), 'Box D: Estimates of Borrowing Capacity from Banks' Online Housing Loan Calculators', Financial Stability Review, March.

documentation required to obtain a conventional mortgage.⁴ As such, these loans tend to have higher default rates than standard housing loans (see below). Traditionally, lenders have charged higher interest rates on low-doc loans than on standard loans to compensate for the higher risk. In recent years, however, the margins on low-doc loans have declined markedly, with the average advertised rate on new low-doc loans now only 10 basis points above the advertised standard variable rate. At the same time, maximum allowable loan sizes and loan-to-valuation ratios for low-doc loans have increased.

Competition has also intensified in the credit card market. It has been particularly vigorous in the ‘no frills’ segment of the market, with more than a dozen low-rate cards being introduced over the past three years. These cards offer interest rates in the 9 to 13 per cent range, compared to around 17 per cent on traditional cards. The lowering of interest rates on credit cards has also prompted greater competition in the personal loan market, with a variety of new products being introduced and significant discounts being offered to new customers.

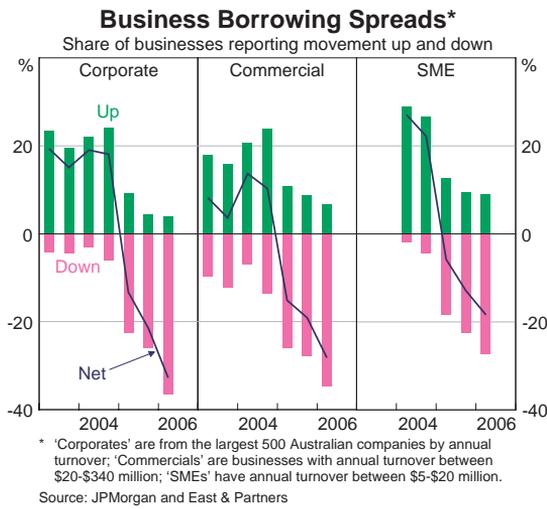
Pricing pressure is also evident in the business loan market, with the spread between the weighted-average variable rate paid by both small and large businesses and the cash rate continuing to fall (Graph 37). Business surveys confirm this increased competition, with the semi-annual survey conducted by JPMorgan and East & Partners reporting that the number of businesses that have recently experienced a reduction in their borrowing spread considerably exceeds the number that have experienced an increase (Graph 38). Margins are also being affected by a change in the composition of banks’ business portfolios towards lower-margin products, including loans backed by residential property.

In some respects, parts of the business lending market are beginning to have some of the characteristics



⁴ See Reserve Bank of Australia (2005), ‘Box B: Developments in the Low-doc Loan Market’, Financial Stability Review, September.

Graph 38



of the housing loan market, with a growing focus on price rather than the 'relationship' between borrower and lender. Brokers are also starting to play a larger role in business lending and, as in the housing loan market, are acting as a conduit for greater competition.

At the same time that banks are competing intensively for lending opportunities, competition for deposits has picked up, with an increasing number of banks, including each of the five largest banks, now offering high-yield online savings accounts. The average interest rate on these accounts is 5.45 per cent, though some banks offer rates at, or above, the current cash rate of 5½ per cent. The catalyst for this competition was the entry of a number of foreign-owned banks, which were the first to offer high-yield online savings accounts. These banks have increased their share of total bank deposits from less than 8 per cent five years ago, to over 11 per cent as at end 2005 (Graph 39). More recently, foreign-owned banks have also gained a larger share of the personal and housing loan markets.

Graph 39



As a result of the changes in lending practices described above, borrowers have been provided with easier and cheaper access to finance, particularly for housing, which together with other structural changes, have facilitated an increase in debt levels. At the same time, these developments have occurred against a favourable macroeconomic backdrop, with current lending standards, pricing and risk-management systems yet to be tested in an economic downturn.

Credit Risk and Capital Adequacy

Credit risk

Not surprisingly given the economic environment, Australian banks' non-performing assets remain very low, both by historical and international standards. As at December 2005, only

around 0.4 per cent of on-balance sheet assets were classified as non-performing (Graph 40). Of these, around half were classified as ‘impaired’ – that is, assets on which payments are in arrears by more than 90 days or otherwise doubtful and the amount due is not well covered by the value of collateral. The remaining non-performing assets were in arrears, but were well covered by collateral.

Within this aggregate, there has been some decline in the share of business loans that are non-performing, with the arrears rate

falling by over 60 basis points over the past two years. This is consistent with the sound balance sheet position of the business sector, which has been underpinned by the favourable operating environment (see *The Macroeconomic and Financial Environment* chapter). The arrears rate on commercial property lending – the traditional source of major credit quality problems – is also at a historically low level. As at September 2005, only 0.2 per cent of outstanding commercial property loans were impaired, notwithstanding the well-publicised problems surrounding some residential property developers (Table 7). Over the year to September 2005, commercial property lending increased by around 18 per cent, somewhat higher than growth in banks’ business loan portfolios. Nonetheless, recent problems at some property developers have resulted in significant losses for small investors, including retail investors, some of whom were acting on the advice of financial advisors. These episodes have been the focus of regulatory attention (see *Developments in the Financial System Infrastructure* chapter).

Graph 40

Banks’ Non-performing Assets

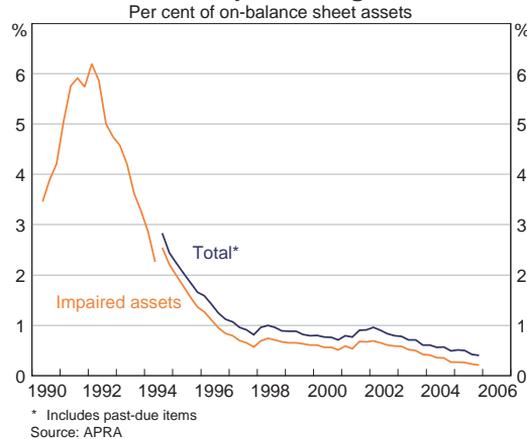


Table 7: Banks’ Australian Commercial Property Exposures

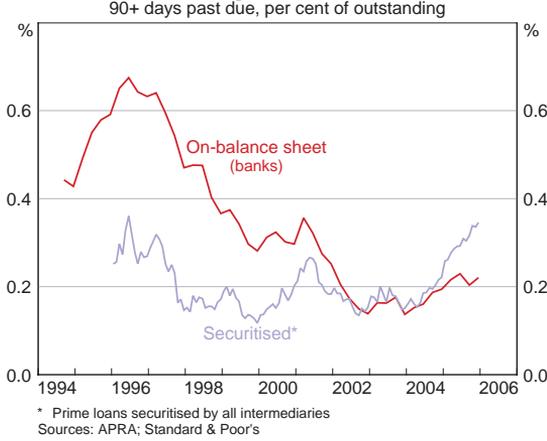
Per cent, September 2005

	Growth Year to September 2005	Share of total commercial lending	Impaired assets Share of commercial property exposures
Office	20	10	0.1
Retail	6	7	0.1
Industrial	26	4	0.0
Residential	17	11	0.4
Tourism and leisure	23	2	0.1
Other	27	4	0.2
Total	18	37	0.2

Source: APRA

Graph 41

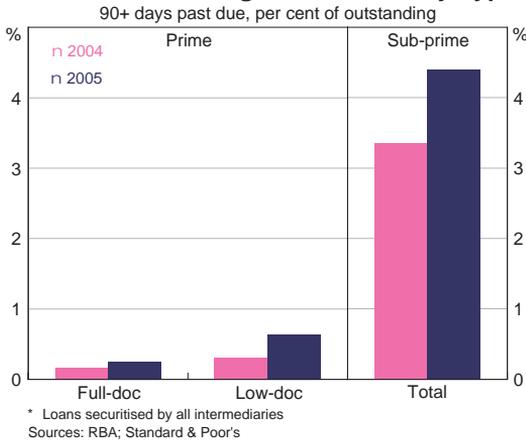
Housing Loan Arrears



In contrast to the decline in business arrears, the share of banks' housing loans on which payments are past due has edged up over the past two years, to over 0.2 per cent, though this share remains low in absolute terms (Graph 41). The arrears rate on securitised housing loans has increased more markedly, to 0.35 per cent. This partly reflects the higher, and increasing, share of low-doc loans – which have higher arrears rates than traditional loans – in the pool of securitised mortgages (Graph 42). Around 12 per cent of loans securitised by all lenders were low-doc as at end 2005, although for specialised non-bank mortgage originators this figure was around 20 per cent.

Graph 42

Securitized Housing Loan Arrears by Type*



of securitised non-conforming loans more than 90 days in arrears was around 4½ per cent in 2005, considerably higher than arrears rates on prime low-doc or traditional loans. While up until recently non-conforming loans were only available from specialised lenders, at least one mainstream lender has now entered the market, and it is possible that others may follow suit.

Non-conforming lending – often referred to as sub-prime lending – is another aspect of housing finance that has attracted attention lately. Non-conforming lenders provide finance to borrowers who do not meet standard lending criteria, including those with impaired credit histories or an irregular income.⁵ Reflecting the higher risk of this type of lending, the share

Australian banks are also exposed to credit risk through their operations overseas. As at December 2005, Australian-owned banks' overseas claims were \$366 billion, accounting for 27 per cent of their total assets. Their overseas operations remain concentrated in New Zealand and the United Kingdom, predominantly through lending by branches and subsidiaries located in those countries (Table 8). As noted, many of the competitive pressures faced by banks in Australia are also evident in these countries. One aspect of banks' overseas operations that has attracted attention recently is a renewed interest in developing a stronger presence in Asia,

⁵ See Reserve Bank of Australia (2005), 'Box C: Non-conforming Housing Loans', Financial Stability Review, March.

particularly in China. Over the past two years, exposures to China have more than doubled, to \$2.6 billion, although they remain a very small share of banks' total foreign exposures. Recently, some Australian banks have also taken equity interests in Chinese banks.

Table 8: Australian-owned Banks' Foreign Exposures

As at December 2005, ultimate risk basis

	Total		of which:	
	Level \$b	Share Per cent	Cross-border \$b	Local \$b
New Zealand	166.0	45.3	4.7	161.3
United Kingdom	84.7	23.1	17.9	66.8
United States	38.3	10.4	21.2	17.0
Other developed countries	50.5	13.8	47.3	3.2
Developing countries	15.8	4.3	10.0	5.8
Offshore centres ^(a)	10.9	3.0	6.9	4.0
Other	0.2	0.0	0.0	0.1
Total	366.3	100.0	108.1	258.2
<i>Memo: Per cent of total assets</i>	<i>27.0</i>		<i>8.0</i>	<i>19.0</i>

(a) Includes Hong Kong and Singapore

Source: APRA

Capital adequacy

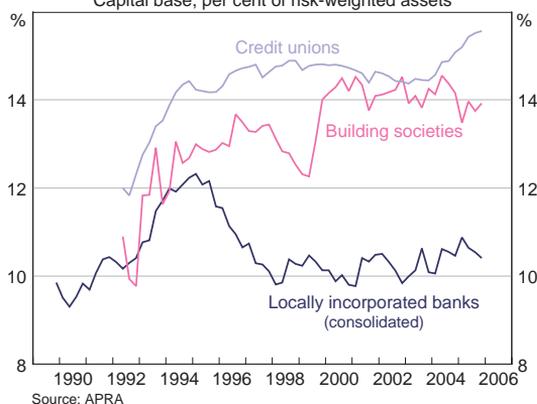
Australian banks remain well capitalised, with an aggregate regulatory capital ratio of 10.4 per cent as at December 2005 (Graph 43). While this ratio has drifted down a little over the past six months, it remains around its average over the past decade. Given the strong profitability in the sector, banks have been able to rely on retained earnings to increase their capital base in line with asset growth, while also conducting periodic share buy-backs. Credit unions and building societies also remain well capitalised, with aggregate regulatory capital ratios in the range of 13 to 16 per cent.

Looking ahead, banks' capital ratios will be affected by the implementation of International Financial Reporting Standards (IFRS), and proposed changes to APRA's prudential standards. These proposed changes would result in additional deductions from the Tier 1 capital of banks with intangible assets relating to their life insurance subsidiaries. APRA has also proposed new limits on banks' use of innovative hybrid funding instruments (instruments which have properties of both debt and equity). These new limits are scheduled to come into effect in 2008, though an additional two-year transition period may be available for materially affected banks.

Graph 43

Capital Ratios

Capital base, per cent of risk-weighted assets



Source: APRA

Market Risk

Australian banks have relatively small net positions in financial markets. This is evident in the four largest banks' aggregate exposure to market risk through their trading operations, as measured

	2004	2005
Interest rate	0.02	0.02
Foreign exchange	0.01	0.01
Other ^(b)	0.02	0.01
Diversification benefit	-0.01	-0.01
Total	0.04	0.04

(a) Value-at-risk is calculated using a 99 per cent confidence interval and one-day holding period.
 (b) Other market risks include commodity, equity, prepayment, volatility and credit-spread risk.
 Sources: Banks' annual reports

by average value-at-risk (VaR).⁶ Based on these banks' 2005 results, this measure of risk was equivalent to 0.04 per cent of shareholders' funds, which is low by international standards, and unchanged from 2004 (Table 9). Interest-rate risk remained the largest component of banks' traded market risk.

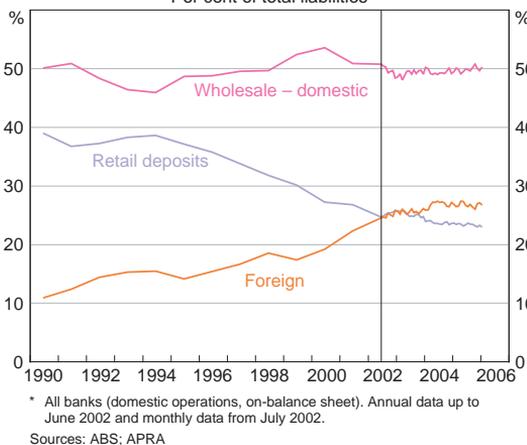
Liquidity and Funding

For much of the past decade, bank lending growth has outstripped the growth in retail deposits. This largely reflects developments in the household sector, where an increasing share of household savings has been channelled into non-deposit products at the same time as the household saving rate has fallen and the demand for finance, especially for housing, has been strong. As a result of these developments, the share of banks' funding sourced through retail deposits has fallen from about 38 per cent in the mid 1990s to around 23 per cent currently (Graph 44).

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A variety of approaches have been adopted by banks to bridge this gap between growth in domestic lending and growth in retail deposits. Some regional banks have made extensive use of securitisation (Graph 45).

Graph 44
Banks' Liabilities*
Per cent of total liabilities



In contrast, the five largest banks have relied more heavily on issuing securities into wholesale markets, particularly those offshore. As a result, foreign liabilities accounted for 27 per cent of banks' total liabilities (on a domestic-books basis) as at January 2006, compared to 15 per cent a decade ago.

The bulk of offshore borrowing is done through the issuing of negotiable debt securities. The large banks all have both commercial paper and medium-term bond-issuing programs. Over the past

6 VaR models use the distribution of historical price changes to estimate the potential for future losses, relative to a confidence level. A confidence level of 99 per cent, for example, indicates a 99 per cent probability that losses will not exceed the VaR estimate on any given day, based on historical performance.

few years, an average of around \$50 billion in new bonds has been issued each year, up from around \$10 billion per year in the second half of the 1990s (Graph 46). The bonds have been issued in a wide range of currencies, while commercial paper is typically issued in US dollars and euro. Additionally, around 15 per cent of the banking system's foreign funding is by way of transfers from related entities, with this form of funding relatively more important for foreign bank branches operating in Australia.

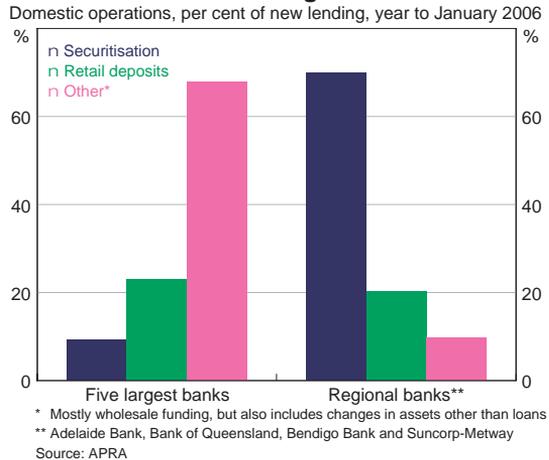
This reliance on foreign funding has not exposed the banking system to foreign exchange risk, as the currency risk on foreign-currency-denominated debt is typically fully hedged using cross-currency swaps and foreign exchange forward contracts. A survey commissioned by the Bank, and undertaken by the Australian Bureau of Statistics last year, confirmed that the net foreign currency exposure on the debt of Australian banks was quite low at \$18 billion, and that this was more than offset, in aggregate, by equity holdings in foreign currency (see Box C).

One concern that has sometimes been expressed about the the banking system's heavy use of foreign funding is the potential for problems to emerge in rolling over the debt in times of stress. While this refinancing risk was a significant problem for some Asian countries in the mid-1990s crisis, countries with floating exchange rates and developed capital markets have not experienced this type of problem. For these countries, there is little evidence to suggest that foreign investors are less likely to rollover debt securities than are domestic investors. Moreover, the major banks diversify their funding sources, issuing securities into a range of different markets (Table 10). They also issue at a range of maturities, with the weighted-average maturity on banks' offshore bonds currently around four years.

In addition to diversifying their funding sources, banks manage their liquidity risks through holding liquid assets that can be easily converted to cash. Over the past few years, the ratio

Graph 45

Banks' Funding Sources



Graph 46

Banks' Offshore Bond Issuance by Currency*
 Australian banks

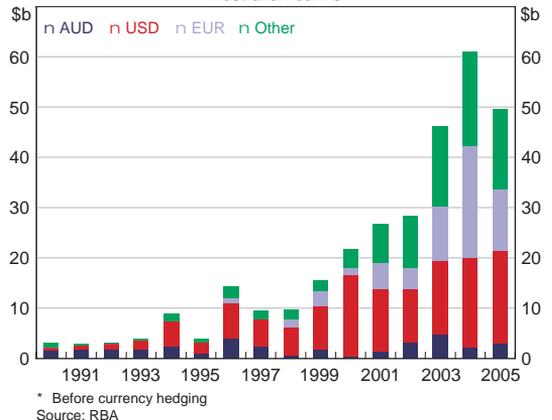


Table 10: Australian Banks' Offshore Debt Securities

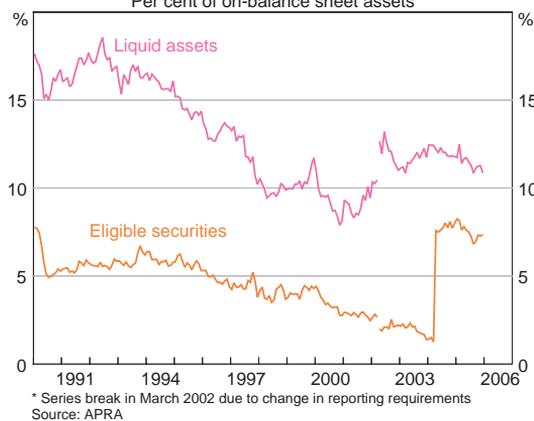
Per cent of total outstanding, as at December 2005

Market of issue	Currency					Total
	AUD	USD	EUR	GBP	Other	
United Kingdom	6.0	21.6	21.1	12.5	10.5	71.7
United States	0.1	10.6	0.5	0.0	0.0	11.4
Hong Kong	0.4	4.7	0.1	1.4	2.0	8.5
Japan	0.5	0.2	0.0	0.0	1.5	2.2
Other	1.3	2.1	0.5	0.5	1.8	6.2
Total	8.3	39.3	22.3	14.3	15.8	100.0

Source: APRA

Graph 47

Banks' Eligible Securities and Liquid Assets*
Per cent of on-balance sheet assets



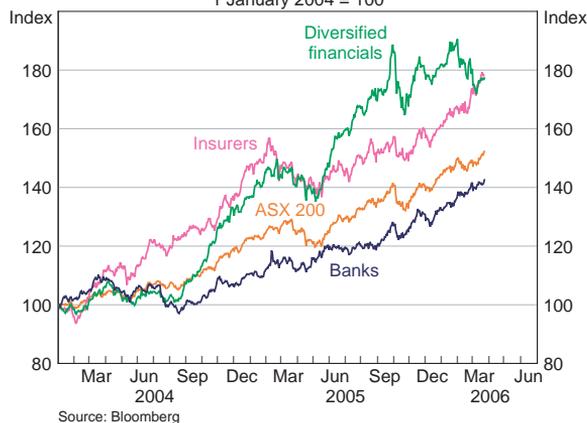
of liquid assets – mainly government and bank-issued securities – to total assets has remained stable, at around 11 per cent. The proportion of these assets that can be used in repurchase agreements with the Reserve Bank has also been broadly stable since the eligibility criteria were expanded in March 2004 (Graph 47).⁷

Financial Markets' Assessment

Financial market-based indicators show that market participants continue to view the Australian banking sector favourably. Despite the competitive pressures described above, bank share prices have outperformed the broader market since the previous *Review*, increasing by more than 12 per cent over the past six months (Graph 48). Option valuations also imply that the expected future volatility of banks' share prices is low, as is the likelihood of large price falls (Graph 49).

Graph 48

Financial Sector Share Prices
1 January 2004 = 100



Market indicators of credit risk also suggest a relatively benign outlook. The spread between bank bond yields and the swap rate remains

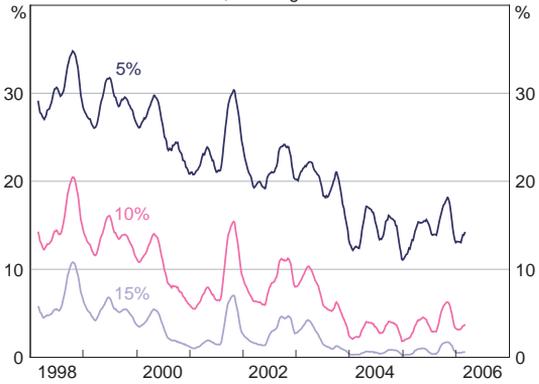
⁷ See page 33 of the March 2005 Financial Stability Review for a further discussion.

low relative to that of earlier years, as do credit default swap premia (that is, the cost of insuring against the risk that a bank will default on its bonds) (Graph 50). In addition, the only adjustments in credit ratings over the past six months have been favourable, with St George Bank upgraded by Standard & Poor's from A to A+, Bank of Queensland upgraded by Moody's from Baa3 to Baa2 and Arab Bank Australia upgraded one notch to A- by Fitch (Table 11). BankWest remains on positive outlook from Standard & Poor's, while AMP Bank, HSBC Bank Australia, Macquarie Bank and St George Bank are on positive outlook from Moody's. There has been no change in any of Moody's financial strength ratings (which, unlike long-term credit ratings, do not take account of the possibility of external support) of any Australian bank over the past year.

Graph 49

Expected Likelihood of Price Falls*

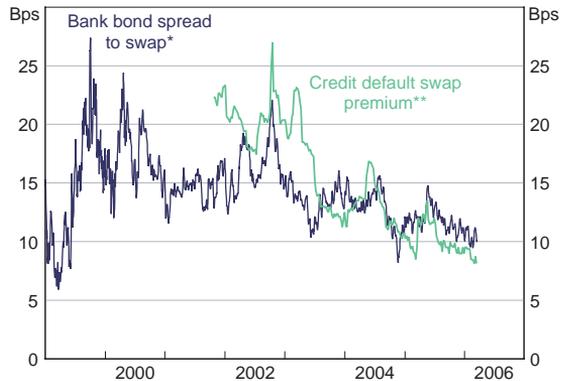
Probability of fall exceeding stated percentage over 45-day horizon, four largest banks



* 13-week moving average
Sources: ASX; Bloomberg; RBA

Graph 50

Risk Premia for Australian Banks



* AA-rated 1-5 year bonds, 5-day moving average
** 5-year credit default swaps, average of the 4 largest banks
Sources: AFMA; Bloomberg; RBA; Reuters; UBS AG, Australia Branch

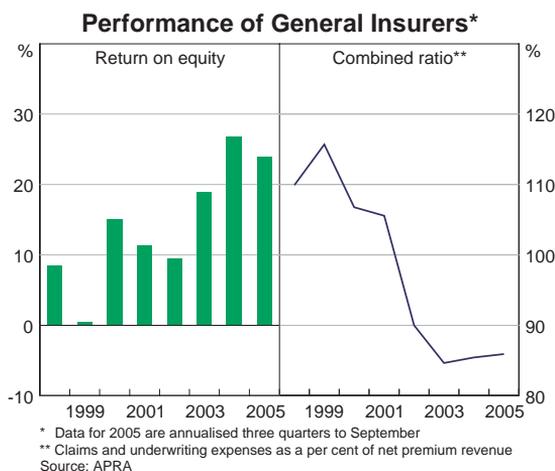
Table 11: Long-term Ratings of Australian Banks

As at 23 March 2006

	Standard & Poor's	Moody's	Fitch
Adelaide Bank	BBB+	Baa2	–
AMP Bank	A-	A3	–
ANZ Banking Group	AA-	Aa3	AA-
Arab Bank Australia	–	Baa2	A-
Bank of Queensland	BBB+	Baa2	BBB
BankWest	A+	A1	–
Bendigo Bank	BBB+	–	BBB+
Commonwealth Bank of Australia	AA-	Aa3	AA
HSBC Bank Australia	AA-	A1	–
ING Bank (Australia)	AA	Aa2	–
Macquarie Bank	A	A2	A+
National Australia Bank	AA-	Aa3	AA
St George Bank	A+	A2	A+
Suncorp-Metway	A	A2	A
Westpac Banking Corporation	AA-	Aa3	AA-

Sources: Fitch; Moody's; Standard & Poor's

Graph 51



around 60 per cent of before-tax profits over the year.

Looking ahead, the industry expects competition to place downward pressure on premiums in some business lines, most notably in commercial property, commercial liability and professional indemnity insurance. There are also signs of intensified competition in some personal insurance lines, with growth in premiums moderating, relative to claims, over the past year. Moreover, premiums have fallen in certain personal segments, such as compulsory third-party motor insurance, in some parts of Australia.

There is also some evidence of rising global reinsurance premiums, which may adversely affect domestic general insurers in the period ahead. Most general insurers use reinsurance to offset

2.2 General Insurance

General insurers continued their recent run of strong results in the past year, recording a before-tax return on equity of around 24 per cent in 2005 (Graph 51). This outcome was supported by a favourable claims environment and firm premium revenue, which maintained the combined ratio – claims and underwriting expenses as a share of net premium revenue – at around 85 per cent. Investment returns made a significant contribution to general insurers' profitability, accounting for

some of their risks, with the majority of cover in Australia provided by subsidiaries of a small number of large global reinsurers. Recently, the parent companies of these insurers have sought to recoup some of the large weather-related losses incurred in 2005 by raising their worldwide premiums, particularly for property reinsurance – total insured losses from natural catastrophes have been estimated at a historical record of nearly US\$80 billion, of which around US\$30 billion is expected to be absorbed by reinsurers (Graph 52). The extent to which these rises in reinsurance premiums will affect the domestic insurance industry is, however, difficult to gauge.

Domestic general insurers, in aggregate, improved their capitalisation over the past year, with the industry holding more than twice the regulatory minimum level of capital. Industry surveys suggest that the ratio of provisions to insured losses also remains well above the regulatory minimum.

Reflecting these favourable outcomes, rating agencies continue to take a positive view of the industry, with each of the five largest insurers rated 'A' or higher by Standard & Poor's (Table 12). Equity market participants also appear to view prospects for the general insurance industry as relatively good, with share prices increasing by over 20 per cent since the previous *Review* (Graph 53).

Graph 52

Global Insurance Losses*

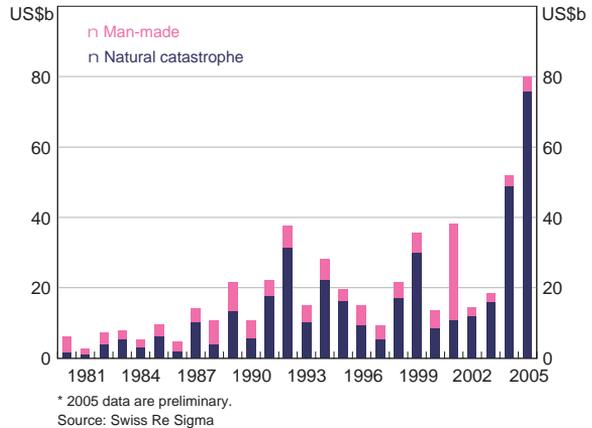


Table 12: Long-term Ratings of Selected General Insurers
As at 23 March 2006

Allianz Australia Insurance	A
Insurance Australia	AA
QBE Insurance Australia	A+
Suncorp-Metway Insurance	A
Vero Insurance (Promina)	A+

Source: Standard & Poor's

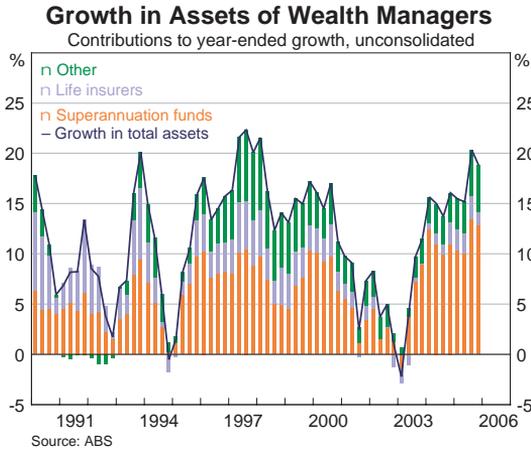
Graph 53

General Insurers' Share Prices

1 January 2005 = 100



Graph 54



Graph 55

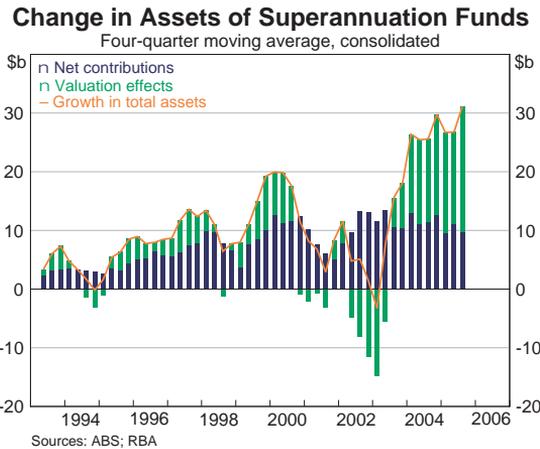


Table 13: Superannuation Assets
Per cent, September 2005, unconsolidated

Fund type	Year-ended percentage change	Share of total assets
Industry	34	16
Self-managed	28	23
Retail	23	33
Public sector	21	17
Corporate	12	9
Other ^(a)	-29	2
Total	22	100

(a) Balance of life insurers' statutory funds
Source: APRA

2.3 Wealth Management

Funds in wealth management vehicles continued to grow strongly, increasing by 19 per cent over the past year, to \$1.2 trillion as at December 2005, with the assets of superannuation funds increasing particularly strongly (Graph 54).

Superannuation Funds

Superannuation funds' (consolidated) assets increased by 22 per cent over the year to December 2005, to just over \$500 billion. Recently, growth has been underpinned by both strong investment returns and new contributions (Graph 55). According to APRA data, most categories of superannuation funds recorded strong growth over the past year, though growth of industry and self-managed funds continued to outpace the rest of the sector: these funds together account for around 40 per cent of superannuation funds' assets, up from 15 per cent a decade ago (Table 13).

Consistent with developments elsewhere in the financial system, competition in the superannuation sector seems to have increased, although it does not appear to be as strong as in mortgage lending. A number of foreign-owned fund managers have begun offering low-cost 'no frills' superannuation products directly to consumers (rather than through financial planners) and have been able to gain market share, albeit from a low base.

Life Insurers

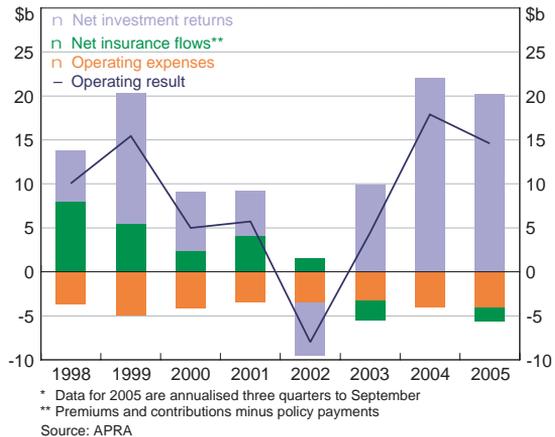
Life insurers recorded strong profits in 2005, continuing the improvements of the previous two years. The life insurance industry, however, relies heavily on investment returns to generate profits, with policy payments once again exceeding premiums and contributions in 2005 (Graph 56). As noted in previous *Reviews*, the pressure on net insurance flows partly reflects the shift of superannuation assets away from life offices to superannuation funds. At the same time, life insurers have continued to increase the share of their portfolios invested in domestic equities – to around 51 per cent – and have benefited from strong share market gains in recent years. In line with the relatively favourable environment, most life insurers' ratings have remained stable at 'A' or higher in recent times.

Other Managed Funds

The combined (unconsolidated) assets of public unit trusts, cash management trusts, friendly societies and common funds increased by 19 per cent, to \$290 billion, over the year to December 2005 (Graph 57). Much of this growth was in assets of unit trusts, reflecting strong gains in domestic and overseas equity markets, as well as in commercial property. Indeed, assets in the listed property trust sector increased by 18 per cent in 2005, to over \$80 billion, as listed property trusts expanded offshore and into property development and construction. A notable aspect of this strong expansion has been an increasing use of debt to finance growth. As at end 2005, liabilities (excluding unitholders' funds) accounted for 39 per cent of assets, up from 28 per cent five years earlier, with debt securities now accounting for over 40 per cent of these liabilities.

Graph 56

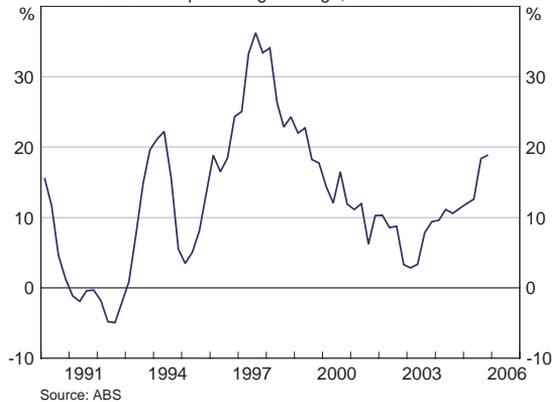
Performance of Life Insurers*



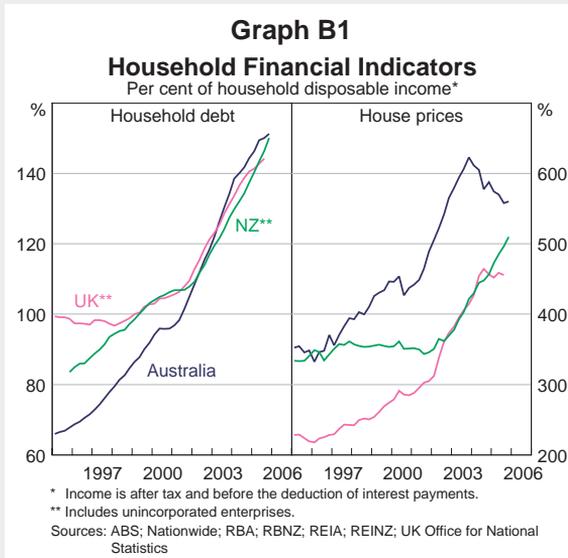
Graph 57

Growth in Assets of Other Managed Funds

Year-ended percentage change, unconsolidated

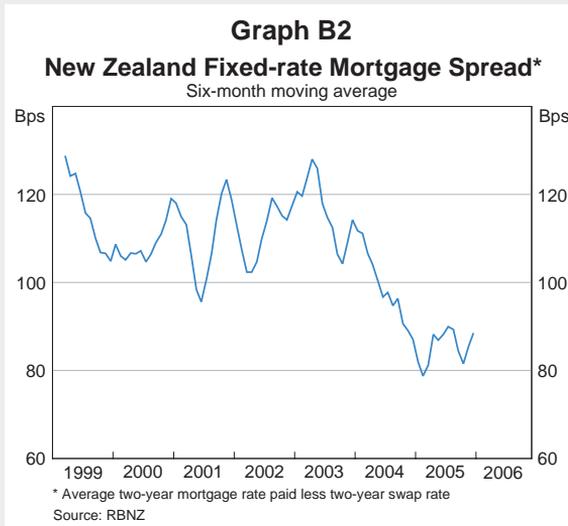


Box B: Competition in Household Lending in New Zealand and the United Kingdom



The competitive pressures faced by banks in domestic household lending markets are also evident in other countries in which Australian banks have retail operations – most notably, New Zealand and the United Kingdom. Moreover, like Australia, these countries have both experienced rapid growth in household debt and house prices over the past decade (Graph B1).

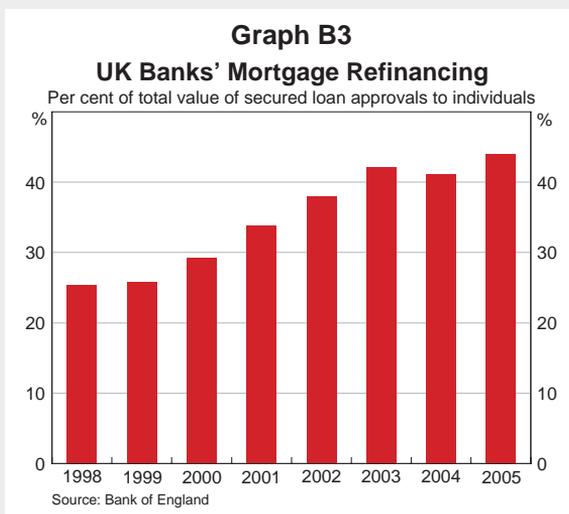
As in Australia, competition among lenders has been particularly strong in the housing loan market. In New Zealand, where Australian-owned banks have a dominant market share, this competition has been most intense in fixed-rate housing loans, which are more common than in Australia. For example, over the past three years, aggressive marketing and price discounts have compressed the spread between the average rate on new two-year fixed-rate housing loans and the two-year swap rate by around 30 basis points (Graph B2). This compression of margins was, in part, spurred by one bank competing more aggressively on the price of loans originated through its branch network after it withdrew from the broker market.



In the United Kingdom, where variable-rate mortgages are more popular, there has also been widespread discounting of home loan interest rates. While the spread between the standard variable home loan interest rate and the base rate has remained relatively stable over the past five years (between 1.6 and 2.2 percentage points), the UK Council of Mortgage Lenders estimates

that less than 5 per cent of new housing loans (from all lenders) in the second half of 2005 were at the standard variable rate.

The availability of cheaper housing finance in both countries appears to have increased the propensity of borrowers to ‘shop around’ and refinance their existing mortgages at a cheaper rate. In the United Kingdom, for example, more than 40 per cent of banks’ secured loan approvals to individuals in 2005 were for the purpose of refinancing, compared to less than 30 per cent at the turn of the decade (Graph B3). In part, this ‘mortgage churn’ has been facilitated by mortgage brokers, with industry estimates suggesting that broker-originated loans account for up to two thirds of new loans in the United Kingdom and over one third of new loans in New Zealand, with these shares having increased over the past five years.



The competitive environment in these countries has also seen banks expand into non-standard products, such as low-doc loans. The UK low-doc market has grown rapidly in recent years and, together with non-conforming loans, now accounts for an estimated 10 to 15 per cent of outstanding housing loans. The New Zealand low-doc market appears less well developed, though banks have made moves into this market. There has also been downward pressure on the margins that New Zealand banks earn on low-doc lending, with these loans often priced in line with undiscounted standard mortgages.

To varying degrees, strong competition is also evident in personal lending. In the United Kingdom, competition in the credit card market has been intense, with the credit card indicator rate having fallen by around 4 percentage points, relative to the base rate, since the mid 1990s. Moreover, competition has manifested itself in an increasing number of card issuers offering low-rate cards and free balance-transfer deals. More recently, some banks and other credit card issuers in the United Kingdom have begun to offer credit cards to borrowers with impaired credit histories, albeit at higher interest rates. Based on indicator rates, competition in the credit card market appears less intense in New Zealand than in the United Kingdom and Australia. Like other markets, however, a number of low-rate cards are on offer, with rates significantly below the indicator rate. ❧

Box C: Foreign Currency Exposure and Hedging Practices of Australian Banks

Australian banks have sourced an increasing share of their borrowings from offshore over recent years, with around 85 per cent of this funding raised in currencies other than the Australian dollar. As at March 2005, when the latest ABS survey of the foreign currency exposure of Australian enterprises was conducted, net foreign currency debt on the balance sheets of Australian banks

Table C1: Foreign Currency Hedging by Banks^(a)
As at March 2005

	A\$b
Net FX position on debt	-186
Derivative positions to hedge debt	168
Net FX position on debt (after derivatives)	-18
Foreign equity assets	33
Derivative positions to hedge equity	-10
Net FX position on equity (after derivatives)	23
Foreign currency position (after derivatives)	5

(a) Negative values indicate a net foreign currency liability position.
Source: ABS

stood at \$186 billion, compared with \$117 billion nearly four years earlier (Table C1). Most of this debt was raised either through short-term commercial paper programs or medium-term bond facilities.

While much of the Australian banks' offshore funding is in foreign currencies, the currency risk is typically hedged back into Australian dollars through derivatives markets.¹ Information from the ABS survey shows that banks used derivatives to hedge \$168 billion of the total

foreign currency amount raised in offshore markets, leaving a net foreign currency exposure on debt of \$18 billion. Once banks' foreign currency equity positions are taken into account, banks had a small net foreign currency asset position.

The derivative instruments used to hedge foreign currency exposures are quite varied and include forward foreign exchange contracts, cross-currency interest rate swaps, futures and options (Table C2). As at March 2005, there were large long (i.e. bought) foreign currency positions and large short (i.e. sold) foreign currency positions, which is not surprising given that banks not only hedge their own exposures, but also undertake normal day-to-day foreign currency transactions for customers (for example, exporters who have contracts that deliver US dollars in the future often sell the foreign exchange forward to a bank to avoid adverse exchange rate fluctuations in the interim).

The largest net long derivatives position, at around \$86 billion, was in cross-currency interest rate swaps. These swaps are particularly useful for banks as, in addition to hedging foreign exchange risk, they can be structured in a way that eliminates some, or all, of the duration risk attached to the issue of fixed-income securities.

¹ For previous discussions of this issue, see the August 2000, August 2002, and December 2005 Reserve Bank Bulletin articles.

Table C2: Foreign Currency Derivatives Used by Banks^(a)

Notional values outstanding in A\$ billion, as at March 2005

	Long foreign currency/short A\$ positions	Short foreign currency/long A\$ positions	Net position
Forward foreign exchange	483	-420	64
Cross-currency interest rate swaps	266	-179	86
Futures	87	-86	1
Currency options	51	-48	3
Other derivatives	1	0	0

(a) Negative values indicate a short foreign currency position. Amounts may not add to net position due to rounding.

Source: ABS

The decision to borrow offshore reflects both cost and diversification considerations. At certain times, strong demand by non-resident investors means that banks can raise funds abroad marginally more cheaply than they can do so domestically. Even where the cost difference has been minimal, banks have tapped offshore markets as a way of diversifying their funding sources. Their sound reputations and high credit quality have ensured a ready demand for their securities.

Australian banks manage the liquidity risk associated with offshore borrowings by holding portfolios of high-quality liquid assets and by diversifying their funding base. Contingency arrangements, such as lines of credit, have also been established to cover the possibility that access to wholesale funding is restricted, or large increases in withdrawals occur. Funding books are also stress tested to determine potential vulnerabilities.

Foreign currency exposures of banks are closely monitored by the Australian Prudential Regulation Authority as part of its prudential supervision framework. Under the current market risk guidelines, authorised deposit-taking institutions are required to calculate their foreign currency exposure continuously and comply with capital adequacy requirements on both their traded and non-traded currency positions.² Regulatory authorities in some countries in which Australian banks operate also impose their own requirements to ensure that liquidity is managed prudently. ✎

² See Australian Prudential Regulation Authority (2000), 'Capital Adequacy: Market Risk', APS 113.

3. Developments in the Financial System Infrastructure

3.1 Crisis Management Arrangements

Last year, the Council of Financial Regulators conducted a review of crisis management arrangements in the Australian financial system. The Council is a non-statutory body whose members include the Governor of the Reserve Bank of Australia, the Secretary to the Treasury, the Chairman of the Australian Prudential Regulation Authority (APRA) and the Chairman of the Australian Securities and Investments Commission (ASIC). Among other things, the Council serves as a forum for ensuring that appropriate co-ordination arrangements are in place for dealing with actual or potential instances of financial instability.

The Council's review endorsed many of the arrangements currently in place for dealing with distressed financial institutions, although it did identify some areas in which co-ordination arrangements could be improved. The review also identified the potential difficulties that could arise in the event that trouble in a financial institution could not be resolved via supervisory intervention, and APRA moved to close the institution.

Under the *Banking Act 1959*, depositors in a failed deposit-taking institution have first claim over the assets of the institution. The *Act*, however, does not provide a mechanism for giving depositors in a failed institution access to their funds on a timely basis. Similarly, while policyholders with claims on general insurance companies typically have a senior claim over the assets of a failed general insurer, there is no mechanism for claims to be paid in a timely way.

In the Council's view, significant delays in making payments to depositors and policyholders could complicate management of the failure. Further, such delays are likely to create pressure on the government to step in and perhaps provide a greater level of protection than is set out in the relevant legislation. One consequence of this would be an erosion of market discipline, as depositors and others come to expect similar action in the future.

This likely pressure on the government to support a failed financial institution, despite the relevant banking and insurance legislation setting out clear procedures for regulators when closing failed institutions, reflects, in part, community attitudes. A recent survey by the Bank (see below) suggests that the bulk of people either think that their deposits are guaranteed, or that the government would step in to make sure that their deposits were repaid in full, or in part, in the event of a financial institution's failure. Similarly, half the population believes that money owed to them by a general insurer is either guaranteed or that the government would step in to ensure that it was paid either in full or in part. These views have no doubt been reinforced over the past decade or so by the various government responses to the troubles at the State banks of Victoria and South Australia, Pyramid Building Society, HIH Insurance and United Medical Protection Limited.

The Council's review recommended that, rather than relying on *ad hoc* government responses, there was merit in establishing formal arrangements – a Financial Claims Compensation Scheme – to provide retail depositors and policyholders with timely access to their funds in the event of closure of an authorised deposit-taking institution or general insurer. In the Council's view, such a scheme would make it easier for the government to take a hands-off approach in situations where that is appropriate, and is consistent with strengthening market discipline in the Australian financial system. In addition to recommending that the government consider a Financial Claims Compensation Scheme, the Council undertook to improve crisis management arrangements among its members, and also recommended that APRA's ability to respond to troubles in a general insurer be strengthened.

The Council's review was sent to the Treasurer in August last year. The Treasurer subsequently asked the Council to consult with the finance sector regarding its proposals. A round of consultation has been completed, with eight submissions received. These submissions are currently being considered by the Council.

3.2 Survey of People's Attitudes

As noted above, the Council has been of the view that a significant proportion of the Australian population expects that the government would take some action to protect people with claims on a failed institution that was subject to prudential regulation. There has, however, been little formal testing of this view. Given this, the Bank recently contracted Roy Morgan Research to conduct a telephone survey of people's attitudes regarding what would happen if a financial institution were to fail. The survey was conducted in mid January and early February, with 1 232 people aged 18 years and over being interviewed. Respondents were asked whether they think that funds in their main deposit account are guaranteed. Where respondents were uncertain, or said that their deposits are not guaranteed (or guaranteed by the institution itself), they were asked questions about how likely it is that the government would step in to ensure

Table 14: Community Expectations of Government Bail-outs

Per cent of survey respondents

Response	Type of Claim	
	Main deposit account	Payment from a general insurer ^(a)
Guarantee or government likely to step in	60	50
<i>of which:</i>		
– <i>guarantee</i>	22	21
– <i>government likely to step in</i> ^(b)	37	29
No guarantee and government unlikely to step in	10	31
Unsure about guarantee, but government unlikely to step in	21	12
Unsure whether government would step in	9	6

(a) Numbers do not add to 100 per cent due to rounding.

(b) Excludes respondents who indicated that deposits were guaranteed by their own institution and the government was likely to step in.

Source: RBA

that deposits are either repaid in full or in part. A set of similar questions was asked about claims on general insurance companies. The main results are summarised in Table 14.

Of the respondents, 60 per cent were of the opinion that either there is a guarantee (22 per cent) or that it is likely (or highly likely) that the government would step in to ensure either full or partial repayment of the funds in their main deposit account. Only 10 per cent were of the opinion that their main deposit account is not guaranteed *and* that, in the event of a failure, the government is unlikely to step in. The remaining respondents were unsure as to whether there is a guarantee, or unsure if the government would step in.

When people were asked how quickly they were likely to get their money back under a guarantee or if the government stepped in, relatively few (6 per cent) thought they would get it back within a week, with almost two thirds of respondents indicating it was likely to be at least a month. As with a number of other questions, many people were unsure, or could not provide an answer.

The responses did not vary greatly across age or profession, although there was a slightly greater tendency for those with tertiary education and those below 55 years of age to believe that their deposits were not guaranteed, but that the government was likely to step in to ensure full or partial repayment.

The most notable difference across States was a greater tendency for people in Victoria to respond that their deposits were guaranteed or that the government would bail them out (66 per cent, compared with 57 per cent in the other States). This difference is likely to reflect the responses to the problems at the State Bank of Victoria and the Pyramid Building Society in the

early 1990s, and supports the view that past government actions have reinforced the perception that the government will protect depositors.

Table 15: Supervisor of Banks, Building Societies and Credit Unions
Per cent of survey respondents^(a)

APRA	14
Australian Bankers' Association	10
Australian government	8
Australian Treasury	5
Reserve Bank	28
Other/can't say	36

(a) Numbers do not add to 100 per cent due to rounding.
Source: RBA

As part of the survey, people were also asked to identify the supervisor of banks, building societies and credit unions from a multiple choice list (Table 15). The most common answer was 'other/can't say' (36 per cent) followed by 'Reserve Bank' (28 per cent). Only 14 per cent

correctly said that APRA was the supervisor, just slightly more than the number who thought the supervisor was the Australian Bankers' Association.

Compared to deposits, there is greater recognition that claims on general insurance companies are not guaranteed. Despite this, the view that the government was likely to step in to ensure that claims on general insurers were paid either in full or in part was widely held. These views no doubt partly reflect the recent experience with HIH Insurance, where it was demonstrated that claims on general insurers are not guaranteed but that the government may step in.

Overall, the results confirm that there is a widespread view in the Australian community that the government will take some action to protect depositors (and, to a lesser extent, policyholders in general insurance companies) although clearly not everyone is of this view. Another notable aspect of the results is the large number of people who answered ‘don’t know’ or ‘can’t say’ to the various questions, suggesting considerable uncertainty as to the exact nature of the current arrangements. This uncertainty extends to whether or not there is a guarantee, who would provide it, who is the supervisor, and how quickly the government might step in and provide access to funds in a failed financial institution. Finally, the results also suggest that past actions have had an impact on current attitudes.

3.3 Avian Influenza and Business Continuity Planning

Over recent months, considerable effort has been devoted to contingency planning for a potential avian influenza pandemic. At the government level, the Council of Australian Governments (COAG), at its meeting on 10 February, agreed to develop an Australian Influenza Pandemic Prevention and Preparedness Action Plan (the National Action Plan) by mid 2006. The plan will bring together nationally consistent measures which aim to prevent avian influenza coming into Australia. It will also identify a co-ordinated rapid response in the event of a pandemic developing. To assist in planning for such an outbreak, numerous working groups have been established covering areas such as health, essential services and public information. The focus of one of these working groups is on ensuring that people have access to their financial resources. COAG has agreed to test the National Action Plan in a domestic exercise later in 2006.

Within the finance sector, APRA is currently seeking to confirm that the business continuity plans of financial institutions cover scenarios such as the loss or unavailability of staff and the contamination of facilities at institutions. APRA has issued prudential standards on business continuity management and is currently engaging with the larger institutions and industry groups to confirm that pandemic planning receives appropriate attention. The Reserve Bank is also reviewing its preparedness for a possible avian influenza pandemic, given the Bank’s important role in Australia’s payments system and financial markets, as well as its responsibilities for the provision of currency and banking facilities for government.

3.4 High-risk and High-yield Investments

Over the past 18 months, ASIC has increased its surveillance of property-related investments offering high yields. ASIC has been concerned that many retail investors have been attracted to these investments without fully understanding the underlying risk that they are assuming – a state of affairs not helped by some misleading advertising and the poor quality of disclosure in some prospectuses. Accordingly, ASIC has taken steps where appropriate to require improved disclosure and stop misleading advertising. In addition, in February this year, ASIC issued a draft policy statement which seeks to promote better standards of disclosure in prospectuses through the use of plain and direct language and a reduction in the excessive amount of legal and financial detail that can conceal the critical information that investors need to know.

ASIC is also concerned about the incentive structures for some financial advisors, which have potentially encouraged inappropriate advice to some retail investors. This issue has been

highlighted in the recent failure of the Perth-based property financier and developer Westpoint Group. Westpoint raised much of its funding for property development by issuing promissory notes in amounts of \$50 000, limiting the need for detailed disclosure. These promissory notes were purchased by a large number of retail investors, many of whom appear to have done so on the recommendation of financial advisors, often with borrowed funds. In turn, many of these advisors were receiving very high commissions from Westpoint to promote its schemes. ASIC is monitoring financial advisors' handling of complaints by affected investors.

The financial planning industry itself has been considering ways to help reduce the conflicts of interest that arise from advisors seeking to act as a source of independent advice, while at the same time accepting commissions. Following two years of preparation, the Financial Planning Association of Australia, the major professional body for financial planners, recently announced that over the next two years its members will adopt a range of principles for managing conflicts of interest. Importantly, these changes should result in financial planners disclosing any ongoing commission that cannot be characterised as an advice fee agreed to between the client and planner.

3.5 General Insurance Reforms

As highlighted in previous *Reviews*, APRA is strengthening its prudential requirements for general insurance companies. A major aim of these changes, which address some key recommendations of the HIH Royal Commission, is to provide a clearer picture of insurers' reinsurance contracts. Under the new standards, reinsurance arrangements must be disclosed to APRA annually and prior approval must be sought for limited risk transfer arrangements, or so-called financial reinsurance. Among other changes, general insurers will be required to provide a business plan confirming their ability to meet future capital requirements, and senior management must provide an annual declaration of their institution's financial information. Insurers will also need to appoint approved actuaries to prepare an annual financial condition report, which itself will be reviewed by an independent actuary. APRA-regulated general insurers must comply with the new standards from 1 October 2006.

3.6 'Fit and Proper' Requirements

On 2 March, APRA announced new standards aimed at enhancing the calibre of board directors, senior management, and certain auditors and actuaries of APRA-regulated financial institutions. In essence, these 'fit and proper' standards require institutions to evaluate the fitness and propriety of key personnel – both prior to their appointment and thereafter on an annual basis. While the onus is on the regulated institution to ensure that key personnel meet minimum acceptable standards, APRA reserves the right to remove unfit persons in positions of responsibility if the institution is unable or unwilling to do so. The new requirements have been harmonised, where possible, with ASIC's 'fit and proper' requirements, and are in line with international benchmarks. ✕

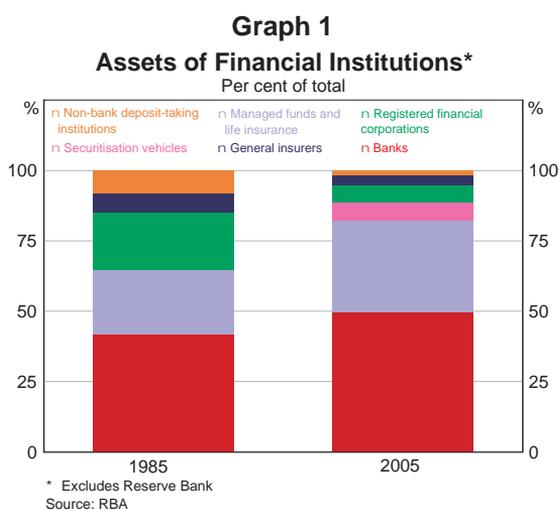
The Structure of the Australian Financial System¹

Introduction

The Australian financial system has undergone significant change over the two decades since the Campbell Inquiry triggered a period of financial deregulation.² Not only have there been marked changes in the relative importance of the different institutions operating in the financial system, but the nature of financial intermediation itself has evolved, along with the deepening of financial markets. This article discusses these developments, with a focus on the changing institutional structure, as well as some of the factors that have shaped this evolution.

Although the distinction between the various types of financial institutions has become increasingly blurred over time, the structure of the financial system is often characterised in terms of the main institutions that operate within it (see Appendix). On this basis, four main developments in the structure of the financial system stand out. The first is the increase in the importance of banks, which today directly account for half of the total assets of the financial system, up from 40 per cent in 1985 (Graph 1).

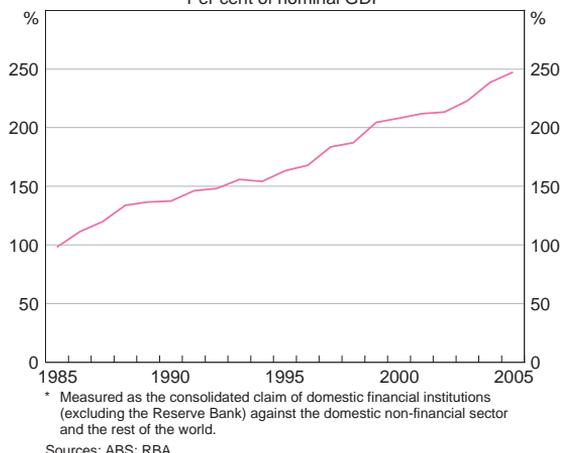
At a group-wide level, banks have become even more prominent, partly by diversifying into funds management and, to a lesser extent, insurance. The second development is the growing importance of securitisation. The third is a marked increase in the share of assets managed through superannuation and other managed funds, partly reflecting changes in retirement income arrangements. And the fourth is the decline in the relative importance of credit unions, building societies, finance companies and merchant banks – institutions that grew strongly in earlier decades partly as a result of the regulation of the banking sector.



1 This article was prepared by Financial Stability Department.

2 The Campbell Committee's recommendations were handed down in 1981, with gradual implementation of the most significant changes occurring throughout the 1980s.

Graph 2
Financial System Assets*
 Per cent of nominal GDP



In aggregate, financial intermediaries currently manage assets of around \$2.3 trillion, equivalent to about 250 per cent of GDP (Graph 2).³ Since 1985, total assets managed by financial intermediaries have risen at an average annual rate of around 12 per cent, considerably faster than the annual average growth in nominal GDP of just under 7 per cent. This financial ‘deepening’ is consistent with the expanding balance sheet of the Australian household sector – which currently has more debt and financial assets, relative to income,

than at any time in the past – as well as the response of intermediaries to the changing demand for financial services. Similar trends are also evident in many other countries as growth in the demand for financial services has outpaced that in nominal GDP.

Banks

Banks play a central role in the Australian financial system, holding the majority of financial system assets. In addition to traditional retail deposit-taking and lending activities, banks are involved in almost all other facets of financial intermediation, including business banking, trading in financial markets, stockbroking, insurance and funds management.

The rapid expansion of banks’ domestic balance sheets – which have grown at an average annual rate of 13 per cent since 1985 – reflects both demand and supply factors, notably in the housing lending market. The decline in inflation in the early 1990s, and the lower interest rates that followed, substantially boosted the demand for housing finance. At the same time, increased competition between banks and other intermediaries in the deregulated environment lowered the cost, and increased the flexibility, of housing finance. Over recent years it has also become increasingly common for banks to source loans through third-party brokers, which have acted as an important conduit for competition. Another factor contributing to the increase in assets in the banking system since deregulation is that a number of building societies have converted to banks.

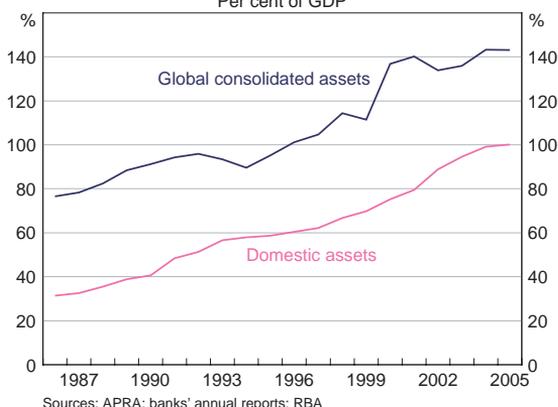
This strong growth in the assets of the banking system has occurred at the same time that the stock of household savings in banks has grown more modestly. As a result, the banking system has become more reliant on wholesale funding, much of which has been sourced from overseas. Since 1990, foreign funding has increased from 11 per cent of total liabilities to around 27 per cent currently (see *Financial Intermediaries* chapter in this *Review*).

³ Here, assets are measured on a consolidated basis, which excludes those assets cross-invested within the financial system. In this sense, the figure represents the net claim of the financial system against the domestic non-financial sector and the rest of the world.

There are currently 53 banks operating in Australia, 14 of which are predominantly Australian owned. In terms of assets on their domestic books, the banks vary in size from \$0.17 billion to around \$270 billion. With the exception of one small bank that is owned by a consortium of superannuation funds, all Australian-owned banks are listed on the Australian Stock Exchange (either directly or indirectly through their parent). There are no banks owned by the Australian government, with the last remaining shares owned by a State government being sold in 2001. All banks are supervised by the Australian Prudential Regulation Authority (APRA).

Within the banking system, the four largest banks – ANZ Banking Group, Commonwealth Bank of Australia, National Australia Bank and Westpac Banking Corporation – have a nation-wide presence and offer an extensive range of financial services. These four banks have around \$960 billion of assets on their domestic books – equivalent to about 100 per cent of GDP – and account for around two thirds of total assets of the Australian banking system (Graph 3). Each of them also has operations overseas, with the largest of these being in

Graph 3
Assets of Four Largest Banks
Per cent of GDP



Sources: APRA; banks' annual reports; RBA

New Zealand. In total, overseas assets account for around one quarter of these banks' globally consolidated group assets. On this basis, which includes non-banking activities, the four largest banks hold around \$1.4 trillion of total assets, equivalent to over 140 per cent of GDP.

By international standards, these four banks are reasonably large. In terms of consolidated group assets, each of them rank in the top 80 in the world (with the largest of them currently ranked 54th), and in the top 50 by market capitalisation. In part, this reflects the fact that these banks have been very profitable over the past decade, recording an average pre-tax return on equity of around 21 per cent. The bulk of the profits are earned from their core banking business, although profits from non-banking activities, including funds management, have grown more rapidly over recent years. Indeed, following a series of acquisitions and joint ventures beginning around the turn of the decade, banking groups rank among the largest funds managers in Australia, controlling around one quarter of funds under management.

In addition to the four largest banks, there is a group of five Australian-owned banks sometimes referred to as the 'regionals', reflecting their original focus on retail banking in a particular geographical area. Over recent years, however, a number of these banks have attempted to reach new customers in different areas by using loan brokers and the internet, and also by expanding their branch networks across State boundaries. While these banks collectively account for only 8 per cent of total domestic banking system assets, the largest (St George Bank) is the fifth largest Australian bank and in some areas of retail banking has a market share exceeding that of some of the four largest banks.

There are also 39 foreign-owned banks operating in Australia, collectively accounting for 20 per cent of domestic banking system assets. Eleven of these operate as locally incorporated subsidiaries, while the remainder operate as branches.⁴ For much of the 1990s, these foreign-owned banks concentrated largely on wholesale business, following unsuccessful attempts to enter the retail market when barriers to entry were progressively removed in the 1980s. More recently, a number of foreign banks (including ING, Citibank, HSBC and HBOS) have built up sizeable retail businesses, in part through being among the first to offer attractive deposit rates on internet-based savings accounts. In terms of assets, the largest foreign-owned bank (BankWest, which is owned by UK bank HBOS) is the eighth largest domestic bank, accounting for 2.4 per cent of the total assets of the banking sector.

While many of the Australian-owned banking groups have insurance and funds management operations, only two are part of groups that earn a larger share of profits from these activities than from banking. In the case of Suncorp-Metway (the seventh largest bank), nearly two thirds of its profits in the year to June 2005 were from its general insurance and wealth management divisions, while AMP Bank (the 35th largest bank) accounts for less than 5 per cent of AMP's group profits.

Finally, there is one Australian-owned bank (Macquarie Bank) that undertakes predominantly investment banking activities, with this bank ranked as the sixth largest bank in terms of domestic banking assets. In the year to March 2005, funds management contributed almost 40 per cent to its total after-tax profit, while traditional investment banking activities accounted for an additional 32 per cent. Financial markets trading and lending activities accounted for the remainder.

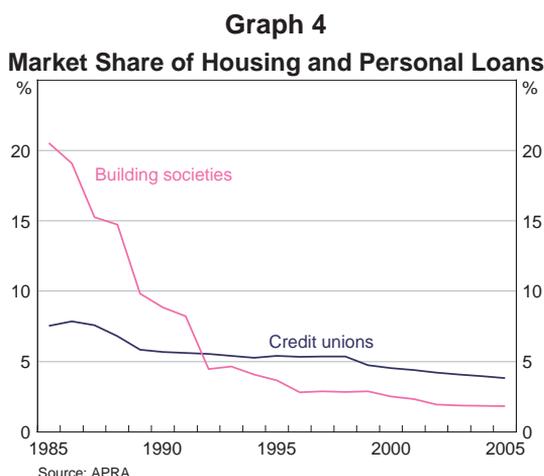
Other Authorised Deposit-taking Institutions

In addition to banks, there are two other types of authorised deposit-taking institutions (ADIs) operating in Australia – credit unions and building societies – which together account for about 2 per cent of domestic financial system assets. These institutions have traditionally focused on the provision of retail banking services to their customers. Like banks, they are supervised by APRA, and are subject to broadly the same regulatory requirements. The main points of difference between these ADIs and banks relate to their capital and ownership structure. All credit unions have a mutual ownership structure where customers are also the 'shareholders'. Many building societies also have a mutual ownership structure, although a number are listed on the Australian Stock Exchange (ASX). While credit unions are not required to meet an absolute minimum level of capital, building societies are required to hold at least \$10 million in capital, compared to \$50 million for banks.

Until the 1980s, credit unions and building societies grew strongly, largely because they were subject to fewer regulations than banks – in 1985, there were 60 building societies and 400 credit unions operating in Australia. Following deregulation, however, the sector contracted and at the end of 2005 there were only 14 building societies and 157 credit unions – the largest of these has assets of around \$4.3 billion (equivalent to the assets of the 27th largest bank) and operates almost

⁴ Branches are not subject to minimum capital requirements and are not permitted to accept initial deposits of less than \$250 000 from Australian residents and non-corporate institutions.

50 branches. The decline in the number of institutions is a result of mergers and acquisitions within the sector, as well as a number of institutions being purchased by, or converting to, banks. In turn, this reflects the external pressures on the industry, which have included: a reduction in the favourable tax treatment of mutual income in the mid 1990s; difficulties in raising external capital; and increased competition from banks and mortgage originators, in part facilitated by loan brokers, in the sector's main business lines – housing and personal loans. Indeed, the combined share of credit unions and building societies in the housing and personal loan markets has fallen from almost 30 per cent in 1985 to less than 6 per cent currently (Graph 4).



Registered Financial Corporations

In addition to banks, building societies and credit unions, all of which are subject to prudential regulation by APRA, there are two other types of financial institutions that intermeditate between lenders and borrowers in the Australian financial system, but are not authorised to accept deposits – finance companies and money market corporations (also known as merchant banks). These institutions are also collectively known as ‘registered financial corporations’. They are not supervised by APRA, but are subject to the same conduct and disclosure regulations that the Australian Securities and Investments Commission (ASIC) applies to the non-financial corporate sector.

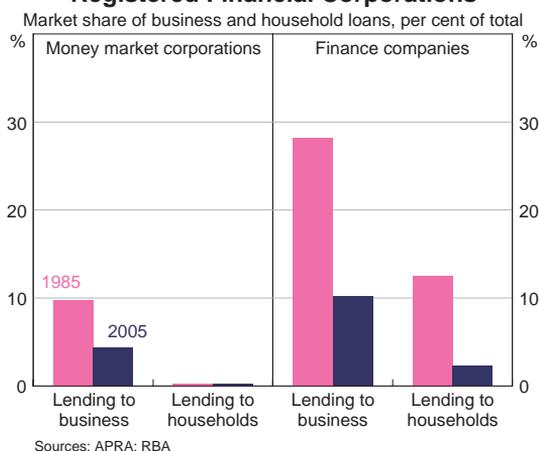
Money market corporations use short-term borrowings to finance loans to the financial and business sectors as well as to fund investments, the bulk of which are in debt securities. Finance companies, by contrast, hold a larger proportion of their assets as loans to the business and household sectors. Loans to businesses are often in the form of lease finance, while household loans are typically for motor vehicle and retail purchases.

The relative importance of these institutions has declined significantly over time. Collectively, they currently account for 6 per cent of the total domestic assets of financial intermediaries, down from around 19 per cent in 1985. Their declining significance has been reflected in reductions in their share of total lending to the business and household sectors (Graph 5). As is the case for non-bank ADIs, this reflects a combination of factors, including the reduction in regulatory constraints on the banking system (which had accounted for much of the original growth in the sector).

There are currently 105 registered finance companies, with all but 10 of these having total assets of less than \$2 billion. Taken together, their total assets amount to \$92 billion, with the largest finance company, Esanda Finance Corporation (owned by ANZ), having assets of

Graph 5

Registered Financial Corporations



around \$13 billion (equivalent to the assets of the 18th largest bank). Most finance companies are involved in the financing of motor vehicle sales or the financing of machinery and equipment. A number of the larger companies are owned by banks, which often fund car loans, leases and unsecured personal lending through their finance subsidiaries, rather than directly from their balance sheets.

The total assets of money market corporations are lower than those of finance companies, at \$75 billion.

There are currently 27 such institutions, with two thirds of these having assets less than \$2 billion. The majority of money market corporations are owned by foreign banks or securities firms. They are typically involved in similar activities to investment banks, including structured finance, acquisition and project finance.

Managed Funds

The managed funds sector has grown particularly strongly over the past 20 years. Aggregate funds under management have increased at an average annual rate of around 14 per cent since 1985, to stand at \$955 billion as at December 2005 (Table 1). This rapid growth partly reflects legislative changes in retirement savings arrangements, as well as investors seeking to achieve higher returns than those traditionally available on deposits with ADIs.

Within the managed funds sector, superannuation funds account for over 70 per cent of total funds under management, with the remainder largely held in public unit trusts. Assets of

Table 1: Funds Under Management

Consolidated basis^(a)

	1990 \$b	2005 \$b	Per cent of total 2005
Superannuation funds ^(b)	128	677	71
Public unit trusts	24	203	21
Cash management trusts	5	38	4
Non-super life insurance	32	23	2
Common funds	7	10	1
Friendly societies	8	5	1
Total	204	955	100

(a) For each sector, figures exclude assets cross-invested in other managed funds sectors.

(b) Figure includes superannuation funds invested through life offices.

Sources: ABS; APRA; RBA

superannuation funds have increased five-fold over the past 15 years, to nearly \$680 billion.⁵ This growth was spurred in large part by the introduction of an employer-funded superannuation benefit in industry awards in 1986, followed by the introduction of compulsory superannuation in 1992. Employers are currently required to contribute at least 9 per cent of an employee's earnings towards superannuation. Data from the 2002 Household, Income and Labour Dynamics in Australia Survey suggest that superannuation is the largest financial asset for more than half of Australian households.

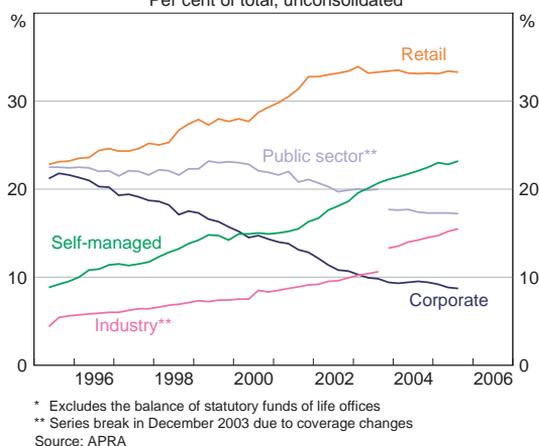
Within the superannuation industry, there has been a marked change in institutional structure over the past decade or so. In particular, the share of superannuation assets managed by retail funds – which offer superannuation products to the public – and self-managed, or 'do it yourself', funds has increased to a combined 57 per cent of total (unconsolidated) assets, up from 32 per cent in 1995 (Graph 6). Retail funds are usually run by large financial institutions and include superannuation master trusts (that is, large public offer superannuation

trusts that pool the contributions of individuals or smaller funds). Industry funds, which traditionally catered for employees in a particular sector of the economy, have also increased their share of total assets, albeit from a lower base. In contrast, the share of assets managed by public sector and corporate funds has declined. At the same time, less than 5 per cent of superannuation assets are now held in defined-benefit schemes, a 16 percentage point fall over the past 10 years. The bulk of assets (around 60 per cent) are held in pure defined-contribution funds, where the investor's return depends entirely on the market performance of their investment. The remainder are held in 'hybrid' schemes, which comprise a combination of defined-benefit and defined-contribution funds.

The assets held by superannuation funds have increasingly been invested in domestic equities and in the units of trusts, which together account for around half of total assets, compared to around 40 per cent a decade ago. A further 17 per cent of assets are invested overseas, while the share invested in interest-bearing securities has declined to 16 per cent, compared to 26 per cent in the mid 1990s.

In addition to superannuation funds, retirement savings are also held in life insurance companies. Indeed, almost 90 per cent of life insurers' total assets are superannuation assets. Notwithstanding this, there has been a marked decrease in the share of total superannuation

Graph 6
Superannuation Assets by Sector*
Per cent of total, unconsolidated



5 According to APRA data, total unconsolidated superannuation assets were around \$790 billion as at September 2005.

assets held by life offices over the past 15 years – currently around one quarter, compared with a peak of 44 per cent in 1992.

The life insurance industry is relatively concentrated. While there are 36 registered companies, the largest three life insurance groups (AMP, MLC and ING/ANZ) account for 60 per cent of total Australian assets (assets backing Australian policyholder liabilities). Foreign involvement in the life insurance sector is also significant, with the largest firms being AXA from France, Aviva from the United Kingdom and Zurich Life from Switzerland.

The next largest category of managed funds is public unit trusts, which account for 21 per cent of funds under management. Some of these trusts – particularly those holding property and infrastructure assets – are listed on the ASX, while others have unit prices calculated by the

manager of the trust. Equities and units in trusts are the single largest asset class held by public unit trusts, accounting for 38 per cent of the total assets of the sector, up from 14 per cent in 1988 (Graph 7).

The remainder of the managed funds sector (for which official statistics are available) is accounted for by cash management trusts (CMTs), common funds and friendly societies. CMTs rose to prominence in the mid 1990s by offering significantly higher interest rates and greater flexibility on cash investments than ADI deposits. As a consequence,

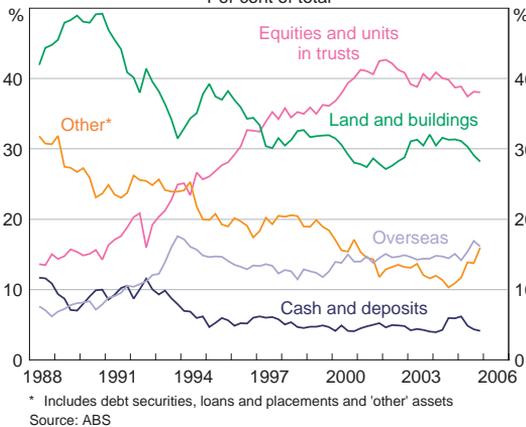
the share of managed funds held in CMTs more than doubled to 5 per cent in the late 1990s, although this share has declined in recent years, partly reflecting increased competition from ADIs' high-yield online savings accounts. Similarly, common funds and friendly societies have lost market share over the past decade or so.

Another form of managed funds which have risen to prominence in recent years are hedge funds. While there is no standard definition of a hedge fund, the name is typically applied to managed funds that invest in a wider range of financial instruments and employ a wider range of investment strategies than traditional managed funds, including the use of derivatives and short-selling techniques. Hedge funds are not regulated by APRA but must comply with laws administered by ASIC.⁶

General Insurance

The general insurance industry has assets of around \$100 billion, accounting for about 4 per cent of domestic financial system assets, down from 8 per cent in 1985. In terms of industry

Graph 7
Assets of Public Unit Trusts
Per cent of total



⁶ See McNally, S, M Chambers and C Thompson (2004), 'The Australian Hedge Fund Industry', Financial Stability Review, September.

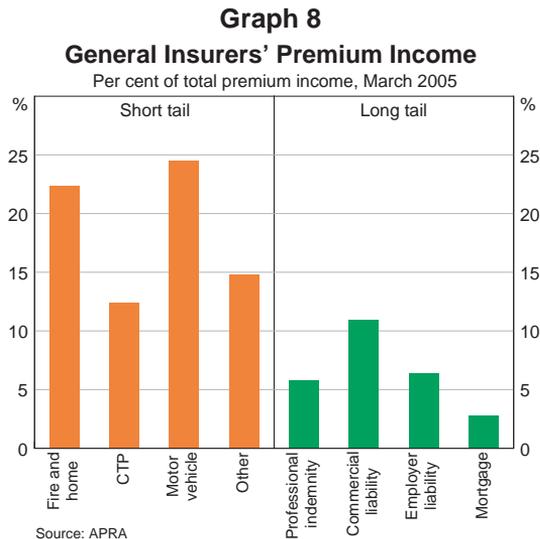
structure, there are 133 active general insurers in Australia, a decrease of 40 institutions over the past 10 years. The largest general insurance group, Insurance Australia Group, has consolidated assets of \$17 billion, with the five largest insurers accounting for about 40 per cent of industry assets. In terms of business activities, around 70 per cent of general insurance premium revenue in Australia is earned from ‘short tail’ business, which provides cover for risks against losses – typically incurred within 12 months of receipt of premiums – on items such as motor vehicles and property (Graph 8). The remainder is due to ‘long tail’ business such as indemnity and liability cover.

In addition to diversified insurers, there are a number of insurers that specialise in particular business lines, including lenders’ mortgage insurance. Lenders’ mortgage insurers (LMIs) provide protection for lenders from losses arising from mortgage defaults. The LMI market is very concentrated, with around 80 per cent of policies being underwritten by the three largest insurers. Of these, two are the subsidiaries of large US LMI groups and the third, a subsidiary of a UK insurer, no longer writes new LMI business in Australia. Around 20 per cent of Australian mortgages are protected with LMI cover, which is relatively high by international standards.

Securitisation Vehicles

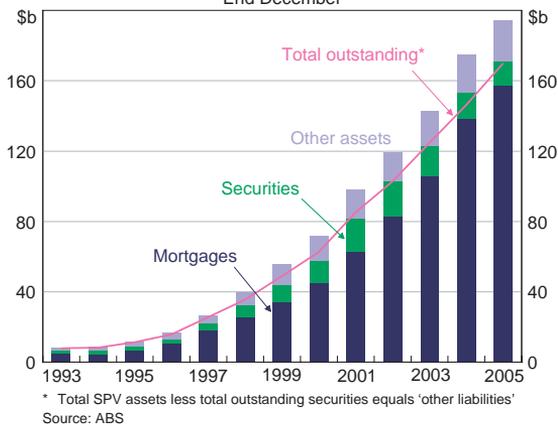
An important influence on the structure of the Australian financial system, particularly over the past decade, has been the growth of securitisation markets.⁷ Securitisation allows financial institutions to fund their lending activities indirectly through capital markets rather than by taking on deposits or borrowing in their own name. They do this by selling assets to a specially created company or trust – usually referred to as a special purpose vehicle (SPV) – which finances the purchase by issuing securities to investors using the assets as collateral. In Australia, as in most other countries with active securitisation markets, residential mortgages have been the predominant underlying asset, but other assets such as commercial mortgages, trade receivables, other loans and asset-backed bonds have also been involved (Graph 9). Securitisation can also take an unfunded or ‘synthetic’ form in which the underlying credit risk on assets, rather than the assets themselves, are transferred to an SPV through the use of credit derivatives.

The market in asset-backed securities has expanded rapidly, growing at an average annual rate of around 30 per cent since 1995. As at December 2005, total assets of securitisation vehicles



⁷ See Bailey, K, M Davies and L Dixon Smith (2004), ‘Asset Securitisation in Australia’, Financial Stability Review, September.

Graph 9
Australian Asset-backed Securities
 End December



amounted to about \$170 billion – around 7 per cent of total financial system assets. In contrast, in 1990, securitisation vehicles accounted for less than 1 per cent of total assets. As a result of this growth, Australian mortgage-backed securities issuance ranks only behind the United States and the United Kingdom in size.

Securitisation has had a profound effect on the structure of the mortgage market in Australia. Prior to the mid 1990s, lending for housing was largely the preserve of deposit-taking institutions. Access

to securitisation markets, however, intensified competition in the mortgage market as smaller regional deposit-taking institutions and specialised mortgage originators were able to fund themselves by pooling mortgages through securitisation vehicles. The share of housing lending by non-bank mortgage originators has more than doubled since 1995, and they accounted for around one third of the asset-backed securities issued in 2005. ❧

APPENDIX

Main Types of Financial Intermediaries

As at December 2005

Type of intermediary	Main supervisor/regulator	Main characteristics	Total assets (\$b)
Authorised deposit-taking institutions (ADIs)			
Banks	APRA	Provide a wide range of financial services to all sectors of the economy, including (through subsidiaries) funds management and insurance services. Foreign banks authorised to operate as branches in Australia are required to confine their deposit-taking activities to wholesale markets.	1 451
Building societies	APRA	Raise funds primarily by accepting deposits from households, provide loans (mainly mortgage finance for owner-occupied housing) and payments services. Traditionally mutually owned institutions, building societies increasingly are issuing share capital.	17
Credit unions	APRA	Mutually owned institutions, provide deposit, personal/housing loans and payments services to members.	35
Non-ADI financial intermediaries			
Money market corporations (excluding those with assets < \$50m)	ASIC	Operate primarily in wholesale markets, borrowing from, and lending to, large corporations and government agencies. Other services, including advisory, relate to corporate finance, capital markets, foreign exchange and investment management.	75
Finance companies (excluding those with assets < \$50m)	ASIC	Provide loans to households and small to medium-sized businesses. Finance companies raise funds from wholesale markets and, using debentures and unsecured notes, from retail investors.	92
Securitisation vehicles	–	Special purpose vehicles that issue securities backed by pools of assets (e.g. mortgage-based housing loans). The securities are usually credit enhanced (e.g. through use of guarantees from third parties).	194 ^(a)

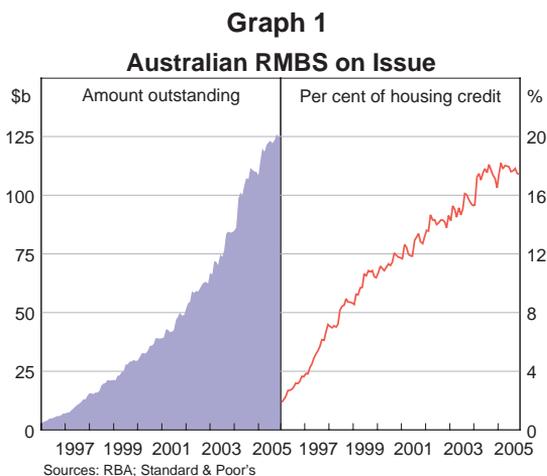
Type of intermediary	Main supervisor/regulator	Main characteristics	Total assets (\$b)
Funds managers and insurers			
Life insurance companies	APRA	Provide life, accident and disability insurance, annuities, investment and superannuation products. Assets are managed in statutory funds on a fiduciary basis, and are mostly invested in equities and debt securities.	195 ^(a)
Superannuation and approved deposit funds (ADFs)	APRA	Superannuation funds accept and manage contributions from employers (including self-employed) and/or employees to provide retirement income benefits. Funds are controlled by trustees, who often use professional funds managers/advisers. ADFs are generally managed by professional funds managers and, as with superannuation funds, may accept superannuation lump sums and eligible redundancy payments when a person resigns, retires or is retrenched. Superannuation funds and ADFs usually invest in a range of assets (equities, property, debt securities and deposits).	505 ^(a)
Public unit trusts	ASIC	Unit trusts pool investors' funds, usually into specific types of assets (e.g. cash, equities, property, money market investments, mortgages and overseas securities). Most unit trusts are managed by subsidiaries of banks, insurance companies or money market corporations.	203 ^(a)
Cash management trusts	ASIC	Cash management trusts are unit trusts which are governed by a trust deed and open to the public and generally confine their investments (as authorised by the trust deed) to financial securities available through the short-term money market.	38 ^(a)

Type of intermediary	Main supervisor/regulator	Main characteristics	Total assets (\$b)
Trustee companies (Common funds)	State authorities	Trustee companies pool into common funds money received from the general public, or held on behalf of estates or under powers of attorney. Funds are usually invested in specific types of assets (e.g. money market investments, equities and mortgages).	10 ^(a)
Friendly societies	APRA	Mutually owned co-operative financial institutions offering benefits to members through a trust-like structure. Benefits include investment products through insurance or education bonds, funeral, accident, sickness, or other benefits.	5 ^(a)
General insurance companies	APRA	Provide insurance, including for property, motor vehicles and employers' liability. Assets are invested mainly in deposits and loans, government securities and equities.	104 ^{(a)(b)}
<p>(a) Consolidated basis (b) September 2005</p>			

The Performance of Australian Residential Mortgage-backed Securities¹

Introduction

The Australian residential mortgage-backed securities (RMBS) market has grown rapidly over the past decade, with the amount outstanding reaching \$126 billion in December 2005, up from just \$3 billion in 1996 (Graph 1). The share of housing loans that are securitised through the issuance of RMBS has increased to 17 per cent.² Investor demand for these securities is strong, with just over half of Australian RMBS purchased by non-residents, and the remainder owned by domestic institutional investors.



The credit ratings of Australian RMBS are very high. By value, around 95 per cent of RMBS issued since 2000 were issued with a rating of AAA, and most of the remainder have been rated AA. Furthermore, the post-issuance credit rating performance of Australian RMBS has been strong. Of RMBS that are currently outstanding, a little over a quarter of the subordinated tranches have been upgraded and very few have been downgraded (Table 1). No senior tranches have been downgraded. Underpinning these outcomes has been the very low default rate on Australian residential mortgages as well as a number of layers of credit protection.

Credit Risk Protection for RMBS Investors

RMBS are typically divided into two broad categories, based on the risk characteristics of the loans in their collateral pools. Prime RMBS are backed by loans made to borrowers that satisfy financial institutions' standard lending criteria. Nearly all loans made by banks, building societies and credit unions, as well as the majority of those made by traditional mortgage originators, fall into this category. Sub-prime RMBS are backed by loans to borrowers who have impaired credit histories or other high-risk characteristics – these loans are typically originated by specialist 'non

¹ This article was prepared by the Securities Markets Section of Domestic Markets Department.

² Securitisation involves the loan originator selling a pool of residential mortgages to a special purpose vehicle which funds this purchase by issuing RMBS to investors. The cash flow from the underlying loans is used to meet the interest and principal repayments on these securities. For further discussion, see Bailey, K, M Davies and L Dixon Smith (2004), 'Asset Securitisation in Australia', Financial Stability Review, September.

Table 1: Ratings Changes of Australian RMBS^(a)

Number of individual tranches outstanding as at February 2006

	Total	Number that have been:	
		Upgraded	Downgraded
Prime RMBS			
Senior tranches	356	0	0
Subordinated tranches	217	74	9
Sub-prime RMBS			
Senior tranches	40	0	0
Subordinated tranches	63	3	0
All RMBS			
Senior tranches	396	0	0
Subordinated tranches	280	77	9

(a) Senior tranches refer to all tranches that were rated AAA at issuance. All other rated tranches have been classified as subordinated tranches.

Sources: RBA; Standard & Poor's

conforming' lenders. As at December 2005, there were \$121 billion of prime and \$5 billion of sub-prime Australian RMBS outstanding.

Other factors that affect a loan pool's credit risk include the proportion of low-doc loans, the loan seasoning (that is, the time elapsed since the loan was originated), and the loan-to-valuation ratios (LVR) of the pooled mortgages. Industry research suggests that the LVR at the time the loan was extended is an important determinant of the probability of borrower default, but has surprisingly little influence on the severity of the loss if the loan defaults. Most loans are secured against a property of greater value – for prime loans, the maximum LVR is typically set at around 80-90 per cent. This provides some protection against the risk that, in the event the borrower defaults, the funds raised from the sale of property prove insufficient to discharge the loan in full. Moreover, the LVR, and hence the credit risk, will typically decline over time (unless property prices fall) as the principal is repaid.

As further possible protection against losses in instances where a property sale raises insufficient funds, loans can also be protected by lenders' mortgage insurance (LMI), whereby the LMI provider reimburses the lender for any post-sale loss incurred. Loans backing prime RMBS are almost always covered by LMI, either at the individual loan level, or through a pool policy taken out by the originator when the loans are securitised.³ However, LMI does not completely guarantee that investors will bear no losses. Firstly, the protection afforded by LMI hinges on the ability of the LMI provider to pay out on policies, and so investors have a significant exposure to the underlying credit quality of these firms. Secondly, on some occasions an LMI provider will not pay out following the property sale if it determines that the quality of the insured loan did not meet the agreed insurance criteria. LMI providers do not insure sub-prime loans.

Beyond this, RMBS investors have a further layer of protection, since losses can be offset by deducting funds from the excess interest spread. This spread is the difference between the

³ Loans originated by authorised deposit-taking institutions that have LVRs greater than 80 per cent are typically insured at approval so that they qualify for a 50 per cent risk weighting for capital adequacy purposes.

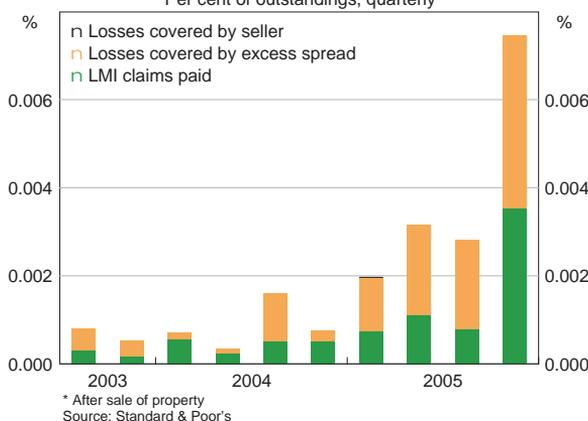
interest rate charged on the mortgages and that paid as periodic coupons to RMBS investors. In the case of prime RMBS, the excess spread is first used to cover current and prior loan losses (that have not been covered by LMI), with any surplus returned to the owners of the special purpose vehicle that issued the RMBS. It is also possible that the RMBS issuer might cover losses directly, rather than out of the excess spread – this is likely done to protect the reputation of the issuer’s securitisation programme. For sub-prime RMBS, all of which do not have LMI, some of the excess spread may also be accumulated in an ‘excess reserve account’ to protect investors against future losses on the underlying loans.

Finally, since RMBS are almost always issued in tranches of varying degrees of subordination, investors in senior tranches have additional insulation from losses. For example, sub-prime RMBS often have an unrated tranche which is typically retained by the loan originator or sold to specialist investors. This unrated tranche is often known as the ‘first loss’ tranche, and absorbs all losses after property sale on the underlying loans until it is exhausted, thereby providing protection to the rated tranches. Within the rated tranches of prime and sub-prime RMBS, there is at least one senior tranche and one or more subordinated tranches, with the subordinated tranches absorbing any losses on the underlying loan pool before the senior tranches are affected.

Losses on Securitised Loans

Losses from default – after sale of property but before other layers of protection – on loans backing Australian RMBS have been extremely low in recent years. During the second half of 2003 and into 2004, the quarterly average amount of losses on loans in RMBS pools was only around 0.0008 per cent – that is, \$8 per \$1 million of loans outstanding (Graph 2). Losses increased over the course of 2005 to around 0.007 per cent (\$70 per \$1 million of loans) in the December quarter. Although this was a relatively large increase, it still left losses after sale of property at very low levels in absolute terms. All of these losses have been covered by the layers of protection discussed previously, with the result that investors in the rated tranches of both prime and sub-prime RMBS have not borne any losses.

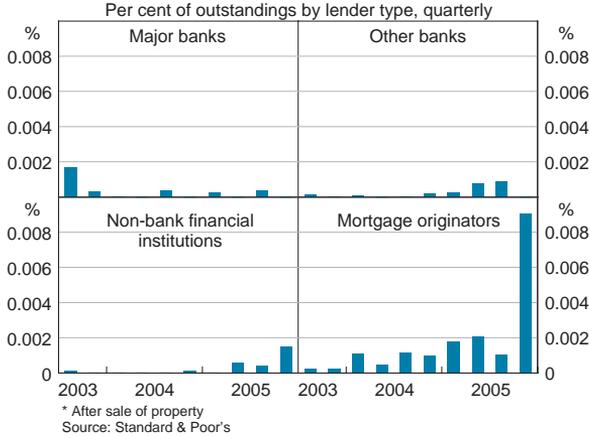
Graph 2
Losses on Loans in RMBS Collateral Pools*
 Per cent of outstandings, quarterly



There are differences in loss rates across types of lenders. For prime loans, loss rates have been lowest on those made by banks, and highest on those made by mortgage originators (Graph 3). This is likely because mortgage originators’ loan pools have relatively higher credit risk, since they contain a larger proportion of low-doc loans, have less seasoning, and often have slightly higher LVRs. Losses on sub-prime loans have been considerably higher than those

Graph 3

Losses on Loans in Prime RMBS Collateral Pools*



on prime loans, consistent with their greater credit risk. Losses on both prime and sub-prime loans have shown an upward trend over 2005.

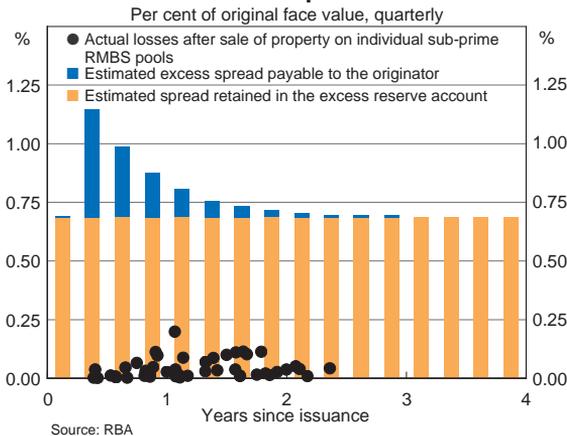
Investors in prime RMBS have relied on LMI to cover losses, with around 97 per cent of losses being met by this layer of protection. Since LMI is not available for sub-prime loans, investors in sub-prime RMBS rely on the excess interest spread as their primary source of protection against losses; this is also an important secondary layer of protection (after LMI) for prime

RMBS. Reserve Bank estimates suggest that when RMBS are first issued, the excess interest spreads on prime and sub-prime RMBS are roughly 1 and 3 percentage points per annum respectively. The size of these excess interest spreads is quite large relative to actual losses that RMBS collateral pools have incurred. But the excess interest spread on a given securitisation transaction declines over time due to two factors: principal repayments by borrowers are allocated first to senior RMBS tranches (which pay the lowest interest rate), causing the weighted-average interest rate paid to investors to increase; and running costs have a large fixed component and therefore increase in percentage terms as the outstanding loan balance declines.

Over recent years, actual post-property-sale losses on loans underlying individual prime RMBS have only occasionally exceeded estimates of the securitisation's available excess spread. Given that almost all of these losses have in fact already been met by payments from LMI providers, the excess spread has been more than sufficient to meet the additional claims.

Graph 4

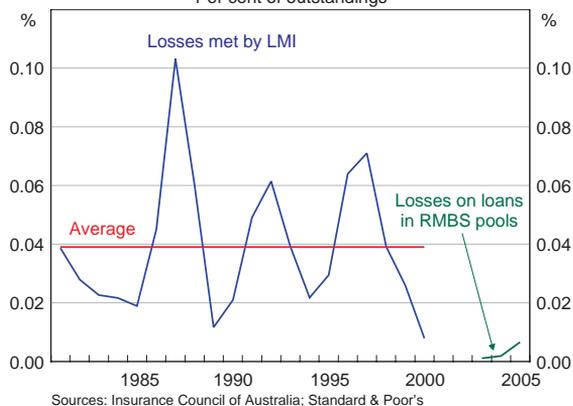
Sub-prime RMBS Loan Losses and Excess Spread



For sub-prime RMBS, a specified amount of spread is retained in an excess reserve account as a buffer against future losses, with any remainder paid to the RMBS issuer. The funds in excess reserve accounts on existing Australian sub-prime RMBS have averaged around 0.7 per cent of the initial face value of the securities. This buffer, together with the remaining excess spread, has been sufficient to cover all losses after sale of property that have been experienced on sub-prime RMBS in recent years (Graph 4).

For the loans in RMBS collateral pools, loss rates in recent years have been more subdued than at other times in the past. Data from a major LMI provider showing the amount of money paid out on insured loans over the past 20 years suggest that annual loss rates on prime housing loans have, on average, been in the order of 0.04 per cent – substantially higher than the losses sustained by the loan portfolios underlying prime RMBS in 2005 (Graph 5). In the past, losses have been quite volatile: for instance, from 1985 to 1987 there was a five-fold increase in LMI claims. Should future post-property-sale loss rates increase to levels seen in the past, it is possible that some RMBS investors will suffer losses. The subordinated tranches of sub-prime RMBS would likely be the most affected, as their underlying loans are most exposed to any deterioration in credit conditions and are not protected by LMI.

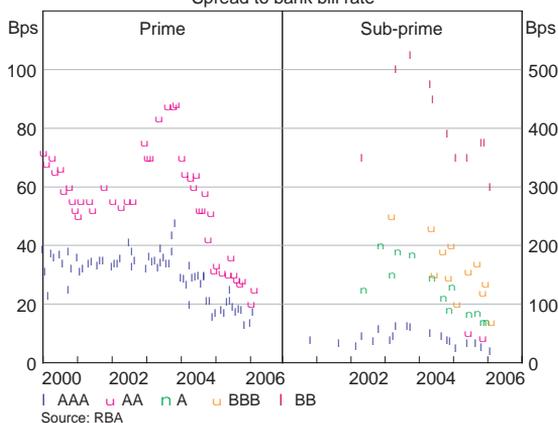
Graph 5
Annual Losses on Prime Housing Loans
Per cent of outstandings



Investor Demand for Australian RMBS

Demand for RMBS by domestic and non-resident investors remains very strong. This can clearly be seen in the pricing of these securities in the primary market (Graph 6). The spread to bank bill rates on RMBS at issuance – that is, the additional amount of interest that investors receive on top of the prevailing bank bill rate – has steadily decreased over recent years, although there have been periods where spreads have widened somewhat. In particular, in 2003 RMBS investors were concerned about a possible overheating of the residential property market, and temporarily bid up spreads on lower-rated RMBS tranches, but the overall downward trend is clear.

Graph 6
RMBS Pricing at Issuance
Spread to bank bill rate



Spreads on the most senior (AAA-rated) tranches of prime and sub-prime RMBS have declined from around 40 basis points a few years ago to less than 20 basis points recently. Lower-rated tranches have shown an even more marked downward trend in spreads. Spreads on BB-rated (that is, sub-investment grade) tranches of sub-prime RMBS have contracted by 200 basis points.

Conclusion

The growth of the Australian RMBS market has meant that credit risk on housing loans has been spread across a broad range of Australian and non-resident investors, rather than concentrated on the balance sheets of domestic financial institutions. To date, the market has performed strongly, with no losses being recorded on Australian RMBS. How the securities will perform in the future will be influenced by developments in household sector balance sheets and the economy more generally. ↗