MICRO AND MACROPRUDENTIAL PERSPECTIVES: THE AUSTRALIAN EXPERIENCE

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Background

I am delighted to address this Conference on macroprudential supervision and to share with you some Australian perspectives on this important and still-evolving topic. As you know, Australia was among the first of a wave of countries over recent years to transfer prudential supervision of banks from the central bank, the traditional home, to a stand-alone, integrated prudential regulator — in our case, the Australian Prudential Regulation Authority (APRA).

I have participated in these developments from both sides now, so to speak. From July 1998, when APRA was established, until 2003 my role was to give practical effect to the Reserve Bank of Australia's responsibilities for the stability of the Australian financial system when it no longer had a direct involvement in bank supervision. I was also one of two Reserve Bank representatives on APRA's board. Since July 2003, I have been executive chairman of APRA and I oversee closely our

supervision of authorised deposit-taking institutions (ADIs) — banks, building societies and credit unions — as well as life and general insurance companies and most of the superannuation industry.

Before the establishment of APRA, the term "macroprudential supervision" was not part of the policy lexicon in Australia. The Reserve Bank had always had a mandate for financial system stability and, since the early 1980s, it has developed an active supervisory function; however, it had not seen a need for a specialist financial stability area. Without financial crises to deal with — and Australia's experience on this front has been very benign — assessments of the health of the banking system were important, mainly, as input into the conduct of monetary policy. Indeed, in the Reserve Bank's view, a first-hand knowledge of whether the banking system was robust or fragile was essential in order to understand the impact of a change in monetary policy, and this argued against the transfer of bank supervision to another agency. This argument did not win the day.

Following the establishment of APRA, the Reserve Bank set up a specialist financial stability area to conduct analysis and research on financial stability issues; it now publishes its assessments in a six-monthly Financial Stability Review. At the outset, the Reserve Bank stated that it would not shadow APRA in its supervisory role; in responding to a crisis, the Bank would rely on APRA for its assessments of the solvency of a financial institution in distress. For its part, APRA has also been careful not to duplicate effort and resources and it has never had a dedicated macroprudential supervision function.

To work well, this division of responsibilities calls for close cooperation between the Reserve Bank and APRA, and effective information

exchange. A number of coordination mechanisms have been put into place to achieve this. The Reserve Bank and APRA are members, along with the Australian Securities and Investments Commission (ASIC) and the Australian Treasury, of the Council of Financial Regulators, an over-arching body that operates as a forum for discussing regulatory issues and sharing information and views. Bilateral arrangements between the two agencies, under the terms of a Memorandum of Understanding, are centred on high-level meetings of the Reserve Bank/APRA Coordination Committee. There is regular formal and informal information exchange. The Reserve Bank provides APRA with relevant data from the payments system and regular briefings on the Australian economy; in turn, APRA supplies the Reserve Bank with prudential data in aggregate form which is used to assess developments in the financial system. In the normal course, the Reserve Bank does not receive confidential prudential data on individual institutions.

These arrangements have worked well for some years now, but they have not been tested in adversity.

Financial system risks

Though institutional arrangements vary from country to country, there is a conceptual framework that can assist in understanding the division of responsibilities for financial stability between central banks and stand-alone prudential regulators. This framework is based on the nature of financial system risks, which take two main forms:

- systemic risks, which affect financial markets or the financial system as a whole, and not just specific institutions. A loss of confidence in the financial system or a breakdown in the payments system from a

terrorist attack are examples. It is not possible for institutions to avoid these risks through diversification; and

- non-systemic or diversifiable risks, which are particular to a specific institution but not to all institutions in a financial market or financial system. Institutions can reduce these risks through diversification.

Central banks play a key role in establishing a low inflation environment, smoothly functioning financial markets and a safe and robust payments system as a means of keeping systemic risk in the banking system to an acceptably low level. They are also the ultimate source of liquidity to the banking system and may be the "lender of last resort" to individual financial institutions that are in difficulty. The prudential regulator plays a complementary role. Its aim is to promote prudent business behaviour and risk management on the part of individual financial institutions to keep their diversifiable risk to an acceptably low level.

In practice, of course, it is not always easy to disentangle these two forms of risk. Take credit risk, for example. If one particular bank is distinguished from its peers because it has a highly concentrated loan portfolio or poor credit assessment practices, it is the prudential regulator that will be concerned to see this diversifiable component of credit risk corrected. However, both the central bank and the prudential regulator would be concerned by substantial and rapid growth in overall credit, particularly if it is associated with rapid growth in asset prices that suggested the banking system as a whole was becoming overextended and systemic risks were building.

This is indeed the issue which the Reserve Bank and APRA have together had to confront in Australia over recent years — viz, strong credit growth

which fuelled a housing market boom. The background to this boom, and the responses of the two agencies, form the main part of my address.

Australia's housing market boom

Australia's housing market boom is a story of two balance sheets — that of the household sector and the banking system.

The salient feature of household balance sheet developments has been the greater willingness of Australian households to incur debt, particularly for housing. Over the past decade and a half, the ratio of household debt to income has trebled to just over 150 per cent. Over the same period, it must be added, households' financial assets have increased by substantially more than their debt and their net financial position has improved noticeably.

The adjustment in household balance sheets has been a natural consequence of the long period of low inflation and thus low interest rates in Australia and, in a vibrant economy, high consumer confidence about the ability to carry larger debt burdens. For a decade and a half now, Australia has enjoyed virtually uninterrupted GDP growth, averaging just under 4 per cent annually over the period, with low inflation and unemployment currently at its lowest rate for 30 years. On the supply side, intense competition among housing lenders has led to an increase in the number and variety of mortgage products available to borrowers and to substantial price discounting.

The counterpart to increased household gearing has been sustained balance sheet expansion in the banking system, and a marked change in the composition of lending portfolios. Lending secured by residential property now comprises more than half of total domestic lending by the

banking system, compared with only around a quarter in 1990. Since housing lending has traditionally been a very safe asset class, this structural change has been generally seen as lowering the overall risk profile of the Australian banking system. It has been reinforced by substantial improvements in risk management in the wake, particularly, of corporate loan losses in our early 1990s recession.

The growth of household credit, in turn, fuelled a housing market boom in Australia. Between 1996 and 2003, house prices increased by 150 per cent. By 2003, both house prices and housing debt were increasing at annual rates of over 20 per cent. In this heady environment, an increasing proportion of housing lending was speculative in character, as households moved enthusiastically into the investment property or 'buy-for-rent' market. Investment properties accounted for almost half of all housing loan approvals in 2003.

Intense competition between lenders in a booming market inevitably put pressure on credit standards. Not that long ago, Australian households were required to save for a substantial down-payment on a home, demonstrate comfortable coverage of the loan repayment through secure earnings, further demonstrate that their credit history was sound and, finally, ensure that the market value of the home was well in excess of the proposed loan amount. Lenders now do not necessarily look for all of these assurances. Furthermore, our lenders no longer have the cushion of net interest margins of around three to four per cent as in the past; competition is pushing these margins towards two per cent. Clearly, there has been a shift in the balance of power from lenders to borrowers.

The departures from traditional lending practices have taken a number of forms:

- lenders have increased their *reliance on mortgage brokers* to originate loans. Broker-originated loans now account for around 30 per cent of all new housing lending in Australia, although the proportion is much higher for many of Australia's smaller, regional lenders that use brokers to access borrowers in areas not served by their branch networks. Our analysis does not suggest that broker-originated loans perform worse, on average, than loans originated directly. Nevertheless, brokers' incentives tend to align more closely with loan volume than loan quality;

- lenders have gradually relaxed their *debt serviceability criteria* used in assessing loan applications. Traditional 'rules of thumb', under which lenders were willing to lend up to the amount where the debt-servicing ratio — the ratio of interest and principal repayments to income — was no greater than 30 per cent, have given way to more complex 'income surplus' models. Under these models, borrowers are assumed to be willing to continue repaying their mortgage until they reach minimum 'subsistence' levels of family consumption. These models allow lenders to provide loans with debt-servicing ratios as high as 50 per cent;

- lenders have ventured into non-traditional and *higher risk mortgage products*, such as 'low-doc' loans, no deposit loans and equity release products such as reverse mortgages. A low-doc loan involves a large element of self-verification in earnings and is designed mainly for the self-employed with limited documentation of their income, but such loans are now being used by a wider range of borrowers. Experience in overseas markets indicates that low-doc loans are much more likely to default than conventional loans and they are priced in Australia at a margin above rates on conventional mortgages. However,

competition has seen this risk margin halved over the past few years; and

- finally, there has been a movement towards *alternative property valuation methods* and away from the traditional reliance on a full valuation of a property, involving an external and internal inspection. The alternative methods, adopted particularly by the larger banks, include greater use of restricted (or 'kerbside') valuations, or valuations based on electronic systems that use general databases of market prices.

Micro and macroprudential responses

Obviously, household credit growth rates of over 20 per cent in 2003, accompanied by slippages in credit standards and increasingly speculative behaviour in the investment property market, were unwelcome developments from a macroeconomic and financial stability perspective. The responses of the Reserve Bank and APRA were complementary, but reflected their different perspectives and powers.

The Reserve Bank's focus, from a financial stability perspective, was the household sector. Over the course of 2003, the Reserve Bank published a number of articles on household debt and innovations in housing finance which drew public attention to the growing vulnerability of borrowers to an adverse change in the economic environment. This message was reinforced by 'jawboning' by the Governor of the Reserve Bank who, in speeches and appearances before a Parliamentary Committee, highlighted the risks associated with the rapid growth of household credit, the high level of house prices and the serious over-extension of the investment property market.

Monetary policy was also tightened from the end of 2003. Although other factors were also at play, the Reserve Bank noted that credit growth at that time was much faster than could be expected to be consistent with economic stability over the longer run. The risks associated with the rapid run-up in household debt appeared to be growing over the course of 2003 and, in the Reserve Bank's view, monetary policy should, as far as possible, avoid adding to them. The combined effect of the Reserve Bank's jawboning and tighter monetary policy was a dampening of some of the speculative excesses in the housing market.

APRA's supervisory response naturally focussed on the banking sector and has had a number of dimensions. A significant priority was stress-testing of housing lending portfolios to confront these portfolios with 'bad times'. Other responses have involved detailed analysis of changing lending practices; close oversight of risk management systems, particularly for lenders venturing into higher-risk mortgage products; and some tightening of the supervisory regime.

Let me comment briefly on each of these responses.

(i) stress testing

In 2003, APRA conducted a comprehensive stress test to gauge the resilience of ADI housing loan portfolios in the event of a substantial housing market correction, and to identify those institutions most at risk in such an eventuality. The stress scenario — a 30 per cent fall in housing prices and a significant increase in mortgage defaults — was well outside Australia's post-war experience but not as severe as the fate of some other industrial countries and regions over the past 20 years.

The stress test demonstrated that the ADI sector as a whole remained well capitalised and could withstand a substantial housing market correction without putting depositors at undue risk. Losses involved in such a correction would be equivalent to around one per cent of housing loan portfolios — interestingly, about ten times larger than some banks had estimated, and publicised, from much simpler models. Most ADIs would survive such losses without breaching minimum capital requirements, but for a small number of ADIs the losses would not be covered by surplus capital. No ADI would fail in the face of the shock.

(ii) lending practices

APRA has devoted considerable effort to understanding industry developments in lending practices. For example, it undertook an extensive survey of property valuation practices, which confirmed the movement away from the traditional full valuation of properties. The alternative valuation methodologies have some statistical validation and clearly are cost efficient for lenders, but they are untested in a major property market downturn.

Currently, APRA is reviewing how ADIs assess the ability of their customers to service their mortgages. We are surveying ADIs on how much of their current lending portfolios involve loans with very high debt-servicing ratios. The 'income surplus' models now becoming popular are intended to more fully capture a borrower's circumstances but these models, too, are untested in adversity. As with the survey on property valuation practices, the results will provide useful benchmarks on industry practice and enable APRA to direct its attention to institutions pursuing the more aggressive strategies.

(iii) oversight of risk management systems

Credit standards have been a major focus of APRA's supervisory attention for some time now. This is where our front-line supervisors and specialist credit risk team do the 'heavy lifting' in reviewing credit policies and assessing the robustness of internal controls. Recently, we have brought another pair of eyes to the task. As part of our tripartite arrangements with external auditors, we asked selected lenders to commission reviews by their external auditors of their mortgage lending practices. Though some areas for improvement were identified, the internal control frameworks were assessed as broadly adequate and effective.

(iv) tightening the supervisory regime

APRA has tightened the criteria under which residential mortgage lending qualifies for the 50 per cent concessional risk-weighting for capital adequacy purposes. This concession contemplated that lenders would undertake a thorough assessment of the ability of the borrower to service the loan, verify all material information related to the borrower and confirm the valuation and marketability of the property. Where these procedures are not followed, the concessional risk-weight may not adequately reflect the likelihood of increased risk. Loans where lenders do not verify the borrower's servicing ability now require a higher equity contribution by the borrower, or would need to be fully mortgage insured with an acceptable lenders mortgage insurer, before they qualify for the concessional risk-weight.

APRA has also strengthened the capital adequacy requirements it applies to lenders mortgage insurers, to ensure that they are well-placed to meet valid claims by ADIs, even under stress conditions.

Beyond these specific responses, APRA has, like the Reserve Bank, also used the "bully pulpit" to call attention to emerging prudential issues. The messages to lenders have been simple:

- Australia's continuing economic success should not be taken for granted;
- certainly, it should not dull the senses of institutions in risk management and allow complacency to set into lending practices; and
- the temptation to reduce investment in risk management capabilities out of eagerness to boost short-term profits must be resisted.

Vulnerabilities in the banking system

Household credit growth in Australia slowed considerably following the change in the stance of monetary policy, although at no stage has it fallen below double-digit rates. The housing market boom subsided, though not in all capital cities, and the correction has been an orderly one to date.

Despite uncertainties about how the housing market boom would unwind, the banking system has continued to enjoy strong balance sheet expansion. Some lenders have attempted to maintain growth in their mortgage portfolios through more aggressive pricing and moving into higher risk mortgage products. Many lenders, however, have switched their efforts into lending to the business sector. Business credit is currently growing at its fastest rate in almost 20 years and has overtaken growth in household lending.

As a consequence, and despite continued pressure on interest margins, the Australian banking system remains highly profitable. Since the mid 1990s, the five largest banks have earned a before-tax return on equity at

around 20 per cent a year. Measured as a return on assets, profits are well above those earned by European banks but in line with the largest banks in the United States.

Importantly, profitability has been sustained by the very low level of non-performing assets, by historical and international standards. As at end June 2006, almost three years after the housing market peaked, only 0.4 per cent of banks' on-balance sheet assets were classified as non-performing and just over half of these were classified as 'impaired'.

Nonetheless, the Australian banking system does face a number of vulnerabilities. These have been the focus of continuing attention by both APRA and the Reserve Bank and were also highlighted in a recent Financial Sector Assessment Program (FSAP) review of Australia by the International Monetary Fund. These vulnerabilities have at their core the reality that many of the changes in lending standards, risk management and pricing have not been tested in adverse circumstances.

Obviously, a source of potential vulnerability is the increased gearing of the household sector. The debt servicing burden of households — the ratio of interest payments to income — has almost doubled since the early 1990's despite low interest rates; the ratio is currently two percentage points higher than its previous peak in 1989. The increase in this ratio can be explained, in part, by the increase in the number of households with an investment property and in the number of older householders willing to carry debt later in life to access equity in their home or to 'trade up' houses. Nonetheless, the increase in the aggregate debt servicing ratio means that the financial position of the household sector is more sensitive to changes in the economic and financial climate than was the

case a decade ago. To date, however, household finances in Australia show few signs of stress.

Another source of potential vulnerability is the significant exposure of the Australian banking system to the residential property market. Across Australia, the housing market is beginning to regain momentum but, in the view of the OECD and others, it is overvalued on the 'fundamentals'. If so, it may take a long time for prices to adjust in the current low inflation environment and the direction of the housing market remains uncertain. In addition to these domestic exposures, the Australian banking system also has exposures to residential property markets in New Zealand and the United Kingdom, the main countries in which diversification abroad has taken place.

A third source of potential vulnerability is the high reliance on wholesale markets to fund the balance sheet expansion of the Australian banking system. Product innovation and competition for financial assets has eroded traditional retail deposit bases and, for more than a decade, credit growth has consistently outstripped growth in deposits. Banks now source less than one quarter of their funding from retail deposits, compared to nearly 40 per cent in the 1990s, and the introduction of high-yield online savings accounts has sharpened competition in this area.

To bridge the gap between retail deposit growth and lending growth, some regional banks and smaller ADIs have turned to securitisation markets. The major response, however, has been increased reliance on higher cost wholesale funding, both domestic and offshore. In 2006, offshore liabilities accounted for more than a quarter of total liabilities on the domestic books of Australian banks, a figure that is much higher than in most other banking systems. This funding structure requires banks to

maintain appropriate credit ratings and exposes them to a range of operational, counter-party and liquidity risks, even if foreign exchange and interest rate risks are hedged. On the positive side, market scrutiny provides a strong discipline on banks to carefully manage their funding risks.

A more general source of vulnerability is that the long run of strong performances in the Australian banking system may have created unrealistic expectations on the part of shareholders for continued high earnings into the future. In the attempt to meet these expectations, boards and management could be tempted into pursuing market share for its own sake, venturing into new territories, products or sectors ill-prepared, underpricing risk or cutting corners on risk management.

Potential vulnerabilities in the Australian banking system were the subject of a macroeconomic stress test conducted in 2006 under the auspices of the IMF's FSAP review, and with the participation of both the Reserve Bank and APRA. APRA's 2003 stress test, deliberately, did not allow for the more general impact of the correction of the housing market on the household sector and on economic conditions. It was a 'first round' test. The broader macroeconomic test was a three-year stress scenario involving:

- as before, a 30 per cent fall in housing prices but substantial falls as well in equity prices and, to a lesser extent, commercial property prices;
- an abrupt end to Australia's economic expansion with the onset of a domestic recession, involving a steep rise in unemployment and an unprecedented contraction in household consumption; and

- a reluctance among overseas investors to hold Australian bank paper at current exchange rates and interest rates, leading to a sharp depreciation of the exchange rate and higher funding costs for banks.

Once again, the largest Australian banks proved their resilience. Bank profitability fell by around 40 per cent at worst, mainly from higher bad debt expenses, but capital adequacy and solvency were not threatened. Interestingly, the reported losses on mortgage portfolios were smaller than those on business loan portfolios. This was because households responded to the changed economic climate by tightening their belts and restraining their discretionary expenditure, leading ultimately to loan defaults by small and medium-sized enterprises.

Of course, a stress test is only as good as the assumptions that are fed into it. The vulnerabilities facing the Australian banking system may well play out differently. Nonetheless, the stress tests highlighted the importance of looking beyond historical experience in a particular portfolio when assessing risk, particularly when that experience is very benign, and taking into account correlations between mortgage portfolios and commercial loan portfolios. We see considerable merit in undertaking similar stress testing of the Australian banking system on a reasonably regular basis.

Concluding comments

At this point in time, the vulnerabilities in the Australian banking system remain latent, although the slippages in credit standards in housing lending are now beginning to reflect in an upward drift in loan arrears, albeit from a very low base. Household credit growth has also picked up again recently, so vigilance on the part of APRA and the Reserve Bank remains essential.

One broad lesson for the division of responsibilities between the prudential supervisor and the central bank can be drawn from Australia's experience. It relates to the transmission of financial shocks. If the banking system has strong risk management and has proven its resilience, any deterioration in the economic climate is more likely to work through the balance sheets of the non-financial sector — in Australia's case, the household sector. The response of households in curbing expenditure and reducing risk in their balance sheets is more likely to amplify financial shocks than major problems in lending institutions. Hence, the health of the household sector is central to any assessment of financial risks to the economy.

This is not the territory of a prudential supervisor. However, it is the point at which our perspectives, and those of central banks pursuing a financial stability mandate, intersect.