

*The Finsia Journal of Applied Finance*

ISSUE 4 2014

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Caroline Falshaw A Fin  
Head of Corporate Affairs and Policy, Finsia  
PO Box H99, Australia Square  
Sydney NSW 1215 Australia  
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Acknowledgement of the author or authors, Finsia and JASSA is required.

ISSN 0313-5934

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# FROM THE

## *Managing Editor*

KEVIN DAVIS SF Fin, Professor of Finance, University of Melbourne  
Research Director, Australian Centre for Financial Studies and Professor of Finance, Monash University  
Member of the Financial System Inquiry panel

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This issue of *JASSA* is dedicated to a number of papers presented at the 19th Melbourne Money and Finance Conference — current issues in Australian financial markets — held in July 2014. The conference was organised by the Australian Centre for Financial Studies. It was sponsored by APRA, National Australia Bank and Reserve Bank of Australia, and supported by Finsia. While not subject to the usual double-blind process, each of these papers was reviewed by a member of the Editorial Board and by me prior to inclusion.

With the Senate recently disallowing the Coalition Government's amendment bill to the Future of Financial Advice reforms, the first paper by Hazel Bateman and Geoffrey Kingston is very timely. It outlines the lessons for Australia from the approaches to regulating financial advice taken by the US, UK and Canada. The authors indicate that these countries all have first-cum-second pillars of retirement income that include defined-benefit schemes, both public and private ones. Effectively, the resulting link between wages and total income in retirement in these countries ensures that these schemes perform an income-replacement function for people of middle means. Bateman and Kingston argue that Australia's distinctive problems in regulating financial advice arise from our policy of a first pillar consisting of a means-tested public pension, along with a second-cum-third pillar consisting mainly of privately-managed defined contributions, which are supposed to perform the income-replacement role. The authors note that with Australian superannuation portfolios having the riskiest asset allocations of any OECD country, the income-replacement function of the second-cum-third pillar is vulnerable to market crashes.

Next, Deborah Ralston and Martin Jenkinson examine the increased cross-border participation in financial markets facilitated by technology, which has allowed investors to diversify their portfolio holdings and corporate issuers to access new pools of capital. The paper investigates the potential impact of these trends on the location of various financial markets and the financing of Australian businesses. Ralston and Jenkinson suggest that the issue of financial market infrastructure location has wider implications for the Australian economy with regard to capital markets compared to foreign exchange and derivatives markets. They believe that these concerns go beyond the well-documented potential loss of regulatory control to include issues such as the inability for Australian firms to raise capital as a result of global shocks and the potential for Australian firms that would otherwise operate in Australia to move overseas to be closer to capital providers.

On a similar theme, the paper by Ashley Fang, Mitch Kosev and David Wakeling indicates that since the global financial crisis, investment and corporate funding trends in Australia have been characterised by the divergent experiences of the resources sector and non-resources companies. The paper highlights the fact that resources companies have participated in an investment boom, which has involved substantial long-term commitments to investment projects. It notes that in this environment, companies have used debt to smooth over temporary bouts of weakness in operating profits, whereas, investment in the non-resources sector has been much weaker, effectively limited to maintaining the asset base rather than expansion. The authors indicate that internal finance has been adequate to meet non-resources companies' net funding needs and the sector's capital structure has remained broadly stable.

Tom Valentine examines the determinants of real income per capita and the international effects of productivity growth and saving. Valentine finds that there are several good reasons for Australia to adopt policies which increase the saving rate. He says it would allow more investment spending to be funded from domestic sources so that it makes a greater contribution to national wealth; and maintaining the level of investment will also support the growth of productivity. In addition, increased saving will tend to reduce the value of the Australian dollar which will stimulate the economy and, in particular, support those industries which suffer from a high value of the dollar, i.e. the low-speed part of the two-speed economy. He adds that increased saving will make it easier to respond to the future pressures on the retirement income system arising from the ageing of the population, and if this is not done, there will be substantial pressure on the pension system.

Maria Yanotti and Mardi Dungey examine the evidence on the impact of the global financial crisis on the selection of mortgage products by borrowers. Using a sample of bank-originated mortgage applications between January 2003 and May 2009, Yanotti and Dungey find that the advent of the crisis results in significant changes in the effects of a number of borrower characteristics on mortgage product choice. They believe these changes suggest that risks were transferred to the borrower at a discounted price during the crisis period. For example, 'honeymoon' products became increasingly popular and more accessible during this period, offering the applicant higher discounts on the variable interest rate. The authors also note that variable and fixed-rate mortgages were both taken up by relatively low-risk applicants.

Finally, the paper by Chris Dalton on the future of securitisation highlights the key issues that will need to be addressed to ensure the securitisation market becomes a large, deep and liquid part of our financial system, and plays a larger role in funding Australia's economic growth. Dalton notes that securitisation provides an alternative source of funding for authorised deposit-taking institutions, introducing an element of competition in certain lending markets, and it provides fixed income securities with varying risk and yield attributes to investors. He also indicates that securitisation is ideal to create asset-backed securities (ABS) based on established and predictable cash flows from established infrastructure assets, and that such ABS could easily be placed with superannuation funds that are seeking assets that provide annuity style returns for the growing appetite for retirement income products.

I would like to thank all of the contributors to *JASSA* in 2014 for helping us to examine the important issues facing finance professionals, policy makers and academics throughout the year. I strongly encourage your contributions for 2015 and, for those interested, please note that the guidelines for submission to the journal are available at [www.finsia.com](http://www.finsia.com)

PAPERS FROM  
THE MELBOURNE  
MONEY & FINANCE  
CONFERENCE 2014

*Finsia acknowledges the contribution of the papers from the 19th Melbourne Money and Finance Conference to this issue of JASSA. The conference — Current Issues in Australian Financial Markets — was held in July 2014 by the Australian Centre for Financial Studies.*

# REGULATING FINANCIAL ADVICE: *Lessons from the United States, the United Kingdom and Canada*

HAZEL BATEMAN, Professor, School of Risk and Actuarial Studies, University of New South Wales  
GEOFFREY KINGSTON, Professor, Department of Economics, Macquarie University

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*In November 2014 the Senate disallowed the Corporations Amendment (Streamlining of Future of Financial Advice) Bill. Now is an opportune time to stand back and draw out implications for Australia from how financial advice is regulated in the leading common law countries. We also draw out implications from the debates in those countries about the regulation of advice. An earlier version of this paper was presented to the 2014 Australian Centre for Financial Studies' Melbourne Money and Finance Conference.<sup>1</sup>*

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At the time of writing (November 2014) the regulation of financial advice in Australia was in a state of flux. The Future of Financial Advice (FoFA) legislation was passed by parliament in 2012. In place of Australia's traditional light-touch regulation of financial advice there was to be a new 'best-interests' duty on financial advisers, a ban on conflicted remuneration, and compulsory 'opt-in' of clients every two years. However, FoFA in its original form was not implemented. The Coalition Government initially sought to weaken the first two provisions and eliminate compulsory opt-in via its Corporations Amendment (Streamlining of Future of Financial Advice) Bill. Subsequently the Senate disallowed the Coalition amendment bill. On 19 November 2014 the Australian Securities and Investments Commission made the following announcement about how it intended to regulate financial advice in the immediate aftermath of the Senate's action:

ASIC will take a practical and measured approach to administering the law as it now stands following the disallowance of the Corporations Amendment (Streamlining Future of Financial Advice) Regulation 2014. We will take into account that — as a result of the change to the law that applies to the provision of financial advice — many Australian financial services (AFS) licensees will now need to make systems changes. ASIC recognises this issue may arise in particular areas, including fee disclosure statements and remuneration arrangements.

We will work with Australian financial services licensees, taking a facilitative approach until 1 July 2015.

In light of this, now is an opportune time to stand back and review how financial advice is regulated in the leading common law countries. We also review the debates in those countries about the regulation of advice. We draw out implications for both the FoFA legislation and the amendment bill.

Australia is not the only common law country to be in the process of changing its regulation of financial advice. In 2013 the United States regulators announced that they were considering changes to the duties of financial advisers, which would not only clarify the meaning of fiduciary duty but bring the duties on US advisers more into line with the corresponding duties in Canada and other common law countries.

There have been significant regulatory changes in the United Kingdom. Implementation of the Retail Distribution Review (RDR) in 2013 streamlined a pre-existing three-way distinction between independent, restricted and tied advice. Now there is a two-way distinction between restricted and independent advice. There is also a comprehensive ban on commissions (conflicted remuneration). Historically, the UK required retired over-75s to annuitise most

of their superannuation balances, resulting in the deepest market for life annuities in the world. The 2014 budget announced a radical relaxation of compulsory annuitisation. Identifying good-deal life annuities will no longer be the major task of advisers to people on the cusp of retirement.

Canadian regulation has been comparatively settled. In 2013, however, the Canadian authorities introduced a requirement that a suitability analysis be triggered whenever securities are received into a client's account, the investment adviser changes, or the client's life circumstances change.

In drawing lessons for Australia we do not discuss the market for advice on insurance products. Nor do we address tests and certifications of expertise in advice provision. Also, while there are various reasons for seeking financial advice, we focus on saving for retirement and the subsequent decumulation of retirement savings. The lessons we draw from actual regulations in the US, the UK and Canada are these:

- > Following the US example, the Australian authorities should consider an explicit definition of what it means to be acting in the best interests of the client. By contrast, the FoFA legislation is more about promulgating a multi-step process rather than the substance of upholding a best-interests duty. The clauses that define the first six steps of the process use the words 'reasonable' or 'reasonably' four times. In such ways, part of the task of definition effectively is delegated to ASIC and the courts. They would be called upon to issue guidance and set precedents that clarify the substantive duties on advisers, drawing on the Corporations Act. This roundabout approach appears to have worked in Canada (Paglia 2013). Yet, proactive legislation to clarify the duties of advisers might be less haphazard.
- > Again following the US, performance fees charged by advisers to unsophisticated investors should be confined to fulcrum fees whereby benefits and costs to advisers are symmetrical around a passive benchmark. This would ameliorate the problems of asymmetric performance fees and chronic index-hugging that beset Australian actively managed funds (Whitelaw et al. 2011a, b).
- > Following the UK, financial advisers should be required to identify themselves as offering either restricted or independent advice.
- > UK endeavours to eliminate commissions have proved problematic. Notably, there are strong arguments that investors seeking advice on modest sums easily become uneconomic to service. Subject to caps on the amount of funds under advice, clear written warnings whenever advice is from a restricted adviser, caps on the remuneration of advisers via commissions, and an exemption for conflicted general advice might be tolerable.
- > Following Canada, reviews of financial plans should not take place on a fixed two-year schedule but on a contingent, 'trigger' basis. One such trigger would be when a client's life circumstances change. For example, if the person responsible for managing household finances passes away before their partner, it could take a considerable time before the surviving partner learns about trail fees that have become superfluous to family needs, absent a triggered review. Put another way, the absence of any review smacks of 'inertia selling' of the kind banned by the Corporations Act.

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## United States

The US regulations distinguish between broker-dealers, on the one hand, and financial advisers on the other. As in Canada, there appears to be scope for a financial services firm to wear either of these hats. Brokers and dealers in the US are regulated by the Financial Industry Regulatory Authority. Advisers are regulated by the Securities and Exchange Commission (SEC) under the *US Investment Advisers Act 1940*. Unless a specified exclusion applies, investment advisers must register with the SEC. As in Australia, registration is required of the advice-giving firm rather than particular advisers employed by the firm. Exclusions from the Act are available under a long list of headings. Thus US banks and hedge funds are excluded (Staff of the Investment Adviser Regulation Office 2013).

A distinctive feature of US regulation of funds managed on behalf of unsophisticated investors is that fulcrum fees are the only authorised performance fee for mutual funds apart from hedge funds (Cumming et al. 2013). Many leading mutual funds employ fulcrum fees, notwithstanding the carve-out for hedge funds. Performance fees for hedge funds offered in the US tend to be of the asymmetric 2-20 variety. This type of asymmetry tends to encourage risky allocations.

In the wake of the global financial crisis a group of leading US academics in economics and finance produced a series of reports, including one on retirement savings, under the auspices of the Council for Foreign Relations. That report draws an analogy between regulating financial advice and regulating the sale of foodstuffs:

To be eligible for defined contribution plan investments, a mutual fund should be required to provide a simple standardized disclosure of the costs and risks of investing in the fund. Our model is the nutrition label required for packaged foods in the United States. The investment label should emphasize tangible characteristics that are related to cost and risk (Squam Lake 2009, p. 1).

The Squam Lake group suggests classifying securities into five distinct asset classes: stock, cash, Treasury bonds, corporate bonds, and inflation-protected securities. Stock carries 'investment' or 'equity' or 'market' risk. Cash carries reinvestment risk. Treasury bonds carry inflation risks. Corporate bonds carry inflation and credit risks. Inflation-protected securities protect against inflation risk.

Australian industry practice is different. Take the model holistic plan promulgated in 2008 by the Financial Planning Association (FPA) for a hypothetical 57-year-old couple. Table 1 shows 'investment sectors' along with more specific labels under the heading of 'investment options':

**TABLE 1: Asset classification employed by the FPA's model holistic financial plan**

<b>Investment sector</b>	Cash	Income	Income	Listed property securities	Australian shares	Australian shares	Australian shares	Australian shares	International shares
<b>Investment options</b>	Cash	Income extra	Income fund	Property securities fund	Australian active equity	Boutique Australian shares	Australian equity long/short	Australian small companies	Global value equity

Source: *Financial Planning Association (2008)*.

Continuing with the nutrition analogy, the FPA's classification system resembles a classification for food groups that allows for seven different categories of carbohydrates but only for two other food categories. Unlike the Squam Lake classification, the FPA's classification does not map well into distinct functional categories (although it does serve to articulate a degree of diversification against equity-manager risk in the model plan). For example, what are the investment and credit risks attached to the 'income' categories? The FPA's system is framed in a way that distracts from its key recommendation of very heavy concentration in growth assets alongside a low weight to safe interest-bearing securities. Judging by the portfolio weights reported by the model plan, stocks and property together appear to account for around 90 per cent of the FPA's model portfolio, whereas safe-interest bearing securities appear to account for around 10 per cent (although the exact percentages are unclear). This is the financial equivalent of a high-carb diet. It could prove unsuitable for the hypothetical household, whose circumstances suggest that they would be unlikely to qualify for much of the Age Pension, yet they are not sufficiently well-off to let their planned estate take the strain of any market crash. Suitable or otherwise, the model portfolio fails to spell out the risks attached to it.

For Australian holistic plans we suggest as a minimum requirement a simple two-part classification: growth assets (stocks and property), and safe assets (AA, i.e. interest-bearing securities rated 'high quality' by one of the major credit rating agencies). The growth-assets class could be subdivided, but not at the expense of the safe interest-bearing securities class. If the portfolio is geared up by means of secured loans, as often occurs with wealth accumulation plans outside superannuation, disclosure of an explicit net figure — presumably negative — could be mandated for the overall exposure of the recommended portfolio to safe-interest-bearing securities.

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*For Australian holistic plans we suggest as a minimum requirement a simple two-part classification: growth assets (stocks and property), and safe assets (AA, i.e. interest-bearing securities rated 'high quality' by one of the major credit rating agencies). The growth-assets class could be subdivided, but not at the expense of the safe interest-bearing securities class.*

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## **United Kingdom**

Following the *Financial Services Act 2012*, UK supervisory responsibilities that had been vested in the Financial Services Authority have been allocated to two new organisations: the Prudential Regulation Authority and the Financial Conduct Authority. The PRA supervises financial businesses that are systemically important: banks, building societies, credit unions, insurers and major investment firms. The FCA supervises the rest of the market for financial advice, including specialist financial planners.

There are two distinctive features of the UK's regulations. First is a longstanding insistence on distinguishing between 'independent' advice (not confined to a particular list of 'solutions' to a retail client's problems) and 'restricted' advice (limited to the products of a particular provider). Enforcing this distinction extends to an unusually rigorous insistence on accurate self-labelling by firms. Second, the RDR involves an unusually determined effort to stamp out commissions (Financial Services Authority 2012).

Andrew Clare (2013) provides a leading contribution to the UK debate on financial advice. On the basis of a survey of 2,062 adults he concludes that only 7 million people are likely to be willing to pay for financial advice. Two things follow. First, there is a 'guidance gap' whereby a majority of the population remains unable to access the advice it needs. Second, the RDR regulatory regime is likely to make this situation worse: 'both the demand for and the supply of financial advice are likely to shrink' (Clare 2013, p. 2). He flags the possibility that an expansion of the sales force of 'restricted' advisers might be needed to reduce the guidance gap, even though RDR means these direct sales teams would have to be paid on a fixed-salary basis, and not as some proportion of sales. Notably, people with a relatively small involvement in saving for retirement might benefit. He says that services on the internet might also help to fill the guidance gap.

This type of problem is familiar to economic theory. The so-called 'market for lemons', i.e. the market for used cars, is a leading instance of the problem. If it is hard for consumers to distinguish between high-quality goods and low-quality ones, and if sellers avoid the market unless rewards exceed a threshold, then the market for high-quality goods will disappear. Volumes shrink, and transactions that do take place will price the product or service as if it were invariably a lemon. In this way, ignorance about quality can drive out high-quality goods and services.

There are standard ways of mitigating the lemons problem. First, society mandates standards and certifications to prevent opportunism by sellers, and this is obviously the intention of FoFA. Second, buyers can screen suppliers by, for example, seeking out expert third-party comparisons of products and brands. Numerous advice businesses offer this type of service. Third, sellers of high-quality services can signal their superiority. For example, Product Disclosure Statements and related documents often include a chart aiming to show how an initial \$10,000 invested in the fund has subsequently outstripped the relevant passive benchmark. In principle, the Corporations Act empowers the authorities to punish sellers who disseminate deceptive or misleading charts. Overall, though, the notion of a guidance gap is no less relevant here than in the UK.

## Canada

Canada has a distinctive system of Self-Regulatory Organisations (SROs) that supervise transactions in the market for financial advice (Avocis 2012). The Investment Industry Regulatory Organisation of Canada supervises dealings in securities. The Mutual Fund Dealers Association of Canada supervises mutual funds. Managing General Agencies look after insurance. The Canadian Securities Administrators organisation serves as an umbrella over the others.

A leading contribution to the Canadian legal debate on regulating financial advice is due to Laura Paglia (2013). She argues forcefully that the totality of Canadian law, regulation and case law is in good shape compared to the corresponding totalities in the US, the UK and, especially, Australia.

Paglia gives a concise summary of what it means for financial advisers and dealers in the US and other common law jurisdictions to uphold a fiduciary standard or best-interests duty towards a retail client. The key words are care and loyalty: 'A duty of care is comprised of know your product and suitability obligations along with fair and reasonable compensation. A duty of loyalty requires disclosure of the aspects of the retail client relationship and material conflicts of interest.'

Paglia says the US falls short relative to Canada in ensuring that loyalty to the client extends to relationship questions whereby an adviser or dealer responds to issues arising after the initial sale of a product or service. Moreover, adviser duties fall short of actually being fiduciary; the term itself is 'abstract and unclear' in US practice. In the Canadian industry, by contrast, SROs have succeeded in promulgating a clear definition of fiduciary duties.

Similarly, the UK lacks a statute that imposes a best-interest duty on clients. Its authorities have shied away from defining a best-interests duty although Paglia indicates that the problem has been acknowledged and is being considered by the authorities.

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*Canada appears to have evolved a distinctive solution to the lemons problem in the market for financial advice. Part of that problem is particular instances of well-publicised bad advice generating negative externalities for the industry as a whole. Lax regulation may help the industry in the short run but not the long run. In Canada, SROs (rather than governments) have made the running on standards and certifications to curb opportunism by sellers.*

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Paglia paints an unflattering picture of our market for financial advice. 'Australia suffered from various corporate collapses.' She identifies Storm Financial and Opes Prime as cases in point. 'Similar collapses did not occur in Canada.' Moreover, 'the meaning of their best interest duty ... is not readily apparent through statute'. She also suggests that Australia's industry associations do not measure up to their Canadian counterparts (SROs): 'Canada benefits from significant compliance and cooperation from the industry.'

In this way, Canada appears to have evolved a distinctive solution to the lemons problem in the market for financial advice. Part of that problem is particular instances of well-publicised bad advice generating negative externalities for the industry as a whole. Lax regulation may help the industry in the short run but not the long run. In Canada, SROs (rather than governments) have made the running on standards and certifications to curb opportunism by sellers.

In fairness to the Australian industry, there have recently been comparable developments here. For example, the FPA has backed FoFA's tougher stand on commissions, and has also sought to raise the ethical and educational standards of its members, who number about half of our financial planners. The FPA's website acknowledges that all has not been well in the past: 'We recognise it will take a collective effort to transform the financial planning industry into a universally respected profession' (Mark Rantall, CEO, FPA).

### **Concluding comments**

The US, the UK and Canada all have first-cum-second pillars of retirement income that include defined-benefit schemes, both public and private ones. The resulting link between wages and total income in retirement ensures that these schemes perform an income-replacement function for people of middle means. Australia's distinctive problems in regulating financial advice arise from our policy of a first pillar consisting of a means-tested public pension, along with a second-cum-third pillar consisting mainly of privately managed defined contributions, which are supposed to perform the income-replacement role. High allocations to growth assets go hand-in-hand with high fees to advisers and managers (Kingston and Weng 2014, Table 1). This tempts adviser-managers to overweight growth assets in portfolios for people of middle means who are on the cusp of retirement, a time of life when funds under advice and management tend to peak.

Means testing of the pension creates moral hazard on the demand side. The problem is compounded by compulsion, leading to unengaged investors who place undue reliance on default options in superannuation funds.

The upshot has been superannuation portfolios in Australia that have the riskiest asset allocations of any OECD country (OECD 2012). The income-replacement function of the second-cum-third pillar is vulnerable to market crashes.

There may be lessons for Australia from countries other than the major common law ones. An OECD report notes that Australia imposes no limits on pension fund investments by asset class, although investments involving 'self-investments/conflicts of interest' are capped at 5 per cent of the portfolio. More generally, OECD countries outside the common law ones tend to regulate pension fund investments more heavily. For example, Switzerland caps equity investments at 50 per cent and real estate investments at 30 per cent (OECD 2011).

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*There may be lessons for Australia from countries other than the major common law ones. An OECD report notes that Australia imposes no limits on pension fund investments by asset class, although investments involving 'self-investments/conflicts of interest' are capped at 5 per cent of the portfolio. More generally, OECD countries outside the common law ones tend to regulate pension fund investments more heavily.*

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Our 2012 paper on FoFA proposed mandatory target-dating (or glide paths) for MySuper accounts. These accounts are intended for disengaged superannuation contributors. We suggested a simple two-step mandatory glide path: a 60 per cent weight to growth assets workers under 55 years of age, and a 40 per cent weight for workers over 55 years. We would not object if these caps were revised up to (say) 70 per cent for the under 55s and 50 per cent for the over-55s. Engaged investors would remain free to choose their preferred allocations.

## Note

1. The Australian Research Council kindly assisted us under DP120102239, as did the Centre for International Financial Regulation under E045. We thank participants in the Melbourne Money and Finance Conference for helpful feedback on an earlier draft.

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# INTERNATIONAL LINKAGES: *Financial markets and technology*

DEBORAH RALSTON, Executive Director, Australian Centre for Financial Studies and Professor of Finance,  
Monash University  
MARTIN JENKINSON, Research Officer, Australian Centre for Financial Studies

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*Technology has facilitated increased cross-border participation in financial markets and a growing prevalence of cross-jurisdictional financial market infrastructure providers. This paper investigates the potential impact of these trends on the location of various financial markets and the financing of Australian businesses. The benefits of centralised markets seem clearly to outweigh any costs in both the foreign exchange and derivative markets. However, the outcome of this trade-off is less clear in the capital markets. An earlier version of this paper was presented to the 2014 Australian Centre for Financial Studies' Melbourne Money and Finance Conference.*

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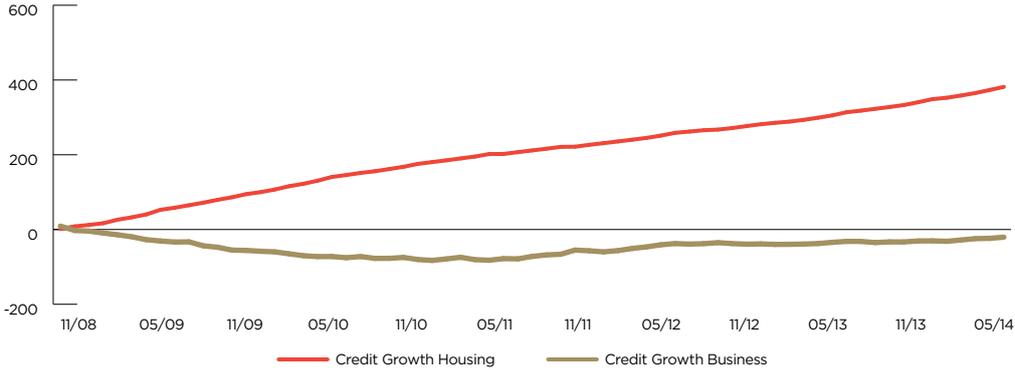
The increased cross-border participation in financial markets which has been facilitated by technology has allowed investors to diversify their portfolio holdings and corporate issuers to access new pools of capital. In some cases this trend has led activity in certain markets, such as foreign exchange and debt capital markets, to become increasingly concentrated in a small number of geographic locations.

Economies of scale and the creation of efficient global platforms for financial transactions have significantly reduced the cost of transacting in markets and led to more active markets with large pools of liquidity. All of these factors benefit participants in these global markets. However, this trend toward large global financial market providers, driven by participation rather than location, may have implications for real economies. The most widely discussed consequence of multi-jurisdictional financial market infrastructure providers is the potential loss of domestic regulatory control and the implications that this may have for systemic stability. While this is undoubtedly an important concern, the move away from locally based financial market infrastructure providers (FMIs), particularly in primary issuance or 'core capital markets', may have implications for the operational choices of domestic businesses and for the availability of capital – particularly for smaller corporates and during global economic shocks.

## **Australian businesses move toward market based funding**

Since the global financial crisis (GFC), market-based funding has played an increasingly important role in the funding of Australian businesses. Over this period, bank credit growth has been driven by mortgage lending while the stock of business credit issued by banks has declined (Figure 1).

**FIGURE 1: Intermediated credit growth provided by Australian financial institutions post-GFC<sup>1</sup>**

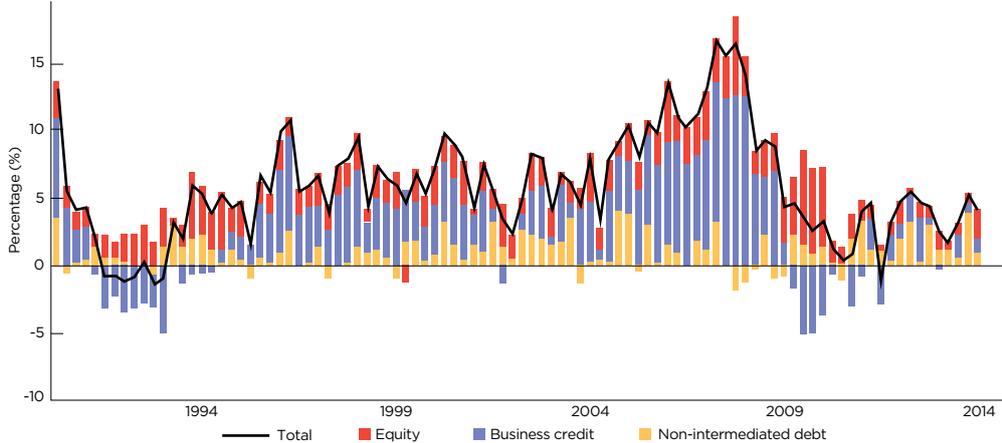


Source: Derived from RBA D2: Lending and credit aggregates.

To some extent, this reduction in intermediated lending to businesses may be explained by reduced demand for finance as a result of increased volatility and general pessimism in the economic outlook. Supply-side factors including changes to capital requirements introduced through the Basel III capital reforms and a more general repricing of risk by banks have also played a role.

Despite the reduction in bank business lending post-GFC, market-based funding has returned to pre-GFC levels after a period of above-average equity issuance as a result of business deleveraging in the 12 months following September 2008 (Figure 2).

**FIGURE 2: Business external funding (net change as % of GDP)**



Source: AFMA, 2014.

The increased importance of market-based funding for Australian businesses is a trend that is expected to continue. According to Maddock and Munckton (2013) the convergence of retail deposit and wholesale rates, in combination with increased capital requirements for business lending, will encourage banks to move assets off balance sheet either via securitisation or by assisting their clients in directly accessing the debt capital markets. The vigour with which a number of Australian banks are supporting the development of a viable retail corporate bond market suggests that banks are already moving in this direction.

In view of the increasing importance of financial markets as a source of business funding, we now turn to international trends in financial markets and FMI.

## **Technology trends and international integration of FMIs globally**

Financial markets rely on financial market infrastructure to perform their role effectively. Financial market infrastructure determines the means and rules by which financial transactions are governed, conducted and reported, and how information is disseminated. Major components of financial infrastructure include international rules on Central Clearing Counterparties, global information platforms such as Bloomberg, clearing systems such as Australian Securities Exchange (ASX) Clear or LCH Clearent, and payment systems such as RITS or SWIFT, as well as markets for conducting transactions, including OTC and listed markets. Financial market infrastructure can be defined as:

- > the technology available to financial market participants and intermediaries
- > the regulation that governs financial market participants and intermediaries
- > the processes used to collect and disseminate information pertinent to financial transactions
- > the quality and number of financial market participants
- > the financial instruments available.

Ultimately, the quality of financial market infrastructure has a direct impact on the cost of capital for those issuing financial securities and the returns realised by investors. A 2001 study by Domowitz and Steil estimates that a 10 per cent increase in transaction costs leads to an approximate 1.5 per cent increase in the post-tax cost of equity capital.<sup>2</sup> Therefore, the quality of financial market infrastructure can be expected to have a strong bearing on the issuance decisions of businesses.

The provision of financial market infrastructure is capital intensive and, as noted by John Kay, 'Markets for homogeneous commodities are natural monopolies'.<sup>3</sup>

There are two reasons cited for markets being natural monopolies. These are: (1) market participants are attracted to liquidity, meaning new liquidity is captured by already liquid markets — network externalities; and (2) the operation of financial market infrastructure is comprised of high fixed costs and low marginal costs — economies of scale.

Before technology made active cross-border provision of financial market infrastructure feasible, financial market infrastructure providers were typically domestic monopolies. However, in recent times there is an increasing trend toward global consolidation among FMIs. This is most aptly portrayed by the merger of the New York Stock Exchange and Euronext in 2007 and the subsequent takeover of the merged entity by Intercontinental Exchange Inc in 2013. Cross-jurisdictional provision of financial market infrastructure has raised a number of well-documented regulatory and stability concerns which are currently being worked through by international regulatory bodies like the International Organization of Securities Commissions (IOSCO).

Perhaps more important, however, is the role that technology has played in making foreign markets available to domestic corporations. This is portrayed most vividly in the foreign exchange market in which around 60 per cent of all activity occurs in two financial centres — London and New York.<sup>4</sup> Third-party owned and operated electronic trading venues like Reuters Dealing and EBS have increased the ease with which domestic market participants can bypass an intermediary and access these markets directly. A similar trend could be expected to take place in OTC derivative markets with an international push towards standardisation of contracts and the emergence of Swap Execution Facilities, electronic venues which increase transparency in these markets. Listed derivative and commodities exchanges have also become venues for international participants engaging in contracts that are either unavailable or illiquid in domestic exchanges. The impact of technology and global participation in all of these markets have played a role in increasing liquidity, allowing access for a greater diversity of participants and reducing costs. Technology has also increased the ease by which investors (both international and domestic) can access debt and equity markets. International integration in these markets has led to lower costs of capital for issuers,<sup>5</sup> increased diversification and the potential for improved returns through a wider range of investment opportunities.

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*The impact of technology and global participation in all of these markets have played a role in increasing liquidity, allowing access for a greater diversity of participants and reducing costs. Technology has also increased the ease by which investors (both international and domestic) can access debt and equity markets.*

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Offsetting the benefits of the international integration of core funding markets is the increased risk of global crises adversely affecting the domestic economy. The near failure of the Australian residential mortgage-backed security (RMBS) market due to the outflow of international capital post-GFC is evidence that Australia is not immune to this risk. Ease of access to liquid and low-cost international markets may also influence not only the issuance decisions of domestic firms but, along with other factors like domestic laws and taxation, the locational decisions of Australian corporations as well. While the focus of regulators has typically been on the implications of the international FMIs for financial market stability<sup>6</sup> it may well be this last factor that has the greatest implications for the Australian economy in the long term.

### **Internationalisation of Australian financial markets**

The shift in locational dependence of Australian financial markets can be seen across a number of domestic markets.

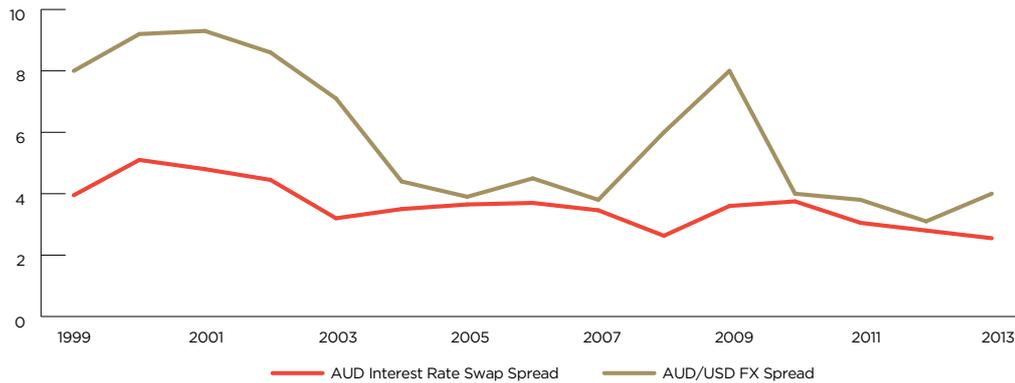
Increased liquidity in foreign exchange markets during the business hours of London and New York coupled with the development of efficient trading platforms and the internal netting abilities of large global banks has resulted in less than 3 per cent of global FX transactions occurring in Australia, despite the Australian dollar being the fifth-most-traded currency.

The electronic trading venue, Yieldbroker, is creating a similar dynamic in the Australian over-the-counter (OTC) derivative market providing increased pre-trade pricing transparency for the most common OTC derivative contracts. Because OTC derivative market participants can engage in a contract with either local or global dealers, the pre-trade transparency created by platforms like Yieldbroker can be expected to provide increased competition among both global and domestic derivative dealers leading to reduced prices and business going to the most efficient dealers. Likewise, listed derivative exchanges compete directly with one another for the business of international customers with some exchanges offering similar contracts and competing through both price and secondary market activity. With this in mind, liquidity in the ASX derivative exchange is perhaps larger than would be expected, with more than \$40 trillion in notional turnover, primarily in AUD interest rate futures, in 2012–13.

Competition between domestic and international FMIs can also be seen in the clearing of OTC derivatives. To meet the increased demand for central clearing of OTC derivatives,<sup>7</sup> the ASX has developed and now operates clearing services for a number of the highest volume OTC swaps. The most significant development in clearing across Australia's financial markets occurred on 14 July 2013, when LCH Clearnet was given the right to compete directly with ASX Clear in the clearing of OTC interest rate derivatives. The granting of these rights to LCH Clearnet is significant for two reasons. First, this is the first and currently only example of competition in clearing of Australian financial securities and second, because LCH Clearnet operates in Australia as an international organisation, not as a local subsidiary. LCH Clearnet is the largest global clearing house for OTC interest rate swaps, clearing more than 50 per cent of the global interest rate swap market.

Globalisation and increased participation in these markets have contributed to reduced transactions costs for Australians operating in these markets. For example, competition between OTC central clearing counterparties has resulted in little difference in the price of clearing services between ASX and LCH Clearnet, and spreads in both the OTC derivative markets and FX markets have declined significantly over the past 15 years (Figure 3).

**FIGURE 3: AUD/USD FX Spread, 1997–2013**



Source: AFMA, 2014.

The main cost of increased globalisation in these markets has been seen as the potential loss of regulatory control over transactions in these instruments.<sup>8</sup> Whether this is indeed a cost will depend on the competence of international regulatory bodies like the G20 and IOSCO. In any case, the move toward an international regulatory framework for transactions in this market suggests that the benefits of lower transaction costs and greater liquidity for participants in these markets will greatly exceed the cost.

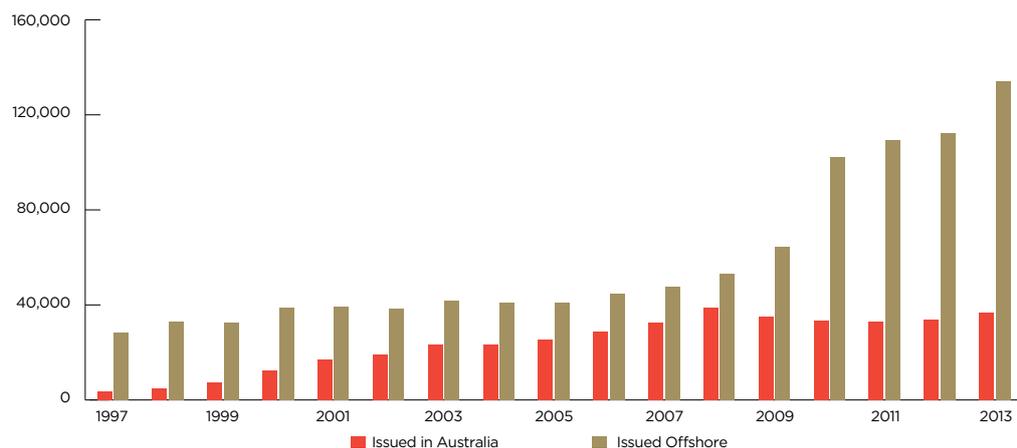
Australian corporates have also become increasingly dependent on international capital markets over the past decade. This is most obvious in the debt market where overseas issuance by non-financial corporates is almost four times larger than domestic issuance. The preference for overseas issuance relative to domestic issuance has increased substantially post-GFC (Figure 4). Relatively attractive international yields have no doubt played a role in this shift, as has the development of a deep and liquid FX swap market allowing international issuers to more easily hedge the associated FX risk. Perhaps more important, however, has been the clear lack of interest by Australian institutional investors in Australian corporate debt, with only 13 per cent of the stock of corporate debt issued into Australia held by institutional investors in 2013.<sup>9</sup> Retail participation in the Australian corporate debt market is almost non-existent as a result of limited access, greater savings being held by superannuation funds and, ironically, the increasing ease by which stocks can be accessed relative to bonds through online trading. In this regard, recent initiatives to level the playing field in terms of retail and institutional investors' access to bonds and stocks, as well as the relative costs of issuance, should be commended.

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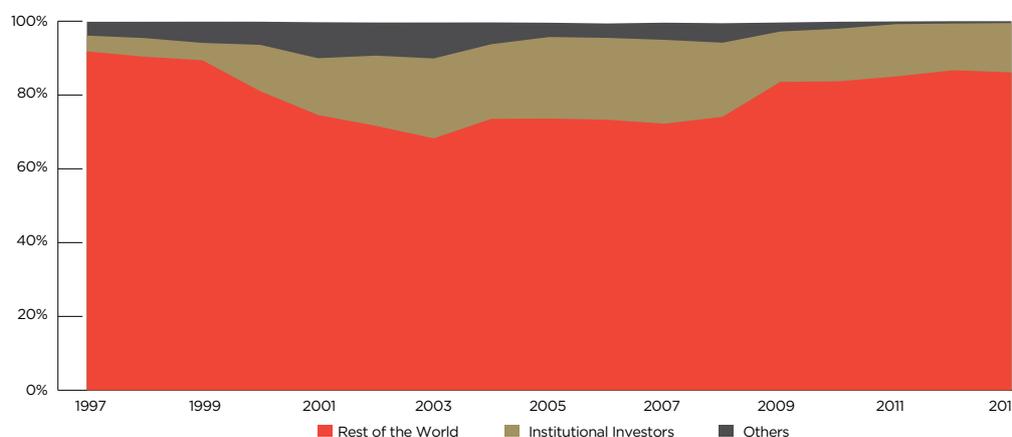
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**FIGURE 4: Australian non-financial corporate bond issuance, 1997–2013, (\$ million)**



Source: ABS Cat 5232 Table 28.

**FIGURE 5: Holdings of corporate bonds issued in Australia, % of total**



Source: ABS 5232, Table 28.

Data is less readily available for Australian firms choosing to utilise international markets for equity capital. The international migration of Australian firms seeking equity capital is currently most evident among technology start-ups who establish operations in areas with a strong venture capital ecosystem like Silicon Valley. Data on Australian firms that would otherwise be listing internationally and subsequently moving operations overseas is scarce. However, high-profile stories such as the proposed listing of Atlassian on the US stock exchange, and the concentration of the Australian equity market in essentially two sectors suggests that it does happen.

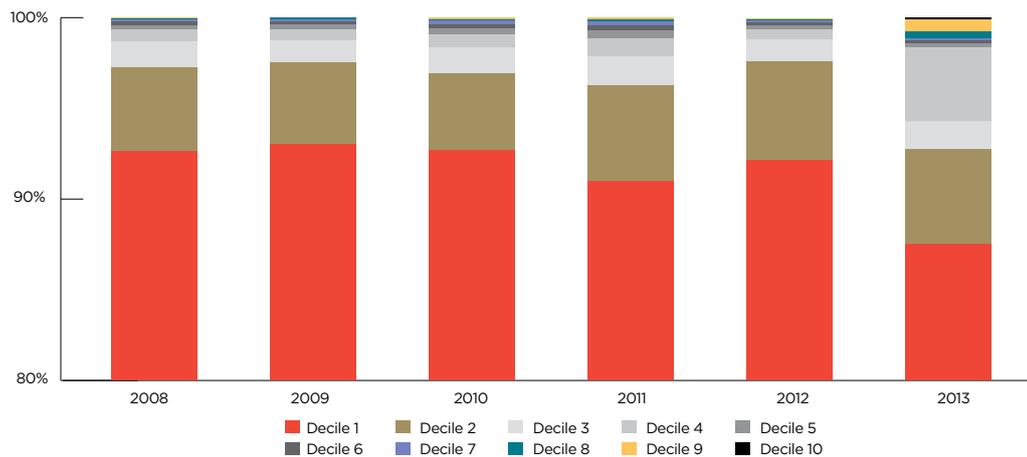
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*The creation of even larger pools of liquidity and a more diverse range of participants through the consolidation of large international exchanges is likely to increase the attractiveness of listing on international exchanges.*

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For small, non-resource companies, the allure of listing on an international exchange is clear. The primary motivating factor is the low activity in smaller stocks listed on the ASX, with almost 90 per cent of total stock market turnover occurring in stocks in the largest decile by market capitalisation. Furthermore, the desire of superannuation funds to reduce costs and invest in ASX 200 companies<sup>10</sup> has resulted in a dearth of investment analysts, funds and brokerage reports covering small cap Australian stocks outside of the resources sector. The creation of even larger pools of liquidity and a more diverse range of participants through the consolidation of large international exchanges is likely to increase the attractiveness of listing on international exchanges.

**FIGURE 6: Turnover to market capitalisation on ASX by decile, 2008–13**



Source: CRC Capital Markets MQ Database 2014.

### The cost of relying on international financial market infrastructure

It is clear from the above discussion that Australian companies are increasingly relying on FMIs located outside of Australian borders. There is a rising trend for Australian corporates to issue into international debt markets at low cost and under better terms than can be accessed in Australian markets. Similar trends may be appearing in the domestic equity market, particularly for firms in industries outside of mining and financial services.

While internationally located equity and debt markets can reduce the cost of capital for Australian firms, there are a number of key differences between the foreign exchange and derivative markets and those that facilitate the issuance and secondary market trading of capital securities. These include:

- > An issuer typically decides on which secondary markets an instrument can subsequently be traded based on its listing decision.
- > The choice to raise capital through a given market may influence an organisation's subsequent locational decisions in regards to headquarters and operations, benefiting the real economy of the jurisdiction with the desirable capital market.
- > For domestic companies that lack access to international markets, the availability of domestic financial market infrastructure may provide the only avenue to raise non-intermediated capital and therefore the only source of competition for these lenders.
- > These markets provide the capital that supports the financing of real businesses. International capital flows can be fickle and repatriation of funds is not uncommon in times of stress, having consequences for real businesses and industries.

These differences suggest that the issue of financial market infrastructure location has wider implications for the Australian economy with regard to capital markets compared to foreign exchange and derivatives markets. These concerns go beyond the well-documented potential loss of regulatory control to include issues such as the inability for Australian firms to raise capital as a result of global shocks and the potential for Australian firms that would otherwise operate in Australia moving overseas to be closer to capital providers — an issue that can already be seen in Australian technology start-ups moving operations to established 'start-up ecosystems'.

While the number of small firms listed on the ASX is commendable, the concentration in the resource sector and the lack of liquidity in these stocks raises questions around the ability of growing Australian firms outside of these industries to expand operations in Australia. Secondary market liquidity is key to the attractiveness of issuing into a market. In this regard, there is a concerning lack of interest from superannuation funds, by far the largest group of domestic investors, in both Australian corporate debt and stocks outside of the ASX 200. Furthermore, the participation of superannuation funds in small cap equities can be expected to be further reduced as a result of cost-cutting initiatives to comply with the introduction of the MySuper reforms.

It seems likely that with the ongoing consolidation of international markets and technology increasingly enhancing the ease with which international investors and issuers can access international markets, Australian capital markets will face increasing difficulty in their ability to compete. With this in mind, it would appear prudent that the issues raised in this paper be given further consideration both by policy makers and those in academia.

## Notes

1. Includes securitisation.
2. Domowitz and Steil (2001).
3. Kay (2006).
4. Bank for International Settlements (2013).
5. See, for example, Quinn and Toyoda (2008) and Gupta and Yuan (2009).
6. See, for example, Council of Financial Regulators (2014).
7. Driven by both international trends and the possibility of mandatory central clearing of particular contracts being enforced by regulatory bodies.
8. See Council of Financial Regulators (2012).
9. The low holdings of corporate bonds by Australian institutional investors can possibly be explained by the potential for concentration risk as the current issuers of corporate bonds also represent a substantial proportion of total equity market capitalisation.
10. Association of Superannuation Funds Australia (2014).

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# TRENDS IN

## *Australian corporate financing*

ASHLEY FANG, Senior Analyst, Securities Markets, Reserve Bank of Australia

MITCH KOSEV, Senior Analyst, Securities Markets, Reserve Bank of Australia

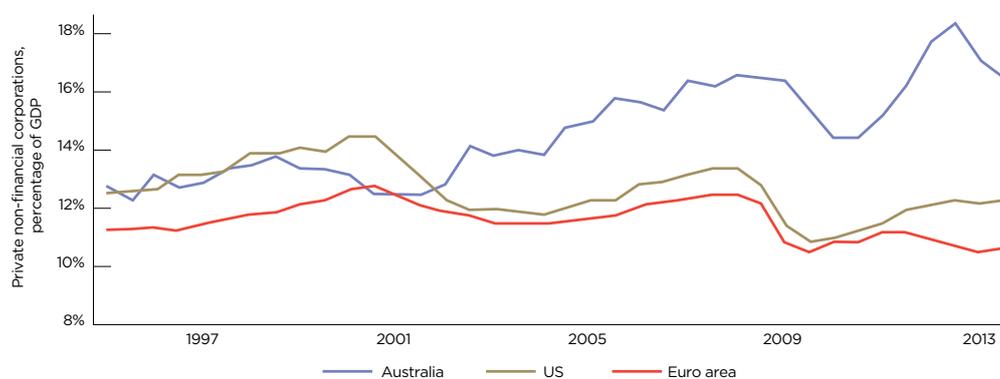
DAVID WAKELING, Manager, Securities Markets, Reserve Bank of Australia

*This paper examines recent trends in the corporate finances of Australian listed companies, with an emphasis on the experience since the onset of the global financial crisis. Over this period companies have relied primarily on internal funding to finance their activities. There has been a modest pickup in debt financing while equity raisings have remained subdued. The pattern has been driven almost entirely by the resources sector which increased borrowing during its investment boom. Companies outside of the resources sector have exhibited little demand for external finance, reflecting more muted investment behaviour which has sustained the asset base but has not driven expansion. An earlier version of this paper was presented to the 2014 Australian Centre for Financial Studies' Melbourne Money and Finance Conference.*

Companies finance their business activity from a mix of internal and external sources. Internal finance flows directly from company operating profits. Funds are also sourced externally, from bank loans, the issuance of debt securities or the issuance of equity. The overall demand for finance reflects the investment decisions of the corporate sector. Internal finance is relatively stable compared to the use of external finance and tends to provide the bulk of funding for most activities.<sup>1</sup> External finance is often used to facilitate larger, discretionary investments, including corporate control transactions.

Since the global financial crisis, investment and corporate funding trends in Australia have been characterised by the divergent experiences of the resources sector and non-resources companies.<sup>2</sup> Resources companies have participated in an investment boom, which has involved substantial long-term commitments to investment projects. In this environment, companies have used debt to smooth over temporary bouts of weakness in operating profits. In contrast, investment in the non-resources sector has been much weaker, effectively limited to maintaining the asset base rather than expansion. Internal finance has been adequate to meet non-resources companies' net funding needs and the sector's capital structure has remained broadly stable.

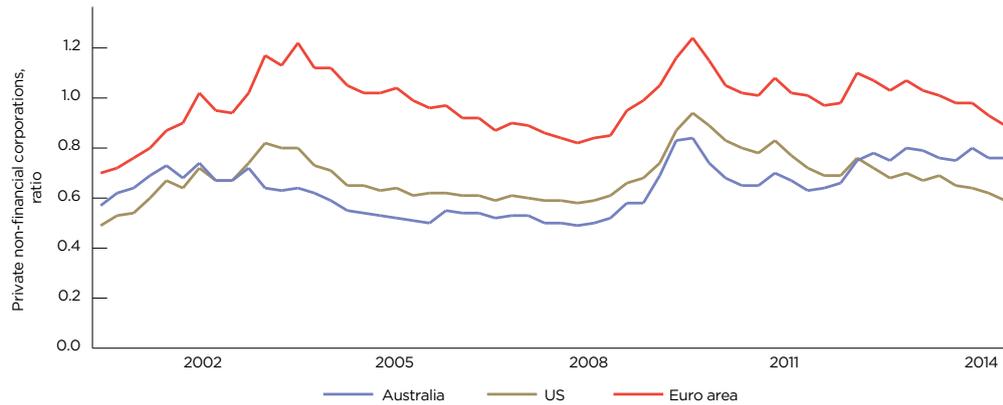
**FIGURE 1: International corporate investment\***



\*Fixed gross private investment, excluding residential investment; Australian data exclude cultivated biological resource investment.

Sources: ABS, Eurostat, RBA, Thomson Reuters.

**FIGURE 2: International corporate debt-to-equity ratios**

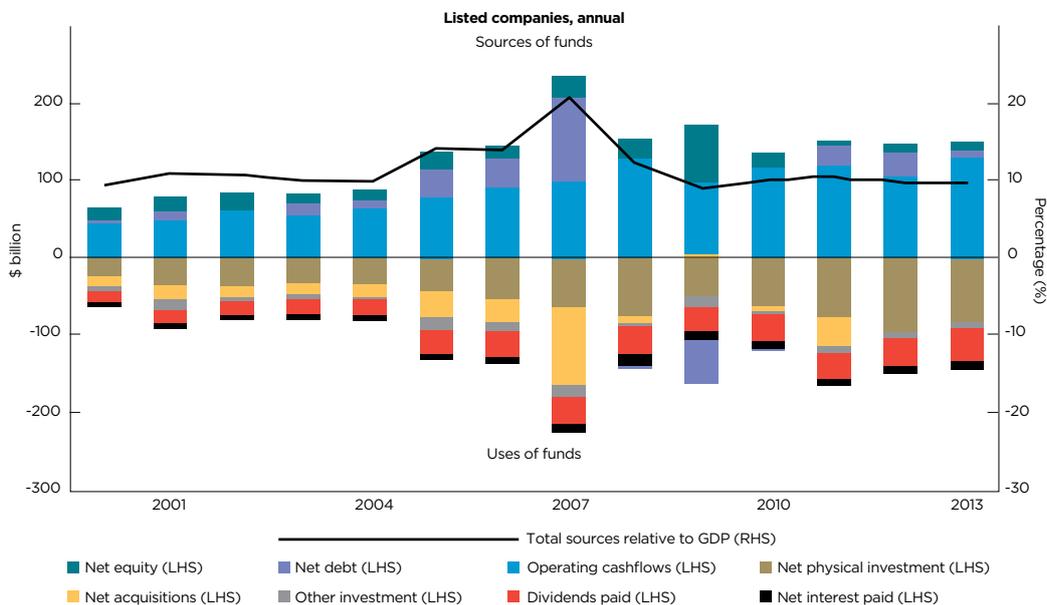


Source: OECD.

The resources investment boom has contributed significantly to the relatively favourable performance of the Australian economy in the post crisis period. Australian business investment has increased considerably as a result, unlike in many other developed economies where investment has been more subdued (Figure 1). The resources investment boom has similarly driven divergent experiences in funding markets and capital structure, with Australian corporate sector leverage increasing since 2010 as leverage continued to decline in many other developed economies (Figure 2).

Listed non-financial companies' aggregate sources and uses of funds have been relatively stable in the post crisis period. Total sources of funds has remained steady at around 10 per cent of nominal GDP — close to the average since 2000 (Figure 3). The increase in net investment has largely been funded through internal sources and the use of external finance has remained modest.

**FIGURE 3: Australian sources and uses of funding**

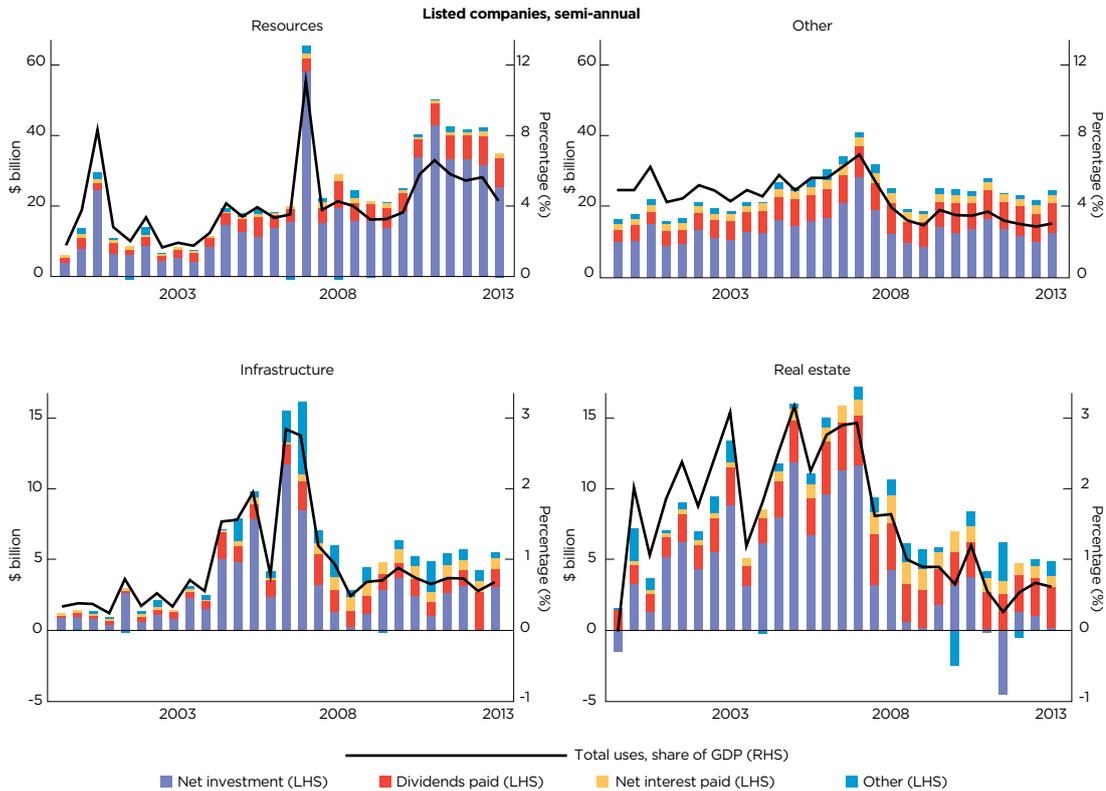


Sources: Bloomberg, Morningstar, RBA.

## Companies' uses of funds

The modest increase in listed companies' uses of funds since the global financial crisis has occurred largely due to higher net investment (Figure 4). The other main trends evident in the uses of funds data over recent years include lower net investment outside the resources sector, notably in the real estate and 'other' sectors, and an increase in dividends paid.<sup>4,5</sup> Interest payments remain a modest component of the uses of funds and have decreased in aggregate since the sharp deleveraging that occurred immediately following the crisis, particularly as borrowing costs have declined.

**FIGURE 4: Uses of funds by sector**



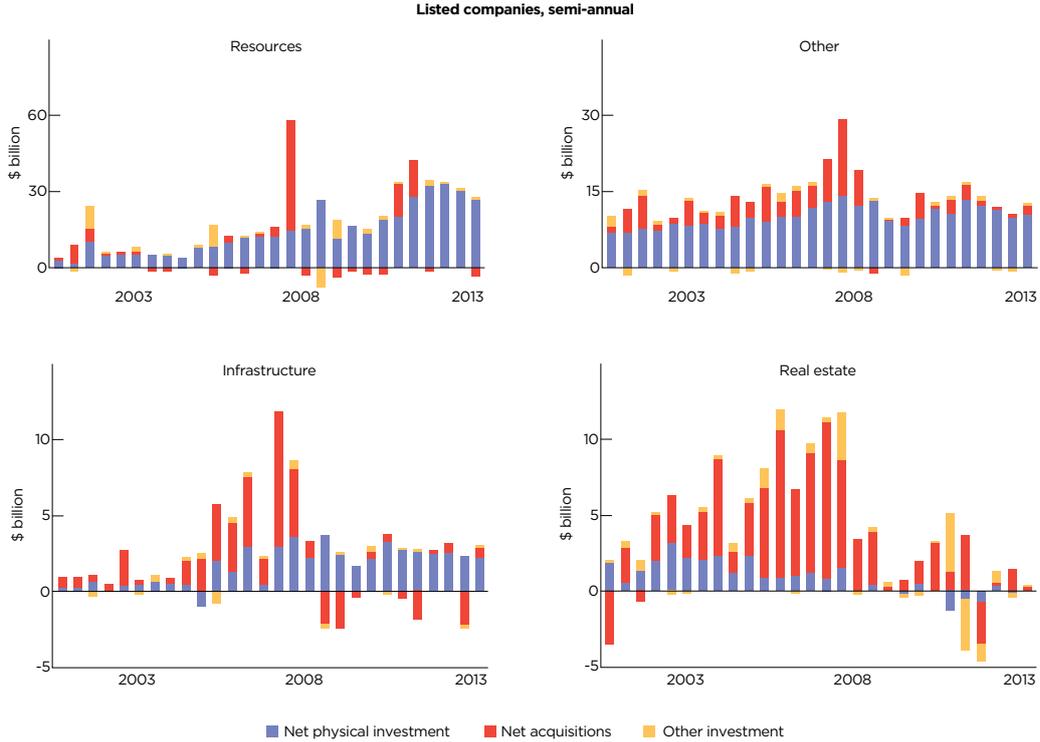
Sources: Bloomberg, Morningstar, RBA.

## Investment

Net investment can be disaggregated into net physical investment, net acquisitions and other investment. The investment undertaken by listed companies differs considerably between the pre and post crisis periods.

Prior to the global financial crisis listed companies underwent a period of merger and acquisition (M&A) driven investment expansion, participating in the global wave of activity underway at the time (Figure 5). Much of the M&A activity was undertaken by non-resources companies, which were typically mature firms with fewer organic growth opportunities. M&A by companies within the 'other' sector accounted for a lower share of investment than either the real estate or infrastructure sectors, but the transactions were large and occurred within many industries.<sup>6</sup> Net acquisitions by resources companies typically accounted for a much lower share of net investment, due to the availability of organic growth opportunities. However, very large transactions have occurred sporadically in the sector, including Rio Tinto's \$44 billion acquisition of Alcan in 2007 — the largest by an Australian listed company.

**FIGURE 5: Investment by sector**

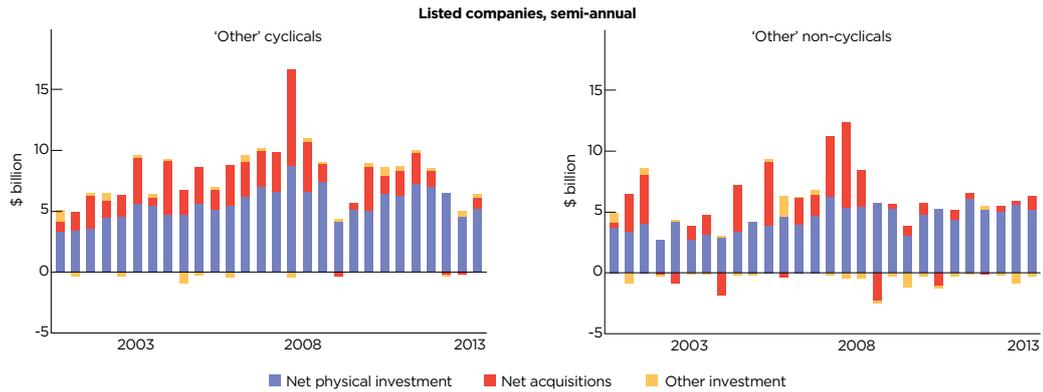


Sources: Bloomberg, Morningstar, RBA.

The global financial crisis marked a dramatic shift in corporate attitudes toward expansion, due to the heightened sense of uncertainty and weak economic outlook. This shift ushered in a period of cost restraint and capital expenditure discipline. The result has been a protracted period of subdued M&A activity by Australian companies, with the bulk of activity from a small number of resources sector transactions over 2010–11.<sup>7</sup> As a result, physical expansion by diversified mining companies has been a major source of net investment by listed Australian companies since the crisis. The elevated level of commodity prices over 2010–11 spurred mining companies to develop new projects and expand existing sites to upgrade production capacity, particularly for projects involving iron ore. Companies have also invested to expand coal production capacity due to robust foreign demand for its use in the manufacturing of steel. Physical investment in large scale LNG projects is also underway, although the true scale of these investments is not well represented by these figures due to foreign participation in the projects.<sup>8</sup> Over the past year, however, net physical investment in the resources sector has begun to slow as existing projects have neared the production phase. Uncommitted expenditure has also been deferred as a combination of lower average commodity prices and cost inflation has reduced the attractiveness of many projects.<sup>9</sup> Shareholder pressure to exercise capital expenditure discipline may also have contributed to this trend, particularly as companies have recorded substantial write downs of many assets acquired before the crisis.

'Other' companies have been the main source of net physical investment outside the resources sector since 2008, with much of the recent investment undertaken by companies with cyclical business activities (Figure 6). This has mostly involved net physical investment by resources related industrials, with the expansion and subsequent contraction of activity in the resources sector driving investment decisions.<sup>10</sup> 'Other' non-cyclical companies remain the most significant source of investment not directly related to the resources sector, largely reflecting sustaining physical investment by consumer staples and telecommunications companies.

**FIGURE 6: 'Other' sector investment**

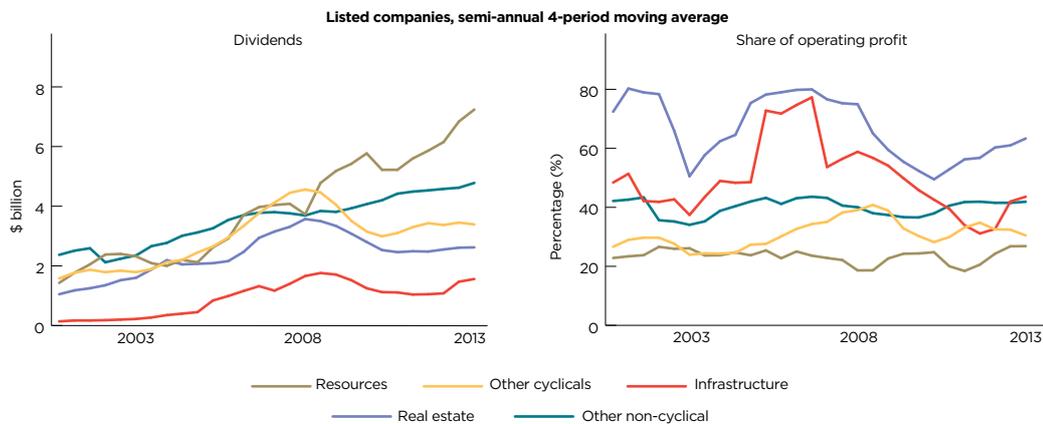


Sources: Bloomberg, Morningstar, RBA.

**Dividends**

After the reduction in dividend payments immediately following the global financial crisis, companies have generally increased the amount of capital returned to shareholders as dividends (Figure 7). Subdued investment by non-resources companies has coincided with an increase in the amount of dividend payments relative to total uses of funds, but dividends have generally returned to around their average proportion of operating profits. The resources sector has also raised dividends, despite substantial investment commitments. As a result, dividends have generally risen as a share of operating profits across all sectors, but remain well within historical norms. It therefore remains unclear to what degree the current level of dividends reflects heightened shareholder demands for distributions, unwillingness by companies to pursue growth options, or other factors.

**FIGURE 7: Dividends by sector**



Sources: Bloomberg, Morningstar, RBA.

**Funding the listed corporate sector**

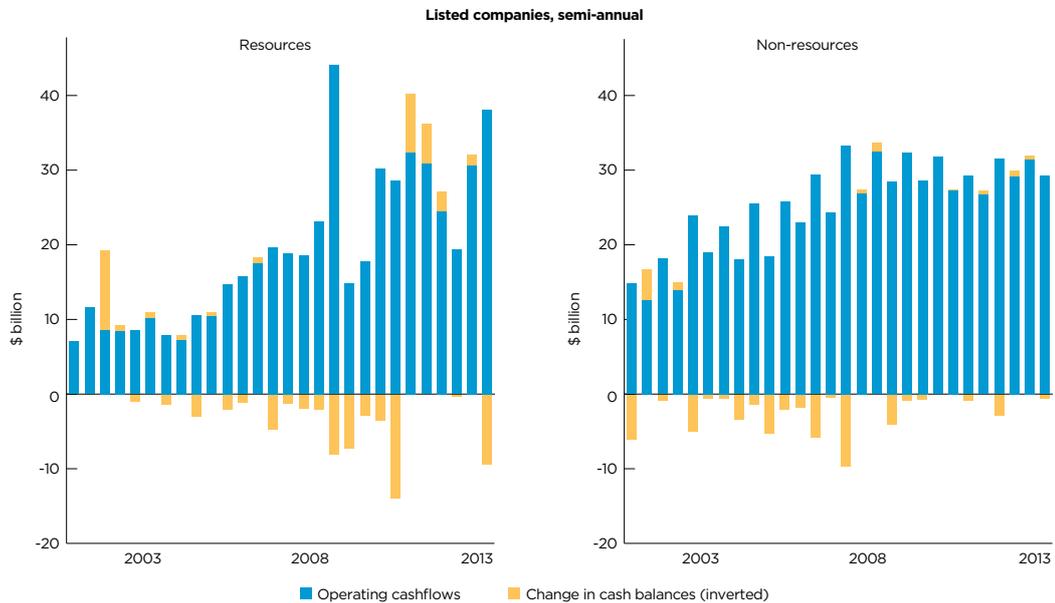
The business activities of Australian listed companies are mostly funded from internal sources, effectively recycling returns on previously invested capital to sustain operations and undertake new investment. Internal funding has accounted for around two thirds of total funding since 2000, although the pre and post crisis periods produced two distinct funding phases. The expansionary phase preceding the crisis was characterised by a steady increase in the availability of internal funding, particularly within the resources sector as rising commodity prices drove substantial growth in operating profits. Non-resources companies funded much of their acquisition-driven expansion through external sources, a response to the substantial size of transactions relative to internal funding.<sup>11</sup>

The post crisis phase is characterised by the moderate use of external funding across listed companies (Figure 8). This has consisted mostly of resources companies sourcing external finance to meet committed physical investment outlays during periods when lower commodity prices have affected operating profits. Meanwhile, non-resources companies have had little demand for net external funding.



Companies may also use their cash balances as a source of internal funds. Changes in cash balances arise from the difference between total sources and uses of funds. Falls in cash balances may therefore be considered as a secondary source of internal funds. Nevertheless, for both the resources and non-resources sectors, current period operating profits form the bulk of internal funding (Figure 10).

**FIGURE 10: Internal funds**

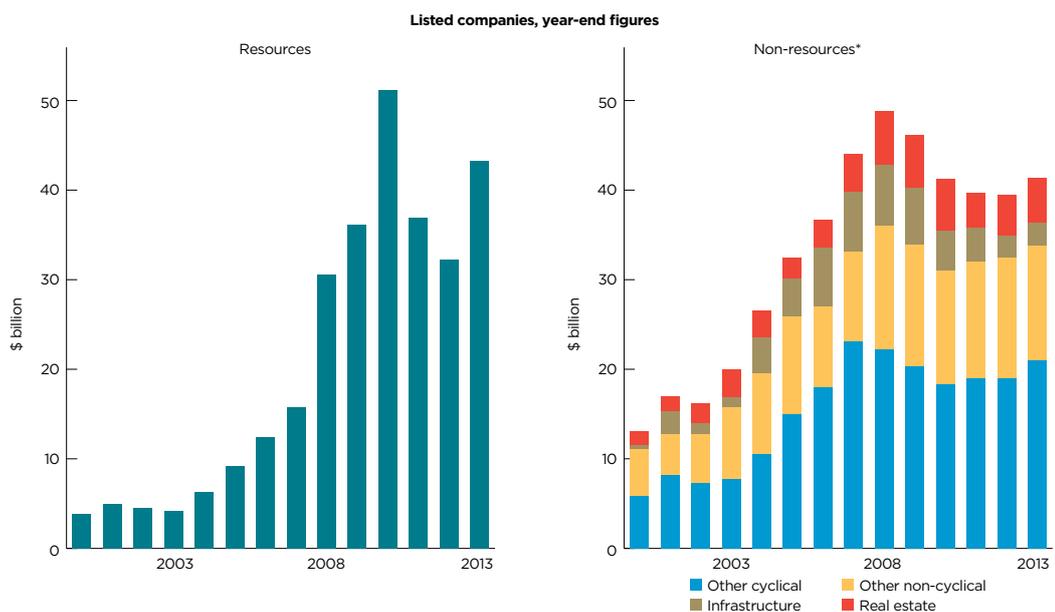


Sources: Morningstar, RBA.

The global financial crisis and concerns around European sovereign debt in 2010–11 coincided with a pronounced increase in cash balances for resources companies, consistent with decisions to curtail investment expenditure. The subsequent recovery in commodity prices in 2011 and the related recovery in net investment were then funded in part by a reduction in resources companies' cash balances. Despite this reduction, cash holdings relative to assets remains above pre-2008 levels.

For non-resources companies, there was a less pronounced increase in cash balances immediately following the crisis and, over more recent years, balances have generally declined or remained steady in dollar terms and as a proportion of assets (Figure 11 and Figure 12).

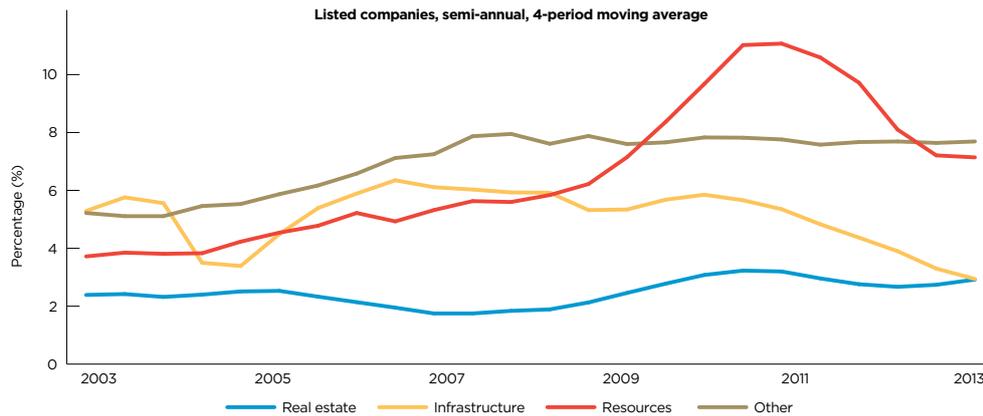
**FIGURE 11: Cash holdings by sector**



Sources: Bloomberg, Morningstar, RBA.

\* Infrastructure companies are double counted within the other cyclical and non-cyclical sectors

**FIGURE 12: Cash holdings relative to assets**

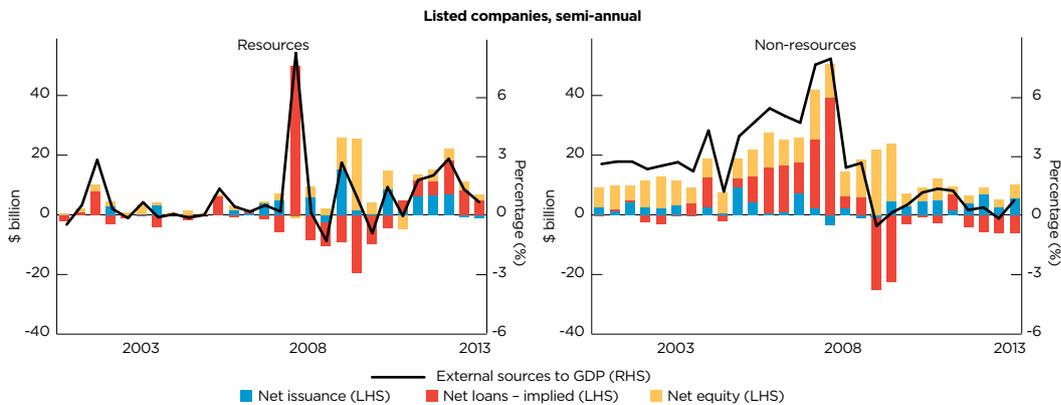


Sources: Morningstar, RBA.

**External funding**

Use of external funding increased considerably during the pre-crisis expansionary phase but moderated over the post-crisis period (Figure 13). Debt is typically the preferred source of external finance and was used extensively to fund the wave of M&A activity prior to 2008, causing net debt flows to peak at 14 per cent of GDP in 2007. Since the financial crisis, the net external funding needs of listed companies have largely consisted of the debt raised by resources companies to fund committed physical investment, although this too has begun to slow in the past year. Limited net investment by non-resources companies has meant that internal funds have mostly been sufficient to meet expenditure, particularly given the absence of M&A since 2008. Net equity raisings have been modest, abstracting from the surge in issuance which coincided with the peak in equity prices before the global financial crisis and the subsequent equity-funded market-wide deleveraging which occurred during 2008–09.<sup>12</sup>

**FIGURE 13: External funding by sector**

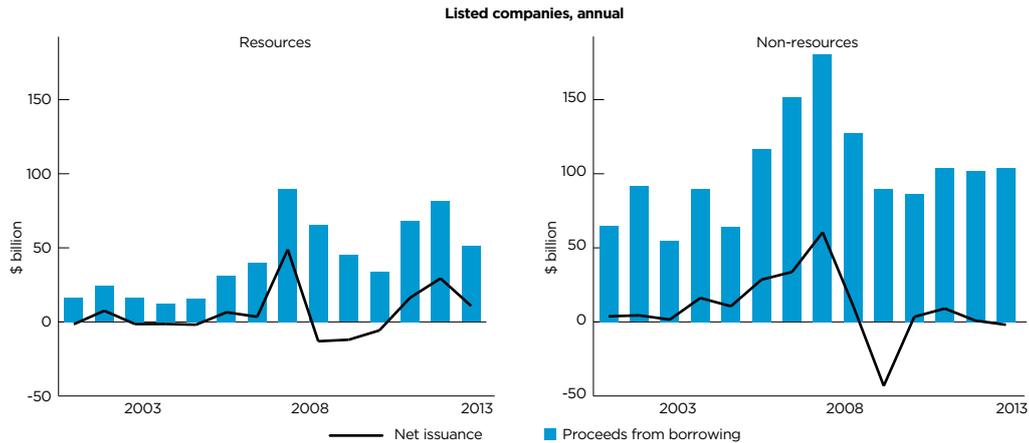


Sources: Bloomberg, Morningstar, RBA.

**Debt funding**

The debt burden of the resources sector is relatively modest compared with that for the non-resources sector, where the stability of net debt raisings masks the extent of refinancing activity; each year non-resources companies refinance around \$100 billion of debt (Figure 14).

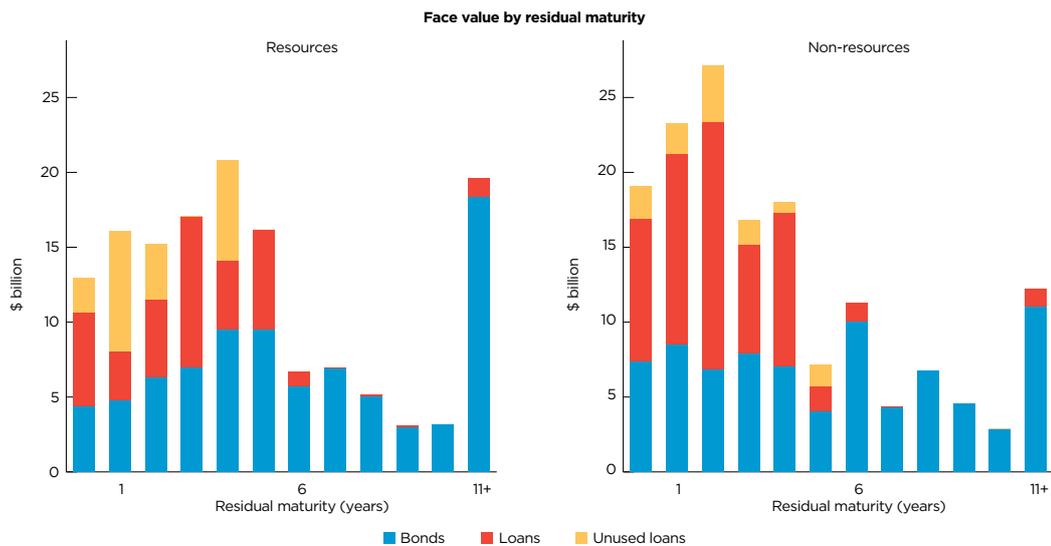
**FIGURE 14: Debt proceeds by sector**



Sources: Bloomberg, Morningstar, RBA.

Most corporate debt is in the form of loans, which comprise around three-quarters of economy-wide debt finance for non-financial companies, reflecting the dominance of the major Australian banks as suppliers of capital. The available data for the debt structure for ASX 200 companies (as at end May 2014) suggest that loans tend to be used to complete funding requirements at shorter tenors, consistent with the preference of banks' to lend for terms of between three and five years (Figure 15).

**FIGURE 15: ASX200 companies' debt composition\***



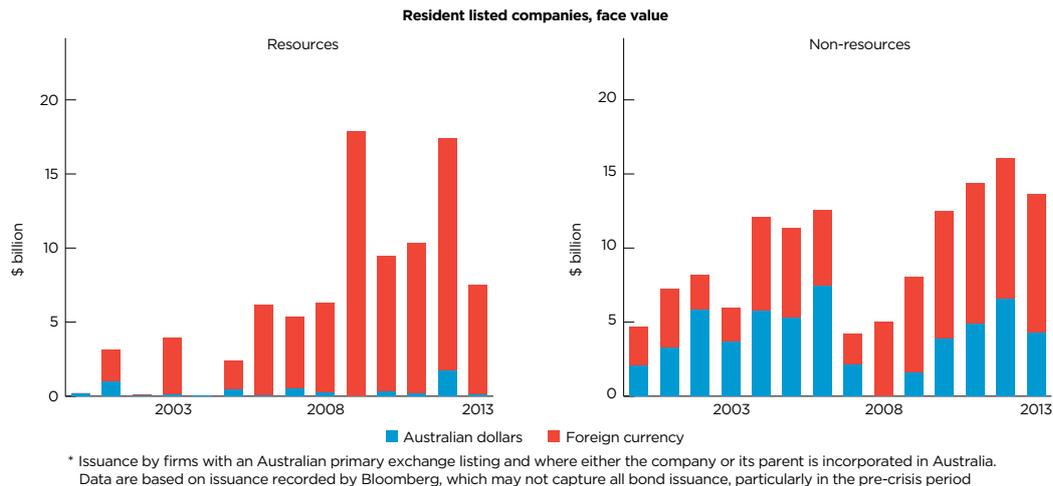
\* Debt composition data is not available for all companies from Bloomberg

Sources: Bloomberg, RBA.

Many listed companies also find it attractive to issue bonds. Resources companies, particularly the major diversified mining companies, regularly raise debt through bond issuance due to their large borrowing requirements and relatively high credit ratings (Figure 16). Issuance by resources companies is typically undertaken offshore and mostly denominated in US dollars, given the ability of companies to issue greater amounts and at longer maturities, which more closely reflect the lifecycle of investments in natural resources projects. Foreign-denominated bond issuance also serves as a natural hedge for commodity export revenues which are typically denominated in US dollars.

Non-resources companies also access bond markets to refinance their large volumes of outstanding debt, often using the domestic corporate bond market. The main issuers are large companies with lower earnings volatility, particularly those in the defensive consumer staples, telecommunications and utilities sectors.

**FIGURE 16: Gross bond issuance\***

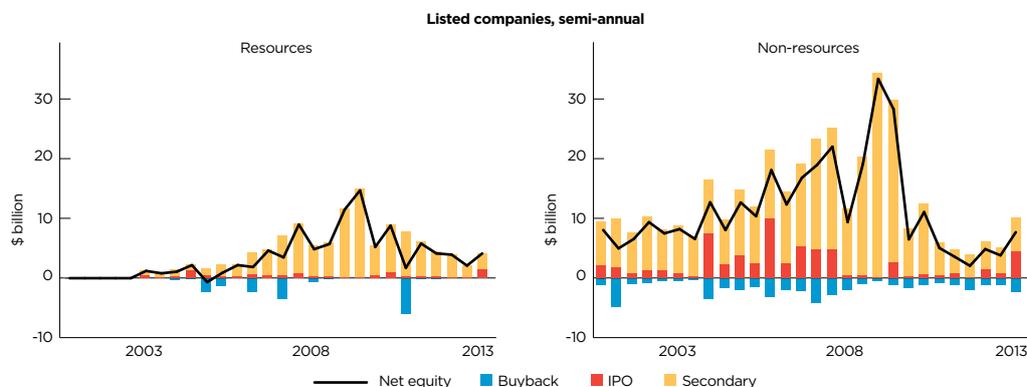


Sources: Bloomberg, RBA.

### Equity funding

Net equity raisings are a modest component of listed companies' external financing mix and activity has been very subdued since the post-crisis deleveraging period (Figure 17). The increase in issuance to the end of 2013 reflected a tentative pick up in initial public offerings (IPOs), particularly in the non-resources sector. Private equity interests have been involved in many of these IPOs, with owners taking advantage of favourable market conditions and resurgent appetite from institutional investors, particularly for non-cyclical companies. The amount of equity raised by the resources sector has been modest and issuance tends to be concentrated among junior exploration companies, which rely almost exclusively on equity financing due to the speculative nature of their activities (Williams 2012).

**FIGURE 17: Equity capital raisings**

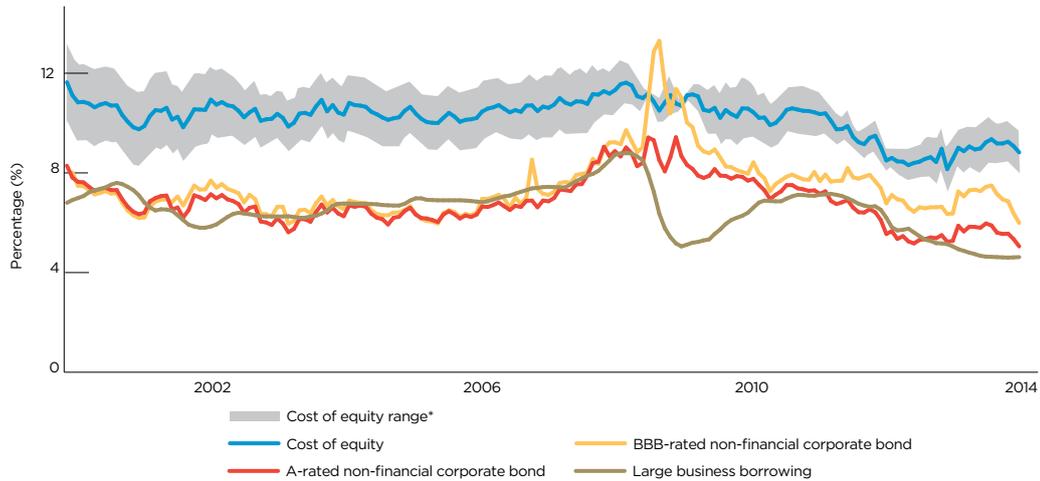


Sources: ASX, RBA.

### Cost of external finance

Companies' external funding choices are influenced by the relative costs of funding sources (Figure 18). A number of methods are used in practice to approximate the cost of equity because it is not easily observable. However, these approximations generally calculate a cost of equity that is higher than that for debt, consistent with the existence of an equity risk premium and the general preference among companies to raise debt before equity.<sup>13</sup> Figure 18 shows a range using two simple approximations for the cost of equity compared to observable costs for debt funding.<sup>14</sup> This exercise generally supports the intuition that the relatively low cost of debt in recent years may partly explain the use of debt by resources companies. In general the higher cost of equity funding has meant that companies have found it most attractive to raise equity in order to deleverage or where access to debt markets is constrained, due to unfavourable market conditions or existing debt burdens. This was evident in the 2009 equity-financed deleveraging which occurred against the backdrop of a significant change in the relative costs of debt and equity.

**FIGURE 18: Australian funding rates**



\* Cost of equity range implied from a dividend yield measure and a long run constant equity risk premium (assumed to be 6 per cent) plus the risk free rate

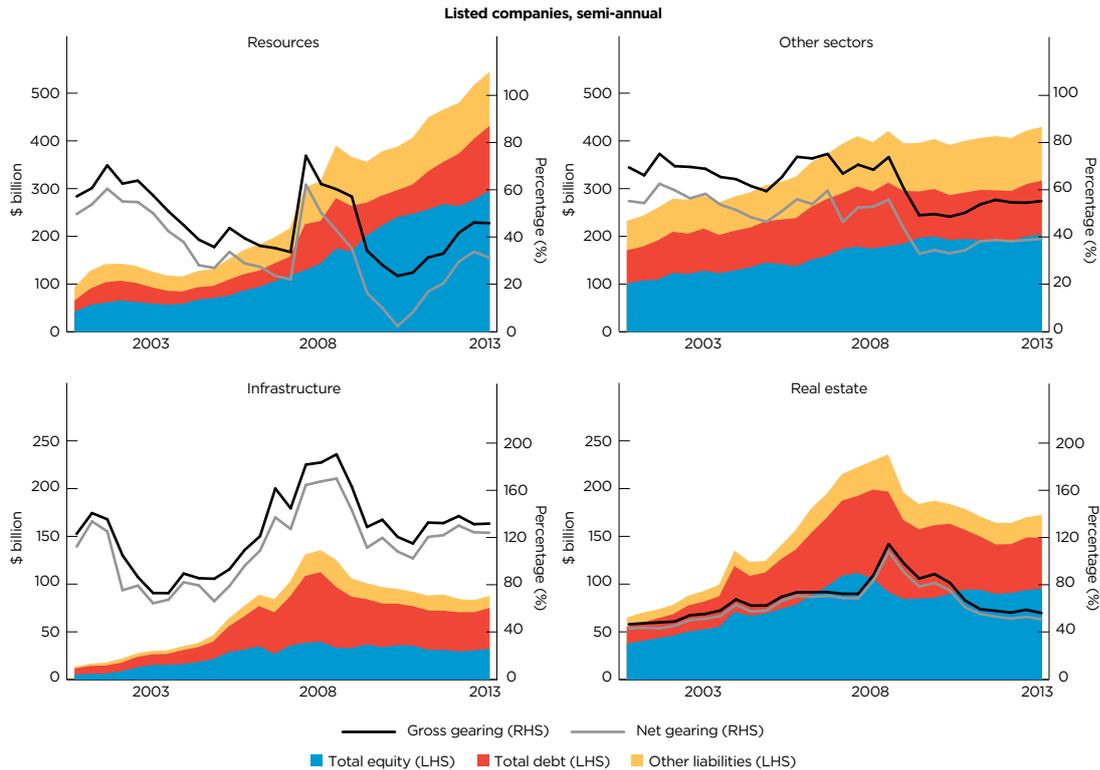
Sources: RBA, Thomson Reuters.

### Capital structure

The aggregate capital structure of Australian listed companies has varied considerably over time reflecting the investment cycle and shifts in the use of the different forms of external funding. Nevertheless, listed companies have historically maintained average gross leverage of between 50 and 60 per cent, with considerable differences present between sectors (Figure 19). Resources companies maintain relatively low levels of gearing, reflecting a desire by firms to ensure the serviceability of debt burdens due to the volatility of earnings within the sector. The recent debt-funded increase in net investment by resources companies has raised leverage to 46 per cent, which is around the long run average and a two-fold increase since 2010. Over the same period, assets within the resources sector have increased by 40 per cent due to net physical investment.

In contrast, moderate net investment by non-resources companies has resulted in a period of relative stability in capital structure, with leverage of around 50 per cent for most sectors since 2008. 'Other' sector leverage has remained around 55 per cent as many companies have undertaken only sustaining physical investment to maintain their asset base. The more highly levered companies in the real estate and infrastructure sectors have steadily reduced their assets, while maintaining or slightly reducing leverage in recent years. Infrastructure companies remain geared above 100 per cent of equity, consistent with the defensive characteristics of these firms' assets (including their long-term, tangible asset base and relative stability of expected earnings).

**FIGURE 19: Corporate gearing and balance sheets\***



\* Total assets is the sum of total equity, total debt and other liabilities. All items are measured in book-value terms.

Sources: Morningstar, RBA.

## Conclusion

The experiences of the resources and non-resources sectors have produced distinct trends in the corporate financing of Australian companies since the global financial crisis.

Resources companies have driven an increase in net investment which has primarily been funded through internal sources. Net external funding in the post crisis period has been very modest, and largely confined to debt raisings by resources companies as variability in commodity prices over recent years caused fluctuations in the availability of internal funding. Capital structure within the resources sector has changed modestly as a result, raising leverage to around its average level since 2000, consistent with the low relative costs of debt compared with equity issuance.

In contrast, net investment by non-resources companies has been mostly confined to sustaining the existing asset base. Internally generated funds have been sufficient to meet this expenditure, causing net external funding, and therefore capital structure, to remain stable in recent years. These companies have lifted dividends though not beyond historical norms as a proportion of earnings. Signs of slowing net investment by the resources sector highlight the importance of non-resources companies in driving future investment and demand for external financing. At present, these companies generally appear financially well-positioned, given their robust earnings and relatively low leverage but, as yet, they seem to have lacked the necessary catalyst to undertake this expansion.

## Notes

1. The tendency of companies to finance a large share of their investment from internally generated sources of funds is a widely reported empirical observation (see, for example, Myers 2001; Arsov et al. 2013; Debelles 2013). One explanation for this outcome is a desire by firms to reduce information asymmetry between managers, suppliers of capital and investors (Myers and Majluf 1984). Further, the tendency to raise internal funds may facilitate better monitoring and improve the efficiency of resource allocation within the firm (Gertner et al. 1994).
2. See Black et al. (2009) for a detailed account of developments in the sources and uses of funds by Australian companies preceding and during the global financial crisis.
3. Examining the components of companies' cash flow statements provides a useful way of examining trends in real activity among listed companies. Cash profits are not always the same as accrual based accounting profits which can be impacted – at times significantly – by non cash items such as asset revaluations. Similarly, examining cash inflows can provide information about the preferred sources of financing at different stages of the business cycle and the resulting shifts in the capital structure of Australian companies. For more detail and background on the sources and uses of funds, see Black et al. (2009).
4. The broad sector classifications adopted in this analysis are resources, infrastructure, real estate and 'other', which in aggregate allow for comparison with the Australian Bureau of Statistics definition of private non financial corporations. The infrastructure broad sector includes companies from a number of industries, including industrials and utilities. The 'other' broad sector can be further decomposed into cyclical and non cyclical components. Cyclical refers to companies in sectors that are typically more sensitive to economic conditions such as consumer discretionary, industrial and IT sectors. In contrast, non cyclical are less sensitive to economic conditions and include consumer staples, health care, telecommunications and utilities companies.
5. This analysis discusses net investment categories in the context of a cash flow statement so that investment expenditures are offset by the proceeds from sales; net investment in this analysis does not reflect economic depreciation.
6. A number of notable transactions occurred during this time, including Toll Holdings' \$6 billion acquisition of Patrick in 2006, Wesfarmers \$22 billion acquisition of Coles in 2007, Primary Health Care's \$3.5 billion acquisition of Symbion in 2008. The restructuring of the Australian media industry occurred in 2007–08, with the creation of Seven Group Holdings and the spin-off of its media assets, along with the demerger of Publishing and Broadcasting Limited into Crown and Consolidated Media Holdings.
7. These include Newcrest's \$10 billion acquisition of Lihir Gold in 2010 and BHP Billiton's \$11 billion takeover of Petrohawk Energy in 2011.
8. This analysis focus on Australian resident listed companies. Foreign listed companies own large shares in many LNG projects run jointly with Australian companies. Around four fifths of funding for physical investment has been sourced from offshore, meaning the associated investment outlays of foreign companies are omitted from this analysis (Arsov et al. 2013).
9. For example, in late 2012 BHP Billiton deferred an estimated \$50 billion in planned investment at its Olympic Dam and Port Hedland sites. Expenditure on a number of major LNG projects has also been curtailed, including Woodside's announcement to defer investment in its Pluto LNG project in late 2012 and postponement of around \$40 billion in investment for its Browse LNG project in 2013.
10. For the purposes of this analysis, companies included in the definition of 'other' cyclical companies are industrials, consumer discretionary and information technology GICS sectors. 'Other' non cyclical companies include consumer staples, health care, telecommunications and utilities GICS sectors. Both categories exclude companies already captured within the infrastructure sector, which affects a number of companies in the industrial and utilities sectors.
11. Increased use of external financing in the pre crisis period is also consistent with literature suggesting firms attempt to time their capital structure decisions to raise equity when market values are high relative to book values (see Baker and Wurgler 2002).
12. For further discussion of the 2008–09 equity-financed deleveraging see Black et al. (2009).
13. This outcome is also consistent with the pecking order theory of capital structure which suggests firms prefer internal funding, followed by debt, and will raise equity last if required to finance investment (see Myers 1984; Myers 2001; Myers and Majluf 1984).
14. This analysis approximates an upper bound for the observed cost of equity using the long run Australian historical equity risk premium of 6 per cent plus the risk-free rate approximated by the 10 year Australian government bond yield (see Brailsford et al. 2012 for further detail on calculation of the equity risk premium). The lower bound for the cost of equity is implied from a simple dividend discount model (Gordon growth model), which approximates the equity risk premium using the dividend yield (for the MSCI Australia index), assuming a constant rate of dividend growth into perpetuity (Damodaran 2013). Many approaches exist for estimating the cost of equity and the measures shown in this analysis are purely for illustrative purposes.

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# THE VIRTUE *of saving*

TOM VALENTINE, Director, UBSS Research Foundation

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*This paper examines the determinants of real income per capita and the international effects of productivity growth and saving. The findings suggest that there are good reasons for Australia to adopt policies which increase the saving rate. First, it would allow more investment spending to be funded from domestic sources so that it makes a greater contribution to national wealth. Maintaining the level of investment will support the growth of productivity. Also, increased saving will tend to reduce the value of the Australian dollar which will stimulate the economy. An earlier version of this paper was presented to the 2014 Australian Centre for Financial Studies' Melbourne Money and Finance Conference.*

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The objective of this paper is to argue that Australia needs to improve its saving performance. This is not a popular view. Many commentators, including some professional economists, have raised doubts about the need for saving. They see no reason why governments should run budget surpluses or why saving through superannuation should be encouraged. One reason for this position is the naive Keynesian view that in so far as saving reduces aggregate demand, it reduces the rate of economic growth and increases the unemployment rate. This idea is often described as 'the paradox of thrift' — i.e. saving is personally desirable but counter-productive for the macro economy. Keynes actually incorporated this 'paradox' in his analysis, but recognised that earlier writers had cited it. It was popularised in a series of editions of Paul A. Samuelson's textbook *Economics*, first published by Harvard University Press in 1948.

The paradox of thrift is often explained in terms of a more general concept, the fallacy of composition. The latter argues that the desirable characteristics of an aggregate cannot be deduced from the desirable characteristics of its constituent parts. In this application, it is argued that what is good for an individual household (for example, saving) is not necessarily good for the whole economy. One interpretation of this argument is that it might be desirable for a government to run continuous deficits although an individual household cannot do this. It is sometimes argued that in a closed economy a budget deficit must be offset by private saving. This assumes that the budget deficit does not reduce business investment. More importantly, the current environment is one of open economies and this increases the similarity between an economy and the households which make it up. This is one of the important questions considered in this paper.

The first part of this paper will look at the factors which determine the rate of growth of average real income per capita. The most important component of the answer to this question is the growth of productivity. This section also considers the ageing of the population and the problem of ensuring that future retirees have an adequate retirement income. This obviously has budgetary implications because any shortfall will need to be covered by the aged pension.

The second section of the paper considers the implications of the floating of the Australian dollar in 1983. Around that time there was also an extensive deregulation of the Australian financial system which increased the integration of the Australian economy with the global economy — Australia became a small open economy. As a result of this, our saving performance has implications for the exchange rate and the current account deficit (CAD). In recent times these implications have been mainly expressed in public discussion in the form of concerns about increasing overseas ownership of Australian assets. This section will evaluate the validity of these concerns. It will also suggest appropriate policy responses to them.

## The determinants of real income per capita

The influences on economic growth can best be discussed in terms of the 3Ps framework introduced by the Federal Treasury – productivity, labour force participation and population. First, we need to define each of the components of this relationship.

$$\text{Labour productivity (Prod)} = \frac{Y}{L}$$

where  $Y$  is real (inflation corrected) gross domestic product and  $L$  is the number of workers in the labour force. A more precise measure is obtained by using average hours worked instead of  $L$ , but we will adopt the simpler formulation.

Labour force participation (LFP) is defined as:

$$LFP = \frac{L}{Pop}$$

where  $Pop$  = population. Hence:

$$\begin{aligned} Y &= \frac{Y}{L} \times \frac{L}{Pop} \times Pop \\ &= Prod \times LFP \times Pop \end{aligned}$$

Therefore,

$$\begin{aligned} \% \text{ change in } Y &= \% \text{ change in } Prod \\ &\quad + \% \text{ change in } LFP \\ &\quad + \% \text{ change in } Pop \end{aligned}$$

$$\begin{aligned} \text{Then } \% \text{ change in } Y - \% \text{ change in } Pop & \\ &= \% \text{ change in } \textit{real income per capita} \\ &= \% \text{ change in } LFP + \% \text{ change in } Prod \end{aligned}$$

This relationship shows that changes in living standards in the future will depend on our ability to increase productivity and the labour force participation rate. The second component of this relationship presents an immediate problem. The Australian population is ageing and a rising proportion of it is moving into the traditional retirement age bracket. We must, therefore, rely on increases in productivity to increase our living standard. Moreover, the increase in productivity must at least equal the fall in the  $LFP$  to maintain our current level of growth in output per capita.

One solution that has been suggested to this problem is an increase in the retirement age or, more precisely, the minimum age at which one qualifies for a government pension. It has also been suggested that the pension age be indexed to life expectancy. This would give many people an incentive to stay in the workforce. The major argument offered in support of this approach is that life expectancy is increasing and there could be significant social advantages in allowing older people to remain productively employed. However, we must also recognise that there is likely to be an interaction between productivity growth and the average age of the *working* population. In many occupations, older workers find it difficult to maintain their level of productivity. Indeed, certain occupations may need to be exempted from the higher retirement age.

This consideration raises the question: should the age at which superannuation can be accessed also be raised? It is also relevant to immigration policy: what skill and age characteristics should be emphasised in the program?

This discussion also draws attention to one reason why it is important to increase the Australian saving rate. It is necessary to prevent a large shortfall in the number of retirees who are able to fund their own retirement. This would reduce the amount needed to meet pension entitlements and reduce the pressures on taxpayers. Burnett et al. (2013) used the HILDA survey to evaluate the adequacy of retirement provisions in Australia. They conclude: 'Even when we take into account the Age Pension, mandatory and voluntary superannuation and other private savings and investments, we expect 95.8 per cent of singles and 88.1 per cent of couples to receive the Age Pension either partly or fully at some stage during retirement, and the Age Pension to contribute 66.7 per cent and 34.9 per cent of the target consumption level during retirement for singles and couples, respectively.'

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Valentine (1996) argues that modern economies are governed by an ‘entitlement consensus’ which asserts that all members of society have a right to a range of entitlements including free education, free medical treatment, increasing wages, protection of employment, social services and a pension on retirement. There is little to constrain politicians from offering additions to entitlements, particularly if they will not be utilised during their term of office. Thus, there is no mechanism to ensure that entitlements are not created in excess of the resources necessary to provide them. This situation would seriously disrupt the economy.

Shefrin (2007, Chapter 11) discusses the factors which lead to the failure of workers to accumulate adequate savings for their retirement. He identifies:

- > *Myopia and low risk tolerance* (including loss aversion). Investors tend not to buy the assets (shares and property) which give the highest average returns over the long time horizons appropriate for retirement saving.
- > *Investors focus on the performance of individual investments rather than overall portfolio outcomes*. This is a serious problem if investors suffer from loss aversion.
- > *Overconfidence* about their ability to fund a comfortable retirement.
- > *A lack of self control*. The desirability of immediate expenditure outweighs long-term considerations.

Fund managers are often criticised for their ‘short termism’, i.e. their focus on very recent returns. Our discussion raises the possibility that this behaviour is actually a necessary response to the irrationality of their customers. These characteristics constitute imperfections in the economy and this leads to a consideration of whether government action could correct this imperfection.

The second component of the equation for real income per capita is also a problem. Australia’s recent productivity performance has not been good. See Parham (2012) and Productivity Commission (2013). A number of reasons have been suggested for this poor performance including:

- > As income per capita increases, expenditure tends to shift to services and it is difficult to increase productivity in the services industry.
- > High commodity prices and the success of mining have led to more marginal mines being exploited which reduces apparent productivity growth.
- > High investment in mining and utilities has not yet produced substantial increases in output.

Productivity growth also determines the rate of inflation which can be sustained without an erosion of real wages. This point can be illustrated by assuming a simple mark-up model of price setting. Assume that:

$$P = \alpha ULC$$

where  $P$  is the price level,  $ULC$  is unit labour cost and  $\alpha$  is the mark-up constant.  $ULC$  is given by:

$$ULC = \frac{W}{Y} = \frac{wL}{Y} = \frac{w}{Prod}$$

where  $W$  is total wages and  $w$  is the average wage rate.

Therefore,

The percentage change in  $P$  (the rate of inflation) = the percentage change in  $w$  – the percentage change in  $Prod$ .

This shows that if wages increase faster than productivity, workers get no additional increase in real wages. The rate of productivity growth is a constraint on our ability to increase living standards by simply increasing wages.

How do we increase labour productivity? One answer is provided by the following simple model. Assume that output is determined by a Cobb-Douglas production function:

$$Y = A \cdot L^\alpha K^{1-\alpha} \text{ where } K \text{ is the capital stock}$$

$$\text{Then } Prod = \frac{Y}{L} = AL^{\alpha-1} K^{1-\alpha}$$

$$\log Prod = \log A + (\alpha - 1) \log L + (1 - \alpha) \log K$$

$$\frac{1}{Prod} \frac{dProd}{dt} = \frac{(\alpha - 1)}{L} \frac{dL}{dt} + \frac{(1 - \alpha)}{K} \frac{dK}{dt}$$

The percentage growth rate of  $L$  can be divided into population and labour force participation rates as above. However, the equation suggests that the rate of growth of the capital stock is a factor increasing the rate of growth of productivity.

Additional light can be thrown on the relationship by introducing the concept of Multi Factor Productivity (MFP) which is the growth in output not explained by increased inputs. In simple terms:

$$MFP = \frac{Y}{L + K}$$

where  $L$  = the share of labour in the value of inputs  
 $K$  = the share of capital in the value of inputs

Approximately,

$$MFP = \frac{Y}{L} \left[ 1 - \frac{K}{L} \right] = Prod (1 - k) \text{ where } k = \frac{K}{L}$$

Therefore,

$$Prod = \frac{MFP}{1 - k}$$

Labour productivity increases as MFP and the capital/labour ratio increase. The latter means that workers are working with more capital. Parham (2012) shows that the recent falls in MFP have been an important element in Australia's recent poor productivity performance.

### International effects of productivity growth and saving

Australia is an open economy and a useful tool for examining its place in the global economic system is the twin deficits relationship which is:

$$CAD = (I - S) + Df$$

where  $CAD$  = the current account deficit

=  $M - X$  where  $M$  = imports and  $X$  = exports

$I$  = investment expenditure

$S$  = private saving which includes both saving by households and saving by businesses

$Df$  = is the government sector's dissaving. It contributes to domestic saving if it runs a surplus

The relationship is an identity which arises from the national accounting identities. However, when the components are intended expenditures, it is an equilibrium condition. In the official statistics, any unintended inventory investment is included in  $I$  which maintains the identity.

CAD is the amount of funding obtained from overseas. The deficit must be covered each year by selling foreigners some Australian assets. The need to do this is determined by the shortfall between funds demanded in Australia and those supplied. The demand comes from the need for business to fund investment and any government deficit. The supply comes from private saving and any government surplus. A government deficit reduces the amount of saving available.

**TABLE 1: Australian twin deficits: 1973–74 to 2011–12 (\$m)**

	CAD	I-S	GB
1973–74	623	-22	645
1974–75	870	-1981	2851
1975–76	1049	-2046	3095
1976–77	1984	-1385	3369
1977–78	2523	-1819	4342
1978–79	3138	-3137	6275
1979–80	1547	-2684	4231
1980–81	5206	1446	3760
1981–82	8448	2882	5566
1982–83	6079	-3127	9206
1983–84	7200	-5756	12956
1984–85	10430	-325	10755
1985–86	14507	3265	11242
1986–87	11446	2623	8823
1987–88	10430	9817	613
1988–89	18526	23665	-5139
1989–90	23254	7396	15858
1990–91	16670	-110	16780
1991–92	12871	-10741	23612
1992–93	14205	-11620	25825
1993–94	15331	-1211	16542
1994–95	26504	8246	18258
1995–96	20588	2716	17872
1996–97	16324	8758	7566
1997–98	22778	24569	-1791
1998–99	32821	32616	205
1999–00	31994	43892	-11898
2000–01	18013	10487	7526
2001–02	19641	14314	5327
2002–03	38786	41220	-2434
2003–04	47603	52057	-4454
2004–05	59594	63986	-4392
2005–06	57698	64543	-6845
2006–07	66619	73198	-6579
2007–08	78588	72165	6423
2008–09	42474	-26344	68818
2009–10	64470	-28410	92880
2010–11	42146	-42736	84882
2011–12	47813	-29321	77134

Table 1 shows the twin deficits since 1973–74. GB is government borrowing which is the government sector budget deficit. Some comments can be made on the sub-periods covered by it. First, in the early nineties private saving tended to reduce the CAD. This was probably due to the recession at that time. The major influence on the CAD at the time was government borrowing.

Second, in the first eight years of the present century private saving declined sharply. This was somewhat offset by the move into surplus by the government sector. This situation was reversed with the onset of the global financial crisis. The government ran into large deficits, but the private sector (both household and business) began contributing large savings to the system.

The need to finance the CAD has led to significant foreign ownership of Australian assets. Black and Kirkwood (2010) report that foreign investors hold about half (in value terms) of Australian equities and bonds. The Australian Office of Financial Management reports that 67.5 per cent of CGS were bought by non-resident entities in December 2013. Banks raise a large part of their funding from the global market (mainly the global interbank market). See Stewart et al. (2013). This is not surprising. The government and banks, with high credit ratings, are the obvious entities to raise the funds overseas.

The growth in foreign ownership has raised concerns which might cause us to consider three possible policy responses:

- > prevent foreigners from buying Australian assets (or, at least, some critically important ones)
- > continue with the current 'hands-off' policy
- > try to increase domestic saving to reduce Australia's reliance on foreign funding.

In the remainder of the paper, it will be argued that this list is arranged in increasing order of desirability.

Above it was argued that the growth in productivity increases with the increase in the capital stock ( $K$ ). Now,

$$I = \frac{dK}{dt}$$

From the twin deficits relationship:

$$\begin{aligned} I &= CAD + S - Df \\ &= CAD + DS \quad \text{where } DS = \text{domestic saving} \end{aligned}$$

Therefore,

$$\frac{1}{K} \frac{dK}{dt} = \frac{DS + CAD}{K}$$

This tells us that the  $CAD$  (funds obtained from overseas) is used to fund capital formation which increases productivity in Australia. Prohibiting foreign acquisition of local assets will lead to lower investment and productivity growth. Australia gets similar advantages from leverage as those obtained by a business. Note that if we were able to force  $CAD = 0$ ,  $S$  would have to increase to fill the gap or otherwise  $I$  would contract. Hence the current policy provides a preferred outcome to that produced by a prohibition of foreign ownership.

Given that we will need some overseas funding in the foreseeable future, an important policy question is what terms and rules should be imposed on incoming funds and asset purchases. However, funding investment from the  $CAD$  has the downside that it means that a high proportion of the assets created is owned by foreigners. Returns must be paid on these assets and this outflow of funds will contribute to the  $CAD$  in future years. The change in Australian wealth is domestic saving ( $DS$ ). From the above  $DS = I - CAD$ .

Therefore, the most desirable option among the three mentioned earlier is the third – increasing domestic saving so that a greater proportion of investment is funded domestically. One positive aspect of such a policy is that it would allow the banks to increase the percentage of their funding base which is obtained from within Australia. The problem here is that the Reserve Bank of Australia has no control over overseas interest rates which tend to be very sensitive to the state of the global financial system. That is, the dependence of banks on global financial markets undermines the impact of monetary policy.

Policies to increase saving could take a number of forms. For example:

- > governments could strive to bring their budgets into surplus by reducing expenditure
- > the superannuation guarantee charge (SGC) could be increased.

Shefrin (2007, p. 142) notes that a regimented regime of saving will produce better results than relying on discretion. He suggests that money 'taken off the top' (such as the SGC in Australia) does not compete directly with current needs. However, it should be noted that Connolly and Kohler (2004) argue that for every dollar contributed to compulsory superannuation, saving outside the funds had been reduced by around 50¢. Apparently, many households believe that the amount being put away is enough for retirement, and increase their expenditure accordingly. Valentine and Scott (2012, p. 30) show that this assumption is not correct. Two responses would be useful:

- > increase the rate of the SGC
- > educate the public on the realities of retirement.

An objection raised against an increase in the SGC rate is that the tax advantages given to superannuation are a tax expenditure which increases the budget deficit. Against this, it should be noted that the government collects taxes on the income earned by superannuation funds. Also, taxpayers will respond to a removal of the tax advantages of superannuation by adopting other means of reducing their taxation burden. For example, they could engage in more negative gearing of property investments. Also, higher retirement incomes are not the only benefit of saving. As argued above, it also increases productivity growth.

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Hewson and Nguyen (2014) point out that low income earners actually lose from superannuation tax rules because they have a tax rate of 0 per cent on income, but pay 15 per cent on super contributions and earnings. Clearly, this anomaly should be addressed. However, people in such a position are unlikely to be able to accumulate an adequate retirement fund so it may be best to exempt them from the requirements. The incentives to contribute to super should be targeted towards those who could possibly provide for their own retirement. Hewson and Nguyen (2014) also say 'we don't believe that the top 1 per cent require that much incentive to adequately save for their retirement'. In part, this arises from the progressive taxation system and there may be an argument for limiting the benefit received by high income earners. In any case, there is a limit on the size of contributions.

In addition, the most tax advantaged form of personal investment in Australia is home ownership. These concessions reduce the allocational efficiency of Australian financial markets because funds are not directed into the most productive investments. Also, the exemption of owner-occupied houses from the pension assets tax, increases the pension tax burden. Removal of this exemption could be combined with allowing contributors to use superannuation funds to buy a house.

It could also be claimed that increasing saving will reduce economic activity in the country. However, this argument does not appear to have much weight. First, increased saving would lead to a depreciation of the Australian dollar which would stimulate the economy. See Garrow and Valentine (2012). Second, other reforms could stimulate the economy. For example, reforms which improve productivity and labour force participation will keep the economy moving. In terms of the policies for increasing saving suggested above:

- > governments should seek surpluses by expenditure reductions, not tax increases
- > increases in the Superannuation Guarantee Charge (SGC) should be offset by lower wage increases otherwise they could lead to higher unemployment.

The final point suggests that policies to increase saving must include a deregulation of the labour market so that increases in the unemployment rate lead to lower wage increases. Also, steps should be taken to design the labour market so that it fosters productivity growth.

MFP can be increased by policies which introduce new technologies, improve health, skills and education or introduce more efficient management processes. The latter would include a reduction in bureaucratic red tape. Also, in this context, Australia's continuing fall in international educational rankings must be of concern.

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## **Conclusion**

The major conclusion to be drawn from this discussion is that there are good reasons for Australia to adopt policies which increase the saving rate. First, it would allow more investment spending to be funded from domestic sources so that it makes a greater contribution to national wealth. Maintaining the level of investment will support the growth of productivity. Also, increased saving will tend to reduce the value of the Australian dollar which will stimulate the economy. In particular, it will support those industries which suffer from a high value of the dollar, i.e. the low-speed part of the two-speed economy.

Also, increased saving will make it easier to respond to the future pressures on the retirement income system arising from the ageing of the population. If this is not done, there will be substantial pressure on the pension system.

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# MORTGAGE PRODUCT CHOICE IN AUSTRALIA:

## *The impact of market stress*

MARIA YANOTTI, PhD candidate Economics and Finance, Tasmanian School of Business and Economics, University of Tasmania

MARDI DUNGEY, Professor of Economics and Finance, Tasmanian School of Business and Economics, University of Tasmania, CFAP, University of Cambridge and CAMA, Australian National University

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*This paper presents evidence on the impact of the global financial crisis on the selection of mortgage products by borrowers. Using a sample of bank-originated mortgage applications between January 2003 and May 2009, we show that the advent of the crisis results in significant changes in the effects of a number of borrower characteristics on mortgage product choice. These changes are consistent with the hypothesis that risks are transferred to the borrower at a discounted price during the crisis period. 'Honeymoon' products became increasingly popular and more accessible during the crisis, offering the applicant higher discounts on the variable interest rate. Also, variable and fixed-rate mortgages are both taken up by relatively low-risk applicants. An earlier version of this paper was presented to the 2014 Australian Centre for Financial Studies' Melbourne Money and Finance Conference.*

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The events of 2007–08 prompted massive changes in international mortgage markets. In particular, restricted institutional access to international credit was translated into a contraction in the Australian housing finance supply, while increased uncertainty about future economic growth and employment led to a contraction in housing debt.<sup>1</sup> Policy makers responded with reduced interest rates and a suite of fiscal incentives to stimulate the housing market, particularly new housing construction.<sup>2</sup>

This paper reviews the evidence of changes in the Australian market for owner-occupier mortgages as a result of the global financial crisis (GFC). Unsurprisingly, the number of mortgages approved fell dramatically in the period immediately after the GFC, and the composition of the mortgage product mix altered substantially.<sup>3</sup> This is undoubtedly the result of the interactions of both borrower and lender decisions. Using a detailed dataset on bank-originated mortgage applications for individual households between January 2003 and May 2009, we are able to provide a picture of the changing environment in the mortgage market — although we are not able to untangle whether supply or demand effects are dominant in these changes.

During the GFC, the number of short-term fixed-rate mortgages (SFRMs) in the market fell dramatically following a sharp increase in their cost relative to other mortgage products. However, the drop in the proportion of SFRMs in the market was almost balanced by a considerable increase in the number of 'honeymoon' mortgages (HMs) offering a higher discount over the standard variable-rate mortgage (VRM) than prior to the GFC. By distinguishing two periods — a 'credit expansion' period prior to September 2008 and the period during which the effects of the GFC were felt in Australia from September 2008 to May 2009 — we show that the lenders reacted by tightening credit for housing, and borrowers reacted to the increased uncertainty in economic conditions.

First, we provide a short overview of the products available in the Australian mortgage market, and the changing face of this market prior to and during the GFC. We then draw on a rich bank-originated dataset for owner-occupier home loans to show how borrower characteristics influenced mortgage choice during the credit expansion years prior to the GFC, and contrast this with the observed changes in these choices by similar households during the GFC.

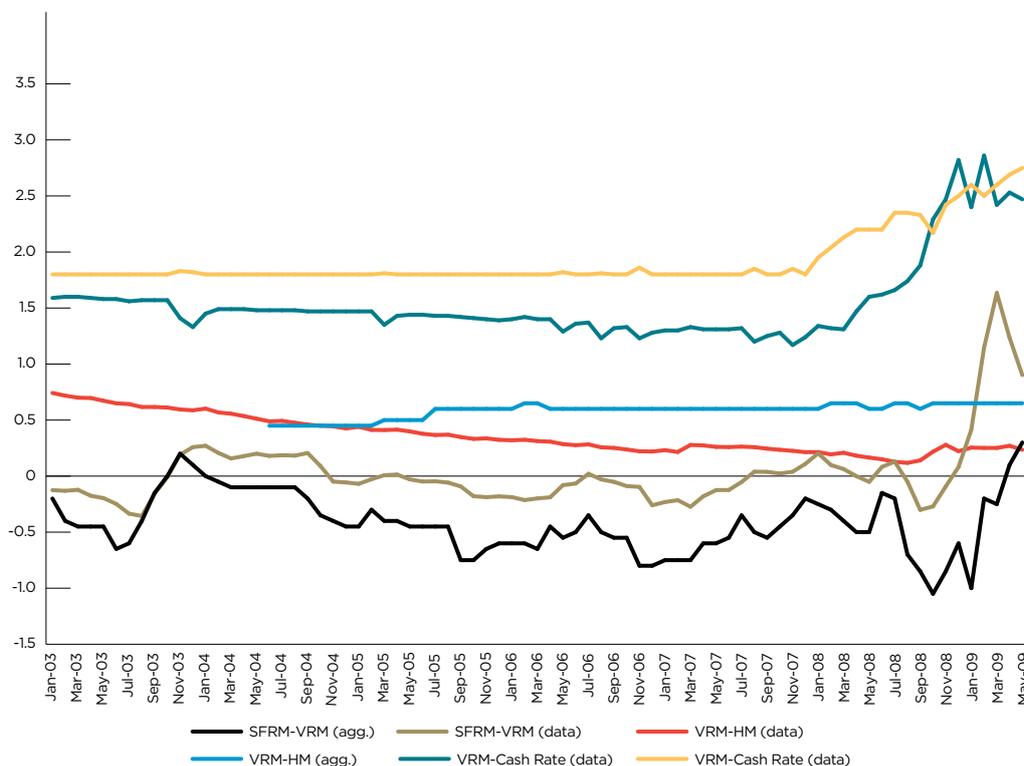
### Mortgage market overview

In March 2014 Australian banks held A\$15,417,915,000 in owner-occupier housing finance commitments – around 93 per cent of all housing finance commitments held in Australia.<sup>4</sup> These mortgages represent an important source of capital for Australian banks, which tend to hold most of the mortgage debt on balance sheet. These banks, and other authorised deposit-taking institutions, are regulated by the Australian Prudential Regulatory Authority (APRA), which follows and implements the Basel Committee capital standards.<sup>5</sup>

Australian borrowers hold mainly variable-rate mortgages (VRMs), which adjust at the discretion of the lender and have relatively low costs associated with early termination. Before 2008, mortgage rates for VRMs followed the Reserve Bank of Australia's (RBA's) cash rate, with an approximate spread of 180 basis points.<sup>6</sup> With the onset of the financial crisis, mortgage interest rates dissociated from the cash rate, and moved more closely with lender funding costs. In 2014, SFRMs – loans where the interest rate is fixed for an average period of three to five years, and with high early termination costs – represent around 15 per cent of the mortgage market.<sup>7</sup> (Mortgages with a long-term fixed interest rate, such as the 30-year FRM offered in the US, do not exist in Australia.) Borrowers can also access discounted variable-rate mortgages, known as 'honeymoon' mortgages (HMs), which offer a discount on the variable-rate for a short, fixed period of time. While the loan-to-value ratios (LTVs) for these mortgages can reach as high as 95 per cent with private mortgage insurance, APRA (2008) reports an average LTV of 67 per cent in Australia for 2006. Other less popular owner-occupier mortgage products are interest-only loans, split mortgages and home equity loans. Most mortgages are fully documented and full-recourse. Low-documentation loans represent less than 10 per cent of all mortgage loans, and are offered to borrowers who self-report their financial position.<sup>8</sup>

Figure 1 shows the evolution of the different mortgage contract interest rates for the sample period. It shows a dramatic increase in the spread between SFRM and VRM rates, and the slight increase in the discount offered to HM borrowers during the GFC.<sup>9</sup>

**FIGURE 1: Housing loan interest rate spread**



Source: RBA, *F1 Interest Rates and Yields – Money Market, and F5 Indicator Lending Rates (agg.)*, and *Researcher's data (data)*.

The period of the GFC coincided with a number of events associated with tightening international credit conditions, including interventions by the European Central Bank in August 2007, the failure of Lehman Brothers in September 2008 and the lead-up to the Greek sovereign debt crisis (Gorton and Metrick 2012). We distinguish two periods of relevance to Australian markets: a 'credit expansion' period prior to September 2008; and the impact of the GFC period in Australia from September 2008 to May 2009. We choose September 2008 as the cut-off, as it contains the Lehman crisis and the first responses by the Australian domestic policy makers to the unfolding international turmoil.<sup>10</sup>

Banks faced a substantial increase in lending costs from mid-2007 to early 2009. Deans and Stewart (2012, Graph 1) show that before mid-2008 Australian banks funded their mortgage debt with deposits (40 per cent), short-term wholesale debt (32 per cent), and long-term debt (18 per cent). During the GFC period their funding composition relied more heavily on domestic deposits (over 45 per cent) and long-term debt (over 20 per cent),<sup>11</sup> while the share of short-term debt (25 per cent) and securitisation (7 per cent)<sup>12</sup> as sources of funds decreased. This change in funding strategy reflects an intention to reduce interest rate risk and rollover risk (the risk involved in replacing maturing wholesale debt).

The reactions of mortgage originators and lenders to the international credit contraction, and that of borrowers to the uncertain environment, are evident in four key features of the Australian mortgage market: (1) the interest rate on SFRMs rose faster and became larger than the interest rate on VRMs after September 2008; (2) the proportion of SFRMs in the market dropped dramatically from the beginning of 2008; (3) the discount on HMs slightly increased in August 2008; and (4) the proportion of HMs in the market offset the decrease in SFRMs. In addition, Stewart et al. (2013) suggest that some lenders revised their minimum serviceability criteria for assessing new loan applications after the GFC.

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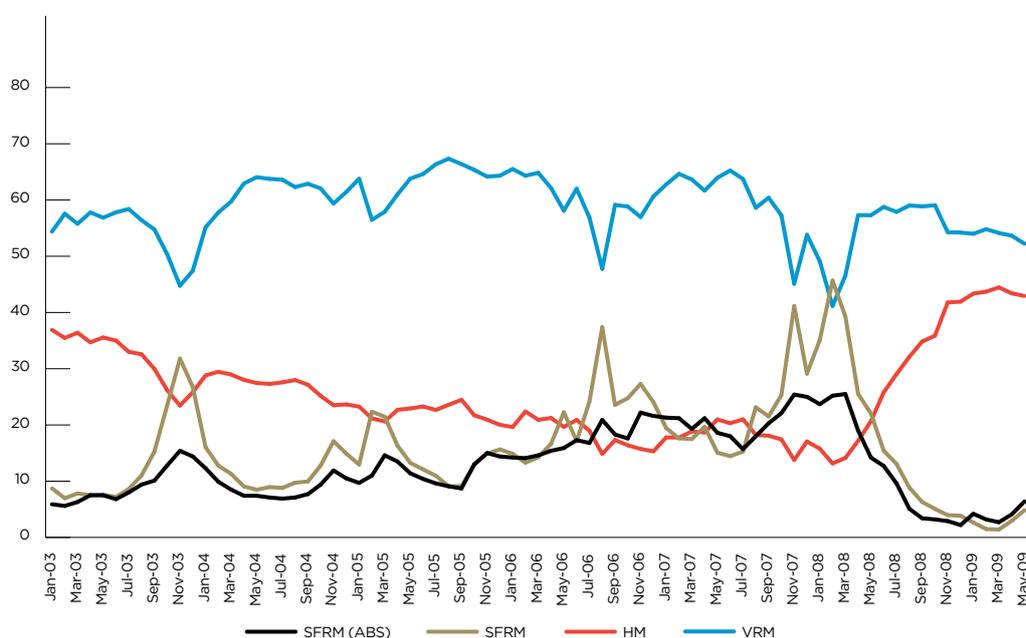
As shown in Figure 1, the price of SFRMs changed dramatically around mid-2008 in the bank-originated data. Between January 2003 and August 2008, SFRMs were on average 40 basis points 'cheaper' than VRMs. During September 2008 to May 2009, SFRMs were on average 530 basis points more 'expensive' than VRMs — a 570 basis points increase from the previous period. As a result, as shown in Table 1 and Figure 2, borrowers who were taking SFRMs before the impact of the GFC began instead to take variable-rate mortgages during the GFC — with the switch focusing mainly on HMs, but also VRMs.

The proportion of SFRM applications in the crisis period dropped dramatically as shown in Figure 2. While SFRMs represented 25.5 per cent of all residential mortgages in March 2008, this share fell dramatically to 2.2 per cent in December 2008. During the period between September 2008 to May 2009, an average of 4 per cent of all residential mortgages were SFRMs.<sup>13</sup> A rational response of mortgage originators to increasing funding costs is to offer mortgages which provide a lower interest rate with associated low interest rate risk for the lender. This suggests lenders may have been offering more VRMs in this period, with relative terms to induce low-risk borrowers towards VRM and HM products. This strategy includes, as shown in Figure 1, raising the cost of SFRM loans to deter borrowers, and increasing the discount on HMs. Mortgage applicants reacted to the new market prices by selecting a greater proportion of HMs and fewer SFRMs, even if they preferred certainty in their repayments in a low-interest rate, uncertain environment. The discount on HMs was on average 570 basis points during the credit expansion; after August 2008, the discount increased to an average of 640 basis points.<sup>14</sup>

In addition, the behaviour of first-time home buyers during the two periods is of interest. First home buyers in Australia represent 13 per cent of all buyers with housing finance commitments in 2014.<sup>15</sup> In July 2000, the Commonwealth Government introduced a cash grant scheme to support first home buyers into home ownership as an offset to the goods and services tax introduced at that time.<sup>16</sup> Between January 2000 and August 2008, on average 18 per cent of mortgage borrowers were first-time home buyers – 3 per cent less than during the previous decade. The boost to the first home owner grant schemes in September 2008 raised incentives for home ownership, and the average proportion of first home buyers between September 2008 and May 2009 rose to 27 per cent, reaching a peak of 31.4 per cent in the last month of that period.

Overall, the traditional concentration of the Australian banking system around four major banks has increased since the GFC. Between January 2000 and August 2008 banks held on average 78 per cent of all housing finance commitments (both in number and in value), while from September 2008 to March 2014 the average was as high as 91 per cent.<sup>17</sup> Although return on equity for Australian banks has declined following the GFC, it remains above that of large banks in the US, UK, Japan and the euro area; see Stewart et al. (2013, Figure 15).

**FIGURE 2: Proportion of loans by type of mortgage product**



Sources: ABS, Housing Finance Commitments 5609.03, and researcher's data.

### Results from loan-level household data

We now explore the shift in mortgage product selection more formally with a unique data set containing anonymised information on mortgage applications for owner-occupier home loans originated and processed by a large Australian bank for the period between January 2003 and May 2009. The data include borrower characteristics, verified financial data, demographics, and mortgage terms and characteristics.

Over half of owner-occupier home loan borrowers in the dataset take VRM products. Table 1 presents a brief overview of the mortgage product characteristics during the credit expansion period (pre-GFC) and the period of impact of the GFC in Australia (GFC). During the credit expansion period the share of borrowers applying for VRMs was 59 per cent, for SFRMs it was 23 per cent, and for HMs it was 18 per cent. The data reveal the drastic reduction in SFRMs in the market during the GFC period and increase in HM applications consistent with the national data. However, while terms and conditions for VRMs and HMs changed between the two periods,

this was not the case for SFRMs. The average loan amount, LTV, debt-servicing ratio, and borrower characteristics such as average income, wealth and liquid assets are not statistically different between the pre- and crisis periods for SFRMs. This suggests that borrowers stopped applying for SFRMs not because their terms changed but mainly because of the change in the interest rate.

The mean loan size, LTV, debt-service-ratio, borrower's gross monthly income, net wealth and liquid assets associated with VRMs and HMs differ significantly during the crisis period relative to their values before the crisis. HMs became more accessible, offering on average lower LTVs and lower debt-to-service-ratios. Interest rates for all mortgage products changed significantly across the two periods.

**TABLE 1: Average mortgage and borrower characteristics during the pre-crisis and crisis periods**

	Pre-GFC (Jan 03–Aug 08)			GFC (Sep 08–May 09)		
	VRM	HM	SFRM	VRM	HM	SFRM
Proportion of loans	58.7%	22.9%	18.4%	54.9%	41.5%	3.6%
Loan value	\$226,840	\$165,387.2	<b>\$189,044.2</b>	\$254,932	\$176,642.6	<b>\$188,138.2</b>
Rate	7.16%	6.67%	7.34%	6.86%	6.50%	7.49%
LTV	62.29%	63.38%	<b>66.48%</b>	63.04%	62.23%	<b>65.68%</b>
DSR	45.53%	40.44%	<b>46.20%</b>	47.81%	39.29%	<b>46.94%</b>
Monthly Income	\$7,428.25	\$5,422.42	<b>\$6,707.77</b>	\$8,370.96	\$5,798.51	<b>\$6,781.09</b>
Wealth	\$420,959.9	\$311,462.5	<b>\$331,791.5</b>	\$454,231.5	\$316,504.8	<b>\$321,411.8</b>
Liquid Assets	\$56,336.58	\$33,492.2	<b>\$44,081.7</b>	\$63,297.24	\$37,586.07	<b>\$42,283.25</b>

*Note: Averages. All monetary values in the paper are expressed in \$A2006 Q1 terms. Averages in grey are not statistically significantly different (at a 5% significance level) between the two sub-samples.*

To further examine how the impact of the GFC affected the mix of mortgage products taken by Australian households we predict the probability of observing a mortgage product type conditional on mortgage costs and terms, market indicators, and individual borrower characteristics.<sup>18</sup> Our analysis is based on over half a million mortgage applications processed between January 2003 and May 2009.

Consider a benchmark applicant who is a 40-year-old, single, salary-earning employed male, without a co-applicant and with no dependents, and who is a repeat buyer (not buying his first home). His average income is \$82,032 p.a. (\$6,836 per month), and he has outgoings of \$2,897 per month. He begins his mortgage application process with funds towards a deposit of \$48,851 and net wealth of \$379,479. (All monetary values are expressed in \$A2006 Q1 terms.)

Prior to the GFC, this applicant is most likely to choose a VRM mortgage (predicted probability of 59.1 per cent). He would be influenced away from this decision by having an increased number of dependents, being in a less stable employment category (such as skilled or unskilled trade, and agricultural occupations), being under 30 years of age, or having a lower income. All of these aspects increase the applicant's exposure to income risk, and he is more likely to choose an alternative product such as a HM or SFRM to gain reduced initial payments or certainty over those payments.

Female applicants are more likely to choose a product with greater payment certainty. This aspect remains even after we have controlled for income, family size and occupation category, and may be aligned with the existing evidence for financial risk aversion among women; see Barber and Odean (2001) and Borghans et al. (2009). Young families also seek to minimise initial costs and payments via HMs, and this propensity increases with the number of dependents and the presence of very young children; similarly, borrowers under 40 years of age are more likely to take FRMs. These applicants have characteristics that reveal risk aversion and income or wealth constraint consistent with their revealed behaviour in taking FRMs and HMs.

On the other hand, more established families, who often have greater wealth and income – and income stream guarantors through a spouse or a co-borrower – are more likely to opt for a VRM, which provides them with early payment flexibility, and larger access to the existing equity in their house for other purposes. These households take larger loans, are more mobile, and appear to be more financially savvy – they occupy professional and management positions, or are self-employed. In the pre-GFC period, these characteristics significantly influence the probability of the applicant in taking a particular mortgage product. These results are completely consistent with the existing theory on mortgage choice, such as developed in Campbell and Cocco (2003).

However, during the GFC period, a number of changes occur. In this period, the proportion of SFRM applications dropped dramatically. Interest rates on mortgages declined, but not as fast as the cash rate. The spread between interest rates charged on fixed and variable mortgages in this period amplified, with SFRMs having higher interest rates than VRMs. Thus, the drop in the proportion of SFRM applications we observe is consistent with a cost-based view of mortgage selection. During the GFC, the discount offered on HMs becomes a significant explanatory of mortgage choice, consistent with lenders offering higher interest rate discounts for these products.

To illustrate more clearly the effects of the GFC period on mortgage choice, we consider five representative borrowers, and estimate their predicted probability of choosing the three mortgage products (VRM, SFRM and HM). Table 2 presents the benchmark 40-year-old, salary-earning, childless, single male for both sample periods as discussed above. The second group is an income-constrained young male applicant who is a first home buyer – he has lower than average income and higher than average expenses. Table 2 shows that he is less likely to take a VRM than the benchmark applicant in both periods, but this probability increases during the GFC. The third group comprise female applicants with dependent children under age five, with lower than average income, and an unskilled occupation category. This applicant is far more likely to prefer a non-VRM product, but the crisis reduces her ability to access those mortgages.

**TABLE 2: Predicted probabilities**

	VRM		SFRM		HM	
	Pre-GFC	GFC	Pre-GFC	GFC	Pre-GFC	GFC
A: 40-year-old male, employee, single, no dependents	59.1%	49.9%	16.1%	33.8%	24.8%	16.4%
B: First home buyer, income and wealth constrained	53.5%	40.9%	18.8%	36.2%	27.7%	23.0%
C: Female applicant, young dependents, low income, unskilled	41.9%	36.7%	18.8%	40.3%	39.3%	22.9%
D: Professional, 30- to 40-year-old, single, no dependents, repeat buyer, mobile	73.4%	66.7%	16.2%	27.0%	10.3%	6.3%
E: Established families, older children, co-borrower, married, higher wealth	63.3%	55.0%	14.9%	32.2%	21.8%	12.7%

The changing lending criteria and borrower behaviour are reflected in the household application data. Consider again our 40-year-old employed male benchmark. He is now less likely to take a VRM product than during the credit expansion period (a reduction in the predicted probability of 9 per cent); he requires a higher income of \$86,964 per annum (\$7,247 per month) and deposit of \$51,878 to achieve a similar loan level.

It is particularly apparent in the GFC data that the borrower characteristics which previously influenced the chosen mortgage product in favour of the SFRM are no longer as effective. During the credit expansion period, young applicants, with young dependents and high debt-servicing ratios had a high probability of selecting a SFRM. During the period of crisis the borrowers accessing SFRM products appear to be more financially experienced borrowers – professionals or managers, with a co-borrower, who have been clients of the bank for a longer period. In addition, first-time home buyers who are eligible for the boosted government grant incentives during 2008, are prone to selecting SFRM products. While our model predicts that borrowers should have increasingly preferred SFRMs during the GFC period, we observe that applications for SFRMs decreased considerably.

A number of borrower characteristics which significantly influenced the mortgage product choice of the applicant during the pre-crisis period play an insignificant role in mortgage choice during the crisis period. These include the risks associated with being self-employed, the level of liquid assets, expenditures, and marital status. Prior to the crisis, self-employed applicants preferred flexible VRMs which allow them to make larger repayments during periods of good income stream. However, during the crisis, self-employed applicants are no longer statistically separable from employed applicants. While the income risk (and potential default risk) of self-employment was separately recognised in the application process during the credit expansion, during the crisis both the benchmark applicant and self-employed borrowers were less likely to obtain VRMs. Similarly, where household income risk is managed in the pre-GFC period by a potential extra household income stream via the presence of a spouse in the application, this resulted in greater access to more flexible mortgage products. During the crisis, however, marital status, the level of liquid assets and the expenditure patterns of the household lose their explanatory power. They can no longer be used to drive the selection of the mortgage product towards the household characteristics.

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*A number of borrower characteristics which significantly influenced the mortgage product choice of the applicant during the pre-crisis period, play an insignificant role in mortgage choice during the crisis period.*

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To increase the probability of accessing VRM products after September 2008, applicants require greater income and wealth than pre-crisis, as well as higher expected house price appreciation and a strong mobility motive. During this crisis period, borrowers younger than 40 are more likely to take VRMs, while during the credit expansion period VRMs were more probable for borrowers over 50 years old. (During the credit expansion younger borrowers take SFRMs and older borrowers prefer VRMs, however, during the crisis younger borrowers select VRMs and older borrowers opt for HMs.)

During the credit-expansion period there was a substantial house price appreciation in the Australian market, and expectations around future equity gain had a significant effect on the extent to which applicants were willing to absorb risk in order to access these potential gains. This plays out in the data as an increased probability of VRM products, where the applicant manages a high LTV with variable payments, but anticipates strong capital gains in the shorter term. The expectation of higher housing prices is reflected in the significance of the change in the Melbourne Institute Dwelling Index in the pre-GFC period, which positively influences the probability of VRM products. However, this effect shifts towards a preference for HMs during the GFC.

While the overall probability of taking a VRM decreased during the crisis, and SFRMs were hard to access or least preferred during this period, 'honeymoon' products (HMs) experienced a sudden increasing popularity. HMs have traditionally served income or wealth constrained borrowers entering the housing market in Australia, however, during the GFC period they became an increasingly preferred option for a broader group of borrowers. Older borrowers and particularly mobile borrowers, who preferred VRMs in the previous period, select the initial discounts on HMs during the uncertain crisis environment. The main reason for an increase in HM applications lies in cost incentives, as the discount on HMs increased while interest rates were falling.

## Conclusion

The results presented in this natural experiment of a change in the cost of funds provide mixed evidence as to the way in which mortgage product choices change. As conditions change, we are able to compare the outcomes for borrowers with the same characteristics. We find that the marginal impact of borrower characteristics on mortgage product application outcomes alter significantly.

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*During the crisis period, however, some of these formerly significant effects are altered in a way which suggests that these risks are transferred to the borrower at a discounted price; borrowers taking HMs are bearing the interest rate risk in a variable-rate contract, while also facing early repayment limitations. These products become increasingly popular and more accessible, offering higher discounts on the variable interest rate. In addition, the terms on mortgages change, and relatively low-risk applicants choose both VRMs and FRMs during the crisis.*

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In the pre-crisis period, borrowers accessed products which were generally consistent with their theoretical preferences in order to manage income, mobility and wealth risk as revealed by their borrower characteristics. Although mortgage cost variables, particularly the spread between mortgage product interest rates, dominate the probability of selecting between contracts, there is plentiful evidence that borrower characteristics play a significant role in modifying their behaviour. During the crisis period, however, some of these formerly significant effects are altered in a way which suggests that these risks are transferred to the borrower at a discounted price; borrowers taking HMs are bearing the interest rate risk in a variable-rate contract, while also facing early repayment limitations. These products become increasingly popular and more accessible, offering higher discounts on the variable interest rate. In addition, the terms on mortgages change, and relatively low-risk applicants choose both VRMs and FRMs during the crisis.

## Acknowledgement

The authors are grateful for support from ARC DP120100842.

## Notes

1. See RBA, *Statistical Tables*, B21 Household Finances. The housing debt-to-disposable income ratio stabilised at around 130 per cent in 2006.
2. Policy makers reacted to the impact of the GFC with a fiscal stimulus (Economic Security Strategy) in October 2008, which involved a direct one-off payment to encourage consumption expenditure, first home buyers grant schemes, and infrastructure investment. This was followed by the Nation Building and Jobs Plan stimulus package in February 2009. Also, in October 2008, the Australian Government offered deposit insurance through the Financial Claims Scheme and the Guarantee Scheme.
3. See ABS, Housing Finance Commitments, 5609.01. Total housing finance commitments reached its highest peak at 69,550 (\$16,879,396,000) in May 2007, after which the value and number of housing finance commitments decreased until after the effects of the fiscal and monetary stimulation policies.
4. ABS, *Housing Finance Commitments*, 5609.03.
5. See Jang and Sheridan (2012) and APRA (2012).
6. RBA, *Statistical Tables*, F1 Interest Rates and Yields, and F5 Indicators Lending Rates.

7. ABS, *Housing Finance Commitments*, 5609.09a.
8. RBA, Box B: Developments in the Low-doc Loan Market, *Financial Stability Review*, September 2005, <http://www.rba.gov.au/publications/fsr/2005/sep/html/box-b.html>.
9. Stewart et al. (2013) argue that actual rates paid by borrowers were declining during this period, reflecting discounts offered to new customers in a more competitive environment for lenders.
10. In September 2008, the RBA took the first policy rate actions in response to the crisis, and the Australian Office of Financial Management (AOFM) took decisions to support RMBS by purchasing \$A8 billion in RMBS. In October 2008, the government released a fiscal stimulus package to support the economy (Economic Security Strategy) and also offered deposit guarantees. Sensitivity analyses to exogenously determined break points for August 2007 and February 2008 do not substantially alter the results presented here.
11. Long-term wholesale debt became more accessible with the support from the Guarantee Scheme.
12. Between July 2007 and early 2009 the securitisation market in Australia was practically inactive.
13. ABS, *Housing Finance Commitments*, 5609.09a.
14. RBA, *Statistical Tables*, F1 Interest Rates and Yields, and F5 Indicators Lending Rates.
15. ABS, *Housing Finance Commitments*, 5609.03.
16. See Dungey et al. (2011) and Wood et al. (2003) for an overview on government net assistance to first home buyers.
17. ABS, *Housing Finance Commitments*, 5609.03.
18. We calculate a multinomial Logit model (MNL) to predict the probability of observing a SFRM and a HM relative to the base of a VRM. We follow a similar approach to the one in Dungey et al. (2014).

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# THE FUTURE *of securitisation*

CHRIS DALTON, Chief Executive Officer, Australian Securitisation Forum

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*This paper examines the future of the Australian securitisation market while recognising that securitisation takes place within a global market. The paper highlights the key issues that will need to be addressed to ensure the securitisation market becomes a large, deep and liquid part of our financial system, and plays a larger role in funding Australia's economic growth.*

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## **History of the Australian securitisation market**

In considering the future of the Australian securitisation market, it is useful to reflect on its history. One of the earliest applications of securitisation technology in Australia was by government authorities, namely the State of New South Wales' FANMAC residential mortgage-backed bond program and the State of Victoria's National Mortgage Market Corporation mortgage-backed program. Both programs were established in the 1980s and were mainly directed towards providing finance to borrowers that otherwise were not able to access housing finance through the banking system. At the time, banks maintained very restrictive lending criteria for housing finance. Bonds issued under both programs benefited from an explicit guarantee from the respective states. Hence investors were exposed to the credit risk of the state not the risk of the underlying housing loan.

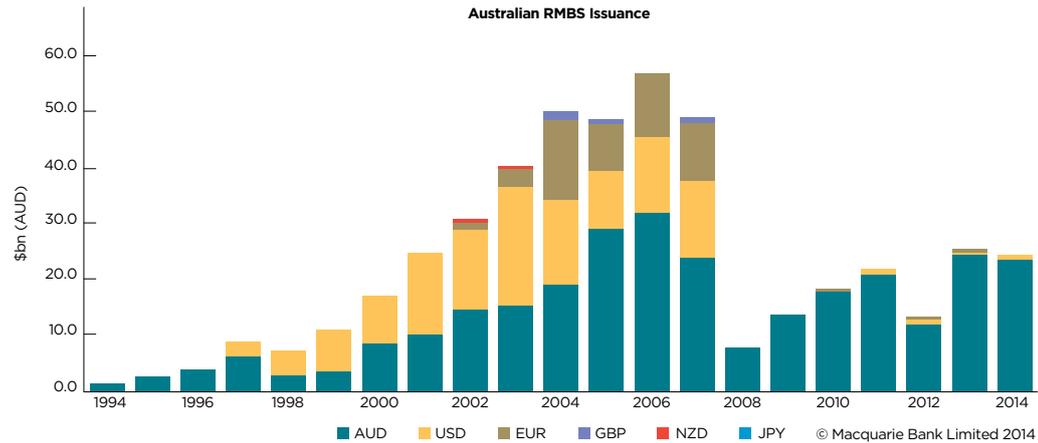
The early 1990s saw the emergence of the private (non-government) securitisation market with issuance of residential mortgage-backed securities (RMBS), asset-backed securities (ABS) and commercial mortgage-backed securities (CMBS). These securities were issued, for example, by vehicles sponsored by Prudential Bache, Security Pacific National Bank, the Gas & Fuel Corporation of Victoria, and Deutsche Bank's Prime Asset CMBS vehicle. In this paper, RMBS, ABS and CMBS will be referred to as asset-backed securities or ABS, unless otherwise noted.

The Australian securitisation market and its principal asset class, RMBS, truly established itself in the mid 1990s, when pass-through RMBS structures gained investor acceptance. At this point, the declining level of Commonwealth Government Securities gave rise to increased investor appetite for securitised debt. Relatively significant volumes of RMBS started to be issued by Macquarie's PUMA program and others such as Interstar Securities. Through the late 1990s and earlier this century, increased Australian and global investor demand drove the growth of the Australian securitisation market. Authorised deposit-taking institutions (ADIs) and non-bank issuers entered the market to benefit from this new, diversified and cost-effective form of funding.

The growth of the securitisation market in the early 2000s witnessed global investors becoming very significant buyers of Australian securitised debt, representing up to 50 per cent of the investors in primary RMBS issues. Such investors included the structured investment vehicles (SIVs) typically based in Europe. The SIVs took advantage of market and regulatory arbitrage opportunities to buy longer dated ABS and fund through short-dated asset-backed commercial paper.

The impact of the financial crisis significantly diminished liquidity in the primary RMBS market and especially within the global investor community. Figure 1 illustrates the growth of Australian RMBS market prior to the crisis, and the slow recovery trend since then. Note the decline in 2012 reflects the impact of covered bonds being issued for the first time by Australian banks. Also notable since the 2008 crisis is the absence of significant issues of RMBS in currencies other than in Australian dollars.

**FIGURE 1: Issuance of Australian RMBS by currency (as at 30 November 2014)**



Source: Macquarie Debt Markets Analysis.

Before turning to a discussion of the future of securitisation, it is also worth noting that we define securitisation simply as a form of secured financing. It is not anything extraordinary or dangerous. Securitisation serves as an efficient technique for raising capital and transferring risk from originators of financial assets (which drive growth in the real economy) to the capital markets. Securitisation markets allow originators of credit to provide funds to consumers and businesses in an efficient and cost-effective manner. A wide range of assets such as auto loans, residential and commercial mortgages, or credit card receivables can collateralise ABS sold to a broad range of domestic and international investors.

### Future role of securitisation

The role of securitisation in the future Australian financial system is to complement the funding of the economy that is provided through the traditional banking system. Securitisation provides a means of diversifying the funding of a financial institution. It is attractive to smaller ADIs that have limited access to term funding markets. It also provides a potential source of competition in the housing and consumer finance markets, given the highly concentrated nature of the Australian banking system. Securitisation can also provide a means of transferring risk, particularly residential property risk, outside the banking system.

In the future, the operation of seamless cross-border securitisation markets will be increasingly important. Australia's major banks are expected to face constraints, as part of the Basel III capital requirements, in terms of the amount and type of credit they can supply. For capital markets to provide a strong alternative source of financing for consumers and businesses, it is important to ensure participation by both domestic and global investors.

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### What will determine the future?

The future of securitisation in Australia will be determined by four key factors:

- > demand for asset-backed securities
- > supply of asset-backed securities
- > market liquidity
- > the regulatory framework for securitisation.

While the following points discuss each of the above four factors individually, in reality they are interconnected.

### **1) Demand**

The evolution of the Australian securitisation market to date has demonstrated a sustainable demand base for ABS. The sources of demand can be categorised into three types of investors:

- > domestic financial institutions
- > domestic fixed income investors
- > global investors (financial institutions and bond investors).

Domestic banks have been a large domestic buyer of ABS, primarily RMBS. This is an asset class with which they have great familiarity. Major banks are ABS issuers, investors or providers of warehouse facilities to smaller ADIs and non-banks. Bank buying of RMBS has been spurred by its inclusion as an asset class eligible to be included in the collateral of a bank's Committed Liquidity Facility (CLF) with the Reserve Bank of Australia. The CLF forms part of Australia's compliance with Basel III's Liquidity Coverage Ratio requirement. This is an example of the interaction of demand and regulation which will jointly determine the future composition and size of the Australian securitisation market.

To date, a key disappointment in relation to the Australian securitisation market has been the tardy growth of investment by fixed income funds and insurance companies, referred to colloquially as 'real money' investors. This primarily reflects the constrained investment by Australian investors and institutions in the fixed income asset class, and specifically credit assets such as ABS. Domestic fixed income investors do invest across the credit spectrum of ABS structures including senior, mezzanine and junior notes. A positive feature of the post financial crisis period has been the emergence of new specialist credit funds which have invested in ABS. Many have delivered investors strong returns based on the running yield and the recent rally of valuations of ABS.

The opportunity exists for securitisation to play a larger role in funding Australia's economic growth. This can be realised by repackaging a greater volume and wider array of financial assets into ABS that can be held in portfolio by domestic and global investors. Securitisation is an established funding option for high-quality assets with predictable credit performance to be repackaged as ABS and held in the superannuation system. This could allow ADIs to use the proceeds from issuing ABS to exploit their credit skills to finance more heterogeneous assets such as small business, construction and infrastructure loans.

Global investors based in Europe, the US and Asia have been active buyers in Australian ABS for many years, however, they were largely absent for the period immediately after the 2008 financial crisis. The repricing of risk in global debt markets, the evaporation of market liquidity and the demise of the European SIVs, started a period of abstinence by global investors in Australian ABS. In the aftermath of the crisis, Australian ABS issuers were restricted to fund primarily in Australian dollars. This was due to higher margins and fewer counterparties willing to provide an amortising cross currency swap in the aftermath of the crisis. Since the start of 2013, global investors have returned to participate in new primary issues, in both Australian dollar tranches and a few US dollar tranches issued in recent ABS deals. Macquarie Bank's SMART auto ABS program has been the notable exception, with a number of successful US ABS transactions completed since 2012.

Investment by global investors will be imperative for a larger and sustainable securitisation market in the future. Issuance in non-Australian dollars will be a necessity, as will an accommodating and predictable regulatory framework. Global investors were dismayed by APRA's reversal of its acceptance of date-based calls included in many pre-crisis ABS deals, as this policy reversal created unanticipated extension risk for investors. The importance of a clear and predictable regulatory framework will be discussed later in the paper.

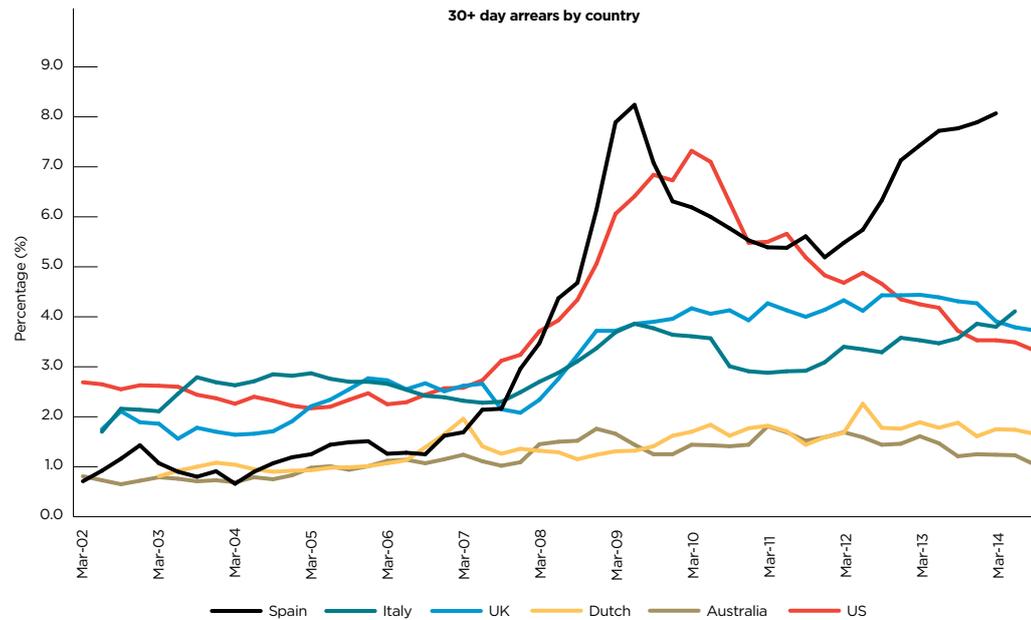
From a demand perspective, it will be important for investors to be present and active both in senior tranches of ABS, as well as mezzanine and junior tranches. A significant focus of policy makers has been on making senior ABS notes 'super safe' in terms of credit risk. It is vital that a diverse and active investor base for higher risk and higher yielding ABS tranches also remains present in global securitisation markets.

## 2) Supply

The Australian securitisation market has always been dominated by the RMBS asset class, and this is unlikely to change in the next decade or so. Australian RMBS are backed by pools of high-quality mortgage receivables which are originated according to relatively conservative underwriting standards and within a well-regulated credit and consumer law environment. For example, all mortgage brokers are licensed in Australia, which is still not the case in the US.

Australian RMBS has established an excellent track record with investors for its transparency, relative simplicity and credit performance. This credit performance is illustrated in Figure 2.

**FIGURE 2 – Comparison of Australian RMBS delinquency rates to other selected OECD countries**



Sources: Standard & Poor's, Westpac Research and Bloomberg.

While there can be a variety of collateral types backing ABS, it is not necessary for a bank treasurer to issue ABS backed by specific collateral to fund the bank's lending in that asset class. Funding of a bank is fungible, and so it may be best if banks continue to securitise 'easy' assets such as residential mortgages. The funds raised by an RMBS issue can then be directed to any part of the bank's activities including small business lending, personal finance, construction loans or even infrastructure finance.

The supply of ABS in the Australian market is potentially quite large, particularly when the value of assets suitable for securitisation on the balance sheets of ADIs is measured. In addition, there are assets originated by non-banks and captive auto finance companies. Assets most suitable for securitisation are consumer and business receivables that have been originated on relatively standard and similar loan contracts and have a predictable cash flow profile based on the payment of principle and interest by the underlying borrower or obligor.

In considering the future supply of assets, there is also the potential for ABS to be collateralised by assets not typically securitised in Australia, as outlined as follows.

*Reverse mortgages* — These mortgages are a form of finance that can be used to provide an income stream to senior Australians who may have substantial equity in their primary residence, but prefer not to sell the property to release the equity. According to the *Deloitte Reverse Mortgage Report*,<sup>1</sup> as at 31 December 2013 the outstanding balance of reverse mortgages stood at \$3.56 billion. There has been some attempt to use securitisation to fund pools of reverse mortgages in Australia, New Zealand, the UK and the US. To date, while these types of assets are potentially suitable for securitisation, they have failed to establish a niche in the ABS market. The ageing Australian population, and the need to create retirement income streams for retiring baby-boomers, may give this asset class another opportunity to use capital markets to meet a financing need in the economy.

*Student loans* — Australia's recent tertiary education policies have incorporated a user pays model for the provision of courses. This has resulted in a large number of graduates effectively borrowing the cost of their course under the Commonwealth Government's HELP scheme. There are approximately 1.50 million HELP borrowers who owe about \$26.5 billion.<sup>2</sup> While these student loans have not been structured on a commercial basis, the outstanding debt could be securitised, should the government wish to fund the obligation through the ABS markets rather than through its own borrowing program. To achieve such funding the government would need to impute a market interest rate on the obligations and provide some form of guarantee around the credit risk and timeliness of repayment. The case for securitising the current HELP portfolio is not compelling. Should the government wish to restructure the program, and base loans on a more commercial basis, with market-linked interest rates and specific repayment timetables, then the potential to securitise the debt would be enhanced.

*Business loans* — There has been, and continues to be, significant discussion around the role of securitisation in improving the availability, and potentially the cost, of business loans to small- and medium-sized enterprise (SMEs). Lending to SMEs has been a topic highlighted in a number of submissions to the 2014 Financial System Inquiry. It is a major topic in Europe, where regulators such as the Bank of England and the European Central Bank, have explicitly identified the role of securitisation in providing additional funds to European SMEs.<sup>3</sup> In the US, ABS backed by SME loans are guaranteed by the Small Business Loan Administration, which is part of the US Government. The buyers of the ABS view them as government credit risk rather than being based on the underlying SMEs. The potential for securitisation to provide an additional direct channel to finance to SMEs in Australia is likely to be challenged by a number of factors. These include the fact that financing of SMEs is often relatively complicated, with the borrower requiring several forms of finance and transaction facilities from a financial institution. Also the legal form of financial accommodation to SMEs is not necessarily standardised and can vary between and within lenders. Further, to obtain a credit rating of an ABS backed by SME loans, will require a time series of credit performance. It is unlikely that such a history is currently readily available from bank systems.

*Trade receivables* — The financing of trade receivables through the issuance of ABS is an underdeveloped component of the Australian securitisation market. The securitisation of trade receivables has been a longstanding and successful part of the US securitisation market. In the US many corporates finance their receivables portfolios through Wall Street conduit programs. This is a way of preserving capacity under banking limits for other more medium funding needs. The absence of this sector in the Australian market can possibly be explained by the comprehensive nature of the banking relationships that exist between large corporates, who have portfolios of receivables suitable for securitisation, and their primary banks. Another constraint for the development of this sector is the absence of a data series of credit performance on these types of receivables that can be extracted and provided to credit rating agencies (CRAs) for their analysis and the determination of a credit rating of the ABS.

*Credit card receivables* — Currently funded through bank balance sheets, this is an asset class that is eminently suitable for financing via securitisation. This asset class has a great degree of homogeneity, and it is a large, established market in the US securitisation market. A long and rich time series of credit performance is available to rate this type of ABS. The impetus for this form of ABS to emerge in Australia will be the approval of a market-appropriate form of master trust structure under APRA's new securitisation prudential standard, APS120. The balance of credit card receivables on the eight largest ADIs as at 31 March 2014 was approximately \$77 billion<sup>4</sup> and it may be up to \$100 billion for the entire credit card industry. Based on the current outstanding balance, the potential size of this asset class could be up to \$5 billion of issuance per year. This would add significantly to the size and diversity of the ABS asset class. ABS collateralised by credit card receivables would be an attractive asset class for both local and global investors who are eager to add diversification to their fixed income portfolios.

*Infrastructure loans* — The 2014 Financial System Inquiry has also galvanised the debate regarding funding infrastructure loans. The federal and state governments have been reluctant to take advantage of historically low interest rates to borrow to fund new infrastructure assets. The experiment of the past decade with public-private partnerships (PPP) has had a less than stellar history. There have been a number of failures of such financings in Queensland and New

South Wales, and Victorian taxpayers will be burdened for decades by the very expensive PPP financing of its desalination plant. There exists an opportunity for securitisation to play a role in refinancing existing infrastructure assets to free-up investment and finance of new infrastructure. Securitisation is ideal to create ABS based on established and predictable cash flows from established infrastructure assets. Such assets may be based on either user pays or government concession infrastructure funding models. Such ABS could easily be placed with superannuation funds that are seeking assets that provide annuity style returns for the growing appetite for retirement income products.

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**Social benefit bonds** — Securitisation technology has also been adapted to the niche funding of social benefit bonds. In 2012, Westpac Institutional Bank and CBA piloted this niche funding market with an inaugural \$10 million issue. The proceeds of three tranches of bonds issued by a special purpose vehicle will be drawn down over five years by The Benevolent Society. The funds will be used to provide family preservation services aimed at preventing children from going into foster care. Interest and principal to repay the bonds will come from the NSW Government and is dependent on the performance of The Benevolent Society's program. The government payment is calculated by the level of savings made by the government in terms of what it would have required to fund its own programs had the project not achieved its objectives.

### **3) Market liquidity**

A key issue in any discussion of the prospects of the Australian securitisation market is the importance of liquidity in both the primary and secondary markets.

Liquidity in financial markets is perhaps best considered as an indicator of confidence. Typically it exists in normal or buoyant market conditions and evaporates in uncertain or stressed market conditions. Some experts have defined a liquid market to be one where there is little difference between the transaction price and the fundamental value.<sup>5</sup> Other experts have postulated that market illiquidity is the result of market imperfections.<sup>6</sup> The recent Bank of England and European Central Bank discussion paper, 'The case for a better functioning securitisation market in the European Union', commented that a liquid market requires well-funded buyers, widely available information on the asset being traded and a mechanism for buyers and sellers to meet and trade in a competitive, low-cost environment. It is fair to say that the Australian ABS market only exhibits some of these features, from time to time.

In looking forward, one area that could assist the achievement of greater secondary market liquidity is improved post-trade reporting of prices. Price reporting could improve the efficiency of the market and potentially marginally reduce costs. The Financial Industry Regulatory Authority (FINRA) in the US has instigated enhanced reporting of ABS post-trade pricing. While there are some issues to be addressed in the Australian market, investors generally see benefits in better transparency of actual trade prices, along with additional information about the trade size and type of institutions involved in the trade.

A fundamental ingredient for market liquidity is the presence of banks willing to act as market makers in ABS. This requires banks to hold an inventory of securities to facilitate timing and price mismatches between buyers and sellers at any point in time. Prior to the financial crisis, there were quite a few banks in Australia that were willing to act as market makers. This allowed buyers and sellers to transact in reasonable time periods (days), with a reasonable bid/offer spread quoted on the securities. Since 2008, the number of market makers in ABS has reduced significantly, and the bid/offer spread has widened considerably. This reflects, in part, the impact of revised capital requirements prescribed by Basel III for the securities held in the trading books of financial institutions.

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#### **4) An accommodating regulatory framework**

Proposed and actual regulatory changes to securitisation markets have dominated the industry since the financial crisis. Scrutiny has come from global bodies such as the G20, the Basel Committee on Banking Supervision, the International Organization of Securities Commissions (IOSCO), as well as local policy makers and regulators.

The current APRA discussion paper ‘Simplifying the prudential approach to securitisation’ presents an opportunity to create a sustainable securitisation market. The new prudential standard needs to permit financial institutions to issue ABS, invest in ABS, trade ABS and provide credit and derivative facilities to support securitisation by third parties. Not all financial institutions will wish to conduct activities that span this spectrum although it can be expected that the four major Australian banks will do so.

Securitisation will benefit from a clear prudential approach. Such an approach would recognise securitisation can be undertaken for funding-only purposes or to achieve significant risk transfer, with a commensurate amount of regulatory capital relief. Prudential regulation should focus primarily on the capital and liquidity required to be held by an ADI against securitisation exposures. The regulator should be agnostic to the form of a securitisation, be it an amortising or revolving structure, provided the necessary capital and liquidity buffers are maintained by an ADI. It is advisable for the prudential standard not to be prescriptive about the transaction structures. Such a policy is likely to have disruptive implications in capital markets.

The setting for an appropriate regulatory framework should include a level playing field for various participants. It will be important that distortions and disincentives are not created through regulation that applies inconsistent regulatory capital requirements to the same risk exposures. The current global reconsideration of the risk weightings applied under the Basel III and Solvency II regimes is a welcome and necessary step to facilitate a broadening of the global investor base for ABS.

A key challenge for global regulators will be to find ways to adopt the principles of equivalency and mutual recognition of a number of regionally focused regulations. Recognising the equivalency of varying approaches will enable cross-border securitisation markets to function better. A November 2012 report by IOSCO states that, ‘cross border activity is an important component of global securitization markets, and policy makers and regulators should be conscious of not adding to the cost of cross border activity through requirements that are duplicative of, or inconsistent with, requirements in other jurisdictions’.<sup>7</sup> Accordingly, IOSCO’s report includes the following recommendation: ‘Regulators should seek to minimize the potentially adverse effects to cross border securitization transactions resulting from differences in approaches to asset-level disclosure and privacy protections’.<sup>8</sup>

#### **Concluding thoughts**

Securitisation is an established and successful part of Australia’s financial system. It provides an alternative source of funding for ADIs, introducing an element of competition in certain lending markets, and it provides fixed income securities with varying risk and yield attributes to investors.

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The securitisation market can be a large, deep and liquid part of our financial system. To achieve this outcome a number of improvements will need to be achieved including:

- > increasing the supply and diversity of ABS through use of efficient master trust structures
- > developing a larger, more diversified and sustainable investor base
- > pursuing increased liquidity within the market
- > finalising a consistent and pragmatic set of regulatory policies that are equivalent or mutually recognised by global policy makers and regulators.

## Notes

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